

# Tehipite Topics

Autumn 2017 – Vol. 63, No. 3

[www.sierraclub.org/tehipite](http://www.sierraclub.org/tehipite)

## Our Rivers Are Threatened How Can You Help?

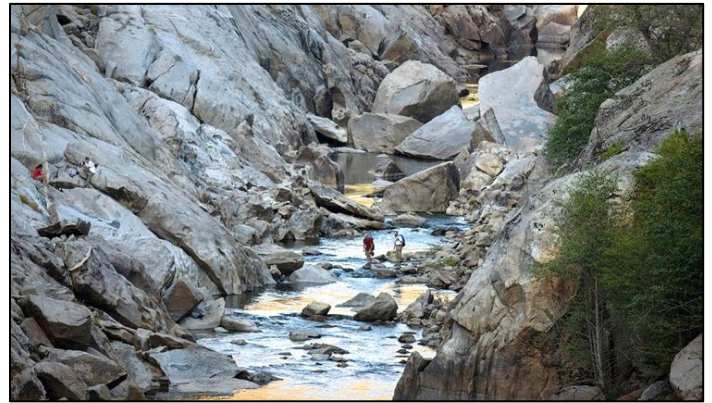
There is not enough room here to detail the complexity of the attacks on our rivers. On the federal level, Rep. David Valadao's H.R.23 would effectively repeal and preempt state and federal laws and a binding settlement agreement that require restoration of the San Joaquin River and its native salmon runs, instead permanently drying up 60 miles of California's second-longest river. It not only preempts state law as applied to federal water projects in California, but also state law as it applies to the State Water Project and virtually all water rights holders in the Bay-Delta watershed. This is contrary to over a hundred years of Reclamation law and would set a dangerous precedent for other Western states.

The bill also gives the Bureau of Reclamation total control over the environmental review process, undermining the ability of wildlife protection agencies like the U.S. Fish & Wildlife Service and N.O.A.A. Fisheries to share their expertise. It passed the House and is now in the Senate.

H.R.875, the *Bureau of Reclamation Water Project Streamlining Act*, now in House committee, would expedite environmental reviews, creating unreasonable limits on the time and money that can be spent to complete NEPA-required EIRs. It is designed to facilitate more dam construction, including reauthorization of Auburn Dam and raising Shasta Dam, which would drown part of the Wild & Scenic McCloud River, as well as unacceptably degrade endangered salmon habitat.

Call or send letters to your congressman expressing your opposition to these bills. When voicing your opposition to legislators, don't just sign petitions. Personally written letters and phone calls have proven to be far more effective than large numbers of signed form letters or online petitions. Be sure also to thank Senator Diane Feinstein for fighting to preserve our state's right to determine its own environmental destiny. And call on Senator Kamala Harris to stand up for our rivers as Senator Barbara Boxer did for more than 20 years.

At the state level, Proposition 1, the State Water Bond, dedicated \$2.7 billion for investments in new water storage projects. The California Water Commission, through the



Water Storage Investment Program, will fund the public benefits of these projects. In August 2017, 12 applicants submitted projects for the Commission's review pursuant to the WSIP regulations. The Commission is now evaluating those projects for their eligibility and the level of public benefits provided. By June 2018, the Commission will determine the maximum funding for which each water storage project is eligible.

At its semi-annual conference in San Luis Obispo recently, the California/Nevada Regional Conservation Committee passed a resolution endorsing the repairing and maintaining of existing dams, levees, and canals rather than building any new dams. Additionally, we endorsed "extending levee setbacks, restoring mountain meadows, creating new flood bypasses, extending and restoring wetlands, flooding agricultural fields in off-season, and other methods of storing excess water in the ground to replenish our depleted aquifers."

Right now the timeliest action you can take is to write the State Water Commission to voice your opposition to the construction of any more dams. Tell them Temperance Flat Dam is a waste of money considering its very low yield and the damage it will do to a wild and scenic gorge in the largely unprotected lower foothill ecosystem. Encourage them to instead promote water conservation measures, and to spend water bond funds on infrastructure that will bring water directly into the Valley to recharge the valley aquifers for local farmers, and on projects that will ensure clean drinking

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*see also:*

**A New Water Paradigm — Too Good to Be True?**

**Book Review: Edward O. Wilson's *Half-Earth***

**on page 8**

**on page 10**



Explore, enjoy and protect the planet



### Bear in mind the consequences.

The Yellowstone grizzly bear is an irreplaceable part of America's natural heritage, a symbol of the independence that defines the American character and an icon of all that is wild and free. The Bush administration set forth a proposal that would remove federal protection for the Yellowstone grizzly bear. Help Sierra Club protect our forest friends; they prefer the woods than being on display.

### Get grizzly and JOIN Sierra Club.

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Check enclosed. Please make payable to Sierra Club.

