

POWERFUL IDEAS,
PRACTICAL ACTIONS

yes!

SUMMER 2010
ISSUE 54

Will There Be Enough?

3 BIG IDEAS
TO MAKE
WATER LAST



6 Simple Ways to Bring
the Water Revolution Home

In Dry Times, Organic Food
Is Still the Answer

The Little Town That Sent
a Corporation Packing

Robert Kennedy Jr.:
How to Defend Your Local River



REAL PEOPLE V. CORPORATE "PEOPLE": THE FIGHT IS ON



www.yesmagazine.org

Reprinted from
the "Water Solutions" issue,
Summer 2010

Rex Bizahaloni of the Diné (Navajo) Tribe stands in the river confluence of the Colorado and Havasupai Canyon. The Grand Canyon is a sacred place to many indigenous tribes yet water rights issues and uranium mining threaten the river corridor.

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“WE ARE ALL WATER BABIES. IT’S NEVER TOO LATE TO SAVE THE WORLD.
WHEREVER YOU ARE, TAKE CARE OF THE WATER
—IF YOU REALLY WANT TO LIVE.”

Agnes Baker Pilgrim

*Siletz elder and head of the International 13 Indigenous Grandmothers.
She blesses rivers and water around the world.*



The Water We Need

IT'S HARD TO IMAGINE that Seattle could ever face a water shortage. In my fourth December here, my husband and I bailed buckets of stormwater out of the basement of our 1940s rental house after rain overwhelmed our drains and gutters.

But about three-fourths of the water that flows through Washington state rivers in the spring and summer starts as snow, not rain, and gets stored in the Cascade and Olympic Mountains. The snow melts over a period of months, feeding creeks and rivers, and providing reliable supplies of drinking water, irrigation, and hydropower.

Mountain snow becomes less predictable as the climate warms, melting earlier in the year and leaving less to sustain our waterways in the dry season. In 2005, an unusually warm winter left March snowpacks at one-fourth their normal size. Rivers hit record lows, and our governor declared a drought emergency, which continued through a dry summer. You can't attribute any one event to climate change, but warming temperatures will make droughts like this more common in the Pacific Northwest and across the country.

Meanwhile, we're reaching the limits of many of our water supplies, and both wet and dry regions—from the desert Southwest to New England—are worried about water shortage. For decades, the United States has used big infrastructure—such as dams, drilling, and massive water transfers—to avoid the hard truth that water is finite. Experts like MacArthur Fellow Peter Gleick believe that the United States is heading toward “an era of water scarcity.”

We've also made our communities more vulnerable to global warming's impacts by overusing and degrading our water resources, through destruction of wetlands that buffer us against floods and consumption of water from aquifers faster than it can be renewed.

It's still possible to meet our water needs, even in the face of these converging crises. But it means we need to change our relationship with water.

We can start, as Sandra Postel writes, by “pay[ing] attention to how we value and use water” in our homes and communities. All over the country, communities and citizens are getting involved in water conservation—from repairing leaks to changing showerheads and using rain barrels.

We can take care of the ecosystems that supply our water needs. We can fight to keep pollution out of places like the Catskill-Delaware Watershed, which provides New York City's drinking water, or join groups like the Waterkeepers, which are stopping dam construction on Colorado rivers (page 36). A healthy watershed means more—and cleaner—water for people and wildlife, as a coalition of loggers and ranchers discovered when they began restoring wetlands in the Feather River Watershed in California (page 26).

We can keep water supplies in our collective, public care and out of corporate hands. Citizens in places like Felton, Calif., and Milwaukee are fighting attempts to privatize community water systems (page 38), and around the world, activists are stopping efforts to bottle, sell, and exploit drinking water for profit (page 33).

Throughout history, many cultures have developed traditions that protect water. In coming decades, our security and survival will depend on how well we learn to respect water's essential and irreplaceable role in all of life.

Madeline Ostrander
Senior Editor



www.YesMagazine.org/quotes

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"I love YES! It's The Story of Solutions."

Annie Leonard,
author of *The Story of Stuff*



"I wrote *The Story of Stuff* to show what's wrong with our toxic-laden, consumer-driven society. YES! is The Story of Solutions, of the respectful conversations and collective actions we need, not just to transform this country but the world."

