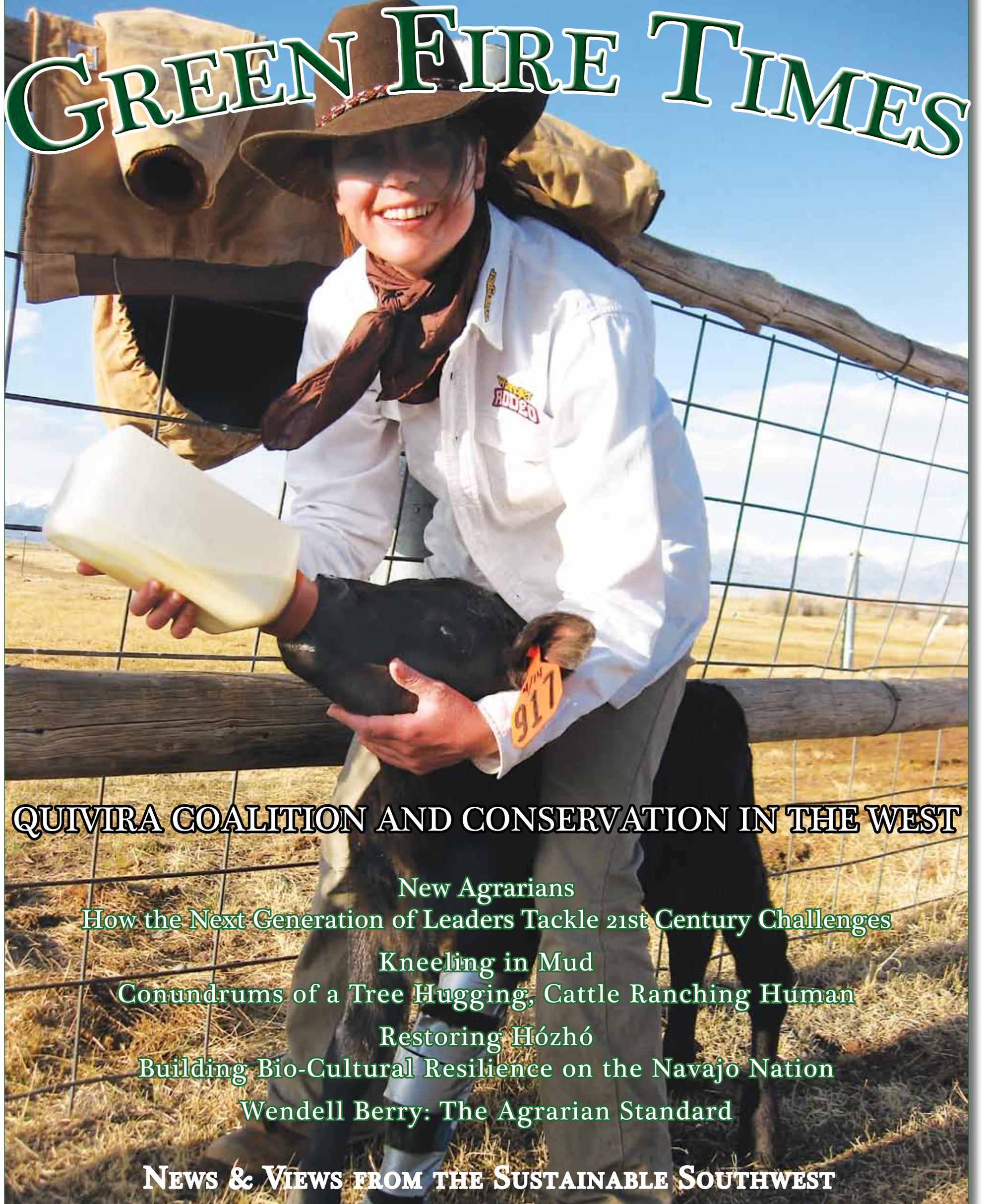


# GREEN FIRE TIMES



## QUITVIRA COALITION AND CONSERVATION IN THE WEST

New Agrarians

How the Next Generation of Leaders Tackle 21st Century Challenges

Kneeling in Mud

Conundrums of a Tree Hugging, Cattle Ranching Human

Restoring Hózhó

Building Bio-Cultural Resilience on the Navajo Nation

Wendell Berry: The Agrarian Standard

NEWS & VIEWS FROM THE SUSTAINABLE SOUTHWEST

October 2011

NOW NEW MEXICO'S SIXTH LARGEST CIRCULATION NEWSPAPER

Vol. 3, No. 10

# A Buyer's Market

## *Buying Just Got Easier!*

We are proud to present SECU's new 30 year home loan with a **low interest rate**, fixed for the first 10 years. The perfect loan for anyone looking to buy a new home. Refinancing options are available. **Reserves to finance this amazing offer are limited so get your home loan today.**

## *Get Pre-Approved Today*

Apply online, at our branch or give us a call. We'll walk you through the process before you sign a single paper.

[www.secumm.org](http://www.secumm.org)

## 4.75% APR

- Single Family Homes, Condos & Townhomes
- Must be Owner Occupied
- 85% Loan to Value
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- Your Loan Stays Local With SECU
- No PMI



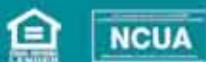
Not just for State Employees.  
[www.secumm.org](http://www.secumm.org)



Santa Fe 505-983-7328  
Rodeo Rd. 505-983-7328

Abq. 505-884-0128  
Belen 505-864-0335

Las Vegas 505-454-1111  
Los Lunas 505-565-8400



Federally insured by NCUA up to \$250,000. OAC. Some restrictions may apply.

**OCT. 18**  
**SLOW FOOD DINNER & BOOK DISCUSSION**  
 Monthly event. Everyone cooks. Oct. book: Fresh: A Perishable History by Susanne Friedberg. 505.983.0062, ellenlampert@q.com

**OCT. 19, 5:30-7:30 PM**  
**FORUM FOR ENVIRONMENTAL EDUCATION & DIALOGUE**  
 Pojoaque Valley School  
 Community meeting to discuss environmental monitoring, contamination and remediation at LANL. Info: www.racernm.com

**OCT. 19, 5:45-8:30 PM**  
**SUSTAINABLE ECONOMY THINK & DO TANK**  
 SFCC Trades & Adv. Tech Center, Rm. 800  
 Turn ideas into jobs. Join the ongoing conversation. www.sustainablesantafe.com

**OCT. 21, 7 PM**  
**ACTAH ON MAYAN PROPHECIES**  
 La Tienda, 7 Caliente Rd., Eldorado  
 Conference offers positive info re: 2012, the calendars and lost technology. \$15. www.actah2012.com

**OCTOBER 22, 9 AM - 5 PM**  
**SPIRIT OF THE BEE WORKSHOP**  
 Hamaatsa, south of Santa Fe  
 Pilgrimage on the pristine aboriginal lands with Pueblo elder/storyteller/farmer Larry Littlebird and master beekeeper Debra Roberts. Through experiential activities explore the model of the healthy hive, natural beekeeping and good stewardship practices. \$90 includes harvest lunch. 505.899.6028, littlebird@hamaatsa.org

**OCT. 22-23, 9 AM-5 PM**  
**ENVIRONMENTAL AND HEALTH CONFERENCE**  
 La Tienda, 7 Caliente Rd., Eldorado  
 Discussion of issues such as geo-engineering, bio-engineering and the Morgellons connection. A documentary film will be premiered. Speakers, workshops, demonstrations. By donation. Presented by the nonprofit Carnicom Institute. Info: 940.435.0276, info@carnicominstitute.org, www.carnicominstitute.org

**OCT. 22, 6 PM**  
**FARMERS' MARKET FALL FIESTA**  
 Farmers' Market Pavilion  
 Food from market vendors prepared by notable chefs, music, silent & live auction, vendor honoree awards. Benefits SF Farmers' Mkt. Inst. Tickets: \$125. To order, call 505.983.7726 or www.farmersmarketinstitute.org.

**OCT. 23, 2-4:30 PM**  
**SPIRIT OF THE BEE STORIES**  
 Museum of Indian Arts Theater  
 710 Cam. Lejo  
 With Debra Robert and Larry Littlebird. Info: 505.899.6028, littlebird@hamaatsa.org, \$20 Advance tickets only: www.brownpapertickets.com/event/201166

**OCT. 28, 9:30 AM-5 PM**  
**CULTIVATING DISCERNMENT WITH MIND, HEART & SOUL**  
 Academy for the Love of Learning  
 133 Seton Village Rd., Seton Village

A day of exploration about the ways in which we approach choice. \$85 by Oct. 14. To register: 505.995.1860, programs@aloveoflearning.org or www.aloveoflearning.org

**OCT. 28-30, NOV. 5-6**  
**PHOTOVOLTAIC DESIGN & INSTALLATION CLASS**  
 SF Girls School  
 NM Solar Energy Assn., 505.246.0400 or 888.88.nmsol, info@nmsea.org, http://nmsea.org/Workshops/pv\_workshop.php

**NOV. 9, 7 PM**  
**BILL MCKIBBEN**  
 The Lensic  
 Environmental activist/350.org founder will speak at a fundraiser for the SF Art Institute. Tickets \$25, \$50, \$100. includes signed copy of his latest book, Eearth. 505.988.1234, ticketssantafe.org, www.BillMcKibben.org

**SUNDAYS, 9 AM-1 PM**  
**LA CIENEGA VALLEY GROWERS MARKET**  
 The Flea at the Downs  
 New regional produce growers market with music and craft demos. Info: 702-885-1301.

**UNWANTED MAIL AND PHONE BOOKS**  
 Opt-out of unwanted phone books, catalogs, credit card solicitations. Free service will help SF shed thousands of pounds of waste and dollars in costs. http://santafe/catalogchoice.org

**BORROW A KILL-A-WATT DEVICE**  
 Main Library and Southside Branch  
 Electricity Measuring Devices may be checked out for 28 days www.santafelibrary.org or call any reference desk.

**SANTA FE CREATIVE TOURISM INITIATIVES**  
 Artists and craftsmen who offer workshops and classes within SF County are invited to list their offerings with Santa Fe Creative Tourism at www.SantaFeCreativeTourism.org. See "Get Involved" tab to list. This service is free and provided by the city of SF Arts Commission.

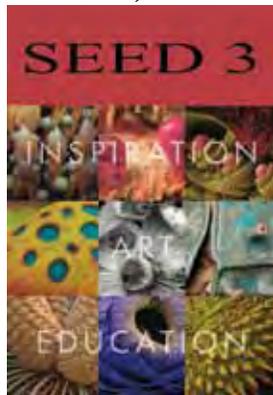
**SAVE A TON RECYCLING CAMPAIGN**  
 The city of Santa Fe and the SF New Mexican have launched a campaign to double recycling in Santa Fe in one year. Santa Feans score way below state and national averages. For a city with its own recycling facility that envisions becoming a Zero Waste community, we can do better! Find info on the Save A Ton campaign at www.sfnewmexican.com and click on Green Line or on Facebook. Contact Regina Wheeler, SF Solid Waste Director: 505.955.2209 or e-mail rawheeler@santafenm.gov

**SUSTAINABLE GROWTH MANAGEMENT PLAN FOR SF COUNTY**  
 Hard copies \$20, CDs \$2. Contact Melissa Holmes, 505.995.2717 or msholmes@santafecounty.org. The SGMP is also available on the county website: www.santafecounty.org/growth\_management/sgmp and can be reviewed at SF Public libraries and the County Administrative Building, 102 Grant Ave.

**HERE & THERE**  
**OCTOBER 2-5**  
**SOCIALLY RESPONSIBLE INVESTING CONFERENCE**  
 New Orleans  
 Join 650 investors and investment professionals. Introduce new services, position new products and enjoy networking opportunities. Some of the topics: The End of the Era of Easy-to-Access Natural Resources; Public Policy and Sustainable Investing; Hydraulic Fracturing; Conflict Minerals, Palm Oil; The Role of the Military in Renewable Energy; Greening Healthcare's Supply Chains; Corporate Reporting; The Power of Transparency; Addressing the Dark Side of Renewables. Contact Krystala Kalil: 888.774.2663, Krystala@SRIintheRockies.com, www.sriintherockies.com

**OCT. 4-7**  
**GREENBUILD INTL. CONFERENCE & EXPO**  
 Toronto, Canada  
 What's next for green building? Speakers, tours, events, networking. www.greenbuildexpo.org

**OCT. 8, 5-8 RECEPTION**  
**SEED 3**  
 Stables Gallery,  
 133 Paseo del Pueblo Norte, Taos  
 Invitational art exhibition/community collaboration. An investigation into the generative power of seeds. Talks by local speakers. 16 artists in 12 mediums. Through Oct. 30. 575.776.2506, seedtaos@gmail.com, seedtaos.org



**OCT. 8-10**  
**CREATING WATERING HABITAT FOR WILDLIFE**  
 Red Canyon Reserve (RCR), Socorro, NM  
 Efforts will focus on wetlands/riparian habitat enhancement with the installation of Rock Arch Dams and thinning of overgrowth of juniper in the understory of the Cottonwood Bosque. www.quiviracoalition.org

**OCT. 12-14**  
**SLOW MONEY NATIONAL GATHERING**  
 San Francisco, CA  
 www.slowmoney.org/national-gathering/index.php

**OCT. 13-16, 9 AM-5:30 PM**  
**INDIGENOUS FORUM**  
 San Rafael, CA  
 A full-day immersion into indigenous Traditional Ecological Knowledge of California Indian Nations and global indigenous communities presented by the Cultural Conservancy. Info: 505.986.0366, ext. 103, cara@bioneers.org, www.bioneers.org

**OCT. 14-16**  
**BIONEERS CONFERENCE**  
 San Rafael, CA  
 Leading edge forum presenting breakthrough solutions for people and planet. http://www.bioneers.org/conference

**OCT. 19-22**  
**APPLIED WATERSHED RESTORATION COURSE**  
 Pritzlaff Ranch near Las Vegas, NM  
 Workshop by Craig Sponholtz. Water harvesting, erosion control and stream restoration with natural channel design, induced meandering and agro-ecological restoration. Designed for restorationists and permaculture practitioners, as well as landowners, farmers and ranchers. \$550 tuition includes breakfast & lunch. Info@drylandsolutions.com, www.drylandsolutions.com

**OCT. 20, 8:30 PM**  
**ACTAH ON MAYAN PROPHECIES**  
 Kachina Lodge, Taos  
 Conference/Ceremony. Positive info re: 2012, the calendars and lost technology. \$15. www.actah2012.com

**OCT. 23, 1-4 PM**  
**HARVEST FESTIVAL**  
 Santa Cruz (near Española)  
 Camino de Paz School & Farm, 505.747.9717, Caminodepazschool.net, www.caminodepaz.net

**OCT. 27-28**  
**U.S.-MEXICO BORDER ENERGY FORUM**  
 El Paso, Texas  
 www.borderenergyforum.org

**OCT. 28-29**  
**TRADITIONAL AGRICULTURE & SUSTAINABLE LIVING CONFERENCE**  
 Northern NM College, Española  
 Keynote speakers: Vandana Shiva, Percy Schmeiser, Galen Knight. Sponsored by Tesuque Pueblo, Four Bridges Traveling Permaculture Institute, Tewa Women United, NNMC, TNAFA. Info: www.fourbridgesfarming.officelive.com

**NOV. 1 PAPERS SUBMISSION DEADLINE**  
**GREEN ENERGY SUMMIT**  
 March 7-10, 2012, Milwaukee, WI. Theme: The New Economic Wave: Clean, Green and Blue. Green Business, energy, careers, sustainability. www.greenenergysummit.us

**NOVEMBER 5-6**  
**DIXON STUDIO TOUR**  
 Wander among the orchards and visit 30 open studios featuring a full spectrum of contemporary and traditional fine art and crafts. www.dixonarts.org

**DEC. 15 ENTRIES DEADLINE**  
**DRYLANDS DESIGN COMPETITION**  
 Purpose: To generate a portfolio of long-term strategies for the arid and semi-arid west's water-scarce future. Open to professionals and students from around the world. Winners will be awarded research grants and access to advisors to advance their proposals. Winners will deliver proposals at the International Drylands Design Conference, Los Angeles, March 2012. Registration now open. See complete brief at drylandscompetition.org





## ALBUQUERQUE

**OCT. 5, 11:30-1 PM**

### USGBC-NM LUNCHEON

MCM Elegante, 2020 Menaul NE  
Panel presentation/discussion on Downtown @ 2<sup>nd</sup>, Abq's Workforce Housing Project. \$25 members, \$30 non-members, \$18 emerging green builders. Register at usgbcnm.org

**OCT. 9**

### LOCAL FOOD FEST. & FIELD DAY

Gutiérrez-Hubbell House, South Valley  
4<sup>th</sup> annual festival launches Local Food Week. Workshop & lectures about food preservation, gardening/farming, seed saving, curanderismo, NM's farming history and culture. Music, tastings, kids activities.