Please charge my:  Visa  Mastercard  AMEX

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Membership Categories	Individual	Joint
<b>Special Offer</b>	<input type="checkbox"/> \$25	
Standard	<input type="checkbox"/> \$39	<input type="checkbox"/> \$47
Supporting	<input type="checkbox"/> \$75	<input type="checkbox"/> \$100
Contributing	<input type="checkbox"/> \$150	<input type="checkbox"/> \$175
Life	<input type="checkbox"/> \$1000	<input type="checkbox"/> \$1250
Senior	<input type="checkbox"/> \$24	<input type="checkbox"/> \$32
Student/Limited Income	<input type="checkbox"/> \$24	<input type="checkbox"/> \$32

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## Tehipite Chapter Conservation & Executive Committee Meetings

Second Wednesday of each month — members welcome

December 13, and January 10, February 14, March 14, April 11, May 9, June 13, July 11, August 8, September 12,  
October 10, and November 14

The Conservation Committee meets at 7 PM. The Executive Committee meets at 8 PM.

University of California Center, 550 E. Shaw Avenue, Fresno (between First and Fresno Streets)

## Tehipite Chapter General Meetings

Third Wednesday of each month from 7 to 9 PM, except for July, August, and December (2017) & November (2018)

*OUR GENERAL MEETINGS ARE FREE AND OPEN TO THE PUBLIC, AND PARKING IS FREE.*

University of California Center, 550 E. Shaw Avenue, Fresno (between First and Fresno Street)

## Merced Group Conservation & Executive Committee Meetings

The first Wednesday of each month at 7:00 PM — at Rod Webster's home, 345 E. 20th St., Merced.

The Conservation meeting is first and can last 30-40 minutes.

Anyone with an interest in local, state, or national conservation issues is welcome to attend.

## Merced Group Monthly Meetings at the Methodist Church

In the new year the Merced Group will resume its normal schedule of holding general meetings for members and the public on the third Thursday of each month. We will continue to meet at 7:00 PM at Merced United Methodist Church, 899 Yosemite Parkway (also known as Hwy 140 to Yosemite). As always, it is easiest to park in the lot on Cypress Avenue and enter there to reach the Fireside room. Also, see the Dec. 9 Banquet announcement on page 5.

### Merced Group Needs a Little Help

Many hands do lighten the work, so the leadership of the Merced Group is looking for some folks willing to serve as a contact person and to provide some support in any of the following areas:

- **Membership:** The main task is to use the lists of new members that we are sent by national to address and mail a brief letter of greeting inviting those folks to attend our monthly meetings. Letters, envelopes, and stamps will be provided.
- **Agriculture:** This person will help keep the Executive Committee and Conservation Chair apprised of any topics or issues in the ag arena, particularly within Merced County.

- **Conservation:** This is a meatier position since it covers a wide umbrella of topics. Others will provide information and input, but someone needs to serve as a central clearing house and filter, to help us focus on the most pertinent issues for our Group. Usually our attention is centered on issues of air and water quality, land use and wise growth, and protection of farmland and natural spaces. The easiest way to share this information would be by attending the ExCom meetings on the first Wednesday of each month, 7:00-8:30 PM.

If you can help in one of these capacities, or if you have a relevant area of interest of your own, please contact Rod Webster for more information at (209) 723-4747.



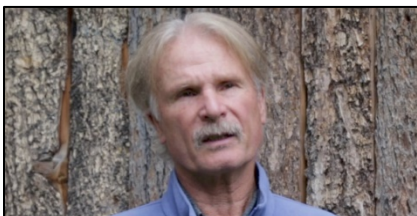
# OUR WILDERNESS — Tehipite General Meetings 2018



ANNE HENNY



STEVE EVANS



GEORGE WUERTHNER



DON BALDWIN AS JOHN MUIR

## **Wednesday, January 17, 7:00 PM — “Working Together to Protect Our Public Lands,” with Anne Henny, Sierra Club Northern Co-Chair of the California-Nevada Wilderness Committee**

Let’s kick off 2018 exploring how our chapter can help defend wildlands in our region against myriad threats. Protecting wilderness and other public lands has never been more important — and is integral to our fights for climate stability, clean water and air, and environmental justice. Hear updates, share successes, and brainstorm together on how to “keep our public lands public.” In addition to wildlands issues that concern YOU, we’ll cover:

- Connecting with regional and national Sierra Club public lands resources
- Legislation — the good, bad and the ugly, and what to do about it
- Equity, justice, and movement-building with partners and allies

## **Wednesday, February 21, 7:00 PM — “National Monuments and Public Lands Under Attack,” with Steve Evans, California Wilderness Coalition**

Steve Evans will provide an update on the attack of the Trump Administration and the Republican-led Congress on our national monuments and public lands, and what you can do to help protect and defend our wild heritage. He has been involved in the defense of the Giant Sequoia National Monument for CalWild and also worked on mobilizing public support for wilderness and wild rivers protection in the Sequoia and Sierra Forest Plan Revisions.