PHOTO BY LANE HARTWELL FOR YES! MAGAZINE

THE STORY OF BOTTLED WATER



Annie Leonard's new movie takes on the bottled water industry. Watch it at:
www.YesMagazine.org/bottled-water

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Healing conversations

When I read Roberto Vargas' article "Everyday Conversations to Heal Racism," I immediately emailed my best friend, a black woman living on the other side of the country, to start such a conversation (I myself am white).

I asked a bunch of questions but really just wanted her to talk openly about her experiences. The first thing she did was thank me for asking. What followed was a series of stories that broke my heart. Even as children, attending the same private Catholic school as I did, she and her brother experienced threats of violence, indifference from teachers, and a complete lack of unity with classmates.

What was even more shocking was that, in our more than

a decade of friendship, I have also said racist things to her without realizing it. These things hurt her but she never risked revealing them to me until now, until I asked her about her experiences. I was ashamed, to say the least; but now I can grow and do something greater: Take her stories with me wherever I go. I have been involved with our local human rights organization for the last year; perhaps this is my opportunity to create a project dedicated to race and cultural awareness.

The point of this letter is to say thank you for an entire issue dedicated to race. Thank you for having the guts to say, on the cover, "What White People Fear."

NICOLE TRIPP
Bend, OR

(White) power shift

As a fellow white male wishing to "claim my full humanity," I am moved to extend Robert Jensen's analysis in "What White People Fear."

I join him in the "struggle to eliminate hierarchy in all forms" and concur that the power dynamics between whites and non-whites must shift, but neither of these visions is possible within the context of "institutions defined by the values and practices rooted in white Europe." These institutions are the vehicles through which the dominant culture derives the bulk of its support. Though white males are ceding a tiny portion of the top of our institutions to others, the "top" will not go away, and the power dynamics (and associated oppressions) will not fundamentally shift unless and until these structures are displaced by very different, community-based alternatives.

Though perhaps a bit more radical, this proposed extension is, I believe, much more realistic and achievable than attempting to force our pyramidal institutions to become something they cannot, because of their essence, become.

JIM TULL
Providence, RI

Losing the Enlightenment?

Multiculturalism is a good thing—it broadens awareness, reduces racism, and shows us the world through new eyes. But there is danger in it, and this is what your multiculturalism issue missed.

Contrary to the essay on what whites fear, what this white liberal fears losing is not domination but the culture of the West, the Enlightenment. The ideas that balance out the horrors of slavery, colonialism and militarism are great ideas. Equality before the law; equality between sexes, races, and religions; a free press and free speech; freedom of religion; the right to petition for redress of grievances; the separation of church and state—these are ideals we do not always live up to, but they are our shared foundation. They—not our wealth or technology—made America great. With them we have the abolitionists, the Marshall Plan, the civil rights movement, the environmental movement, women's suffrage, the public defender, and the right to be free from unreasonable search and seizure.

In pursuit of accommodating other cultures, we



HEY, LOOK! THIS IS NO ORDINARY DULL WHITE PAPER WITH OCCASIONAL IMPERFECTIONS.



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may lose the best of our own. This is why it is so important immigrants learn both English and our foundational political ideas—so they can understand and participate in our democracy.

JOEL GALLOB
Rock Springs, WY

How to fix the world

Yoram Bauman's review of the film *The Yes Men Fix the World* (Winter 2010) stated, "We can't tackle climate change, for example, by nationalizing the oil industry ... does anybody really want the government drilling for oil?" My answer to Bauman? A resounding YES!

If the industry is nationalized, it then becomes a democratic institution, which answers directly to the citizens of the United States—we

control who decides what, and how the profits get spent. The profits go directly into public programs that benefit everyone.

Private oil corporations answer only to the wealthy investors who hold large shares of their companies. The whole point of cap-and-trade systems and carbon taxes is to exert indirect control over oil corporations and hope that they don't find a loophole around it. What's so unreasonable about exerting direct, democratic control over them—ensuring that they change—AND giving U.S. citizens billions of dollars in public funding that could be spent on education, health care, etc., instead of purchasing yachts and country club memberships for oil executives?