**OCT. 15**

### UPPER CEDRO CREEK GULLY RESTORATION WORKSHOP

Tijeras Canyon, NM  
In conjunction with the Abq. Wildlife Federation, restoration specialists Steve Carson and Bill Zeedyk, and the Cibola Natl. Forest, Quivira Coalition is hosting this hands-on gully workshop along the headwater reach of Cedro Creek. Structures to be built include; Zuni bowls, rock rundowns, one rock dams and baffles. Potluck dinner. www.quiviracoalition.org

**OCT. 18, 8 AM-5 PM**

### WILDLIFE CONSERVATION SOCIETY - NM CONFERENCE

UNM Science and Tech. Park  
801 University Blvd. SE #101  
Presentations and workshops. Registration: \$30 through Sept. 15, \$35 after. rheld@hotmail.com, http://joomla.wildlife.org/nm/

**OCT. 21-22**

### 'BURQUE BIONEERS 2011

Natl. Hispanic Cultural Center Theater  
Discussions on water, transportation, food and farming in Abq; film screenings on art and the environment; hear from community cornerstones working on food, sustainability and social justice; art-making and storytelling to heal our planet. Plus selected speakers from the national conference on screen. becky@beckytomato.com

**OCT. 23, 6:30 PM**

### ACTAH ON MAYAN PROPHECIES

Unity Spiritual Center, 9800 Candelaria NE  
Conference offers positive info re: 2012, the calendars and lost technology. \$15. www.actah2012.com

**NOV. 8, 8:30 AM-4 PM**

### BUILDING SUSTAINABLE COMMUNITIES: REVITALIZING YOUR TOWN

Workshop will explore how Abq, and other communities implemented sustainable initiatives to green-up and revitalize urban areas. Targeted for municipalities in NM and

# What's Going On!

## Events / Announcements

the Río Grande Valley, as well as architects, land planners, engineers, remediation contractors, etc. Info: 224.567.6790 or mary@brownfieldassociation.org

**NOV. 8-10**

### QUIVIRA COALITION'S 10<sup>TH</sup> ANNUAL CONFERENCE

Embassy Suites Hotel  
New Agrarians: How the next generation of leaders tackle 21st century challenges. Hear about innovative ideas and practices from new farm, ranch and conservation leaders. Plenary sessions, workshops. Info and Registration: 505.820.2544, www.quiviracoalition.org

**NOV. 8**

### MANAGING RANGELANDS FOR SUCCESS

All-day workshop. Jim Gerrish from American Grazing Lands and Services LLC (http://www.americangrazinglands.com/) has helped farmers and ranchers across the nation more effectively manage their grazing lands for economic and environmental sustainability. 505.820.2544, www.quiviracoalition.org

**NOV. 8**

### EVENING WITH BILL McKIBBEN AND WILLIAM DEBUYS

Embassy Suites Hotel  
Topic: Climate, Land and Livelihoods in the SW. Global and local discussion moderated by Courtney White. \$25. 505.820.2544, www.quiviracoalition.org

**NOV. 9, 6:30-8:30 PM**

### NEW AGRARIAN CAREER CONNECTION

Embassy Suites Hotel  
Are you eager to get out on the land, but don't know where to start? Do you already have land, but are looking for an extra hand, or someone from the next generation to mentor? Prospective employers/mentors will include private ranches and farms, conservation groups, food advocacy organizations, government agencies, land use service consultants (i.e. Holistic Management), and related private-sector businesses. All participants should bring pertinent documentation. Contact Catherine at cbaqa@quiviracoalition.org to reserve table space.

**SATURDAYS 7-11 AM**

### LOS RANCHOS ARTS & CRAFTS MARKET

6718 Río Grande Blvd. NW  
Handmade items by NM artisans. Music, demos, vegetables and gifts

**XERISCAPE GUIDE AVAILABLE**

A comprehensive list of plants and trees best suited to the climate and soil of the Middle Río Grande region including the East Mountains. Revised by landscape designer Judith Phillips. How-to info on garden planting, plant selection efficient irrigation, rainwater harvesting, xeriscape basics, etc. Available at local libraries, nurseries, home garden centers and community centers or by calling 505.245.3133. More info: 505.768.3655.

**SOUTHWEST BARTER CLUB**

Healthcare using Barter Bucks instead of cash or insurance. Access to acupuncture, chiropractic, eye care, fitness and more. 505.715.2889, www.southwestbarterclub.com

**BENEFICIAL FARMS CSA**

Weekly distribution at La Montañita Co-op Warehouse, 3361 Columbia Dr. NE. This CSA works with up to 40 regional farms each year, and offers abundant, affordable shares of fresh fruit and vegetables and other local and regionally produced foods year round. All produce is grown with sustainable chemical-free methods.

**SANTA FE**

**THROUGH NOV. 22,**

**9:30 AM - 12 PM**

**BECOME A CLIMATE MASTER**

Stewart Udall Bldg. 725 Cam. Lejo  
Free 11-week class. Learn how to reduce your carbon footprint & do the same through volunteer outreach projects. Presented by the NM Environment Dept. 505.476.4323, Mike.Schneider@state.nm.us, http://nmenv.state.nm.us.alb/NewMexico-ClimateMasters.htm

**OCT. 1, 8, 15, 9 AM-12 PM**

**GREEN MARKETING LABS**

SF Community College  
Carolyn Parrs offers interactive classes on how to make your brand or service relevant to the here and now. \$59 for all 3 classes. Call 505.428.1270 or visit www.sfcc.edu (CRN 21502) www.MindOverMarkets.com, www.GreenMarketingBlog.com

**OCT. 2, 6 PM**

**MIXER AND MOVIE**

SF Farmers' Market Pavilion  
Screening of The Greenhorns, documentary about young farmers in America. Catered by Joe's \$20 benefits National Young Farmers' Coalition. Info: cyclefarmer@gmail.com

**OCT. 4, 5-7 PM**

**SF LITERARY REVIEW READING/RECEPTION**

SFCC Jémez Room #1  
The unveiling of this year's edition to recognize local writers, students and artists. Free. Deadline for 2012: Dec. 1. Info: 505.428.1776, laura.mulry@sfcc.edu, http://www.sfcc.edu/files/SFLR/index.htm

**OCT. 5, NOV. 2**

**LOCAL ORGANIC MEALS ON A BUDGET**

Kitchen Angels, 1222 Siler Rd.  
Learn to make delicious meals. \$10. 505.471.7780, www.localorganicmeals.com

**OCT. 6-7**

**LEGAL AND BUSINESS ISSUES IN FILM SUMMIT**

Zane Bennett Gallery, 435 S. Guadalupe  
Six lectures and two free evening panels. Lectures: \$10. Presented by NM Lawyers for the Arts and NMedia. For Reservations: (505) 982-8111 or zanebennett@aol.com

**OCTOBER 11, 6:30 - 7:30 PM**

**SETON CAMPFIRE TALES**

Academy for the Love of Learning, 133 Seton Village Rd., Seton Village  
David L. Witt will present Seton's most famous tale: Lobo, The King of Currumpaw. Seating by 6:25 pm. Reservations required. \$10 suggested donation. RSVP: 505.995-1860, programs@aloveoflearning.org, www.aloveoflearning.org

**OCT. 14, 7-9 PM**

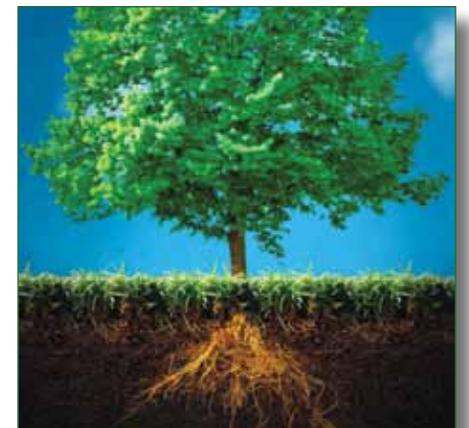
**LIVING SOIL IS WHERE IT'S AT**

SFCC W. Wing Lecture Hall  
Soil guru Dr. Elaine Ingham explains why conventional agriculture is ruining our soil and how to fix it. \$10, 505.298.4434, iginia@carboneyseries.com, www.carboneyseries.com

**OCT. 14, 8 PM**

**JOE WEST & THE SF REVUE**

El Museo Cultural Theater  
Theatrical Alt-Country band with Barrel Cactus String Quartet and special guests. Tickets: \$15 at the Lensic box office or www.santafetickets.org



**OCT. 15-16, 9:30 AM-4:30 PM**

**SOIL FOODWEB WORKSHOP**

SFCC Trades & Adv. Tech Center  
Rodale Institute's Dr. Elaine Ingham offers classroom instruction, hands-on lab work and field demonstrations. Oct. 15: Soil Foodweb Intro; Oct. 16: Soil Foodweb and Compost Tea Technology. \$175/day or \$300 for both. 505.298.4434, iginia@carboneyseries.com, www.carboneyseries.com

**OCT. 15, 11 AM-12 PM**

**LOCAL BAKING COMPETITION**

SF Farmers' Market Pavillion  
15 home bakers will present their deserts using local ingredients to a renowned judging panel. Organized by the SF Alliance. www.santafealliance.com

**OCT. 15, 1-4:30 PM**

**SIMPLE GREYWATER SYSTEMS**

Cerrillos  
Learn to use household wastewater safely for gardens and wildlife habitats. Class covers NM code, appropriate soaps, basic gravity-fed systems. \$25-\$40 sliding scale. 505.780.0535, ampersandproject@yahoo.com, www.ampersandproject.org

# NEWSBITES

## NEW MEXICO GREEN CHAMBER OPENS OFFICE IN TAOS

At a time when the news out of Washington is pretty grim in regard to green energy, green jobs and other steps to sustainability, the news from New Mexico is extremely encouraging, particularly regarding the NM Green Chamber of Commerce (NMGCC).

On the state level, the NMGCC already has over 1,200 members. It advocates on behalf of renewable business sectors (energy, construction, agriculture), strengthening local, living, clean energy economies, and seizing the green business advantage. Furthermore, the NMGCC is helping businesses succeed.

Recently in Taos, 25 business owners and citizens launched the Taos Chapter of the NMGCC. The Chapter is beginning its work with two project areas: A "Buy Local Guide" and a Legislative Agenda.

### BUY LOCAL GUIDE

The Buy Local Guide is intended to help keep money in the Taos community. It will also stimulate a critical conversation amongst townspeople. Each listing will ask, "Where is your business/organization on the path of sustainability (people, planet and profits)?" While each business may have a different definition, the goal is the same: protect our air, land and water, provide meaningful employment, and create long-term, sustainable profits. The Guide will be coordinated with the Business Alliance for Local Living Economies' (BALLE) National Buy Local Week, November 25 - December 4, 2011. Many cities and towns across NM will be participating.

### LEGISLATIVE AGENDA

Taos has also been focused quite heavily on the development of rural solar power, green construction, tourism, and agriculture. Each sector has its needs for policies and legislation that will vitalize these business economies. As a chapter of the NMGCC, the Taos Green Chamber will help develop a comprehensive set of legislative priorities in these business sectors. These priorities will systemically look at a wide range of issues and develop integrated policy initiatives.

For instance, policies that set targets for state government to purchase food from local producers could enable school districts, hospitals and government agencies to use their buying power to 1) help local farmers actually make a living wage, 2) provide healthier food to students, patients and our communities, and 3) keep money circulating within local economies. Because healthier food in the classroom can help boost educational test scores, reduce behavioral issues in schools, and create greater community security, the benefits of such policies would be far-reaching.

The NMGCC welcomes Taos and Enchanted Circle communities to this work. For more information, contact Erin Sanborn: 575.770.2991, erin@nmgreenchamber.com or info@nmgreenchamber.com.

## 'BURQUE BIONEERS 2011

A two-day sustainability and action conference that merges education, inspiration, service and fun for the community will take place at the National Hispanic Cultural Center in Albuquerque on Oct. 21-22. 'Burque Bioneers, presented by the Open Space Alliance, will showcase practical environmental solutions and innovative social strategies to restore Earth's imperiled ecosystems and human community.

Events begin at 9 am each day and end at 4 pm. Video keynotes from the 22<sup>nd</sup> annual Bioneers Conference in San Rafael, California will be featured, including renewable energy visionary Amory Lovins, activist Gloria Steinem, and Karen Brown from the Center for Ecoliteracy. Local speakers, panel discussions and workshops will also be presented. Activities include panels on transportation, water and local agriculture, art-making, yoga and REI-sponsored service projects.

Tickets are \$25 for both days or \$15 for one-day, on sale at the NHCC box office. For a full schedule, visit [bbabq.wordpress.com](http://bbabq.wordpress.com). For information, contact Becky Holtzman: 505.301.2840 or [becky@beckytomato.com](mailto:becky@beckytomato.com), <http://www.bioneers.org/conference/beaming/welcome>

## "THINK & DO TANK" FANS EMBERS OF EMERGING SUSTAINABLE ECONOMY

### CONTINUING CONVERSATION AT SFCC ON OCT. 19

How can innovative people work together to create a thriving local/regional, resilient, sustainable economy? Several months ago, a diverse group met in Santa Fe to start to brainstorm the creation of a "Think and Do Tank," an interdisciplinary, innovation/fabrication lab to turn creative/social/economic/ecological ideas into jobs. The initiative intends to facilitate rapid prototyping, testing and bringing to market sustainable, beneficial tools, processes and products.

Initial proposed ideas and functions for the Think & Do Tank include:

- Connecting idea generators to people looking for purposeful endeavors
- An Idea Bank that brings together a wide range of disciplines, such as water, food, energy, housing, recycling, technology, health & healing, solid waste, financing, policymaking, community design, facilitation, etc. for systems collaboration
- Making the initiative affordable by including options such as Time Banking and Co-working (innovative shared office spaces)
- Supporting entrepreneurial efforts utilizing existing community assets and resources wherever possible
- Taping into the dynamic power of youth and the wisdom and resources of retirees and elders

Possible next steps include the establishment of a meeting place/café/daycare/library facility, and an online presence to post ideas and get immediate feedback.

The conversation will continue on Oct. 19, 5:45-8:30 pm at SF Community College's Trades and Advanced Technology Center Entry Lounge (Room 800). For more info or to RSVP, go to [www.sustainablesantafe.com](http://www.sustainablesantafe.com) and click on calendar listing.

## EVENING CLASSES IN GREEN BUILDING, RENEWABLE ENERGY AND ENERGY EFFICIENT REMODELING AT SFCC

Dan Clavio and Robin Dorrell of Architects, Designers & Contractors Network, along with building professionals, are offering a series of five classes in October and November at Santa Fe Community College (SFCC). The classes will provide information for people who are preparing to build or remodel a home or commercial building. Contractors, architects, designers, realtors and other industry professionals also frequently attend the classes.

Each class is a single 3-hour session from 6-9 pm on Tuesday evenings. People can attend single classes or sign up for the entire series and get a 20% discount. The classes are offered through the Continuing Education Department of SFCC.

The schedule includes: "Introduction to Green Building" on Oct. 4, "Great SW Design and Passive Solar Principles" on Oct. 11, "Energy Efficient Remodeling" on Oct. 18, "Renewable Energy Systems" on Oct. 25, and "Guide to Successful Building" on Nov. 1.

To register, contact SFCC at 505.428.1676, [www.sfcc.edu](http://www.sfcc.edu), ADC Network at 505.474.8388, or [www.ADCNetwork.org](http://www.ADCNetwork.org). For more information, contact Dan Clavio: 505.474.8388 or [dan@adcreferral.com](mailto:dan@adcreferral.com).

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[www.newmexicoearthadobe.com](http://www.newmexicoearthadobe.com)

**GREEN FIRE TIMES**

Please consider placing an ad in this publication. Help support our work for a more sustainable world.

Skip: 505.471.5177  
Anna: 505.982.0155

**ACTAH VISITS NEW MEXICO!**

Feel the presence of the Ancient Maya, and receive the positive information they want you to have regarding 2012, the calendars, and their lost technology.

**Conference and Ceremony dates**  
October 20th - TAOS October 21st - SANTA FE  
October 22nd - TAOS  
October 23rd - ALBUQUERQUE

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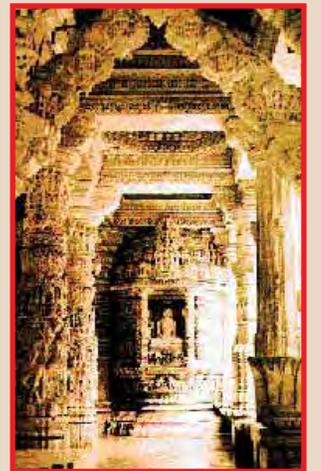
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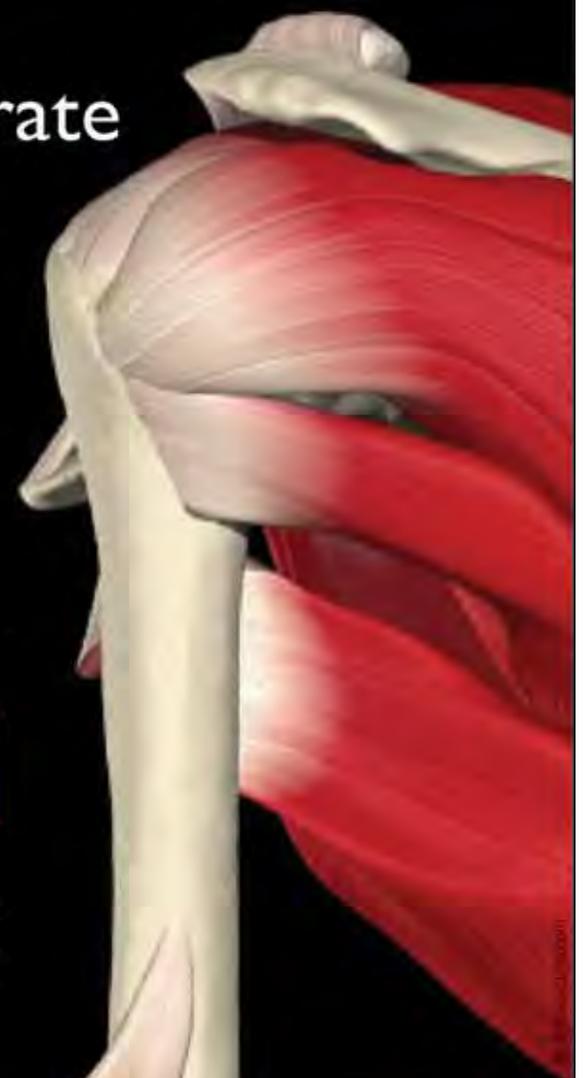
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## “Do” TANK CONTINUED FROM PAGE 28

Both have proven to be frustratingly elusive, but I am hopeful that as more and more organizations take the lead by “doing” and “informing,” others will follow and contribute their own innovation and entrepreneurial energy.

Most importantly, I see a lot of hope in the Next Generation. I believe that young people today are much more open to collaboration, innovation, and the implementation of “back-to-the-future” ideas than the current generation of environmental, agricultural, and scientific leaders. They have also come of age during a time when a crisis such as climate change is part of their everyday zeitgeist, which, combined with their technological savvy, means they are prepared for modern challenges in a way their parents prob-

ably are not. Their interests are also more agrarian than their predecessors, especially their interest in food systems, which means they have a lot of “soil between their toes” already. This may be one reason why they are more interested in pragmatic solutions to problems rather than finger-pointing or ideological posturing. In any case, we should do everything we can to teach, encourage and mentor this new generation of leaders. If anyone can build resilience in the West for the long run, they can.

✪  
Courtney White is  
Executive Director of  
the Quivira Coalition  
505.820.2544, [www.quiviracoalition.org](http://www.quiviracoalition.org).



## THE AGRARIAN STANDARD

CONTINUED FROM PAGE 10

lation among us is growing, and by no means is it made up merely of some farmers and some country people. It includes urban gardeners, urban consumers who are buying food from local farmers, organizers of local food economies, consumers who have grown doubtful of the healthfulness, the trustworthiness and the dependability of the corporate food system —people, in other words, who understand what it means to be landless.

Apologists for industrial agriculture rely on two arguments. In one of them, they say that the industrialization of agriculture, and its dominance by corporations, has been “inevitable.” It has come about and it continues by the agency of economic and technological determinism. There has been simply nothing that anybody could do about it.