## **Saturday, March 24, 5:00 PM, at The Big Red Church, 2131 N. Van Ness Avenue, Fresno — Our Annual Potluck Banquet — “Why Wilderness,” with George Wuerthner, Wilderness Watch**

Author, photographer, ecologist, and activist, George Wuerthner will present a history of wildlands protection efforts, the creation of the national wilderness system, and the on-going threats to wildlands. *See the announcement on page 12 of this issue for more information about this event.*

## **Wednesday, April 18, 7:00 PM — “Happy Birthday Earth Day, John Muir,” with Don Baldwin as John Muir**

Don Baldwin is a retired minister, artist, and photographer, living with his wife Peggy in Nevada City. Growing up near Yosemite, Don’s deep affinity with the Sierras led him to create a dramatic first-person portrayal of the famous naturalist and founder of the environmental movement, John Muir, who was born 180 years ago on April 21.

## **Wednesday, May 16, 7:00 PM — “American Wild and Scenic Rivers,” with a speaker to be determined**

## **Wednesday, June 20, 7:00 PM — “Walkable, Livable Communities,” with John Holtzclaw, National Sierra Club**

## **Wednesday, September 19, 7:00 PM — “Urban Wilderness Planning: Planting Wilderness Out Your Front Door,” with Robert Boro, Fresno Landscape Architect**

## **Wednesday, October 17, 7:00 PM — “Celebrating Scenic and Historic Trails,” with a speaker to be determined. This is the 50th anniversary year of the National Trails System Act.**

*There is no general meeting in November — Happy Thanksgiving*

## **Wednesday, December 19, 7:00 PM — “A Wilderness of Skies,” with a speaker to be determined**

# MERCED GROUP'S ANNUAL POTLUCK & AWARDS BANQUET

Professional Photographer and  
Mountain Guide, Jay Sousa,  
presents:

**“Exploring Yosemite's Backcountry —  
100 Trips in the Last Two Years!”**

**6:00 – 9:00 PM, Saturday, December 9, 2017  
Shepherd of the Valley Lutheran Church  
1455 E. Yosemite Avenue, Merced**



JAY SOUSA SUMMITTING MT. WHITNEY

Local Merced professional photographer, photography instructor at Merced College, and Yosemite region mountain guide Jay Sousa will be the guest speaker at the Merced Group of the Sierra Club's December 9<sup>th</sup> meeting. Jay will be doing a presentation and sharing photographs about his experiences working as a guide for YExplore Yosemite Adventures. His first trip for YExplore was in June of 2015 and since then he has led over 100 trips in the Yosemite backcountry.

Jay has led clients from thirteen different countries and from all over the United States. One day he could be leading a young family from Chicago on an easy hike around Yosemite Valley and the next he could be taking a group of four women police officers from England to the summit of Mt. Hoffman.

Jay began his love of the wilderness with his first backpack trip to Ostrander Lake when he was just fourteen. During the last forty-five years since that inaugural backpack trip, Jay has day hiked, climbed, backpacked, and skied almost every corner of Yosemite.

Jay's outdoor resumé includes ascents of many of Yosemite's highest peaks and a winter trans-Sierra cross-country ski trip from Lee Vining to Yosemite Valley, as well as climbs of Mt. Rainier, Mt. Hood, and Mt. Shasta. As a technical rock climber, Jay has scaled some of Yosemite's most iconic climbs including Cathedral Peak, Lower Cathedral Spire, Snake Dike route on Half Dome, Royal Arches Direct, and many others. In 2014 Jay and his wife Diane hiked a long section of the John Muir Trail, and in 2015 Jay completed the rugged High Sierra Trail.

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**Times:** Doors open at 6:00. Dinner begins at 6:30. Program starts at 7:15.

**Food:** Bring a main dish or salad to share. Beverages and dessert will be provided.

**Sierra Club calendars** will be available for purchase:

Wilderness wall calendars are \$15 / Engagement books are \$16 (sales tax is included).

Plastic mailing envelopes will be provided this year.

To purchase and receive them ahead of time, call Annette at 723-5152 or Rod at 723-4747.

**Scholarship Fund:** In 2011 the Jake and Fran Kirihara Memorial Scholarship Award was created in honor of two of our founding members. Each year the Merced Group awards two scholarships from the fund to further the education of University of California Merced students working towards preserving and protecting the environment.

**If you would like to make a donation to the fund but are unable to come to the potluck, please mail the check to: Merced Group of the Sierra Club, 345 E. 20<sup>th</sup> St., Merced CA 95340.**



## FIX EXISTING DAMS, DON'T BUILD NEW ONES — STORE EXCESS WATER IN THE GROUND

– CONTINUED FROM PAGE 1 –

water for impoverished valley communities. You can submit your comments and suggestions to the California Water Commission through their electronic portal at <https://cwc.ca.gov/Pages/Contact.aspx>, or send an email message to [comments@cwc.ca.gov](mailto:comments@cwc.ca.gov).