JESSE TAYLOR
Sandpoint, ID

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Exploring a graywater renegade's backyard

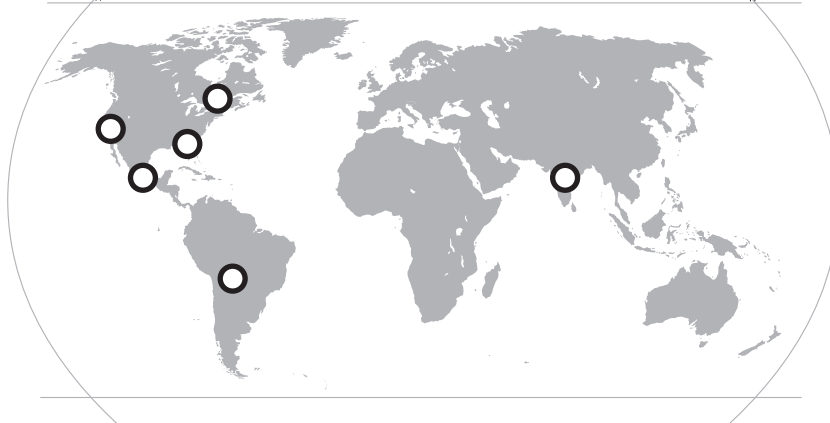
VIDEO: Frances Moore Lappé on *Getting a Grip*
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Signs of Life

SMALL STORIES ABOUT BIG CHANGE



ENVIRONMENT

Climate talks end with People's Agreement

👍 Developing nations and social movements left out of December's climate talks in Copenhagen have issued their own call for change.

The People's Agreement—the culmination of the World People's Conference on Climate Change and the Rights of Mother Earth—demands that wealthy nations cut their carbon emissions and pay a “climate debt” to impoverished countries. The April summit in Cochabamba, Bolivia, convened by Bolivian President Evo Morales, drew more than 30,000 people from around the world.

The three days of workshops and discussion groups, which included substantial representation from indigenous groups, yielded a look at climate justice from the perspective of the Global South, as well as the movement's left flank.

“Humanity confronts a great dilemma: to continue on the path of capitalism, depredation, and death, or to choose the path of harmony with nature and respect for life,” the agreement declares.

According to the Cochabamba

declaration, the climate debt owed to developing nations includes both economic reparations and adaptation payments. The agreement also calls for a new International Tribunal of Conscience to hold wealthy nations accountable.

During last December's talks in Copenhagen, a group of the planet's wealthy nations convened behind closed doors to reach agreement on vague, non-binding goals for reducing carbon emissions, setting the stage for temperature rises well above

the two degree ceiling needed to avoid climate calamity. Although none of those countries sent their top leaders to Bolivia, cabinet-level representatives of 20 nations attended.

Summit leaders plan to take the People's Summit declaration to the next round of U.N.-hosted climate talks in Cancún, Mexico, later this year.

Jim Shultz attended the Cochabamba conference. He is executive director of The Democracy Center.

ALSO ...

A new study from the United



Bolivian President Evo Morales, center, urged the crowd to choose life for the planet. Summit leaders plan to take the People's Agreement to the next round of United Nations talks.

PHOTO BY TREVOR WRIGHT
MEBOBANDSURLY.WORDPRESS.COM



www.YesMagazine.org/cochabamba

Watch our coverage: a climate summit for the rest of us

Nations Environment Programme, *Sick Water*, encourages using wastewater as fertilizer to minimize water pollution. Because wastewater includes many of the same nutrients as fertilizer, proper management can harness the waste to boost food production, rather than contaminate clean water.

In the United States, the Environmental Protection

"IT'S THE SHOT HEARD 'ROUND THE WORLD FOR AMERICAN CLEAN ENERGY."

Ian Bowles, secretary of the Massachusetts Executive Office of Environmental Affairs, on the approval of the nation's first offshore wind farm in Nantucket Sound.



Agency has regulated the use of wastewater as fertilizer as some can contain heavy metals and other toxins.

The UNEP encourages well-planned use of wastewater to ensure crops and groundwater aren't contaminated.

TRANSPORTATION

Roads aren't just for cars anymore

👍 The Americas have lagged behind Europe in promoting bicycle transportation, but recent government efforts may change that.

In the United States, federal Transportation Secretary Ray LaHood announced in March a new policy encouraging cities and states to include the needs of bicyclists and pedestrians in their transit infrastructure planning.

The Department of Transportation will discourage projects that negatively affect bikers and walkers, LaHood added.

In an interview with *The New York Times*, LaHood called the policy a "game changer" as the country searches for more sustainable choices.

"It's what Americans want," LaHood said. "It's a game changer because people do want to get out of congestion, they want to get out of their cars, they want to be able to enjoy the outdoors, they want to be able to recreate with their families."