The other argument is that industrial agriculture has come about by choice, inspired by compassion and generosity. Seeing the shadow of mass starvation looming over the world, the food conglomerates, the machinery companies, the chemical companies, the seed companies and the other suppliers of “purchased inputs” have done all that they have done in order to solve “the problem of hunger” and to “feed the world.”

The primary question for the corporations, and so necessarily for us, is not how the world will be fed, but who will control the land, and therefore the wealth, of the world. If the world’s people accept the industrial premises that favor big-business, centralization and (for a few people) high profitability, then the corporations will control all of the world’s land and all of its wealth. If, on the contrary, the world’s people might again see the advantages of local economies, in which people live, so far as they are able to do so, from their home landscapes, and work patiently toward that end, eliminating waste and the cruelties of landlessness and homelessness, then I think they might reasonably hope to solve “the problem of hunger,” and several other problems as well.

But do the people of the world, allured by TV, supermarkets and big cars, or by dreams thereof, want to live from their home landscapes? Could they do so, if they wanted to? Those are hard questions, not readily answerable by anybody. Throughout the industrial decades, people have become increasingly and more numerous ignorant of the issues of land use, of food, clothing and shelter. What would they do, and what could they do, if they were forced by war or some other calamity to live from their home landscapes?

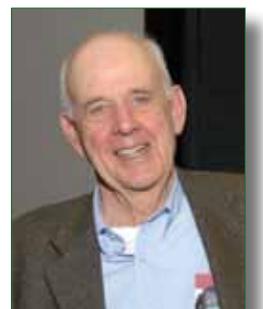
It is a fact, well attested but little noticed, that our extensive, mobile, highly centralized system of industrial agriculture is extremely vulnerable to acts of terrorism. It will be hard to protect an agriculture of genetically impoverished monocultures that is entirely dependent on cheap petroleum and long-distance transportation. We know too that the great corporations, which now grow and act so far beyond the restraint of “the natural affections of the human mind,” are vulnerable to the natural depravities of the human mind, such as greed, arrogance and fraud.

The agricultural industrialists like to say that their agrarian opponents are merely sentimental defenders of ways of farming that are hopelessly old-fashioned, justly dying out. Or they say that their opponents are the victims, as Richard Lewontin put it, of “a false nostalgia for a way of life that never existed.” But these are not criticisms. They are insults.

For agrarians, the correct response is to stand confidently on our fundamental premise, which is both democratic and ecological: The land is a gift of immeasurable wealth. If it is a gift, then it is a gift to all the living in all time. To withhold it from some is finally to destroy it for all. For a few powerful people to own or control it all, or decide its fate, is wrong.

From that premise we go directly to the question that begins the agrarian agenda and is the discipline of all agrarian practice: What is the best way to use land? Agrarians know that this question necessarily has many answers, not just one. We are not asking what is the best way to farm everywhere in the world, or everywhere in the U.S., or everywhere in Kentucky or Iowa. We are asking what is the best way to farm in each one of the world’s numberless places, as defined by topography, soil type, climate, ecology, history, culture and local need. And we know that the standard cannot be determined only by market demand or productivity or profitability or technological capability, or by any other single measure, however important it may be. The agrarian standard, inescapably, is local adaptation, which requires bringing local nature, local people, local economy and local culture into a practical and enduring harmony. ✪

Farmer and author, Wendell Berry has published numerous novels, collections of poetry, and essays. He lives in Port Royal, Kentucky with his wife Tanya.



# *A GREAT ARIDNESS: CLIMATE CHANGE AND THE FUTURE OF THE AMERICAN SOUTHWEST* • THE STORY BEHIND THE BOOK

WILLIAM DEBUYS

The only conference I regularly attend is the annual Quivira Coalition gathering in Albuquerque. Usually I stop by for a morning or an afternoon to see old friends. At the event in 2005 I found myself alone in the hotel hallway when everyone went into the ballroom to hear a talk about climate change. After a while, I went in too and took a seat in the back. The speaker turned out to be Jonathan Overpeck, a major figure within the Intergovernmental Panel on Climate Change (IPCC), which the U.N. had established in 1988. (In 2007 the IPCC was awarded the Nobel Peace Prize, along with Al Gore.)

I have a hard time during presentations. My mind wanders. I don't pay attention. Overpeck was an engaging speaker, but even so, I was thinking about something far away, probably something unmentionable, when he flashed a map on the screen. It showed the United States in shades of red and blue—red where climate models predicted streamflow—surface runoff in rivers—would decline over the next half century, blue for where it would increase. The greater the change, the stronger was the color, and the Southwest—my home—burned red. The image was like a siren going off.

That moment, when the bright reds of that map called me to attention, was the starting point for *A Great Aridness: Climate Change and the Future of the American Southwest*, which is just now being published. The map on the screen essentially said that the rivers of the region, which provide water for tens of millions of people, would shrink in the decades ahead by 10 to 30 percent, roughly one fifth.

Anyone who knows the Southwest knows that its rivers, the Colorado and Río Grande foremost among them, are already over-allocated. More is asked of them than they can give. If their flows decline by the amount predicted, the impacts will be enormous, maybe catastrophic. I stared at the map. The ballroom felt suddenly cold. Then, as Overpeck moved on to the next slide, and still feeling stunned, I

stared at the chair in front of me. To this day, I can remember the ugly pattern of the fabric on its back.

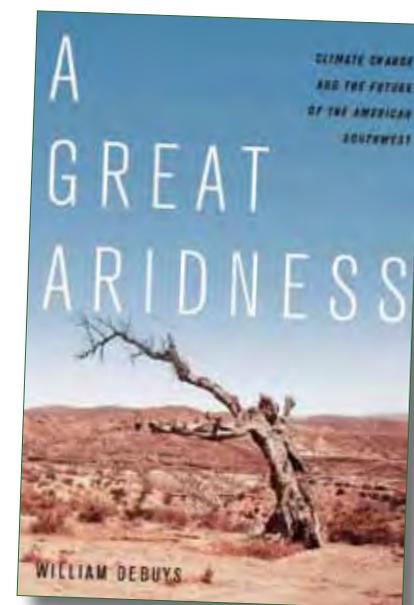
In 2008, a Guggenheim fellowship, the opportunity of a lifetime, allowed me to plunge into the project that Overpeck's presentation had sparked. Essentially, I took to the road to talk to the people who best knew the lands of the Southwest and the likely impacts that climate change would have on them. Overpeck was among the first I called on. Later, at NOAA's Geophysical Fluid Dynamics Laboratory in Princeton, New Jersey, I interviewed Chris Milly, the leader of the team that produced the streamflow map. And in New York, at Columbia University, I talked with Richard Seager, the lead author of "Imminent Transition to a More Arid Climate in Southwestern North America," a 2007 article in *Science* that became a benchmark in my research.

I relished the travel and interviews, spending a week at a research station in northwest Chihuahua, and exploring ruins near Cortez, Colorado, and Zuni, New Mexico. I floated Lava Falls Rapid in the Grand Canyon and tramped migrant trails on the Arizona border. I talked with dendrochronologists, archaeologists, ecologists, hydrologists—a great number of "-ists." Also urban planners, enviros, and water managers like the redoubtable Patricia Mulroy of the Southern Nevada Water Authority. In the company of biologist Peter Warshall, I camped atop Arizona's Mt. Graham, where the impacts of climate change, expressed in forest fires and insect outbreaks, have wrecked a fragile biome.

The news for the Southwest is not good: the droughts, fires, social strains and other stresses that lie ahead will challenge the region to the utmost. But the stories about how people came to understand those problems are endlessly fascinating, at least for me. In *A Great Aridness* I have tried to capture the "eureka moments" when the researchers I talked with glimpsed new and resonant insights—like when Tom Swetnam, who heads the Labo-

ratory of Tree-Ring Research at the University of Arizona, and Julio Bencourt of the USGS made the link between forest fire frequency and the El Niño/La Niña cycle. Or when Mark Varien of the Crow Canyon Archaeological Center found a great kiva at Sand Canyon Pueblo and was able to visualize in a completely new way the pueblo's final days. Or when Chris Milly or Richard Seager, separately, realized that their climate models were telling them something big.

The surprise for me in writing the book was to come full circle back to issues I had been working on for many years. Yes, we urgently need to cut back on greenhouse gas emissions, which for virtually all of us means a radical change in the way we live. But we also need to take care of business that has long been unfinished, like living within a sustainable water budget and restoring fire resilience to our for-



ests. Climate change only makes more urgent the big task that has *always* been before us: to learn how to live in the marvelous arid lands of this continent without further spoiling them. It is an old challenge. We have already had a lot of practice, and we should be better at it. We can be. ☒

*William deBuys will be a keynote speaker at the Quivira Conference in November. His book A Great Aridness will be released just before the conference.*

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# THE SOIL'S FOOD WEB

IGINIA BOCCALANDRO

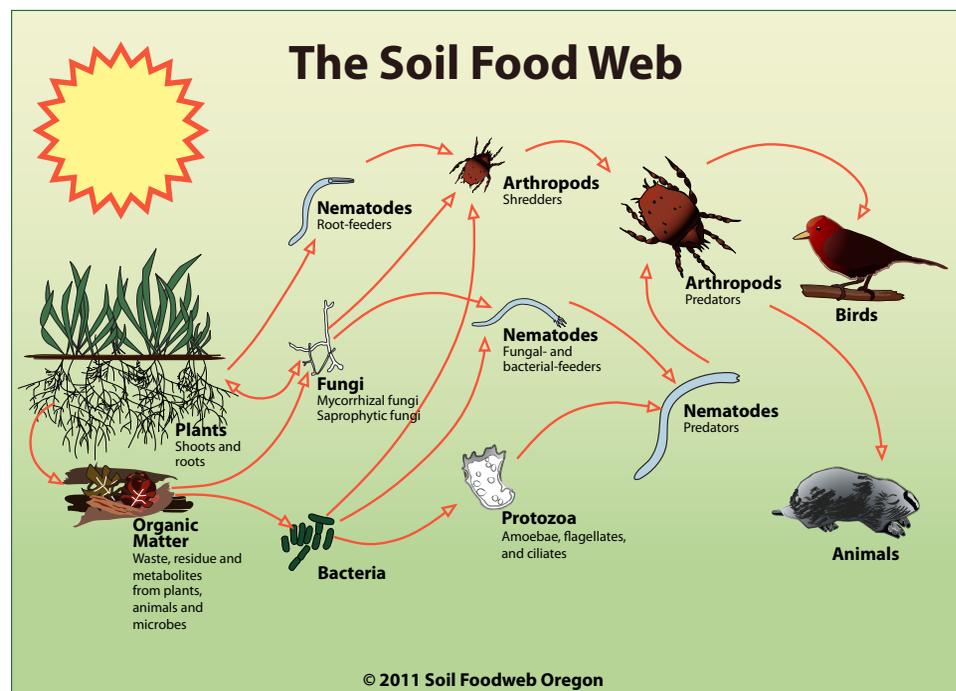
When we look at bare ground we are looking at dead soil. Kirk Gadzia, Holistic Land Manager, has declared it public enemy number one because it allows erosion, loss of topsoil and water, increases deserts, and because it fails to remove carbon from the atmosphere, which is crucial to climate stabilization.

The soil's food web is one of the main reasons we are alive. It is the active biology in the soil that breaks down rock into chelated minerals that, along with organic matter, make humus, which holds water and transports nutrients to plant life. Plants, in turn, create oxygen that, with other atmospheric gases, sustain life on our planet. Although science has only identified 3 % of the living organisms in soil, their impact is huge. They are classified into three groups: bacteria, fungi and microorganisms such as nematodes, small worms that comprise more than 28,000 species. Together these miniscule organisms, with their capacities to digest, churn and transform substances into simple sugars and broken-down minerals, create the conditions for life to occur out of rock.

Think about it. Microorganisms outnumber by billions of billions all above ground species. In fact, in a cup of living soil there are more organisms than what we can see on the land, in the ocean, and what has gone extinct.

Due to its unique capacity to sequester more carbon dioxide than a tropical rainforest, science has recently confirmed (contrary to our seventh grade biology class) that grasslands sequester more atmospheric carbon than a tropical rainforest. A rainforest will use carbon dioxide during the day and produce oxygen, but at night, the fallen foliage putrefying on the forest floor will off-gas just as much CO<sub>2</sub> as is used during the day – surprisingly, making a tropical rainforest carbon-neutral.

What makes grasslands disappear and what makes them regenerate? At the Carbon Workshop Series this month, you can get answers to these questions. The



proportion of bacteria to fungi in the soil will determine what kind of plants will grow well. The amount of humus will determine the health, vitality and vigor of the plants. Humus will also reduce the amount of water required, stimulate greater root growth and reduce soil compaction. Ultimately, production is increased greatly by all these natural biological factors. This is in contrast to the petrochemical companies who want to sell inputs for greater fertility.

Dr. Elaine Ingham, soil biologist and chief scientist of Rodale Institute says, "We are not gardeners nor landscapers, but instead, soil managers." When you understand how the soil food web works and how to use it to prepare soil, you are able to create the conditions to grow virtually anything. On Friday, October 14 at 7 pm, the Carbon Economy Series and Santa Fe Community College will host Dr. Ingham for a public talk: *Living Soil is Where It's At*, for \$10, at SFCC's Lecture Hall in the West Wing. On October 15, Dr. Ingham will offer a full-day workshop: *An Introduction to the Soil Food Web* at SFCC's Trades and Advanced Technologies Center from 9:30-4:30 pm. That will be followed by another full-day workshop at the same location on October 16: *Soil Food Web and Compost Tea Technology*. For more information, visit [www.carboneconomyseries.com](http://www.carboneconomyseries.com) or call 505.298.4434.

Iginia Boccalandro, a Santa Fe-based certified Advanced Rolfer ([www.rolfingamerica.com](http://www.rolfingamerica.com)), is a designer apprentice with the Permaculture Institute. She has been hosting the Carbon Economy Series of workshops in support of climate change stabilization. 818.913.2877.



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Ken is an upcoming guest on Transitions Radio Magazine

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## OUR LIFE BREATH... RESTORING THE GRASSLANDS

Since childhood it's been considered a given that forests were the "lungs" of the world. But it was recently brought to my attention that grasslands produce more oxygen and pick up more carbon than rainforests. And the issue here is that these very grasslands are rapidly turning to deserts in many places around the globe. Given the havoc created by modern man's mindless approach to dealing with nature (why not take a cue from the indigenous cultures or Mother Nature herself?), aspects of our ecosystem are being compromised, and the effects can be alarming. But there is, through understanding, education and willingness, the potential to stem the tide and restore this precious and vital aspect of our natural world.

Grasslands co-evolved with hoofed animals over many centuries. It was, and continues to be, a symbiotic relationship. In the past, giant herds performed the extremely important function of stimulating the grass by biting, chomping and stomping from one location to the next—all along the way, dropping their nutritious byproducts, fertilizing the soil and guaranteeing a perpetual wealth of healthy grass. Because the herds were constantly threatened by predators, they moved quickly and never lingered too long in one location. When the European settlers began creating fence lines, and the animals couldn't move as often or as quickly, erosion began and the topsoil started to disappear.

One of the most dramatic stories regarding human impact on the environment belongs to the American bison. In the 17th century, an estimated 60 million bison roamed the plains of North America. The grasslands moved in waves like a rippling sea. With the arrival of settlers, the bison were pushed out of their native lands and hunted ruthlessly. By 1890, fewer than 1,000 animals survived. In striking contrast to the Native Americans, who traditionally hunted the bison for food, tools and their hides, the Europeans' slaughter was essentially for sport, with "gamesmen" shooting from the newly constructed railway, wagering on how

many they could kill in a single day.

One can only wonder what aversion to nature could drive this level of disregard for a species to the very edge of extinguishing them. Fortunately, the American Bison Society was formed in 1905 to secure the survival of this species. As a result of captive breeding and reintroductions to the wild, in the past century the American bison population has returned to approximately 500,000.

In Europe the effects of high-density civilization have impacted the land over many thousands of years. Here in North America, the devastation that has occurred over the past one hundred years is downright scary. The near-elimination of the bison was a precursor to the "Dust Bowl" of the 1930s when a massive percentage of the topsoil across the Great Plains blew away during nine years of unceasing winds during the worst drought in United States history. These were the events, resulting in such a parched and depleted landscape, which paved the way for the chemical pesticide and chemical fertilizer companies to launch their campaign with the ironic title of "green revolution." This new direction, proudly led by modern chemical science, was to create a true panacea, a revolutionary approach that was to invigorate the land and produce limitless yield to feed the world. The sad reality has been the continuing degradation of the land and water, along with the known and unknown impact on the health of humans, the food chain and the planet.

Fortunately, we are now evolving definite scientific procedures for restoring the land. The land has a great healing capacity, similar to our bodies. But leaving the land alone, as in no disturbance, in attempts to rehab from the effects of overgrazing and erosion, has turned out not to be the answer. What does appear to be working is a combination of stimulation and rest, based on moving herds quickly and often, simulating how the great herds moved before fences. The Europeans parceled off the land with a protective approach to securing their land and their cattle. But

had they merely viewed how the natural ecology was functioning and attempted to follow that model, this continent could still be an unending paradise. So, how can we help restore what's been damaged and realign ourselves with the oneness of life? I think it can be as simple as something called the "Triple Bottom Line."

How does it affect finances? How does it affect the environment? How does it affect society?

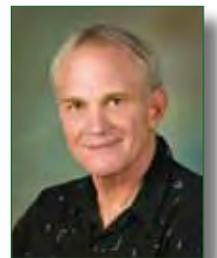
With each of these questions being asked, and some appropriate time spent in determining how all three can be considered and accomplished—unlike the prevailing single "bottom line" mentality that demands profitability at the exclusion of people and planet—the outcome can be one



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Geomorphology monitoring of the Comanche Creek Río Grande Cutthroat Trout Habitat Restoration Project

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is understanding natural processes, such how water wants to flow across the land, the role of riparian vegetation in soil stability, and how grazing animals will use the land. One doesn't need a Ph.D. to understand these processes. Bill Zeedyk doesn't have one, nor do nearly all the people involved in Quivira's restoration projects. What is required is a working knowledge of land function, which anyone can pick up with the right amount of training, study and in-field experience.

Many farmers and ranchers intuitively understand how land works. What they often lack (if they are open-minded) is the technical knowledge of restoration. But many conservationists have picked up this knowledge quickly as well – in fact, most of the volunteers, as well as the contractors, on our restoration projects have an urban/conservationist background.