It helps to learn as much as you can about the intricate web of water law, land ownership, water rights, and infrastructure development in California and the West. Read *Cadillac Desert: The American West and Its Disappearing Water*, by Marc Reisner. Familiarize yourself with Sierra Club's water policy at <https://www.sierraclub.org/policy/water-policy>.

Another place to start in on this complicated subject is the National Geographic Channel television documentary, "Water & Power: A California Heist," by the Emmy-Award winner, Marina Zenovich. Following dogged journalist Max Arax as he traces the hidden tendrils of money and power through the world of Central Valley agriculture, the film uncovers details about the formation of the Kern Water Bank and how it ended

up controlled by a few large landowners who continue today to exploit California's water supply. The HD video can be rented for \$3 for 48 hours, or \$10 for unlimited viewing, on YouTube at <https://www.youtube.com/watch?v=aEKkKITSe9s>.

Those who want to play a more active role can sign up for Friends of the River's River Advocacy Training School. FOR is recruiting river advocate trainees for a RATS Resistance, to help organize local campaigns that can build public pressure on the key members of Congress leading the attack on our rivers. Applications are being accepted through December 4 for a new five-month program that begins with a four-day intensive course to be held January 19-22, with monthly field trips and ongoing support through May. Information on how to apply is at <http://www.friendsoftheriver.org/get-involved/river-rats/>.

The best advocates are people fired up about the current political situation, ready to educate themselves and take action to move the needle, and unafraid to talk to the public about the difficult issues facing California and its future.

### Come to a Free Screening of the 2016 Documentary Film **"Evolution of Organic"** followed by a discussion with the film's director, Mark Kitchell

Friday, December 1, 5:30 PM, Peters Education Center Auditorium  
at the Student Recreation Center, 5010 N. Woodrow Ave.,  
on the Fresno State University campus, just west of Save Mart Center  
– Parking is not enforced under the car shades after 4 p.m. on Fridays –

From filmmaker Mark Kitchell (*Berkeley in the Sixties, A Fierce Green Fire*) comes a new film: *Evolution of Organic*. It's the story of organic agriculture, told by those who built the movement. A motley crew of back-to-the-landers, spiritual seekers, and farmers' sons and daughters reject chemical farming and set out to explore organic alternatives. It's a heartfelt journey of change — from a small band of rebels to a cultural transformation in the way we grow and eat food. Several local organic Central Valley farmers are featured in the film, including our own Tom Willey and David "Mas" Masumoto.

By now organic has gone mainstream, split into an industry oriented toward bringing organic to all people and a movement that has realized a vision of sustainable agriculture. It's the most popular and successful outgrowth of the environmental impulse of the last fifty years.

*Evolution of Organic* is not just a history, but looks to exciting and important futures:

- The next generation who are broadening organic into no-till and urban farms; Latino growers and eco-fashion; even raising salmon in flooded rice fields
- Carbon farming as a climate solution, taking carbon dioxide out of the air and putting it in the ground where it belongs — "the best news on the planet"
- What lies "beyond organic," from soil microbiology as the new frontier to visions of regenerative agriculture. As interviewee Kelly Mulville says,