The projects range from accommodating bikes and pedestrian paths on bridges to tracking bike trips and keeping

sidewalks and paths free of snow.

Cycling advocates praised the new policy, as it expands the focus of the Department of Transportation beyond motorized vehicles and recognizes that "[t]ransportation programs and facilities should accommodate people of all ages and abilities, including people too young to drive, people who cannot drive, and people who choose not to drive."

Meanwhile, Mexico City officials are piloting a bike-sharing program to reduce congestion

and pollution. In a city with 4 million vehicles, only 1 percent of trips are made by bike. The program, still in its early stages, offers more than 1,000 bikes at stations around town. Officials hope to increase trips to 5 percent of the daily traffic.

The Mexican program is modeled after those in Copenhagen and Paris. People who enroll in the program pay an annual fee and get a card they can swipe at any of the stations. Cyclists pay a nominal fee for each hour they ride.

Jeff Raderstrong is a Washington, D.C.,

writer who blogs at changecharity.blogspot.com

ALSO ...



Los Angeles Mayor Antonio Villaraigosa wants to speed up construction of 12 light rail lines throughout the metropolitan area. Voters in 2008 approved a half-cent sales-tax hike to fund the project over 30 years. According to *The Wall Street Journal*, Villaraigosa has asked the federal government for \$9 billion up front. That way, the mayor said, the project could be complete in 10 years.



PHOTO BY SARA CROSS

Travis Wittwer loads his sons and his groceries into his cargo bike for the trip home. Travis is a teacher and stay-at-home dad in Portland, Ore. He writes the blog "Wheel American Family" at ecometro.com.



www.YesMagazine.org/wittwer

Photo essay of the biking Wittwer family



TRANSPARENCY

In India, fake money is payback

👍 Paying bribes to officials at all levels of government is common in India, but an advocacy group for the poor came up with a way to fight back: Make money worth nothing more than the paper it is printed on.

The organization 5th Pillar distributes the zero rupee “protest note” to low-income citizens who can’t afford to pay the daily bribes demanded from them.

The fake currency looks similar to a 50-rupee bill but features a zero for the denomination and the pledge, “I promise to neither accept nor give a bribe.” Volunteers give out the bills anywhere an official would be looking for a handout, such as hospitals or railway stations.

According to Britain’s *Telegraph*, more than 1 million zero-rupee notes have been printed in five languages. Soliciting bribes is an imprisonable offense in India, but most citizens comply with the requests to avoid problems. Zero-rupee supporters say the bill is designed to be handed to anyone who asks for a bribe and is a simple way to stand against corruption.

Transparency International’s annual report estimates 4 million Indians pay bribes each year for licenses and other basic services, according to the *Telegraph*.

—Jeff Raderstrong

ECONOMY

More states may create public banks

👍 By 2011, only one state will have escaped the credit crunch that is pushing other states toward insolvency: North Dakota. North Dakota is also the only state that owns its own bank. The state has its own credit machine, making it independent of the Wall Street banking crisis that has infected the rest of the country.

Now, several states are either studying the prospects of a state-owned bank or are considering legislation to make one possible.

Five states have bills pending—Massachusetts, Washington, Illinois, Michigan, and Virginia. In April, documentary filmmaker and Virginia resident Bill Still showed his new award-winning documentary on the topic, *The Secret of Oz*, to the Missouri House of

Representatives. Rep. Allen Ictet, a candidate for state auditor, proposed using the Virginia proposal as part of a study on a state bank in Missouri and said he would hold committee hearings this summer.

Also in mid-April, the Hawai’i House approved a resolution asking the state to study the possibility of establishing a state-run bank there. State Rep. Marcus Oshiro, a Democrat who chairs the finance committee, called a state-run bank a “reasonable public option” to spur development and hold state funds.

Other state legislatures entertaining proposals for forming state-owned banks include New Mexico and Vermont. Candidates in eight states are running on a state-owned bank platform: three Democrats, two Greens, two Republicans, and one Independent.

Ellen Brown is an attorney and the author of 11 books, including *Web of Debt*, webofdebt.com

HUMAN RIGHTS

Canada frees up foreign aid

👍 Canadian officials have announced plans to untie foreign aid by 2012–2013.