And this knowledge works. Our restoration projects have been highly successful, particularly in their goal of improving and maintaining land health. In case after case, we have documented the recovery of riparian health as a result of Induced Meandering and other methodologies, including the repair of low-standard ranch roads. This, in turn, helped break logjams.

Initially, Zeedyk's ideas were met with resistance from certain agency personnel and some academics, but over time his high success rate on-the-ground convinced most critics to change their tune. Quivira helped, not only by organizing the restoration work itself, but also by providing workshops, symposia, training seminars and other educational opportunities for the

curious and the eager. This helped to change the culture of restoration work in the region. Once considered an outlier activity in itself, restoration has now become quite mainstream, and innovators like Bill Zeedyk and his trainees, once marginal, are now in wide demand.

In sum, the details of land health and the restoration “toolbox” to improve and maintain it are now well-developed, thanks to many people and a lot of hard work. What remains to be accomplished, however, is making this work economic – i.e., figuring out a way to compensate landowners and others for improving land health. This will be critical to efforts to manage land for climate change and resource depletion, which will, frankly, require paychecks and entrepreneurial energy to be effective. We can now confront the West's legacy of degraded riparian areas and rangelands proactively. Hopefully, we'll soon be able to do so profitably as well.

In sum, the Quivira experience to date demonstrates that building resilience on private and public lands is possible, practical, and potentially scalable. Much of the toolbox necessary to manage the West for multiple pressing challenges has been developed and field-tested by many individuals and organizations across the region. But two important elements are lacking in order to get things moving faster: first, an economic model that values regeneration and restoration over exploitation and waste; and second, strong leadership at the county, state, and federal levels to break through Business-as-Usual paradigms and policies.

CONTINUED ON PAGE 34

the Australian Rangelands Society. He is studying for a Masters in Rangeland Management at the University of Queensland and recently became involved in the Meat & Livestock Australia Environmental Advocates Program. Ben has been instrumental in the development of "Grazebook," an online forum for producers, practitioners and agencies.

**JEFF GOSSAGE, RANCH OPERATIONS MANAGER, MOSCA, COLORADO**

"My parents owned the Stirrup Ranch in south central Colorado. My uncle and aunt ran it as a working cattle ranch using holistic management. I have been ranching ever since graduating high school. I have been managing the Medano-Zapata Ranch for The Nature Conservancy for the last six years. A couple other years were spent on other ranches in other states experiencing other kinds of operations and ranching styles. My passion is preserving ranching as a traditional and progressive way of life and a means to preserve our rangeland."

**TYFFANY HERRERA, EROSION CONTROL CREW LEADER  
OJO ENCINO CHAPTER OF THE NAVAJO NATION, NM**

"I've lived on the Navajo Reservation since I was 6 years old. I've learned a lot about ranching and farming. I've built erosion control structures, identified problem areas on the range, and fixed problems on my ranch. I'm currently attending NM State University, pursuing a degree in Soil Science with a minor in Business and English. I hope to learn more because I want to continue Walking in Beauty."

**LILIAN HILL, HOPI TUTSKWA PERMACULTURE, KYKOTSMOVI, HOPI NATION, AZ**

Lilian is a member of the Tobacco (Pipwungwa) clan and is the mother of three children. She has studied Applied Indigenous Studies at Northern Arizona University, focusing on Traditional Ecological Knowledge, and at the North American School of Natural Building. With her husband and children, Lilian is building a home in her village utilizing permaculture principles and encouraging the conditions for sustainability.

**SARAHLEE LAWRENCE, RAINSHADOW ORGANICS, SISTERS, OREGON**

Rainshadow Organics is a market garden at Lawrence Farms where Sarahlee has farmed and gardened for twenty-five years. Dozens of varieties of certified organic vegetables, herbs, berries and flowers are grown there on 27 acres. All of the crops are distributed within 50 miles through a CSA program to local restaurants and farmers' markets.

Growing up in remote central Oregon, Sarahlee dreamed of leaving in search of adventure. By the age of twenty-one, she had rafted some of the world's most dangerous rivers. But living her dream as guide and advocate, led her back to her family's ranch. Her book, River House is the beautiful chronicle of a daughter's return and her relationship with her father.

**NIKIKO MASUMOTO, MASUMOTO FAMILY FARM, FRESNO, CA**

Nikiko first learned to love food as a young child slurping overripe organic peaches on the Masumoto Family Farm. Since then she has never missed a harvest. In 2007 she graduated from UC Berkeley with a B.A. in Gender and Women's Studies and will soon complete a Master of Arts in Performance as Public Practice from UT Austin. She is now back in the Central Valley of California farming with her family, working on a cookbook, and developing "agrarian arts" projects.

**ANNIE NOVAK, GROWING CHEFS,  
BROOKLYN, NY**

Annie Novak is founder and director of non-profit Growing Chefs, in the education department at the NY Botanical Gardens, and co-founder and head farmer of the first commercial rooftop farm in the country, the Eagle Street Rooftop Farm in Greenpoint, Brooklyn. Annie has worked with Slow Food and Just Food, promoting urban agriculture throughout NYC. Her work has been featured internationally as well as locally in New York Magazine, the New York Times, Grist and the Martha Stewart Show, among others.



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A lifelong vegetarian, Annie's passion for agriculture began while working in Ghana with West African chocolate farmers. She has since followed food to its roots in Burkina Faso, Togo, Benin, Turkey, Peru, Bolivia, Argentina, Fiji, New Zealand, the Cook Islands, Alaska, through the West and Midwest.

**ROCHELLE VANDEVER, HASBIDITO YOUTH ADVISORY COUNCIL, OJO  
ENCINO CHAPTER OF THE NAVAJO NATION, NM**

Rochelle is from the small community of Torreón, NM. She is currently attending NMSU in Las Cruces, majoring in Civil Engineering. At 14 she began working with Ojo Encino Chapter. She learned a lot about sheep, cattle and horses and wanted to become a veterinarian. When she worked with the Río Puerco Management Committee she became interested in restoring the land for livestock. Her goal is to receive a B.A. degree in civil engineering and to attend graduate school.

**HAI VÕ, REAL FOOD CHALLENGE, IRVINE, CA**

Hai coordinates Live Real, an emerging community of young leaders focused on historical and current injustices of our food system. He is a 2009 recipient of the Earth Island Institute's Brower Youth Award for his efforts with the Real Food Challenge, a U.S. campaign of over 350 colleges and 3,000 students reallocating university procurement of "real food" that's ecologically-sound, community-based, humane and fair. He is a 2008-2009 Sustainable Agrifood Systems Fellow with UC Santa Cruz's Center for Agroecology and Sustainable Food Systems. Hai is also an aspiring agro-ecologist, passionate about traditional foods, and yearns to own and steward land.

**KATIE WALLACE, SUSTAINABILITY SPECIALIST, NEW BELGIUM BREWING  
COMPANY, FORT COLLINS, CO**

Katie is the Sustainability Specialist at the employee-owned New Belgium Brewing Company. She helps set the strategic direction of NBB's sustainability efforts and engages coworkers in these initiatives. Her formal education in Economics and Finance prepared her for analyzing trends and forecasting sales. She has a passion for cultural innovation, environmental sustainability and lifelong learning. ☒



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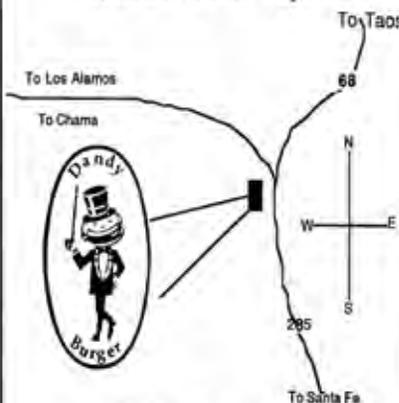
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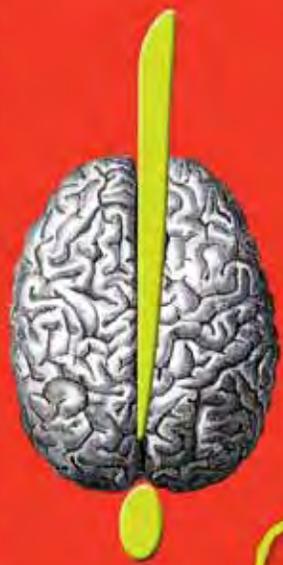
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diabetes and ultimately, death. As one elder recently said, “We have known imbalance for so long, harmony feels unnatural.” Finding solutions to the social, economic and political issues that plague these communities is a necessary component of restoring hózhó in these communities.

The second daunting challenge is that most Navajo people no longer depend on the local land base for sustenance. As the Navajo have gone to an increasingly cash-based economy, they have neglected the land that once sustained their ancestors. While Quivira does not expect these communities to return to subsistence agricultural economies, there are cultural practices associated with agriculture that can be reinstated that clearly sustain the health of the community and the health of the landscape. When land provides something that you need—it is natural that you would want to take good care of it.

One of the biggest factors affecting land health is a rampaging population of feral horses. Quivira is actively addressing this through the administration of the PZP (mare birth control) vaccine and a 4-H program in Ojo Encino, targeted at reconnecting rural youth with traditional horse practices.

The third challenge is getting young people involved in their communities and demonstrating that there is meaningful work to be done in the community. Said one elder, “Our youth no longer see the land, they just see the road out of here.” There are few opportunities for youth to make a good living on the reservation, and a crucial element of restoring hózhó is re-engaging the imaginations and creativity of the next generation of land stewards.

Lastly, without question the challenge of a changing climate is already adversely affecting Native communities and landscapes across the Colorado Plateau. On average, the area around Ojo Encino, Torreón and Counselor gets approximately 10 inches of rain annually. Elders remember a time when a five-mile walk between the Ojo Encino Chapter House and home required making a conscious effort to stay on high ground because the lowlands were too marshy to navigate on foot. Today, that same route is a wasteland of sagebrush and bare soil. If climate change follows current predictions, the southern Colorado Plateau is going to be completely void of live water, making human existence on this iconic cultural landscape increasingly difficult.

**RECENT SUCCESSES:** In 2009-2010, support from the David and Lucile Packard Foundation enabled Quivira to expand the program beyond Ojo Encino and begin work with the communities of Counselor and Torreón, as well. Projects included restoring abandoned floodwater farm fields for the purpose of jump-starting a local food system, and simultaneously healing vital components of an otherwise degraded landscape.

Ojo Encino has successfully developed a summer youth crew that knows more about erosion control than many engineers, a community-wide plan for land and livestock management, a strategy for managing feral horses, and a commitment to reengaging local agriculture. Perhaps the greatest success of 2010 was the emergence of Hasbidito. Quivira’s Navajo colleagues created this conservation nonprofit dedicated to building economic and ecological resilience in the region. Hasbidito is unique because it is the only Navajo-run nonprofit that has ever existed in this community, and it has positioned itself to be adaptive to its communities’ changing needs. Based on the success of its first grant, the Packard Foundation made a significant commitment for support through 2013, and Quivira is sharing those funds with Hasbidito to accelerate their trajectory toward independence.

Quivira’s relationship with Hasbidito has been a real partnership in that both have learned a great deal from each other. Hasbidito has taught Quivira valuable lessons about strategies for conservation in rural communities.

First, the only way to achieve durable ecological conservation in Native communities at a landscape scale is to approach people, culture and land as equal parts of the same system. You cannot go anywhere on this landscape without seeing artifacts of human presence. Land and culture are truly intertwined. To a large extent,

the degradation seen on the landscape of the Eastern Checkerboard is the result of a forced separation between people, culture and land. The most effective way to achieve conservation results is to pull those pieces back together through integrated bio-cultural resource management.



© Avery C. Anderson

Hasbidito task leaders Tammy Herrera and Lula Castillo work with restoration specialist Steve Vrooman (Keystone Restoration Ecology) to restore degraded springs at Ojo Encino.

Second, Quivira had learned that the project’s success is dependent upon understanding the way that Native people assign value to land. In Navajo culture, the sanctity of land is directly tied to utility. The two ideas cannot be separated. Sacred places were ones that served some crucial role in the practice of religion or provided some essential resource. Flood-water farm fields are a perfect example of the type of sites that link people, land and culture, and the ecological restoration of these fields simultaneously helps to restore their utility – and therefore their sanctity. The success of the restoration efforts gives a strong indication that the holistic approach to restoring hózhó is cost-effective, produces immediate results on the land, and directly responds to the goals of the local community to build a more sustainable future by closing the cultural separation of people from the landscape through the development of a locally sustainable food system. While Quivira does not intend to provide all of the food needs of the community through this food system, it sees the production of food in a locally adapted system that depends on landscape health as critical to the success of this effort.

Creating a comprehensive climate-change adaptation strategy for rural Native communities on the Colorado Plateau that incorporates each of the elements listed above is no small undertaking. Having formed a remarkable partnership with Hasbidito, and on projects to date, Quivira has found that the combination of the organizations’ individual strengths makes for a highly effective team. Communities like Ojo Encino, Torreón and Counselor are often left out on the margin of society, but in this project they are proudly representing the rest of the Navajo Nation as climate-change resilience innovators. ☘

*Tammy Herrera is from the Ojo Encino Chapter of the Navajo Nation. She is responsible for education/outreach events associated with a number of programs, serves on the Ojo Encino Rancher’s Committee and is a Project Leader for Hasbidito. tammy7herrera@yahoo.com.*

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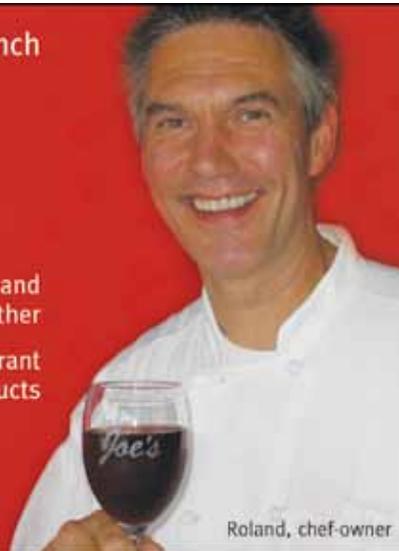
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# RESTORING HÓZHÓ: BUILDING BIO-CULTURAL RESILIENCE ON THE NAVAJO NATION

TAMMY HERRERA

In 2005, the Quivira Coalition was approached by a group of Navajo (Diné) ranchers who were running out of grass, running out of money and running out of time to reverse the trend. Fortunately, they were also running out of patience with conventional land management dogma and had the sincere desire to be stewards of their community's resources. With the support of the Ojo Encino Rancher's Committee and the Río Puerco Alliance, Quivira's Navajo colleagues have spent the past six years laying the groundwork for resilience in their communities.

The goal of Quivira's efforts is to develop a comprehensive climate-change adaptation strategy that can be replicated in rural Native communities across the southern Colorado Plateau. Quivira has partnered with three Chapters of the Navajo Nation (Ojo Encino, Counselor, and Torreón) to establish a model for economically sustainable land restoration and management of tribal lands by connecting land-health restoration with local food production and community involvement.

## THROUGH 2013, QUIVIRA IS WORKING TO:

- 1) identify and restore areas of high ecological potential on the southern Colorado Plateau;
- 2) develop the capacity of Hasbidito as an emerging Navajo-run nonprofit community organization that is capable of planning and implementing projects that build resilience on the Colorado Plateau;
- 3) engage Navajo youth and create new avenues through which the next generation of land stewards can receive hands-on mentorship in land-health restoration techniques;
- 4) establish a formal capacity-building program within the Quivira Coalition, through which efforts can be scaled up to build resilience in other underserved communities on the Colorado Plateau;
- 5) restore traditional agricultural and stewardship traditions that will serve as building blocks in a re-emerging local food system;
- 6) gain a better understanding of how to integrate the traditions of Native American dryland agriculture with modern land management practices through research; and
- 7) improve the health of the rangeland by managing the feral horse population.

"Hózhó" is a Navajo word that means "walking in beauty"—or living in a manner that strives to create and maintain balance, harmony, beauty and order. This single word captures the essence of Navajo philosophy. This concept forms the founding principle for understanding ecological and cultural resilience on Navajo land. Hózhó is similar to, but much richer in meaning than, the term "conservation," as it implies a deep connection between people and land. One cannot be restored without the other. In essence, hózhó is Navajo for "land ethic," a term made famous by Aldo Leopold in his book *A Sand County Almanac* (1949).

**BACKGROUND:** The Ojo Encino, Torreón, and Counselor chapters of the Navajo Nation sit on the southern edge of the Colorado Plateau, 30 miles west of Cuba, NM, representing more than 276,000 acres. Quivira's work in this region is focused around building on traditional resilience strategies by restoring hózhó. It's about restoring land health and cultural health by reconnecting people to land. It's about creating new land and water management systems. It's about feeding the community. It's about maintaining traditions. It's about re-engaging youth. In essence, it's about rediscovering a land ethic, and it requires building local capacity and testing strategies that make land-based activities economically viable and resilient in the face of climate change.



Feral horse youth program at Ojo Encino



Hasbidito tour of successful dryland gardening site

## CHALLENGES:

The challenges facing many communities in Navajo Country (the creation of permanent ranch units in the 1930s that immobilized an otherwise nomadic culture, the maze of roadways that has significantly modified surface hydrology and nutrient cycling at the landscape scale, the over-population of feral horses, etc.) are wide-ranging and daunting. Many of these institutional challenges are too highly politicized to adequately address with limited time and funding. This is not to say that these types of challenges should be ignored, because they are repeated in Native American communities across the Colorado Plateau. In order to be effective, however, Quivira has had to identify and focus on challenges where they can effect positive change at a local scale and on a realistic timeline.

## HERE ARE SOME OF THE CHALLENGES QUIVIRA HAS CHOSEN TO ADDRESS:

First and foremost is poverty. Many people in the communities of Ojo Encino, Counselor and Torreón live without running water or electricity, and subsist on commodity food provided by the federal government that is causing obesity,

CONTINUED ON PAGE 25

## Applied Watershed Restoration

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# COMANCHE CREEK

Since 2002, the Quivira Coalition has been the chief organizer of a collaborative restoration project along Comanche Creek, located in the western half of the Valle Vidal unit of the Carson National Forest near the Colorado state line. This project is funded by the EPA, under its Clean Water Act mandate, and includes the Forest Service; the New Mexico Environment Department—Surface Water Quality Bureau; New Mexico Game & Fish; Trout Unlimited—Truchas Chapter; New Mexico Trout; the Valle Vidal Grazing Association; the Youth Conservation Corps; Zeedyk Ecological Consulting; Rangeland Hands; Resource Management Services; Stream Dynamics and others.