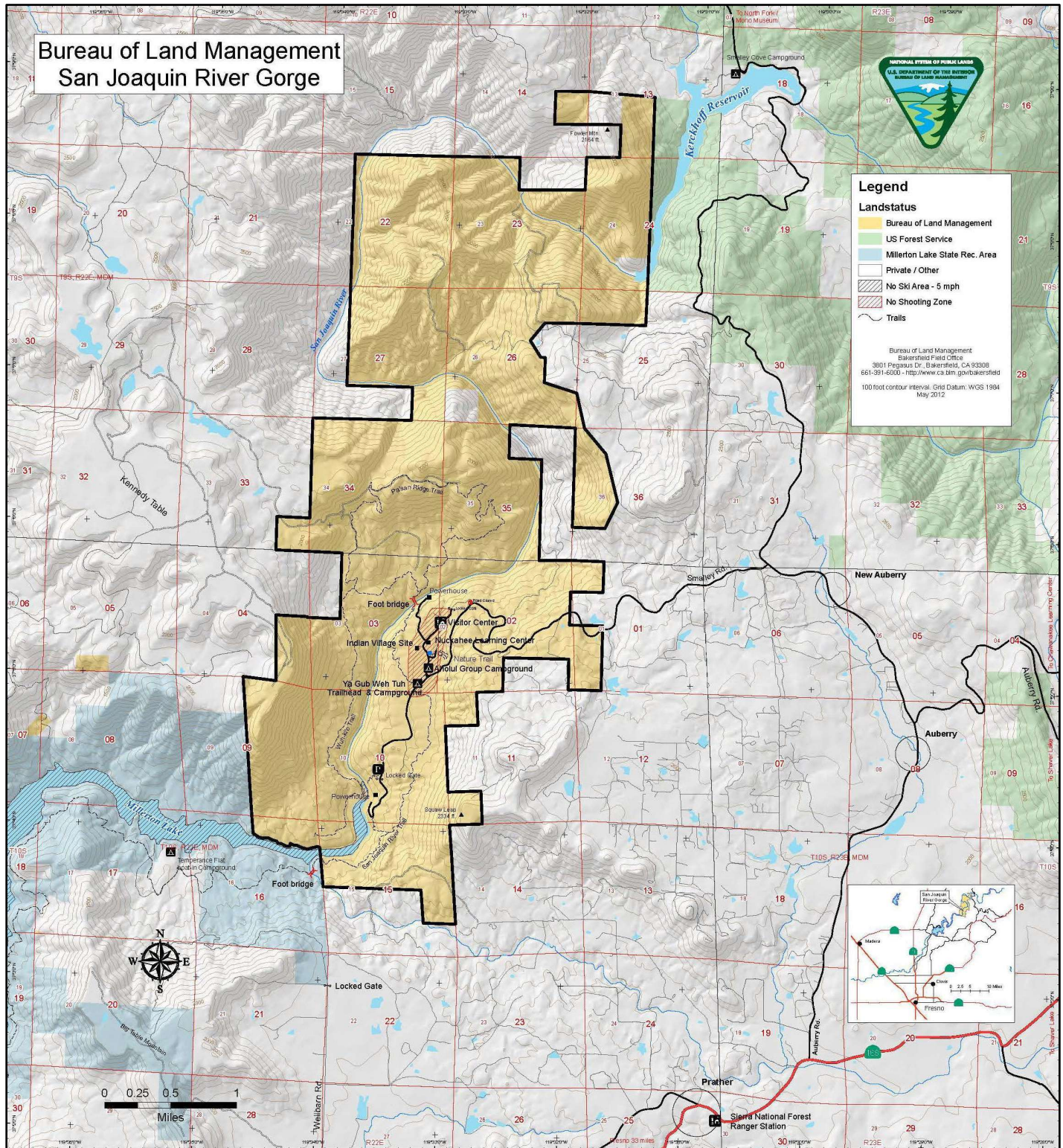
*Creating health in the soil creates health in the ecosystem,  
creates health in the atmosphere — and it all cycles around.*



77 minutes

<http://evolutionoforganic.com/>





This wild portion of the San Joaquin River, passing through the seldom-protected Sierra Nevada foothills ecosystem, is currently under the jurisdiction of the Bureau of Land Management. The area is administered as the San Joaquin River Gorge Special Recreation Management Area, the boundaries of which are shown on this map. The scenic grandeur and wilderness recreational opportunities of the river gorge are threatened by a locally popular concrete proposal to construct a 665-foot-high dam in the middle of Millerton Lake at a location off the map to the west. Temperance Flat Dam would be the second-tallest dam in California, and the fifth-tallest dam in the United States. The resulting reservoir, if it ever fills to capacity, would drown a stretch of river that has been proposed for wild-and-scenic-river status as well as a unique cave system carved by running water through solid granite rock. The proposed dam would cost over three billion dollars to construct, but would yield very little water from the already overused river. The Sierra Club is against the dam project, proposing the gorge be preserved as wilderness and water bond funds be spent instead to increase the capacity of canals to deliver water in wet years quickly to the valley floor. Flood waters could then be used to replenish the San Joaquin Valley Aquifer, raise the water table, and restore groundwater sustainability in the region, ensuring that our local river water is not sold to southern California cities, where it would only contribute to more urban sprawl.



# The “New Water Paradigm” — Too Good to Be True?

by Rod Webster

“Too good to be true” was my reaction when I first heard about Michal Kravčík’s concept, the “New Water Paradigm.” A local fellow named Russ Speer had cold-called me and then coaxed me to a local eatery for lunch to hear about this hydrologist from Serbia who was on a six week “Voices for Climate” tour of the United States. Russ explained that Michal Kravčík’s message is that if we were just more effective in capturing water and keeping it where it falls, we could not only address our water shortages but we could also make great strides in turning climate change around. After a rather thorough two-hour introduction to the concept I was intrigued enough so that a week later I was up in the wee hours of the morning and on the road headed to the coast. My destination — the innovative TomKat cattle ranch near Pescadero, a small town 35 miles north of Santa Cruz.

At TomKat Ranch Michal shared with the entire staff his approach: re-contour the land, slowing the water down to increase moisture retention in the soil. That in turn will increase the viability of native perennials, foster a healthy microbial population, and in time create a more resilient micro ecosystem. This creates a land area less likely to flood (due to rich organic soil with more plants to absorb the water), less prone to drought (deep-rooted native plants reach farther down to the water table), and with cooler temperatures in the summer (therefore losing less soil moisture to evaporation). The ultimate benefit will be a significant reversal of climate change impacts as more sunlight is absorbed by plants, so that less heat is reflected back into the atmosphere. An additional benefit — more carbon is sequestered.