The practice of “tying” aid is common to many developed nations, including the United States: Most countries insist that a major proportion of their foreign assistance be used to purchase products and services from the donor nation.

The United Nations reported in 2004 that tying aid cuts its value by 25 percent to 40 percent, harming local producers and farmers who can’t compete with cheap or free imports from the developed world.

After lobbying efforts by Engineers Without Borders, among other organizations, Canada in 2008 decided to take a first step toward effective foreign aid, when the Canadian International Development Agency (CIDA) announced a complete untying of all food assistance. So development assistance for food projects—CAS230 million in 2008—could pay for food from anywhere, not just Canada. That means food aid destined for one developing country, for example, could come from another country on the same continent, using local infrastructure and labor and boosting that economy, rather than Canada’s.

Organizations such as Oxfam America are organizing similar efforts to make U.S. aid accountable to the global poor.

—Jeff Raderstrong

Interested? oxfamamerica.org/campaigns/aid-reform

Farmworkers rally for higher pay

👍 Workers’ rights activists who took on fast-food giants such as McDonald’s and Subway are now battling one of the largest supermarket chains in America, Florida-based Publix.

The Coalition of Immokalee Workers (CIW)—a farmworkers

“THE ANGST AND TREPIDATION IN OUR COMMUNITIES IS UNPRECEDENTED. ... THIS IS OUR SELMA.”

The Rev. Samuel Rodriguez,
head of the National Hispanic Christian Leadership Conference,
at the March for America immigration rally in Washington, D.C.



rights group from the South Florida town—is demanding that Publix pay a penny more for each pound of tomatoes that workers pick. In April, hundreds of farmworkers joined other supporters in a 22-mile march through Florida, ending in Lakeland, the headquarters of Publix.

The penny-per-pound increase would almost double workers' daily pay—currently about \$50 for picking an average of 4,000 pounds of tomatoes per day. Along with demands for higher pay, CIW—which is made up mostly of Mexican, Guatemalan, and Haitian immigrants—has been educating the public on the human-rights abuses migrant workers face. Employers are required by law to pay farmworkers minimum wage, but CIW co-founder Lucas Benitez told WUSF-FM that many growers find ways around the regulation.

The push against Publix is a part of CIW's "Campaign for Fair Food," which started in 2001. Since then, McDonald's, Subway, Burger King, KFC, and others have agreed to the penny-per-pound hike. Publix would be the ninth company to do so.

In an interview with WUSF, a Publix spokeswoman said that farmworkers' complaints should be directed at their employers, not the grocery store.

—Jeff Raderstrong

Interested? ciw-online.org

ALSO ...

The 2010 U.S. Census will count gay, lesbian, and transgender couples who identify themselves as "husband or wife" on

the form. Whether they have been legally married will not be a factor; the Census Bureau will count the data as marked. The form also provides a box labeled "unmarried partner" for heterosexual and homosexual couples.

In data reported to the public following the 2000 Census, gay and lesbian couples were counted as unmarried partners only, citing the federal Defense of Marriage Act.

According to a Census Bureau fact sheet, the 2010 count is the first to report counts of same-sex spouses.

HOUSING

Public housing goes green

Throughout the last year, green public housing projects have been built or proposed in several major cities, including New York, Chicago, Boston, and San Francisco. Most of the projects are apartments for formerly homeless and low-income residents and use low-flow water fixtures and energy-saving light bulbs. Many of the projects retrofit existing buildings.

Congress designated \$4 billion in the stimulus bill to

increase the energy efficiency of public housing, building on a 2008 announcement from the U.S. Department of Housing and Urban Development (HUD) that encouraged the use of green technology and green strategies in public housing developments.

Enterprise, a nonprofit working on affordable housing, has laid out a plan to raise another \$4 billion for affordable housing by 2014. The organization maintains corporate partnerships and other investments.

On average, public housing agencies spend about 25 percent of their operating costs on utilities, according to HUD.

—Jeff Raderstrong



WHEDCO.ORG

The largest multi-family, EnergyStar, affordable housing development in the nation, Intervale Green in New York's South Bronx is 128 units of housing for low-income and formerly homeless families. With homes that are 33 percent more efficient than conventional apartments, residents living in Intervale are expected to spend 30 percent less on utility bills, easing the burden on low-income families already struggling during difficult economic times.