There are two principal goals to this project: (1) to address persistent water quality concerns in Comanche Creek; and (2) to assist in recovery efforts for the Río Grande Cutthroat Trout, a native species that is struggling to remain viable. Not surprisingly, the two are linked.

After decades of hard use, the 100,000-acre Valle Vidal unit was donated to the Forest Service by a private corporation in 1981 for a substantial tax break. Much of the West's recent history could be read into the condition of the land at the time of the transfer: massive overgrazing by

6,000 head of cattle (there are only 800 today), heavy logging and road-building everywhere, and a historic gold mining district.

Since 1981, a concerted and innovative effort was made on the part of the Forest Service, the grazing permittees, and various conservation organizations to heal the Comanche Creek watershed. A herder was hired by the grazing association, willows were planted along the streambanks, and a mile-long elk enclosure was constructed on the creek.

These efforts helped, but the creek, and its fish population, continued to struggle toward recovery. In 2001, the Quivira Coalition was approached by the head of New Mexico Trout seeking assistance in creating a larger project. Quivira readily agreed to help.

Here is a quick list of the fieldwork completed by the Quivira team to date:

Established baseline monitoring points throughout the watershed. Surveyed and GPS-mapped the creek, marking willow clumps and points of severe erosion.



Restoration specialist Bill Zeedyk leads a discussion of riparian health during a volunteer workshop to restore habitat for the Río Grande cutthroat trout along Comanche Creek, Valle Vidal, NM

© Courtesy Quivira Coalition

Through educational workshops, constructed numerous vanes in the creek in order to protect eroding stream banks, under the supervision of Bill Zeedyk.

With the assistance of the Rocky Mountain Youth Corps and volunteers from New Mexico Trout, Trout Unlimited, Albuquerque Wildlife Federation and The Quivira Coalition, over 60 mini-elk enclosures were constructed around key willow clumps along the creek, which has allowed them to grow and shade the water, a critical requirement for the Río Grande Cutthroat Trout.

Bill Zeedyk and Steve Carson inventoried the roads, including the main road, and prioritized them for repair, according to how much eroded material they were pouring into the creek (this was a far more serious problem than many realized).

In 2004, substantial repair of the worst roads was done by the Forest Service.

Numerous headcuts in various drainages were repaired, also reducing erosion.

All this work is having a significant positive impact—not only on the creek and its native inhabitants, but also on the overall way unhealthy land is handled in the West. The usual route is confrontational: Someone sues or threatens to sue someone (usually an agency) over a conservation crisis. Gridlock ensues, and as a result, very little changes on the ground, where it matters most.

The Comanche Creek approach has been entirely different. By putting together a “braintrust” and employing a great deal of muscles, Quivira put most of their energy into the land, targeted at real problems, such as poorly designed and installed road culverts.

The key is the diversity of knowledge and opinion brought to the process; everybody looks at the creek from a slightly different perspective, causing creative energy to happen. As a result, real progress is being made on “the back 40”—the place where Aldo Leopold noted it mattered most. ☒

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ishment of plants that will provide stability. Other times, it is only necessary to gently steer a process, as in favoring the natural erosion of one bank to build floodplain on another. Perhaps most importantly, we must know when it is necessary to just get out of the way and let a natural process unfold. In this case we can still serve a valuable function as eager students of nature and willing receptacles of its wisdom.

**We, as restorationists, must become partners with natural healing processes. The art is to know which part of the process we must become.**

I have a background in sculpture and ceramic art, and I have always been interested in the creation of beautiful forms through complicated processes. Aesthetics continue to play a key role in all of the work I do because that is how I relate to the environments in which I work. As a professional restorationist, I do a great deal of rock work in streams and wetlands and I find that what started as a desire to create beautiful structures now serves the function of connecting me to the intimate details and subtleties of a restoration site. This not only improves the overall aesthetics of my work, but also plays an important part of seamlessly blending my work into the natural system. Aldo Leopold captured the essence of this idea when he said, "A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise." I have learned that a thing that blends seamlessly into its environment is beautiful and tends to serve nature's function.

The form of any stream restoration structure is dictated first by the intended process it will drive; then by the characteristics of the project site, the availability of materials and the type of tools available to do the work. There is one more crucial element that dictates the form of a structure: opportunity. Careful observation and a clear understanding of regenerative processes will reveal a multitude of site-specific opportunities. Recognizing these opportunities is truly an art. Opportunities can take the form of a boulder or bedrock outcropping, a clump of sturdy vegetation, a low bank or almost any other feature that can be used to advantageously create a unique solution. Utilizing every available opportunity creates strength by integrating structures into the skeleton of the land. An opportunistic approach creates seamlessness and finds agreement with long-term natural processes. My goal is to recognize the small opportunities that make a big difference and to act on them. This is why watershed restoration is endlessly creative and endlessly rewarding.

### **A LEARNING PROCESS**

I see myself as a creator of forms and a facilitator of processes. As I've said, processes don't begin or end; they just change. Most often the change I seek is from a degradation process to a healing process, and my job is to determine what forms best facilitate that desired change. This brings up an interesting question: How does form drive process? To begin with, the form should not remain static. Consider how a One Rock Dam stops erosion by driving the processes of moisture infiltration, plant recruitment and soil building.

These processes are initiated by the single layer of rocks that comprise a One Rock Dam. This layer of rock acts as a mulch. Rock mulch alone will slow runoff, increase soil moisture, protect seedlings and retain soil particles. When placed in the context of an eroded gully, the rock mulch must be positioned properly and have dimensions that relate to the form of the channel. The form of the One Rock Dam and the way it interacts with the form of the eroded

gully creates the additional benefit of channel stabilization, thus leading to increased plant cover and the collection of sediment that eventually fills the bed of the channel. Ultimately the form drives the healing process. With time, the specific form of the One Rock dam becomes less and less important as natural regenerative processes take over. The One Rock Dam ultimately disappears as the channel continues to stabilize, aggrade and heal.

When I reflect on the path that I have traveled, I can see how my own learning process was formed by the challenge of wanting more from our desiccated landscape. My imagined ideal of nature was just as vast as the one I observed around me, but maybe a bit greener and perhaps a little shadier. I now realize that I am not unique in my desire to live in a better version of this place. I think many of us look at the gullies and arroyos of this land and sense what was lost with all of that eroded soil. Aldo Leopold was sadly aware of this. He said, "One of the penalties of an ecological education is that one lives alone in a world of wounds." I started down my own path with that in mind and observed so many wounds, some superficial and some apparently fatal. I had no idea of what to fix, but felt compelled to fix it anyway. I started to do the work of healing without knowing the cause of the malady. I only knew enough to recognize the wounds. My unquenchable desire to do better by the land eventually taught me that all those wounds are opportunities yet to be realized. They are opportunities to connect with the land, with complicated processes, with natural beauty and ultimately with each other.

My desire to be part of the solution has connected me with many others who are driven by the same need. I have had the privilege of meeting some of my best friends over headcuts. I have formed lifelong bonds while contemplating bank erosion. It turns out that I was never really alone. I was just caught up in my own little fold in the vastness. When I took the time to look around I found out that there were all kinds of people who, just like me, actually volunteered to do this stuff in their free time and even thought it was

fun. The group energy was infectious. With all those hands we could move mountains of rock in a day, and by the end of a weekend workshop we had healed many wounds.

I now have the opportunity to teach watershed restoration all over the Southwest. I get to work with young folks, old folks and everyone in between. I work with groups of all types, all with a desire to be part of the healing process, regardless of their specific interests. I get motivated by how excited people are to learn that they really can do something to help, and I am constantly energized by the ecstatic feeling they get when they create something beautiful. I try hard to catapult my students past some of my own pitfalls so that their learning is swifter and a little less arduous. When I teach, my goals are very simple. First, I stress the importance of recognizing degradation and identifying its causes. Secondly, I emphasize that there is always something that can be done and we all need to be empowered to do it. Finally, I encourage the sense of artistic fulfillment we get when we create something beautiful and seamless that is sure to work. I see this as my responsibility because I don't want to live alone in a world of wounds. I want to inhabit a beautiful world of opportunities for healing the land, and to empower others to do the same. ❧

*Craig Sponholtz, founder and president of the Santa Fe-based Dryland Solutions Inc., works throughout the Southwest with private landowners, nonprofits, tribes and government agencies. He also leads workshops in erosion control and passive water harvesting techniques. [craigspoholtz@gmail.com](mailto:craigspoholtz@gmail.com)*



Craig Sponholtz

# ALONE IN A WORLD OF BEAUTIFUL WOUNDS

## OPPORTUNITIES TO DO BETTER BY THE LAND

CRAIG SPONHOLTZ



© Craig Sponholtz

"The Frog Spa," rock-lined plunge pool, Cañon Bonito Ranch, New Mexico, 2009

Ever since I was very young, I have been enthralled by the immensity of western landscapes. I imagined that people who live in and visit the mountains, plains and deserts of the West experience the classic idea of landscape beauty. This is the kind of beauty that can even be absorbed at a glance while traveling at high speeds down expansive highways. It is immediate, accessible and requires no commitment. I have spent most of my life living and working all over the West and have come to realize that this snapshot of beauty is not what I experience. Postcard horizons have always captivated my imagination, but mostly because I wonder what is in that canyon or in those mountains at the edge of the sky so far away. I have always been most interested in the intimate folds and nooks that are hidden away in all of this vastness.

Eventually, a good bit of luck and a well-spent student loan allowed me the opportunity to secure my own fold in the vastness. I bought twenty-five acres of brush, trees, box canyon and arroyo tucked away on the edge of a truly immense horizon. This was my first chance to set my own roots into the land on my own terms, and the experience has been absolutely profound in my life. For the first time, I

had the chance to get to know a place in intimate detail; all of the individual players that shaped the landscape. I came to know the trees, the wildlife, the weather and the shadows. I came to know many small and beautiful things. I realized that this kind of knowing is slow, deliberate and requires a long-term commitment.

I have since spent nearly fifteen years on this piece of land, with my hands in the dirt, moving rocks, planting trees, cutting brush and attempting to reshape my corner of the world into a form of my liking. It has mostly been a solitary task and a humbling endeavor, to say the least. Like so many others, I set out on this path with all the best intentions, loads of youthful energy and just enough information to be dangerous; and I was. I struggled alone through eight years of pure trial and error erosion control in an attempt to solve a problem that didn't really exist. From all those years of experience, I can now say that if you try hard enough to solve a non-existent problem you can certainly go a long way toward creating one; and I did.

Fortunately for my learning curve, and, arguably, my land, I decided to leave and seek out a formal education in my newfound passion: water-

shed restoration. I moved about seven hours away to pursue a master's degree, with the hope of discovering whatever it was that trial and error could not teach me. It turned out that this distance I created between my land and myself was an essential part of the learning I needed. During those years of infrequent visits, my understanding of the system I had been dealing with made great leaps forward. I always came back to my land with a slightly different perspective based on newly earned knowledge. I learned that the arroyo I was working on was not really an arroyo at all—it was an alluvial fan. I learned why my every attempt to stop the perceived erosion only created more. You can't treat an alluvial fan like an arroyo and expect it to remain stable. Trial and error had not revealed this fundamental truth.

During my studies I was fortunate enough to come across the stream restoration work of Bill Zeedyk, and I was even more fortunate to have the opportunity to learn from him by helping out on several Quivira Coalition volunteer projects. I learned that, with keen observation and patience, one could actually help nature do its own healing. I embraced this philosophy immediately. "Letting nature do the work" just sounded right and, instinctively, I knew it was so. I also learned that in order to work with—rather than against—nature, it was necessary to understand the many complex, overlapping processes and variables that shape ecosystems through time. I returned to my land and applied these new insights. I observed more, did less, did it better and began to produce visible results. I began to see the beauty in what I was doing. I started to understand how this small fold in the vastness was connected to every other fold and to the vastness itself. I began to perceive the underlying processes that weave the fabric of this landscape together. My concept of a whole landscape began to take form.

### FORM AND FUNCTION

Traditional design theory emphasizes two aspects of an object: form and function. "Form" is defined as the shape and structure of something and "function" is defined as the action for which a thing exists. While these two aspects of an object are necessarily intertwined, this definition implies that the relationship of form and function is a static condition. Nothing is static in nature. When we look at a vast horizon we see landforms that are the result of millennial geologic and weathering processes, and while we may not be able to see it, these landforms continue to change grain by grain in every moment. Nature does not simply create forms for a static singular function. Natural forms are created by the ceaseless unfolding of complex processes. A "process" is a phenomenon marked by gradual changes through a series of states. A process is anything but static; it has no beginning and no end, just changes.

Process is the best way to describe how runoff flowing in an arroyo gradually changes its form at the apex of an alluvial fan and becomes dispersed sheet flow. This was a process I needed to understand on my own land. Process also describes how an eroded gully heals itself by continually eroding its banks, or how a wetland builds itself by growing plants that capture soil that grows more plants.

I believe that Bill Zeedyk's greatest insight is that we, as restorationists, must become partners with natural healing processes and that the art is to know which part of the process we must become. At times we can act as catalysts, jumpstarting the estab-

Background: A mega Zuni bowl built by Craig Sponholtz to heal a headcut on Windmill Draw, Red Canyon Reserve. Photo: Courtesy Quivira Coalition

# KNEELING IN MUD

## THE CONUNDRUMS OF A TREE HUGGING, CATTLE RANCHING HUMAN

JULIE D. SULLIVAN

I'm kneeling in mud and manure, my hands through the metal bars of the crowding tub, propping up the bum front leg of this day-old calf who is trying to nurse his mamma. It just started to rain. Everyone else is in the house. Every life is precious.

It's April. On our ranch, this means we are calving. Nighttime lows drop to single digits, and daytime highs may reach 50 degrees. Temperature swings and the shrieking endless wind are hard on calves and humans alike. Fourteen-thousand-foot peaks to the east are covered in snow.

I grew up in a small city, loving animals, the ocean and the empty field up the street that housed scraggly Italian pine trees, an ice plant and a city water reservoir. I became an actor, a teacher, a vegetarian, and a "Cattle-free-in-'93" environmentalist—sure my convictions were based in the truth. In graduate school, I slept on the ground every night for two years, studying the planet by living directly with it. For a decade I taught for the same school, exploring environmental issues by meeting the people who live the problems and strive for solutions. Then I met a rancher named George with a deep land ethic and a great border collie, and fell in love. Now I'm a cattle-ranching-Deep-Ecologist tree-hugger kneeling in the muck trying to save a calf.

During a radio interview last year, I was asked if it's possible to be a rancher and an environmentalist. Possible. Not easy. Small decisions become huge when beliefs and needs compete: the belief that nature is sacred and has intrinsic value versus the need to make a living from a particular piece of land. Like all creatures, we use the planet in order to live and thrive, but we also have to play nice with others—find a way to make a living that doesn't mangle every other life form.

Aldo Leopold said, "The sure conclusion is that the biota as a whole is useful." [1] When George and I met, Leopold's *A Sand County Almanac* was one of three books we both had read.

Sportsman and wolf advocate, farmer and forester, academician, naturalist and public lands administrator, Leopold navigated the conflict between conservation and utilitarianism by holding to the belief that "A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community.

It is wrong when it tends otherwise." [2] Navigating my own set of internal and external contradictions, Leopold's words and life provide good counsel.

I realize that Leopold wasn't referring to an individual member of a species when he said that all biota are useful. He spoke as witness to the profligate destruction of any plant or animal deemed useless by humans. Examining the world and probing beyond convenient labels of useless and useful, Leopold saw the foundational undergarments that support life on this planet. All those "useless" entities actively support the "useful" ones; wheat doesn't grow without soil microbes. We Need The Useless. Even this calf.

Our categories are too limiting. Like wearing a pair of shoes two sizes too tight, we hobble around pinched and irritable, unable to commit to something new until the old wears out. The categories "useful" and "useless" are worn out. Life is full of equivocation; even molecules can't decide if they are mass or motion. Nothing is purely one thing or another. Not me, not you, not this calf.

If Leopold were around now, he just might subscribe to the first principle of Deep Ecology: "The well-being and flourishing of human and non-human life on Earth have intrinsic value. These values are independent of the usefulness of the nonhuman world for human purposes." [3]

People tell us not to let sentiment and subjectivity influence our interactions with nature. Don't anthropomorphize!



San Juan Ranch in the San Luis Valley of south-central Colorado

© Courtesy San Juan Ranch

But this advice runs counter to the gut experience we have as children: We feel the affinity that exists between us and other life forms until someone teaches it out of us. Biophilia, a love of life and living systems, may have been essential to the development of the very brain most folks believe makes us so different from other animals. [4] In other words, connecting with the rest of life may be what made us human. Connecting to a particular life, like this calf, makes us humane.