At TomKat it was also made clear that Michal is not just a theorist preaching in the vacuum of academia. He is a hands-on advocate, encouraging and overseeing real-life implementation projects. After lunch we walked several miles of the rolling hills of the ranch, with Michal giving commentary and analysis along the way. He pointed to this dirt road, or this drainage, or this stand of invasive growth, suggesting specific projects that could decrease erosion, enhance the grazing lands, foster year-round stands of native vegetation, and increase the life of seasonal creeks. In essence, he outlined a plan to return the land to its more productive natural state which would in fact also enhance the ranch’s production.

Michal underscored that in urban settings the failure of our “modern” water management approach is even more obvious. Rooftop and roadway runoff is directed down storm drains and off to the ocean as expeditiously as possible. Meanwhile, population centers scramble to provide water to their concentrations of businesses and residents. Interestingly, Michal pointed out that in most modern farming operations we customarily do the same. Whether in town, in suburbia, or on the farm and ranch, why are we so quick to send our



MICHAL KRAVČÍK, WINNER OF THE 1999 GOLDMAN PRIZE

rainwaters away from where they would usually run, pool, and absorb? Ironically, then months later we find ourselves in desperate search for water at a premium of effort and expense.

Is this “New Water Paradigm” return to simple, natural solutions of the past too good to be true? Well, Michal Kravčík has overseen those very kinds of projects in his native Slovakia with great success. Marginal farmland has become lush and productive. Urban hot spots have been transformed into inviting parks and public green spaces. Another beauty of Michal’s approach is that it can be implemented on a small scale — even just an individual property — or on a massive scale, or any size in between. It can be done with modern mechanical earth movers or with many hands using shovels alone. One point that must be emphasized — such transformation does take time. Five to ten years may sound like a long wait for changes to become evident, but in the context of the enormous transformations that can be accomplished it is rapid.

Michal is not alone in advancing this low-tech solution to water shortages, with its significant side benefits to climate change. Elsewhere in the world these same techniques have found similar advocates. An astute and pithy article “Water: The Missing Link for Solving Climate Change”, by Monika Berghoff ([https://www.huffingtonpost.com/monika-berghoff/water-climate-change\\_b\\_8689890.html](https://www.huffingtonpost.com/monika-berghoff/water-climate-change_b_8689890.html)) describes the work of Michal and others in nations all over the globe. Scroll down the page to the 30-minute video titled “Hope in a Changing Climate,” by John D. Liu. There you will be amazed by what has been done on the Loess Plateau in China, in the deserts of Ethiopia, and on the plains of Rwanda. I will not try to describe the miraculous changes to land and vegetation that can be created. Indeed, seeing is believing. Take a look!

The day at TomKat was only the beginning of a west coast tour that Russ Speer had arranged for Michal. The days that followed included meetings, presentations, and walk-about at various locations along the California coast — from the Napa-Sonoma wine country, south to the Ojai Valley in Ventura, and on down into the Los Angeles basin. All along the way Michal shared his optimistic message for water reform and its potential to arrest climate change. He spoke with



representatives from organizations like the Buckminster Fuller Institute, Project Drawdown, the Occidental Arts and Ecology Center, the Green Valley Creek Watershed Group in Sonoma, East Eden Permaculture, the Ojai Valley Inn, and TreePeople.

A similar tour was orchestrated for Michal on the East coast. The itinerary there was even more of a whirlwind. During a period of four weeks the New Water Paradigm was promoted throughout New England and on up into Quebec, Canada.

Michal has returned home to Slovakia, but Jan Lambert on the east coast and Russ Speer here on the west continue to be liaisons for Michal to both private and municipal entities that are in the process of planning and implementing projects using Michal's concepts. Here on the west coast, that includes work along the Russian River, the hiring of a consultant to implement a rain water and grey water capture system to rehydrate a desiccated Ojai Valley, bike path greening in Ventura County, possible future water capture features added at the UC Berkeley campus, and a \$5 million extensive rainwater harvesting project at UC Merced.

In the city of Merced, Russ Speer envisions some demonstration projects along existing bike paths. Some of these, particularly the newest ones, are bordered by dirt and weeds, dry and barren for much of the year. The hope is that some sections could be re-contoured to be water catch basins and revegetated with native plants that would cool the pathway as well as make it more inviting. Russ has given the Merced City Bicycle Commission a brief introductory presentation that was received favorably. He is planning to return to the commission at a later date with specifics on promising bike path segments, funding ideas, and organizations that could provide some volunteer workers to assist the city.