People We Love



MONICA BEEMER
*Advocating for
the homeless*

WHEN Monica Beemer arrived at Sisters of the Road in 2001, the Portland, Ore., nonprofit café was serving 250 low-cost meals per day but was losing \$100,000 per year. With Beemer at the helm, Sisters continues to feed the hungry but hasn't reported a loss in the past four years and now pays its 30-person staff better wages.

Beemer has increased Sisters' visibility around Portland, advocating at city hall for solutions to homelessness and fostering relationships with the 8,000 donors who contribute some 70 percent of the organization's budget. "We're not a charity model," says Beemer, a former Jesuit volunteer and founder of the state's first day care for children and seniors. "We're a community organizing model."

Now in its 31st year, Sisters provides guests a meal in exchange for a nominal fee or simple chores. This way, "their work and their being are valued," Beemer says.



DONNA EDWARDS
*Standing against
corporate power*

AFTER THE Supreme Court's *Citizens United v. Federal Election Commission* ruling, Congresswoman Donna Edwards, D-Md., introduced a constitutional amendment that would undo court-made law stating that corporations have the same rights as people.

"It is time we remove corporate influence from our policies and our politics," said Edwards. "We cannot allow corporations to dominate our elections. To do so would be both undemocratic and unfair to ordinary citizens."

The amendment has nearly two dozen co-sponsors, but it will need a two-thirds vote in the House and Senate, and ratification by three-fourths of the states, to become law.

Edwards has long worked for democracy and environmental and social justice. She is a former executive director of the Arca Foundation, which campaigns to end capital punishment and protect Social Security.

www.YesMagazine.org/edwards
Sarah van Gelder interviews
Donna Edwards



DIANA LOPEZ
*Growing Roots of
Change for community*

DIANA LOPEZ spent three years raking through broken glass, needles, condoms, and other rubble to transform what used to be a bar into a community garden.

Her neighborhood on the east side of San Antonio was a "food desert," without grocery stores or fresh produce. She believed a garden could help solve this problem and serve as an educational hub, connecting San Antonians to their agricultural heritage. With that, Lopez, environmental justice organizer for the Southwest Workers' Union, teamed with her SWU colleagues, and Roots of Change was born.

Lopez, 21, won a Brower Youth Award for, among other things, her leading role in the Roots of Change renovation, which has inspired other community gardens. One local high school uses its garden as an "outdoor classroom," teaching students environmental justice and food policy.

 www.YesMagazine.org/dlopez
About Diana Lopez's work



MYRIAM MERLET
*In memoriam:
a Haitian feminist*

"WHILE I WAS abroad I felt the need to find out who I was and where my soul was. I chose to be a Haitian woman," wrote author-activist Myriam Merlet in a 2001 essay.

One of the few women ever to lead a Haitian government office, Merlet, 53, died in the January 2010 earthquake in Port-au-Prince.

Born in Haiti, Merlet in the 1980s began fighting violence against women and in 1994 helped to establish a government agency: the Ministry of Women's Affairs and Women's Rights.

"There's enormous violence and oppression but there's also feisty women activists and leadership," says Merlet's close friend, American feminist and playwright Eve Ensler.

In 2001, Merlet partnered with Ensler and V-Day to bring to Haiti Ensler's play *The Vagina Monologues*. A few years later, the two helped establish a safe house in Port-au-Prince for homeless and abused women. The safe house survived the quake.

COMMENTARY :: Adrienne Maree Brown

A PERSONAL INVITATION TO THE US SOCIAL FORUM

I want to make a personal invitation to you to come to Detroit June 22-26 for the US Social Forum.

My organization, The Ruckus Society, has been a part of the social forum process since the first US Social Forum (USSF) in Atlanta in 2007. Many others were moving it before we got involved. Initially we came just to help with the opening march and security. But as we got involved, we became believers. It's a brilliant process that is challenging for U.S. organizers—we come together in open space to share and learn best practices for movement building, get inspired, connect across work and distance, and see ourselves as part of a larger force. It's that open horizontal structure, instead of the usual series of top-down aspirational speakers, that allows the deeper relationships and movement building to happen.

Here's my brief, heartfelt list of reasons to come to Detroit to participate in the 2010 USSF:

COME BECAUSE YOU LONG FOR MOVEMENTS that bring dignity to all people, power and plenty to all communities, and make life worth living. The USSF is a self-organized, decentralized process, so the experience itself teaches us patience. The beauty of it is that everyone who comes to this gathering wants another world and is working to bring it into being. Come to share the alternatives you are trying in your community and to learn what others are doing that is working.