Facts alone don't inspire us to change; we change when our mind and our heart are touched by the particular sorrows and joys of another life. Land stewardship, animal husbandry and what we buy at the grocery store are all matters of what Leopold calls the "ecological conscience," which is "an affair of the mind as well as the heart. It implies a capacity to study and learn, as well as to emote." [1]

Our bodies use the planet in order to survive, and our minds rationalize this use in 10,000 ways. But our hearts know that the entities living on this planet with us are not here solely for our use. Land, animals, soil fungi and rocks are not resources. They are "the community to which we belong." [2]

*Julie and her husband, George Whitten, run a grass-fed cow/calf-to-finished-steer operation, with the long-term goals of re-localizing food systems while increasing the ecological health of all the land with which they work. They shared in the 2006 Clarence Burch Award. moo cows@gojade.org*



#### REFERENCE LIST

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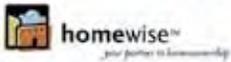


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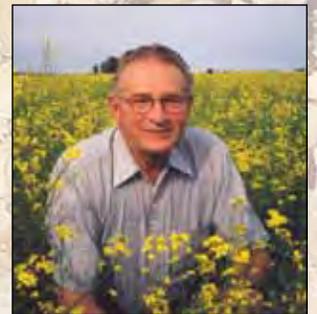
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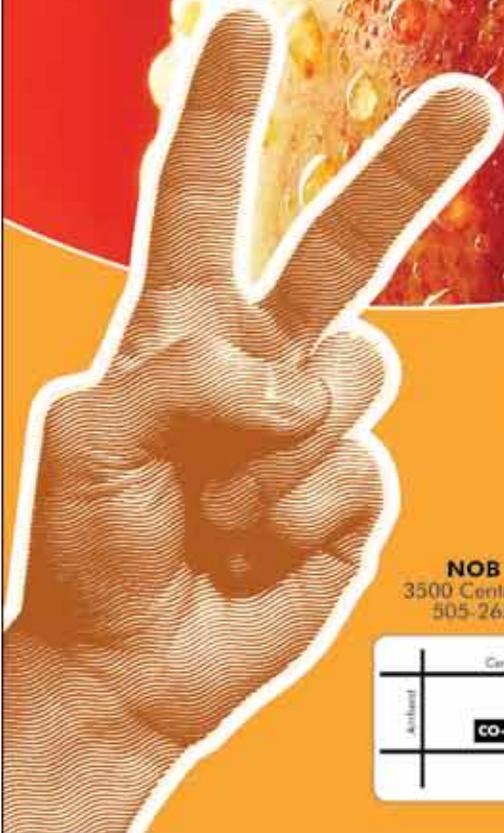


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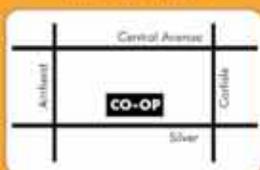
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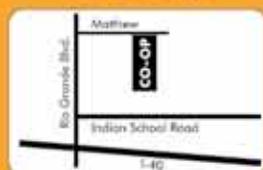
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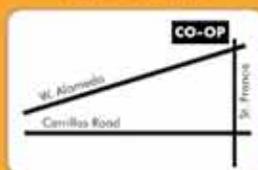
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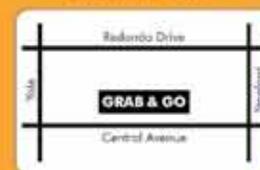
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# CARLY: CONSERVATION AND RANCHING LEADERSHIP AND YOUTH

EVERY C. ANDERSON

In 2008, the Quivira Coalition partnered with several ranches and farms around the Southwest to launch CARLY—Conservation and Ranching Leadership and Youth. While the CARLY program was originally established with a focus on the intersection of conservation and ranching, it now offers aspiring young agrarians a broad range of agricultural experiences. CARLY seeks to pair eager apprentices with experienced mentors in sustainable agricultural operations around the Southwest. The program strikes a balance between mentorship activities and self-directed initiatives, with opportunities to attend workshops, classes and conferences that support apprentice learning. Quivira values applicants with a diversity of experiences and a sincere commitment to a life in sustainable agriculture.

The CARLY Apprentice Program has blossomed over the last three years to become one of Quivira's most successful initiatives. CARLY has developed into a comprehensive leadership-training program for young agrarians—the only one of its kind in the West. Quivira has created a curriculum and developed the capacity of CARLY mentors on four different agricultural operations, presented the accomplishments of the program at a national conference in Washington D.C., and recruited, trained and graduated three CARLY Apprentices: Amber Reed, Sam Ryerson and Daniel Escutia. These individuals represent the essence of “agrarian” and the hope for the future of the sustainable agriculture movement.

The first apprentice, Amber Reed, was placed on the San Juan Ranch, owned by George Whitten and Julie Sullivan, and located in the San Luis Valley of south central Colorado. George is a third-generation rancher there. As a consultant in Holistic Management, he is motivated by his experience that ranching and conservation are inherently intertwined. Julie has a master's degree in environmental education and worked for 10 years as a professor in Audubon's Expedition Institute (Lesley University). Both have a passion for teaching. Together they have developed a successful business model.

Their animals are grass-fed from start to finish, and their beef is certified organic. In addition, George and Julie are knowledgeable about rangeland health and have been trained in low-stress livestock handling.

The curriculum implemented on the ranch includes animal husbandry, range health monitoring, pasture rotation planning, holistic management, herding, road restoration and maintenance, range-infrastructure maintenance, finishing process for grass-fed animals, marketing grass-finished beef, business planning, low-stress livestock handling and small-scale gardening. In addition, the curriculum includes professional development opportunities. Apprentices emerge with tangible skills, both technical and interpersonal, that are essential for successful employment as a ranch/land manager.

## IN AMBER'S OWN WORDS

“My interest in agriculture started early. At 3 years old, my mom found me lying in the dirt under a goat to help her kid nurse. This seems to be a pattern. Lately, I've been kneeling in manure, mud and snow while trying to get calves to suckle their mothers. Just today one of the calves that we've been nursing along danced around, throwing out his back legs. That is a beautiful thing. I am thrilled to be the first CARLY apprentice at George and Julie's. I knew from the moment that I visited nine months ago that this was the place to learn how to become a conscientious, resilient and sustainable rancher. I plan to use the knowledge that I gain here to start my own place in the next five years. I expect to spend these two or three years learning how to create a sustainable and economical operation from dedicated ranchers and farmers. Through the CARLY apprenticeship, I hope to become an ambassador and leader for sustainable ranching.

“I was born in West Virginia and then moved to a homestead in Maine with my mom and step-dad when I was 7. My sister was born on the porch four years later. Growing up in Wellington, I learned to carry hot water for baths,



© Courtesy San Juan Ranch

## Amber Reed on the San Juan Ranch

check the sky for Orion on the way to the outhouse, and trim kerosene lamp wicks until we got solar panels. (The house is still off the grid.) We ate porcupine pot roast in the winter and fresh veggies from the garden in the summer. In our self-sufficient household, I entertained myself by making things, reading, hypnotizing my bantam chickens, and wandering around in the woods. I would search out old cellar holes and overgrown stonewalls, where I found interesting plants like Ostrich Ferns and Jack-in-the-Pulpits to bring home and plant in the yard, much to my mother's delight. Even when I lived in the city years later, I noticed when barn owls were mating, ocotillo was blooming, or quail were hatching. During the summer I would go back to West Virginia and stay with my dad, where we went mountain biking and ate a lot of buckwheat pancakes.

“After high school, I went to Europe and worked for WWOOF (Willing Workers On Organic Farms) in France and Italy. I also worked on two independent organic dairies in France and Switzerland. There I learned to milk goats and cows, make cheese, fertilize olives and bake apple pie. When I returned to Maine, I went to Bowdoin College and majored in Environmental Studies and Visual Art and minored in Biology. I spent the 2001 fall semester in Brazil learning about Ama-

zonian Ecology and Natural Resource Management. On the Amazon Delta, I conducted an independent research project on the pollination system of a cashew-like tree, *Anacardium giganteum*. My project also focused on native sting-less honeybees that pollinate flowering trees and plants and can be cultivated for honey; forest productivity improvement; and economic alternatives to slash-and-burn agriculture.

“Ranchers and farmers must be adaptive and observant; therefore, they thrive when they understand the specifics of their land. I believe that sustainable agriculture is the most important component of conservation, and grass-based ranching is the most efficient use of our natural resources and the healthiest, happiest system for animals and people. I want to be part of the movement with ranchers and farmers who are innovative, skeptical and care deeply for their land, animals and communities.” ❄

**Amber will speak at the Quivira Coalition's 10<sup>th</sup> Anniversary Conference in Albuquerque in November.**



Amber milking cows

© Courtesy James Ranch

# AGRICULTURAL MARKETING IN NEW MEXICO

DON BUSTOS

When I was not more than 7 years old I remember going with my mother and father to the small villages of Ojo Sarco and Peñasco. Mom and I walked from house to house, selling buckets of green chile for 50 cents (*uno bota de diez*). Empty lard cans were the standard measurement. We would also bring cucumbers, squash and potatoes. Dad would sell a 50-pound sack of potatoes for \$2. He always made sure we would shake the sack and put in as many *papas* as the sack could carry. He wanted to make sure his customers got their full money's worth, thus keeping his family business and community sustainable.

I also recall going on road trips through northern New Mexico and southern Colorado, trading and selling vegetables that we grew. In almost every village, Dad traded for products the next pueblo needed. I remember picking up apples in Velarde from the Velardes and Ferrans that we would then sell at the fiestas in Taos and San Luis. We would set up under the trees on the main road. From there we would go to Fort Garland and set up for a day or two; make our way to Alamosa and Center, Colorado to pick up seed potatoes; and finally head down to La Jara and trade apples and green chile for a couple of new piglets. Sometimes Dad would go down to El Paso, meet the trains, and bring bananas and oranges that he would sell on the side of the road or at the schools in Española and other towns. In this way we were creating what I

term a food hub, operating within a larger food production and distribution system.

Flash forward to the '50s and '60s and the farmers' market in Los Alamos. Getting there we would be stopped at the security gate. Armed guards would let us pass and sell vegetables. Mom would set up at the pond in front of the courthouse and sell corn and chile. At the end of the afternoon we would go from house to house, selling our produce that had not sold at the market (that was permitted back in the day). If we finished early we would stop at the Los Alamos dump and find all sorts of cool stuff. We still have bombshells that we used for irrigation pipes.

For important considerations such as the environment, economics, food safety, food security, child nutrition and much more, over the last two decades there has been a large national movement toward locally and organically grown products. These issues help illustrate the need for securing a local or regional food system. The Obama administration and USDA announced this spring that they want to develop the local and regional food systems by helping to support 100,000 new small farmers in the next 10 years in order to have a food-secure nation. The USDA has started to fund projects for development and implementation of training, and is creating infrastructure for pilot projects through several different agencies.

In New Mexico that development brings new pressures to contend with. The amount of land and water that can be used for farming and grazing in the state is limited, and some disagreement has arisen as to how these demands can be met. For example, a recent focus group from NM, organized by Cornell University, is looking at models for changing our diets in order to fit the carrying capacity for this region. Others are looking at season extension or year-round production in cold frames or greenhouses. All this is taking place in the context of a food hub within a food system that has several complex issues and needs relating to region, climate, culture and a growing population.

The influx of new farmers to NM and the new markets that are developing tend to be accessible to a more aggressive, capitalistic marketer – as opposed to the more traditional bartering economy, with respect to culture and land-based people. There is a need to develop more and different markets for farmers and ranchers to sell their products within their respective food hubs. Policies need to be created that support traditional values relating to culture and barter systems.

Over the last 10 years, because of the demand for local products, one of the more profitable ways has been through an increase of farmers' markets. Another way of increasing profits is by CSAs (Community Supported Agriculture projects), where the mid-

dleman is cut out of the food chain, allowing the producer to put more money in his or her pocket. In recent years, several studies have shown that additional markets have to be developed to truly support a local economy. Other venues being developed in NM include initiatives such as Santa Fe's Farm-to-Restaurant project, which is in its second year. Co-ops have also been developed as a distribution model for local producers. There are also efforts like Agri-Cultura Network in the south valley of Albuquerque, where three community organizations are working with beginning farmers to grow produce year-round. They aggregate their vegetables to meet the demand of larger markets.

At times it seems like some rules and regulations are being used as a pretext to get rid of traditional farmers and ranchers. Examples of this include rules and regulations around food safety issues, and the way FDA is going about protecting our food sources. Some farmers and ranchers feel that USDA and FDA are trying to squeeze out the mid- and smaller producers. ❖

*Don Bustos manages Santa Cruz Farms near Española, which grows several varieties of vegetables year-round. Dbustos@afsc.org*



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broke down. This wasn't just a scientific theory. Leopold began to recognize signs of land illness almost from the start of his career as a U.S. Forest Service ranger in 1909. They included abnormal rates of soil erosion, loss of plant fertility, excessive floods, the spread of plant and animal pests, the replacement of “useful” by “useless” vegetation, and the endangerment of key animal species. These examples of disorder in the land mechanism, whether caused by natural catastrophe or by human interference, often led to adverse consequences for wildlife and human populations alike. That's because when nature's ability to regenerate itself over time is damaged—what Leopold called the “derangement” of nature's health—its ability to provide plants for wildlife or food for humans breaks down, as well.

*What's lacking is an economic model that values regeneration and restoration over exploitation and waste.*

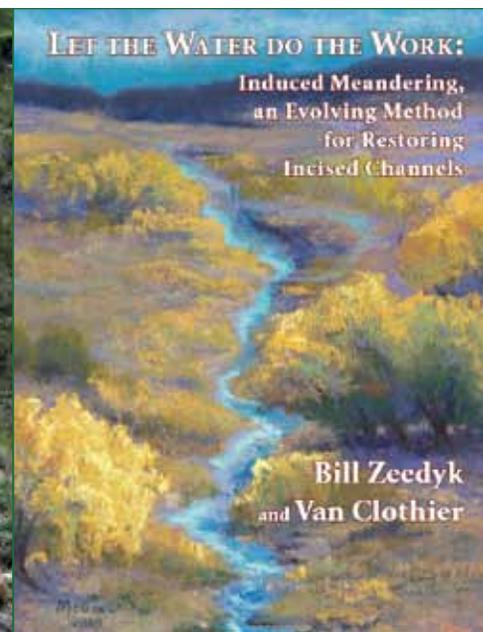
After World War II, the rapidly emerging science of ecology refined Leopold's ideas. The engine and body metaphors were replaced by a dynamic, even chaotic, vision of nature as ceaselessly changing, subject to bouts of disruption and stress. This revised idea of ecological health still focused on self-renewal and self-organization, but now scientists saw nature as fluid, not static; complex, not reductionistic. This view employed a new set of terms and concepts, including resilience, historic range of variability, sustainability, diversity, and perturbation.

Moreover, it cast human impact on ecological processes in a new light. Rather than simply upsetting the balance of nature, our activities could now be evaluated according to their roles in the processes of stress, adaptation, restoration and recovery. Those activities that encouraged resilience, for example, could be considered to be promoting land health, while those activities that reduced an ecosystem's ability to recover from a disturbance could be considered deleterious.

A further refinement of the land health idea began in 1994 with an effort by the National Research Council to address the persistent disagreement among range scientists, environmentalists, ranchers and public agency personnel about the health of the nation's 770 million acres of rangelands. Not only was there a substantial lack of data on the condition of the land itself, but there was also an important lack of agreement among range experts on how and what to monitor. These voids contributed significantly to the acrimonious debate raging at the time about livestock grazing on the nation's public lands. Were rangelands improving or degrading? Everyone had an opinion, which was precisely the problem.

A collaborative effort was launched by an interagency team of government scientists to develop both qualitative and quantitative criteria for assessing and measuring the health of the land. This effort reached fruition in 2000 when the team settled on seventeen indicators of land health, grouped into three categories:

**SOIL STABILITY.** The capacity of a site to limit redistribution and loss of soil



© Courtesy Quivira Coalition

Bill Zeedyk expanded his concept of Induced Meandering into a how-to manual for restoring incised channels.

resources (including nutrients and organic matter) by wind and water. It is a measurement of soil movement.

**WATERSHED FUNCTION.** The capacity of the site to capture, store, and safely release water from rainfall and snowmelt; to resist reduction in this capacity; and to recover this capacity following degradation. It is a measurement of plant-soil water relationships.

**BIOTIC INTEGRITY.** The capacity of a site to support characteristic functional and structural communities in the context of normal variability; to resist the loss of this function and structure due to a disturbance; and to recover from such disturbance. It is a measurement of vegetative health.

All of this important work set the foundation for a variety of land management practices that aimed at both maintaining land health and restoring it. We now had clear goals to shoot for, methods by which we could measure success, and a vocabulary to use collaboratively.

For Quivira, the opportunity to implement an on-the-ground land health restoration program began in 2000 when we met riparian specialist Bill Zeedyk. Soon, we were working together on a creek project at the Williams Ranch, in western Catron County, NM. We employed Zeedyk's innovative restoration methodology, which he calls Induced Meandering (for details, see *Let the Water Do the Work: Induced Meandering, an Evolving Method for Restoring Incised Channels* by Bill Zeedyk and Van Clothier, published by the Quivira Coalition in 2009).

Within a few years we had been awarded two substantial grants from the EPA's 319 program (Clean Water Act) to conduct riparian restoration work on the Dry Cimarron River, in the northeastern NM, and on Comanche Creek, within the Valle Vidal unit of the Carson National Forest. Both grants also contained funding for a series of educational workshops, publications, and conference symposia on diverse land health and restoration topics. Eventually, we expanded our restoration work to a variety of public and private landscapes across the Southwest.

Getting into the riparian restoration business was not an unprecedented step for the Quivira Coalition. Our “poop-and-stomp” project on the Naciminto copper mine near Cuba, New Mexico, in 1999-2000, which was directed by rancher Terry Wheeler and employed his cattle (which he called FLOSBies – Four-Legged Organic Soil Builders) was a novel approach to land restoration on highly degraded land. We also created a “land health” map of the Valle Grande Grassbank, employing the seventeen indicators of health mentioned earlier, in order to prioritize potential restoration treatments on the allotment. But the scale at which we entered into the restoration work with Bill Zeedyk was much more widespread.

We learned two big lessons from all this work: (1) land health can be improved and maintained relatively easily and at a low cost if you “think like a creek and let nature do the work,” as Bill Zeedyk likes to put it; and (2) almost anyone can do it. The key

CONTINUED ON PAGE 28

**Steven I. Rosenberg, M.D.**

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Desiree guides water along a field in the second week of May as the rest of the group prepares rows for planting.

experience. I was able to speak with several farmers who had similar problems with predation by animals who were also suffering the drought.

My biggest question, however, was if this experience diminished the enthusiasm of the youth involved in our agriculture projects; youth who watched the fruits of their labor disappear week by week (literally). As I explained to them about the inherent gamble in agriculture, especially in the context of climate change, the students assured me that they are in this for a while longer yet and are looking forward to our fall and spring planting activities. This growing season was marked by the especially difficult challenges of water stress and competition for our crops, but it could be said that the real harvest was a realization of the potential extent of the challenge that lies ahead.

As we continue to develop agricultural methods that are resilient to water stress and climate change, we have to keep in mind the impact of these conditions on wildlife that will need our

crops as a source of food and water as well. I am reminded of a *dicho* (saying) that is common to our region during planting time: that we plant three seeds in each planting place “*Para mi, para vos, y para los animalitos de Dios* (Planting three seeds for me, for us, and for all of the animals of God).” This saying reflects much wisdom and ethic, but was likely developed at a time when local agriculture was abundant and the effects of suffering wildlife could be spread out over a larger area during years of drought. With fewer areas in agriculture compared to then, we will have to be vigilant and innovative about how to secure a harvest for us human beings while also providing for “*los animalitos de Dios*” in a way that (hopefully) brings about more balance to our ecosystems and for all the organisms therein. ☘

*Miguel Santistévan, Executive Director of AIRE, is mayordomo of the Acequia Sur del Río de Don Fernando de Taos and a Ph.D. candidate in biology at UNM. He is a featured mentor at the upcoming Quivira conference. solfelizfarm@gmail.com, www.solfelizfarm.org*



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FRESH AIRE: AGRICULTURAL IMPLEMENTATION, RESEARCH & EDUCATION

## PLANTING THREE SEEDS

“*PARA MI, PARA VOS, Y PARA LOS ANIMALITOS DE DIOS*”

MIGUEL SANTISTÉVAN

The 2011 growing season was approached, as any, absolutely enthusiastically in anticipation of what a growing season will bring; what crops we are growing-out and how many students' lives might be changed as accomplices to creating life through the planting of seed, nurturing of plants and harvest. As a farmer rooted in *acequia* technique, looking at the relatively meager snowpack, I was also excited to see how my crops would differentially survive. Lack of snowpack is not enough to deter us. We believe that if we do our part to work the land and plant seeds, rains will always come at the right time. This 2011 season was of particular significance, as we were bringing two new groups of students onto “new” pieces of land in two communities. The purpose was not only to teach and inspire youth while expanding our seed stock; it was also to conduct research on the relative resilience of landrace crops compared to imported seed—especially knowing that drought would likely ensue.