It will be interesting to follow the "wake" of Michal Kravčík's U.S. tour and see what projects are attempted and how they fare. We certainly need some new and innovative

options to help address the challenge of providing adequate and sustainable water sources. California should be a natural proving ground since our water crisis is intense and magnified. It does tantalize me to think such a simple and retro solution like the New Water Paradigm of land and water management might be a significant part of the solution. And the really intriguing part is the possibility that if adopted on a large scale it might also help to address the looming consequences of climate change.

You can download for free a pdf copy of *Water for the Recovery of the Climate — A New Water Paradigm*, by M. Kravčík, J. Pokorný, J. Kohutiar, M. Kováč, and E. Tóth (94 pages in an English translation) at <http://www.waterparadigm.org/indexen.php?web=../home/homeen.html>.

Another of Kravčík's publications in English is *A Global Action Plan For The Restoration Of Natural Water Cycles And Climate*, by Michal Kravčík and Jan Lambert, 27 pages and also downloadable for free at [http://www.ludiaavoda.sk/data/files/149\\_kravcik\\_global\\_action\\_plan.pdf](http://www.ludiaavoda.sk/data/files/149_kravcik_global_action_plan.pdf). It is described as "A global plan of climate restoration of the **small water cycle** of regional landscapes, with a goal of decreasing floods, drought, natural disasters, and other undesirable climate changes, and increasing the biodiversity and production potential of all continents, through the introduction of various measures of rainwater retention suitable for all areas of human habitation and usage." Restoration of the small water cycle is a central element in the New Water Paradigm.

In 1999 Michal Kravčík was awarded the Goldman Prize for his work to halt the construction of destructive dam projects in post-communist Slovakia, where he proposed more democratic alternatives, such as smaller dams, decentralized water management, and restored farmlands. To read what Kravčík had to say on California's water crisis in January of 2014, go to the website of the Goldman Environmental Prize, at <http://www.goldmanprize.org/blog/michal-kravcik-reflects-californias-water-crisis/>.



CONTROLLING STORMWATER EROSION IN SLOVAKIA WITH PERMEABLE LOG INTERVENTIONS, A PROJECT OF PEOPLE AND WATER NGO

## Book Review:

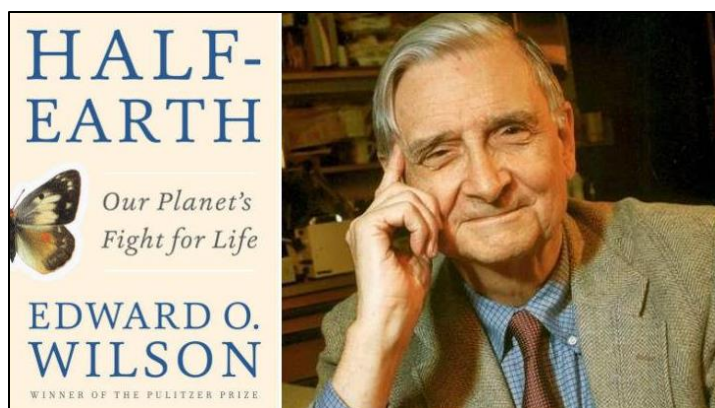
# *Half-Earth: Our Planet's Fight for Life*, by Edward O. Wilson

by Heather Anderson

Our planet is in trouble; it is fighting for its life. Water is getting short, and even food, for a future population of nine billion. Oceans, atmosphere, and species are dying. And now we have global climate change and are almost at the environmental tipping point of no return. E. O. Wilson proposes a Half-Earth policy to save our biosphere and all its species and ecosystems; to commit one-half the planet's surface to nature.

In order to prevent the mass extinction of species, including ourselves, writes Wilson, we need to work quickly to preserve the biodiversity of our planet. He feels that the solution to this huge problem should not be solved little by little, but by one sweeping goal: to save one-half of Earth's surface for nature, and soon. That includes not only vertebrates, but invertebrates, plants, algae, fungi, down to bacteria and other micro-organisms that are the foundation of Earth's ecosystems.

Roughly, five apocalyptic peaks of destruction have occurred on Earth at hundred-million-year intervals, and it takes ten million years of recovery-time from each mass extinction. Elizabeth Kolbert writes in her book, *The Sixth Extinction*, about the current era of destruction humanity has now initiated. Some authors recognize the end of the current Cenozoic, the Age of Mammals, which has seven epochs, including the present Holocene, as now being replaced by a new geological epoch, coined the



Anthropocene, the Epoch of Man.