COME BECAUSE YOU ARE INTERESTED in what happens in other countries—maybe you talk about global movements for change, or far-off wars that the United States is funding and instigating. Maybe you're inspired by the amazing horizontal and participatory democratic processes happening in Latin America, or the greening of Cuba. Maybe you've donated to save the rainforests in Brazil or stop the genocide of Tibetan culture, or you've talked about how to resolve the conflict in occupied Palestine. The Global South began the social forum process and has invited us into it. Come to the USSF and see what it's like to stretch our U.S. understanding of how movement building happens, to listen to each other in new ways, and to build horizontal, rather than hierarchical, community structures.

COME BECAUSE DETROIT IS YOUR FUTURE. When you weren't looking, Detroit was experiencing the downfall of capitalism, and now it's in the process of reimagining and rebuilding itself. Perhaps because the divestment of industry has been so long-lasting and complete, Detroit also has



*I now have the same glowing personality
with only 1/10th the effort!*

RICHARD HOWELL

www.YesMagazine.org/cartoon for more reader captions

alternatives, solutions, and visions in practice for you to come bear witness to, get inspired by, emulate, partner with, and proliferate: 800 community gardens and counting; Peace Zones where community members call on mediators instead of police to resolve conflicts; intergenerational, relational, small-scale, collective organizing models; most importantly, organizing efforts that are not driven by, or dependent on, the fickle promises of politicians. I moved to Detroit last year because it is so liberating to experience an organizing culture where folks realize that the community drives the process and is accountable for its success or failure. Come to the Forum because it is in Detroit.

One thing is clearer to me every day: The more humility you bring to the Forum, the more you will get out of it. If you are used to conferences being a lot of one-way experiences—you present, or you get presented to—come prepared to pollinate, dialogue, and put your hands in the dirt on one of the many Detroit Work Projects. Come to the USSF with an open mind to learn, lessons you are excited about sharing, and the belief that the relationships you form here could liberate your community from oppression and opposition.

From me, to you—I hope to see you in Detroit in June. ♾



Adrienne Maree Brown is national coordinator for the US Social Forum (www.ussf2010.org). She is on the board of Allied Media and is director of The Ruckus Society, a network that supports nonviolent community-based direct action.

How to get to the USSF? www.yesmagazine.org/go-to-detroit

Percentage by which the wild tiger population has decreased since 1900: **95**¹

Number of tigers believed to exist in the wild today: **3,200**

Number of tigers estimated to be in captivity in the United States: **5,000**

Percentage of tigers in the United States in zoos and other facilities accredited by the Association of Zoos and Aquariums: **6**

Approximate number of times larger the U.S. prison population is today than it was 30 years ago: **5**²

Number of New York City residents incarcerated in upstate New York prisons: **43,740**³

Number of New York state senate districts that would need to be redrawn if prisoners were counted where they were from instead of where they are held : **7**

Number of states that had completely refused federal stimulus money as of February 2010: **18**⁴

Florida's approximate unemployment rate in February 2010: **12%**

Amount of federal money Florida could receive but has declined: **\$444.3 million**⁵

Least amount it would cost Florida per year to expand unemployment benefits to qualify for the money: **\$73.7 million**

Average number of deaths per year in the United States from 1996-2006: **2,431,233**⁶

Number of organ donors in 2009 reported as of March 26, 2010 : **14,631**⁷

Number of candidates waiting for organ transplants reported as of March 31, 2010: **106,729**

Number of identified species, according to the world's most comprehensive list of plants and animals: **1.9 million**⁸

Number of species that have been added to the list since it was compiled by Australian researchers in 2006: **114,000**

Percentage of mammals that are endangered, according to the International Union for Conservation of Nature: **21**⁹

Percentage of amphibians that are endangered, according to the International Union for Conservation of Nature: **29**

Percentage of Americans who believe one of the country's greatest assets is its military's strength and superiority: **14**¹⁰

Percentage who cite military unpreparedness, lack of security from terrorism, and involvement in wars as a national weakness: **15**

Percentage who believe the American people themselves are one of the greatest assets: **35**

Number of 2008 U.S. House candidates, out of 435, who won despite being outspent by their competitors: **32**¹¹

Number of 2008 U.S. Senate candidates, out of 35, who won despite being outspent by their competitors: **5**