We planted two fields in Taos County; one in Taos and one in the Peñasco area—each with different crops and different youth groups but with the same basic goals: involve the youth, grow-out seed, and conduct research on crop production. As with any growing season, it is impossible to predict what successes and challenges lay ahead. As the growing season comes to a close, reflecting on the last several months offers perspective on the realities of re-

vitalizing agriculture. This season was a hard lesson in what that really means in the context of climate change and drought, along with considerations of youth-in-agriculture programming.

A fundamental belief espoused within the activities of our non-profit Agriculture Implementation Research & Education is that landrace crops, or heirloom varieties that have been maintained in particular communities or regions for generations, are fundamentally resilient to adverse climatic conditions. These landraces have been associated with their soils, waters, farmers' generations and climatic events for so long that they have practically seen it all: late frosts, hailstorms, drought, floods, early frosts and the like. Throughout their years of cultivation, the most extreme climatic events have “thinned the herd” of the genetic base of the population, leaving only the strongest and most resilient members to propagate future generations of seed that most likely share the qualities of strength and resilience of their parent generation. This process has resulted in inherently adaptable strains of crops in the hands of traditional farmers in regions throughout the world.

Northern New Mexico and the greater Southwestern U.S. is such an area, containing cultures and crops that are well adapted to the extreme and uncertain climate patterns of the region. Knowing this, we strive to continue to develop agricultural practices that honor the experience and capabil-

ity of the crops and cultures we have inherited from past generations. We never use a prediction of drought to deter our plans of planting; rather, we embrace the difficulties as an opportunity to discover the “champions” in our crop populations while we hone our techniques to learn how to meet the challenges of drought and climate change. This is a viewpoint of agricultural interest and luxury, as we still can go to the store and buy our food if, perchance, our perspective and crops absolutely fail. This so far has never been the case. Our crops have survived several years that were characterized by drought, pest attack, competition with weeds, and freak storms. In these kinds of years, sometimes the crops are hit so hard that the totality of production has to be saved for seed. It is too much of a risk to satisfy our culinary interests. With our future research, we have an opportunity to compare production of crops that survived the challenges of the year with their parent generation, which doesn't necessarily have that degree of experience.

So this year we set up our fields for spring planting, irrigated with regularity while there was *acequia* water, and resorted to cultivating our soil (hoeing weeds and mounding soil around our crops) while waiting for the rain to come after the *acequia* went dry. The Río de Don Fernando and her *Acequia Madre del Sur* in Taos went dry the third week in June. Irrigation water in our Peñasco-area field also dropped to the point that it lost its utility. We began to watch the clouds on the horizon as well as the weather outlook on the Weather Channel in hopes of watching the situation turn around. We heard that the monsoons were due to arrive in early July. When that didn't happen, the predictions turned to later in the month, then August was supposed to hold promise

What really happened is that no substantial rains came. Every one of our four or five rainstorms was less than half an inch, so the moisture never reached the subsoil. It seemed as if our suffering

crops had to resort to utilizing the drops of moisture that came in contact with their bodies, running down their leaves and stems to the roots. Surprisingly, this turned out to be enough for many of our crops. Our *alberjon* (peas) were flowering with the last irrigation in the third week in June and were able to set seed in the next several weeks without substantial water. We were also able to feast on fresh peas during that time. The *maíz blanco* (white corn) looked shorter than usual with water stress-inflicted leaves, but when it was all harvested, we had several ears of corn that were obviously unaffected by water shortage, confirming all my beliefs in the potential resilience of this ancestral staple. Some other crops, such as lentils and fava beans, shriveled up in the heat as if they were burned under a magnifying glass. Surprisingly, we were still able to bring in a few dozen seeds of each.

But the real challenge in weathering the drought was not the persistence of the crops but rather the persistence of other herbivores. We came to realize that, as the drought began to take a toll on the crops, it was also taking a toll on other organisms that began to view our crops as a resource for their own survival. One of our fields in Taos was completely obliterated by prairie dogs. Similarly, the corn in our Peñasco field was taken out by magpies. A member of our “living seed library” program reported that her entire field was eaten by elk.

The loss of seed, effort and time are the obvious setbacks, but this whole experience forces us to look at the real challenge of reinvigorating the local food system. Those of us who have been on the land a while are able to consistently produce and deter most threats because of our constant presence. But as an organization who values having more land in production by the hands of more people and in more crops, it becomes increasingly difficult to anticipate and prevent these kinds of threats in the face of this uncertainty, especially if there is not a constant vigilant human presence on the land. We were not the only ones with this



(l-r) Rory, Joseph, Chris, Augustine and Miguel after hoeing weeds the first week of July. The *acequia* has already run dry but soil cultivation is important to encourage survival of the crops.

© Miguel Santistevan

# NEW AGRARIANS

COURTNEY WHITE AND AVERY C. ANDERSON

**SUSTAINABILITY. ADAPTATION. MITIGATION. LOCAL. GRASS-FED. RESILIENCE.**

These words, so much in the news today across the globe, barely registered on people's radar screens 15 years ago. For example, when we founded the Quivira Coalition in 1997, we were focused on peace-making, collaboration, land health and good stewardship. Issues such as climate change, local food production, grass-fed meat, and other "modern" concerns were rarely discussed, if at all. That's not the case anymore. Soon, these words will require a new conservation paradigm, one that combines the ecological, the economic and the social.

Fortunately, one is emerging, and it has a name: *a new agrarianism*.

What is this new agrarianism? Here is Wendell Berry's definition: "*There is another way to live and think: it's called agrarianism. It is not so much a philosophy as a practice, an attitude, a loyalty and a passion—all based in close connection with the land. It results in a sound local economy in which producers and consumers are neighbors and in which nature herself becomes the standard for work and production.*"

Across America, there is a resurgent interest in local, family-scale, sustainable food, fiber and fuel production. It began slowly, but has gathered speed recently. Local food is the focus and key to this new movement, but it's more than just food systems. New agrarians have a vision of resilient food production from farms and ranches that are managed for land health, biodiversity and human well-being. It means working to sequester carbon in soils, improving water quality and quantity, restoring native plant and animal populations, fixing degraded creeks, developing local energy sources and replenishing the land for people and nature alike. It is a vision of co-existence, resilience and stewardship—a place for people in nature, not outside it.



Hearty Roots Farm, Hudson Valley, NY

This new agrarian movement is being led by young, energetic and passionate people—as every movement before it has been. The difference, however, is that today's new agrarians can stand on the shoulders of their predecessors and thus see farther. Fortunately, the toolbox at their disposal is full of ideas and practices that have been tried-and-tested in the field already. And undoubtedly they will innovate new ones to go along with what we know already works.

This new agrarian movement is being led by young, energetic and passionate people—as every movement before it has been. The difference, however, is that today's new agrarians can stand on the shoulders of their predecessors and thus see farther. Fortunately, the toolbox at their disposal is full of ideas and practices that have been tried-and-tested in the field already. And undoubtedly they will innovate new ones to go along with what we know already works.

## BUT WHO ARE THESE NEW AGRARIANS?

**Too old to be a new agrarian?** In the U.S. today, for every farmer under 35 years old, there are six over 65, and the average age is 57. In 2007, there were only 118,613 farmers under the age of 36—only 6% of the 2 million farmers nationwide (down from 6 million farmers in 1910). The National Young Farmers' Coalition (NYFC) reports that between now and the year 2030, half a million (one-quarter) of American farmers will retire. Unless we plan to stop eating, these facts give urgency to mentoring, training, and creating policies that help young people get a start on a farm or ranch.

**Where do they come from and what motivates them?** New agrarians come from communities across America, urban as well as rural, and are motivated to take care of the planet and feed their neighbors. In contrast to the back-to-the-land movement of their parents' generation, they are tech-savvy, business-minded, well educated, and highly collaborative. They are also quite aware of the challenges they face, including climate change. Many do not come from agricultural

backgrounds, but instead entered agriculture because of an interest in local foods, environmental values, renewable energy, a desire to be physically active outdoors, or an interest in exploring new economic models.



Aleman Farms, San Francisco, CA

© The Greenhorns

**What works and what are the biggest obstacles ahead?** A national survey conducted by the NYFC identified five programs/institutions that are successfully serving the needs of new agrarians: apprenticeship programs, local (community-scale) partnerships, the community supported agriculture (CSA) model, land-link programs that connect landowners with young people, and diverse educational/training programs. On the flip side, the five biggest obstacles standing in the way of new agrarians are lack of access to: start-up capital, land, health care, credit, and marketing/business planning skills.

## NEW AGRARIANS NEED OUR SUPPORT.

In the words of young farmer Severine vT Fleming: "The need is urgent, and the message is clear—America needs more new agrarians, and more new agrarians want a piece of America. We know it will take millions of these rough-and-ready protagonists of place to care for our ecosystems and serve our country healthy food, but we are equally confident we have the skill sets and perseverance to tackle the challenges ahead." ❖

Courtney White is Executive Director and Avery C. Anderson is a CARLY Program Director with The Quivira Coalition.



Avery C. Anderson

# THE RE-HOMESTEADER

COURTNEY WHITE

Dorn Cox's goal is as audacious as it is visionary: reignite New Hampshire's local farm economy.

When I first met Dorn, he stood in a hayfield behind a University of New Hampshire professor's house, spreading wood ash carefully among a grid of study plots. His research (for a Ph.D.) is aimed at figuring out the best way to turn the hayfield into a vegetable farm without tilling it. Normally, in order to convert a grass field into a farm, the farmer would bring out the plow and a tractor and go to work furrowing the land in preparation for seeding and fertilizing. Dorn wants to do no such thing. He wants nothing to do with tilling because it is destructive to soil health, releases stored carbon into the air as a greenhouse gas, requires synthetic fertilizer to grow crops, and contributes to soil erosion, further reducing the land's fertility.

That's the story of New Hampshire's agriculture in a nutshell, he said. The loss of soil fertility is a main reason why farming declined in the state over the years, to the point where it is essentially a cottage industry today.

Dorn wants to reverse these trends. Like a growing number of young farmers, Dorn practices a form of agriculture called no-till, which involves "drilling" seeds into the soil (by a machine) without turning any dirt over. But he goes one step further, implementing a new idea called *organic no-till*, which involves growing a cover crop (rye or hairy vetch), crimping it with a heavy roller so that it forms a mulch over the soil, and then drilling the soil with the cash crop (grains, for example). This way, no herbicides or pesticides are needed to control bugs and weed—which means it can be

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## THE AGRARIAN STANDARD

CONTINUED FROM PAGE 9

dustrial culture is this idea of return. Industrial humans relate themselves to the world and its creatures by fairly direct acts of violence. Mostly we take without asking, use without respect or gratitude, and give nothing in return. Our economy's most voluminous product is waste—valuable materials irrecoverably misplaced, or randomly discharged as poisons.

To perceive the world and our life in it as gifts originating in sanctity is to see our human economy as a continuing moral crisis. Our life of need and work forces us inescapably to use in time things belonging to eternity, and to assign finite values to things already recognized as infinitely valuable. This is a fearful predicament. It calls for prudence, humility, good work, propriety of scale. It calls for the complex responsibilities of caretaking and giving back that we mean by "stewardship." To all of this the idea of the immeasurable value of the resource is central.

There is an agrarian theme that has been carried from earliest times until now mostly in family or folk tradition. Such people can also be found in books. They don't have or require a lot of land, and the land they have is often marginal. They practice subsistence agriculture, which has been much derided by agricultural economists and other learned people of the industrial age, and they always associate frugality with abundance.

In my various travels, I have seen a number of small homesteads situated on "land that no one wanted" and yet abundantly productive of food, pleasure and other goods. And especially in my younger days, I was used to hearing farmers of a certain kind say, "They may run me out, but they won't starve me out" or "I may get shot, but I'm not going to starve." Even now, if they cared, I think agricultural economists could find small farmers who have prospered, not by "getting big," but by practicing the ancient rules of thrift and subsistence, by accepting the limits of their small farms, and by knowing well the value of having a little land.

In any consideration of agrarianism, this issue of limitation is critical. Agrarian farmers see, accept, and live within their limits. They understand and agree to the proposition that

there is "this much and no more." Everything that happens on an agrarian farm is determined or conditioned by the understanding that there is only so much land, so much water in the cistern, so much hay in the barn, so much corn in the crib, so much firewood in the shed, so much food in the cellar or freezer, so much strength in the back or arms – and no more. This is the understanding that induces thrift, family coherence, neighborliness, local economies. Within accepted limits, these virtues become necessities. The agrarian sense of abundance comes from the experienced possibility of frugality and renewal within limits.

This is exactly opposite to the industrial idea that abundance comes from the violation of limits by personal mobility, extractive machinery, long-distance transport and scientific or technological breakthroughs. If we use up the good possibilities in this place, we will import goods from some other place, or we will go to some other place. If nature releases her wealth too slowly, we will take it by force. If we make the world too toxic for honeybees, some compound brain, Monsanto perhaps, will invent tiny robots that will fly about, pollinating flowers and making honey.

To be landless in an industrial society obviously is not at all times to be jobless and homeless. But the ability of the industrial economy to provide jobs and homes depends on prosperity, and on a very shaky kind of prosperity too. It depends on "growth" of the wrong things, such as roads and dumps and poisons – on what Edward Abbey called "the ideology of the cancer cell" – and on greed with purchasing power. In the absence of growth, greed and affluence, the dependents of an industrial economy too easily suffer the consequences of having no land: joblessness, homelessness and want. This is not a theory. We have seen it happen.

In our time it is useless and probably wrong to suppose that a great many urban people ought to go out into the countryside and become homesteaders or farmers. But it is not useless or wrong to suppose that urban people have agricultural responsibilities that they should try to meet. And in fact this is happening. The agrarian popu-

CONTINUED ON PAGE 34

# THE AGRARIAN STANDARD

WENDELL BERRY

*The Unsettling of America* was published in 1977; it is still in print and is still being read. As its author, I am tempted to be glad of this, and yet, if I believe what I said in that book, and I still do, then I should be anything but glad. The book would have had a far happier fate if it could have been disproved or made obsolete years ago.

It remains true because the conditions it describes and opposes, the abuses of farmland and farming people, have persisted and become worse. By 2002 we had less than half the number of farmers in the U.S. that we had in 1977. Our farm communities are far worse off now than they were then. Soil erosion rates continue to be unsustainably high. We continue to pollute our soils and streams with agricultural poisons. We continue to lose farmland to urban development of the most wasteful sort. The large agribusiness corporations that were mainly national in 1977 are now global, and are replacing the world's agricultural diversity, useful primarily to farmers and local customers, with bioengineered and patented monocultures that are merely profitable to corporations. The purpose of this new global economy, as Vandana Shiva has rightly said, is to replace "food democracy" with a worldwide "food dictatorship."

To be an agrarian writer in such a time is an odd experience. I have never doubted for a minute the importance of the hope I have tried to serve: the hope that we might become a healthy people in a healthy land.



Red Willow Farm, Taos Pueblo, NM

We agrarians are involved in a hard, long momentous contest, in which we are so far, by a considerable margin, the losers. What we have undertaken to defend is the complex accomplishment of knowledge, cultural memory, skill, self-mastery, good sense and fundamental decency – the high and indispensable art, for which we probably can find no better name than "good farming." I mean farming as defined by agrarianism as opposed to farming as defined by industrialism: farming as the proper use and care of an immeasurable gift.

I believe that this contest between industrialism and agrarianism now defines the most fundamental human difference, for it divides not just two nearly opposite concepts of agriculture and land use, but also two nearly opposite ways of understanding ourselves, our fellow creatures and our world.

© Seth Roffman

Industrialism begins with technological invention. But agrarianism begins with givens: land, plants, animals, weather, hunger and the birthright knowledge of agriculture. Industrialists are always ready to ignore, sell, or destroy the past in order to gain the entirely unprecedented wealth, comfort and happiness suppos-

edly to be found in the future. Agrarian farmers know that their very identity depends on their willingness to receive gratefully, use responsibly and hand down intact an inheritance, both natural and cultural, from the past. Agrarians understand themselves as the users and caretakers of some things they did not make, and of some things that they cannot make.

If we believe that the existence of the world is rooted in mystery and in sanctity, then we would have a different economy. It would still be an economy of use, but it would be an economy also of return. The economy would have to accommodate the need to be worthy of the gifts we receive and use, and this would involve a return of propitiation, praise, gratitude, responsibility, good use, good care and a proper regard for future generations. What is most conspicuously absent from the industrial economy and in-

CONTINUED ON PAGE 10

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“radical” (whose dictionary definition means “root”) because it challenged various orthodoxies at work at the time, including the conventional belief that conservation and ranching were part of a “zero sum” game—that one could only advance if the other retreated. There were plenty of examples to the contrary, as Bill McDonald and the group he helped to co-found, the Malpai Borderlands Group, demonstrated. Success, however, also meant working in the “center” – which refers to the pragmatic, middle-ground between extremes. It meant partnerships, respect and trust. But most of all, the “center” meant action—a conservation plan signed, a prescribed fire lit, a workshop held, a hand shook. Words were nice, but working in the radical center meant walking the talk.

In 1997, two Sierra Club activists—Barbara Johnson and myself—and rancher Jim Winder decided to put the radical center to a test in New Mexico by founding the nonprofit Quivira Coalition. Jim had an idea: step outside the continuum of brawling between ranchers and environmentalists and create a “third way” that emphasized progressive cattle and land management practices. We called it the “New Ranch” and invited any rancher, conservationist, agency person, scientist or member of the public who was interested in “sharing common-sense solutions to the rangeland conflict” to join us. We took a public vow of no legislation and no

litigation. We promised ourselves not to waste energy trying to pry open closed minds. We focused instead on those who literally wanted to start over at the grass and the roots.