During our busy lives, we are not too disturbed about the disappearance of a single species, unaware that we have cut an important twig off the Tree of Life. The current rate of extinction of species is about one species per million extinguished species per year. Thus the rate of extinction is a thousand times higher than originally, all due to human activity. As the rate of a species' disappearance drops or vanishes, the extinction of the survivors accelerates. Acting as gods of our environment, we are not very good at it. We are still vulnerable to the survival rule of "threes" used by military and survival trainers. We can endure only 3 minutes without air, 3 hours without shelter in freezing cold, 3 days without water, and 3 weeks without food. We are as weak and dependent on our ecosystem as are other

## Vocabulary

Anthropocene — the proposed name for a new geological epoch in which the entire global environment has been altered by humanity.

biodiversity — the total variation in organisms in past times and present, in locations up to and including the entire planet, and organized at three levels: ecosystems, species comprising the ecosystems, and genes prescribing the traits of the species.

biosphere — all organisms alive in the world at any moment, which together form a thin spherical layer around the planet

ecosystem — a locality with particular physical traits and the distinctive species that live within it, such as a lake, a forest patch, a coral reef, a tree, a tree hole, or your mouth and esophagus.

gene — the basic unit of heredity, encoded by a particular sequence of DNA units.

genus (plural: genera) — a group of species, living or extinct, closely related to one another by all having descended from the same ancestral species.

Half-Earth — the proposal to set aside for nature half the area of Earth's land and half the area of its seas, in order to halt the accelerating extinction of biodiversity.

species — a genetically distinct population or cluster of populations whose members freely interbreed with one another in nature.

Wilson, E. O., *Half-Earth: Our Planet's Fight for Life* (2016), Norton & Company, Inc., New York.



species. There is a law of species interdependency. “The biosphere does not belong to us; we belong to it.”

Each species inherits an ancient plan while on a long journey through evolution. The plan necessitates a large number of breeding individuals for the next generation. Some of the genes may recombine, some may grow and spread, some may dive to extinction. The average life span of a species may be as short as half a million years or as long as tens of millions of years. Each species today is a winner who has never lost, yet. With our relatively powerful minds, we Old World Primates have lived life through hominids to humanity. There may be sixty to eighty thousand species on Earth. Despite exhaustive research, scientists admit to knowing very little about species conservation, and can only commit to study, discuss, plan, and proceed carefully to give Earth’s biodiversity a chance.

There are now organizations and land and marine conservation trends that can make a Half-Earth solution possible, which would protect the world’s natural, scenic,

and historic sites and its species for the present and future of our world population. This can best be done in large sweeps. For example, Brazil’s minister of the environment has already signed legal documents to fund forever, under the Amazon Region Protected Areas program (ARPA), some 51 million hectares, the wildlands’ largest network of protected tropical rain forests. In China, the consumption of shark-fin soup has decreased by 70%, helping endangered populations of sharks to survive. In the United States, the World Parks Congress is proposing to create large marine protected areas (MPAs), where fishing would be forbidden, in our large unprotected open-water system.

Wilderness is our birthplace; our civilizations were built from it. We need a commitment to the rest of wild plant and wildlife. Remember: it took 3.8 billion years to build our beautiful planet, and we know only in part how all its species are linked together in a sustainable balance (as John Muir is quoted to have said in the 1800s). We could be the last species. As stewards of the natural world, Wilson urges, “Do no further harm to the biosphere.”

Edward O. Wilson, the world’s leading expert on ants, is one of the most prominent and respected naturalists of our time. Author of numerous research tomes and popular science books, he has been awarded two Pulitzer Prizes, for *On Human Nature* in 1979, and for *The Ants* in 1991. In his controversial but influential 1975 book, *Sociobiology: The New Synthesis*, he applied lessons learned from studying ants to vertebrates, speculating that evolution has been responsible for many aspects in the social organization of humans. In *Consilience: The Unity of Knowledge* (1998), he demonstrates the unity of the natural and social sciences. Through his writings he portrays the story of life’s evolution as the epic of our time, while sounding the alarm about the danger humanity poses to Earth’s dwindling islands of biodiversity. Wilson suggests that humans are drawn subconsciously to seek connection with other forms of life and with the natural environment, an innate tendency he calls *biophilia*. Thus, the need to preserve the web of life in all its complexity has a primal aesthetic dimension along with its practical necessity. Since both of those reasons are human-centered determinations, however, deep ecologists argue that a higher moral imperative demands we give way for other species who share this planet to exercise their own self-determination in undisturbed natural habitats, their worth as living beings being totally independent of their instrumental utility to human needs.

— Editor





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# TEHIPITE CHAPTER 2018 ANNUAL BANQUET

**“WHY WILDERNESS: A HISTORY OF WILDLANDS PROTECTION EFFORTS, THE CREATION OF THE NATIONAL WILDERNESS SYSTEM, AND THE ON-GOING THREATS TO WILDLANDS”**

George Wuerthner is a professional photographer, writer, and ecologist, and is currently the ecological projects director for the Foundation for Deep Ecology. He has visited hundreds of mountain ranges around the west, over 400 wilderness areas and many more under consideration for future wilderness designation, 200 national park units, including all of them in Alaska, and every national forest west of the Mississippi. He has written 38 books on natural history and other environmental topics.



**GEORGE WUERTHNER IN GATES OF THE ARCTIC NATIONAL PARK & PRESERVE**

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