Quivira was different from other radical centrist groups at the time, principally because we weren’t confined to a watershed or a bounded region. We went wherever we could find “eager learners” willing to try new ideas. As a result, we embarked on a lengthy series of workshops, tours, outdoor classrooms, conferences, clinics and public speaking engagements around the Southwest. In the process, we helped to define what the radical center in the so-called “grazing debate” actually meant, culminating in an “Invitation to Join the Radical Center” signed by twenty ranchers, conservationists and others in 2003 that we hoped would signal the end of conflict and the beginning of an era of peace.

**HERE’S AN EXCERPT AND A LIST OF ITS RADICAL CENTRIST CONDITIONS:**

“We therefore reject the acrimony of past decades that has dominated debate over livestock grazing on public lands, for it has yielded little but hard feelings among people who are united by their common love of land and who should be natural allies. We pledge our efforts to form the “Radical Center” where:

“The ranching community accepts and aspires to a progressively higher standard of environmental performance;

“The environmental community resolves to work constructively with the people who occupy and use the lands it would protect;

“The personnel of federal and state land management agencies focus not on the defense of procedure but on the production of tangible results;

“The research community strives to make their work more relevant to broader constituencies;

“The land grant colleges return to their original charters, conducting and disseminating information in ways that benefit local landscapes and the communities that depend on them;

“The consumer buys food that strengthens the bond between their own health and the health of the land;

“The public recognizes and rewards those who maintain and improve the health of all land; and “All participants learn better how to share both authority and responsibility.

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The term *land health* was coined in the 1930s by the great conservationist Aldo Leopold. He was referring to the ecological processes that perpetuate life—the processes of biological self-renewal that ensure fertility



© Courtesy of Quivira Coalition

Volunteers at Quivira’s 2011 Red Canyon Reserve workshop build simple rock structures to spread water and stop erosion.

among communities of plants and animals, including the proper cycling of water and nutrients in the soil. Metaphorically, he sometimes likened land health to a self-perpetuating engine or organism whose parts—soil, water, plants, animals and other elements of the ecosystem – when unimpaired and functioning smoothly, would endlessly renew themselves. Leopold frequently employed words such as stability, integrity, and order to describe this “land mechanism,” drawing an image of nature that when healthy operated smoothly and ran in top shape.

By contrast, land became “sick” when its basic parts fell into disorder or

CONTINUED ON PAGE 14

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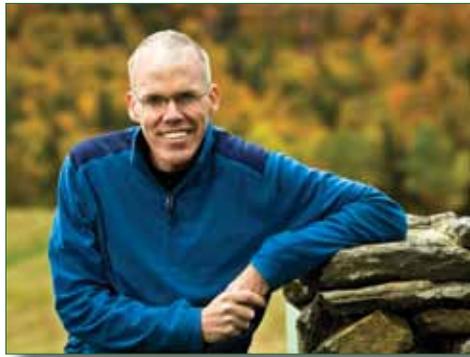
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## FEATURED SPEAKERS



### **BILL MCKIBBEN, AUTHOR AND ENVIRONMENTALIST, VERMONT**

Bill is the author of a dozen books about the environment, beginning with *The End of Nature* (1989). He is a founder of the grassroots climate campaign 350.org, which has coordinated 15,000 rallies in 189 countries since 2009. *Time Magazine* called him “the planet’s best green journalist.” In 2011 he was elected a fellow of the American Academy of Arts and Sciences.

### **WILLIAM DEBUYS, AUTHOR AND CONSERVATIONIST, EL VALLE, NM**

William deBuys’ books include *A Great Aridness: Climate Change and the Future of the American West* (2011, Oxford University Press) and *River of Traps* (a 1991 Pulitzer finalist). He was a 2008-2009 Guggenheim Fellow. As a conservationist, he has helped protect more than 150,000 acres in New Mexico, Arizona, and North Carolina. From 1997 to 2004 he directed the Valle Grande Grass Bank in San Miguel County, NM, and from 2001 to 2005, he served as founding chairman of the Valles Caldera Trust.



## FEATURED MENTORS

### **DEBORAH MADISON, CHEF AND AUTHOR, GALISTEO, NM**

Deborah was the founding chef of Greens in San Francisco in 1979, one of the first farm-to-table restaurants. She is the author of eleven books, including *Local Flavors*, *Cooking and Eating from America’s Farmers Markets*, was twice the recipient of the Julia Child Cookbook of the Year Award, and four James Beard Awards. She has written innumerable articles on food and farming, managed the Santa Fe Farmers’ Market, and has been actively involved with Slow Food, both here and in Italy.



### **MIGUEL SANTISTEVAN, TAOS, NM**

Miguel is currently a Ph.D. Candidate in Biology at UNM. He researches the traditional acequia-irrigated and dryland agricultural systems of the Upper Río Grande. Miguel is certified in Permaculture and ZERI Design, has been a high school science teacher in Pecos, Peñasco and Taos, and has directed youth-in-agriculture programs such as *Sembrando Semillas* of the NM Acequia Association. Miguel maintains a conservation farm with his wife and daughter called *Sol Feliz*, where many visitors participate in hands-on workshops. He coordinates a “Living Seed Library” through Agriculture Implementation, Research and Education, a nonprofit he co-founded.

### **JIM GERRISH, AMERICAN GRAZINGLANDS SERVICES, MAY, IDAHO**

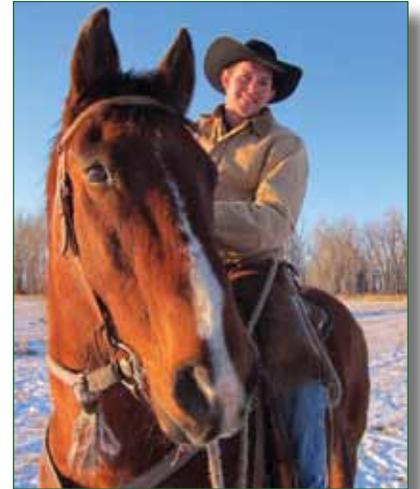
Jim is an independent grazing lands consultant for private and public lands across the U.S. and Canada. He works with farmers and ranchers using irrigated pastures and native rangeland. He received a B.S. in Agronomy from the University of Illinois and an M.S. in Crop Ecology from University of Kentucky. His experience includes over 22 years of

beef-forage systems research and outreach while on the faculty of the University of Missouri, as well as 22 years of commercial cattle and sheep production on his family farm in northern Missouri. He writes regular columns in *The Stockman Grass-Farmer* magazine and has authored two books: *Management-intensive Grazing: The Grassroots of Grass Farming* (2004) and *Kick the Hay Habit: A practical guide to year-around grazing* (2010).

## YOUNG AGRARIAN SPEAKERS

### **BRYCE ANDREWS, RANCLANDS PROGRAM MANAGER, MONTANA**

Bryce manages a cattle ranch in the Deer Lodge Valley, in the heart of the nation’s largest Superfund Site. He works toward achieving innovative and environmentally sustainable land management practices on deeded and leased land. When not herding cattle and fixing fence, Bryce works on community building and outreach. His experience includes ranching in the Madison Valley, on the doorstep of Yellowstone Park, where he worked on finding a balance between the needs of livestock and wildlife. He holds an M.S. in Environmental Studies from the University of Montana.



### **DORN COX, FARMER, LEE, NH**

Dorn Cox is making a concerted effort to push farming squarely into the 21st century by building what he refers to as a “biological system” for his farm. By integrating the disciplines of plant biology and environmental engineering, he is constructing a near complete carbon cycle, making the farm largely self sufficient, reducing production costs and limiting off-farm purchases. Dorn is a two-time NRCS Conservation Innovation Grant awardee. He has completed his 2006 grant for Farm-based Biofuel: Production, Storage, Co-generation and Education. He is also a 2007 New Hampshire Young Farmer Achievement Award recipient.

### **SEVERINE VON T. FLEMING, THE GREENHORNS, HUDSON VALLEY, NY**

Severine produced and directed a documentary film about young farmers who are reclaiming, restoring and retrofitting this country. That film, “The Greenhorns,” grew into a small nonprofit organization that produces a weekly radio show on Heritage Radio Network, a popular blog, a wiki-based resource guide for beginning farmers, and educational events all around the country. Severine attended Pomona College and UC Berkeley, where she graduated with a B.S. in Conservation/Agro-Ecology. She founded UC Berkeley’s Society for Agriculture and Food Ecology, as well as co-founding the National Young Farmers Coalition.

### **BEN FORSYTH, MANAGER, THREE RIVERS STATION, MEEKATHARRA, WESTERN AUSTRALIA**

Passionate about rangeland sustainability, Ben is the manager of his family’s 1.3 million acre, “Three Rivers” Station on the headwaters of the Gascoyne River in Western Australia, where he is undertaking an extensive landscape regeneration project. Ben is a 2008 Nuffield Scholar, former WA Director of the national Future Farmers Network and a Councilor of

CONTINUED ON PAGE 27



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## WHAT IS THE QUIVIRA COALITION?



Courtney White,  
Executive Director

Founded in 1997 by two conservationists and a rancher, the Quivira Coalition is a nonprofit organization based in Santa Fe, dedicated to building economic and ecological resilience in western working landscapes.

Quivira does this via four broad initiatives: 1) improving land health; 2) sharing knowledge and innovation; 3) building local capacity; and 4) strengthening diverse relationships.

Quivira's projects include: an annual conference, a ranch apprenticeship program, a long-running riparian restoration effort in northern New Mexico on behalf of the Río Grande Cutthroat trout, a capacity-building collaboration with the Ojo Encino Chapter of the Navajo Nation, various outreach activities, and the promotion of the idea of a carbon ranch, which aims to mitigate climate change through food and land stewardship.

In 1997, the organization's goal was to expand an emerging "radical center" among ranchers, conservationists, scientists and public land managers by focusing on progressive cattle management, collaboration, riparian and upland restoration, and improved land health. The original mission was "to demonstrate that ecologically sensitive ranch management and economically robust ranches can be compatible."

They called this approach The New Ranch and described it as a movement that "operates on the principle that the natural processes that sustain wildlife habitat, biological diversity and functioning watersheds are the same processes that make land productive for livestock." The principles of The New Ranch were disseminated through workshops, lectures, publications, grants, consultations, collaborative land and water demonstration projects, a journal (the New Ranch Network), a small loan program, and an annual conference.

From 1997 to the present, at least 1 million acres of rangeland, 30 linear miles of riparian drainages and 15,000 people have directly benefited from the Quivira's collaborative efforts. Quivira has also organized over 100 educational events on topics as diverse as drought management, riparian restoration, fixing ranch roads, conservation easements, reading the landscape, monitoring, water harvesting, low-stress livestock handling, grassbanks, and grassfed beef; published numerous newsletters, journals, bulletins, field guides and books, including a rangeland health monitoring protocol. Their most recent publication is a 258-page manual on riparian restoration titled *Let the Water Do the Work*.

From 2006-2010 Quivira managed the innovative Valle Grande Grassbank, located near Santa Fe, eventually becoming producers of local grassfed beef.

But more importantly, the Quivira Coalition lit sparks across the West that have grown over time into small bonfires of change. Quivira has convinced ranchers to adopt conservation practices, environmentalists to value ranching, agencies to be more open to innovations, scientists to get more involved, and the public to support all of the above.

One response to the multiple challenges of the 21<sup>st</sup> century is to increase ecological and economic resilience of communities and landscapes. The dictionary defines resilience as "the ability to recover from or adjust easily to misfortune or change." In ecology, it refers to the capacity of plant and animal populations to handle disruption and degradation caused by fire, flood, drought, insect infestation or other disturbance. Resilience also describes a community's ability to adjust to change, such as shifting economic conditions, or a steady rise in temperatures.

To help address these concerns, in the fall of 2007 the Quivira Coalition board adopted a new mission statement: *to build resilience by fostering ecological, economic and social health on western landscapes through education, innovation, collaboration and progressive public and private land stewardship.* ❄

# REFLECTIONS FROM A “DO” TANK

## QUIVIRA COALITION AND CONSERVATION IN THE WEST

COURTNEY WHITE

Recently, an acquaintance asked me what I did for a living. After explaining that I ran a nonprofit that worked with ranchers and conservationists in the Southwest on land health and sustainability issues, he said summarily, “Oh, you run a Think Tank.” Without pausing, I replied “No, Quivira is a ‘Do’ Tank,” which elicited a nod and smile.

Afterwards, I thought about this brief exchange. What did I mean? Partly, I was being provocative—I believe the world needs another Think Tank likes it needs another TV pundit or Beltway lobbyist. I wanted him to understand that we are an organization that implements new ideas and not merely promotes them. But he wasn't so far off either. Like a Think Tank, the Quivira Coalition has prospected for innovative ideas that solve problems, in this case “from-the-ground-up.” But we don't just talk about “feeling the soil between our toes,” as Aldo Leopold once described the purpose of conservation. We actually get dirty—which is the only way to understand if ideas actually work.

time, our work expanded to incorporate riparian restoration, grassfed beef production, and youth mentorship. In the near future, we will try to integrate all of these ideas into mitigation and adaptation strategies for climate change, which, along with resource depletion, are the two great conservation challenges of the 21st century. Meeting these twin challenges means doing so in a way that creates a resilient fabric that can bend without breaking under the expanding stress we're beginning to feel. And the only real way to do that is by testing this fabric in the real world—not just in a lab, classroom or think tank.

At the same time, Quivira has worked hard to disseminate both the innovative ideas of others and the lessons learned from our experience through a vigorous outreach program. I guess that makes us an “Information” Tank too. But everything that we have “informed” people about has been vetted through on-the-ground implementation of one sort or another.

What follows is a reflection from Quivira's experience to date—what



Bill Zeedyk, Tamara Gadzia and Steve Carson assess the restoration project on Comanche Creek, Valle Vidal, New Mexico

© Courtesy Quivira Coalition (4)

digmatic logjams in the mainstream. Quivira didn't invent these ideas, but we were among the first organizations to give them a trial run.

### THE RADICAL CENTER

We endeavored to create a common ground where ranchers, conservationists, scientists and others could meet to explore their shared interests rather than argue their differences.

The term “radical center” was coined by rancher Bill McDonald in the mid-1990s to describe an emerging consensus-based approach to land management challenges in the West. At the time, the conflict between ranchers and environmentalists had reached a fever pitch, with federal agencies and others caught in the crossfire. This

conflict was one of the reasons why the West had balkanized, or separated, into ideological fiefdoms, an important consequence of which was gridlock where it hurt the most—on the ground. Very little progress was being made on necessary projects, such as lighting prescribed fires, improving the chances of endangered species on private land, or helping ranchers fend off the predatory interests of real estate developers. Instead, it was a war of attrition, with the only real winners being those who had no interest in the long-term environmental or social health of the region.

The Radical Center was a deliberate push-back against this destructive process of balkanization. It was

CONTINUED ON PAGE 8



Volunteers build post vane structures along the middle reach of Comanche Creek to help restore habitat for the Río Grande Cutthroat trout

Since our founding in 1997, we've explored many strategies that try to build resilience, enduring our share of failures along with successes. Initially, we focused on land health, collaboration, and progressive livestock management. Over

has worked and what has not. It is important to note that most of these ideas and practices came originally from the fringe—where innovation invariably starts—and were developed primarily to break through para-



Looking upstream: Comanche Creek bank stabilization using post vane structures to move the main flow away from an eroding bank while building a new bankfull bench

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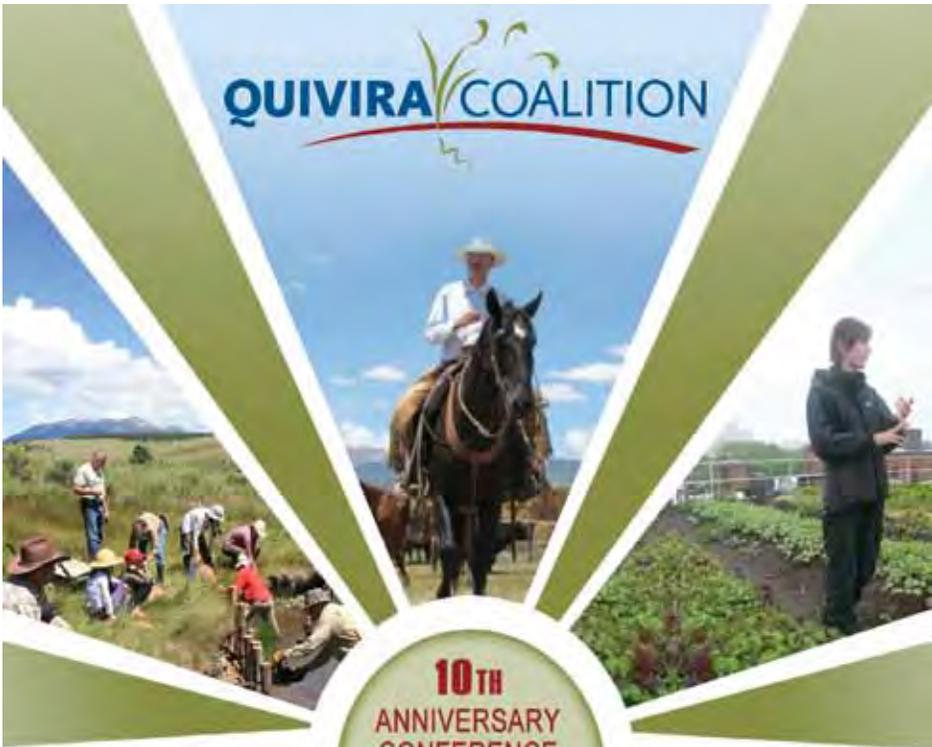
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Electrical  
HVAC  
Plumbing  
Welding

Learn more.  
Visit [www.sfcc.edu](http://www.sfcc.edu) or call (505) 428-1641.



**CNM Opens New Technology Facilities**

**Advanced Technology Center**

This fall, Central New Mexico Community College opens its newly-remodeled Advanced Technology Center on Alameda just west of I-25 in Albuquerque. The 81,400 square foot facility contains specialized laboratories, classrooms, computer labs, learning commons and faculty offices and is home to seven programs:

- Architectural/Engineering Drafting Technology
- Construction Management Technology
- Geographic Information Technology
- Aviation Technology
- Film Technician
- Landscaping
- Truck Driving

**Sustainable Technology Laboratory**

The new Sustainable Technology Lab at the CNM Workforce Training Center hosts credit and non-credit courses in Photovoltaic Installation, Solar Thermal, Weatherization, Energy Efficiency and other green technologies.

**Don't miss the Grand Opening of both locations on October 26!**  
For more information, please call (505) 224-3711  
or visit [cnm.edu/grandopening](http://cnm.edu/grandopening)