Odds that a challenger who spent less than \$1 million would beat a U.S. House incumbent in the 2008 election: **302:1**¹²

Number of applications Teach for America received from college seniors in 2009: **35,000**¹³

Number of individuals Teach for America accepted in 2009 (a record): **4,100**

Complete citations at www.yesmagazine.org/ptc

1. World Wildlife Fund. 2. Bureau of Justice Statistics. 3. Prison Policy Initiative. 4. Alan Greenblatt, NPR, Feb.17, 2010. 5. Agency for Work-force Innovation. 6. U.S. National Center for Health Statistics. 7. U.S. Department of Health & Human Services. 8. Number of Living Species in Australia and the World, 2nd ed. 9. International Union for Conservation of Nature's 2009 Survey. 10. Lydia Saad, USA Today/Gallup, Jan. 8-10, 2010. 11. Douglas Weber, March 11, 2010. 12. Center for Responsive Politics. 13. Teach for America.

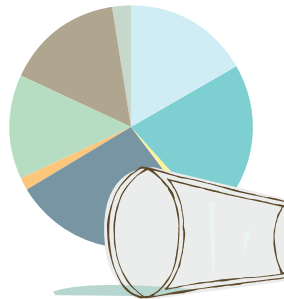
How To Make Water Last

Only a tiny fraction of Earth's water is available as fresh water. We're already at the limits of supply in parts of the United States. But even with climate change and growing populations, there's enough for everyone if we work together to keep it clean, use it wisely, and share it fairly.



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Will There Be Enough? Dams and drills can't create new water. Time to start working with nature.



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Just the Facts: How Much Do We Use? More than any other country, it turns out. And we could save a lot.



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Watershed Moments. How to take care of our water, share it, and live within our means.



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Save Wildlife, Save People. Restoring mountain meadows makes up for disappearing snowpack.



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River Rescue. Citizen Waterkeepers protect their local waters.



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The Town That Beat a Corporation. Felton, Calif., took back its water supply—and your town can too.



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Food in Dry Times. An old North Dakota farm is a laboratory for growing food when water runs short.



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Bring the Water Revolution Home. Live large on dishwater, save your rain, and cozy up to your creek.



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Ancient Water Traditions. These communities still preserve and share scarce desert water.

Will There Be Enough?

HOW TO CHANGE OUR HABITS TO MAKE WATER LAST



Sandra Postel

For at least three decades, Americans have had some inkling that we face an uncertain energy future, but we've ignored a much more worrisome crisis—water. Cheap and seemingly abundant, water is so common that it's hard to believe we could ever run out. Ever since the Apollo astronauts photographed Earth from space, we've had the image of our home as a strikingly blue planet, a place of great water wealth. But of all the water on Earth, only about 2.5 percent is freshwater—and two-thirds of that is locked up in glaciers and ice caps. Less than one hundredth of one percent of Earth's water is fresh and renewed each year by the solar-powered hydrologic cycle.

Across the United States and around the world, we're already reaching or overshooting



Humans need five to
13 gallons of clean water a
day for basic needs.



PHOTO BY NAOMI FROST
NAOMIFROST.BLOGSPOT.COM

the limits of that cycle. The Colorado and Rio Grande Rivers are now so overtapped that they discharge little or no water to the sea for months at a time. In the West, we're growing food and supplying water to our communities by overpumping groundwater. This creates a bubble in the food economy far more serious than the recent housing, credit, or dot-com bubbles: We are meeting some of today's food needs with tomorrow's water.

The massive Ogallala Aquifer, which spans parts of eight states from southern South Dakota to northwest Texas, and provides 30 percent of the groundwater used for irrigation in the country, is steadily being depleted. As of 2005, a volume equivalent to two-thirds of the water in Lake Erie had been pumped out of this water reserve. Most farmers will stop irrigating when the wells run dry or the water drops so far down that it's too expensive to pump.

At the same time, climate change is rewriting the rules about how much water we'll have available and when. Climate scientists warn of more extreme droughts and floods, and of changing precipitation patterns that will make weather, storms, and natural disasters more severe and less predictable. The historical data and statistical tools used to plan billions of dollars worth of annual global investments in dams, flood control structures, diversion projects, and other big pieces of water infrastructure are no longer reliable.

While farmers in the Midwest were recovering from the spring flood of 2008 (in some areas the second "100-year flood" in 15 years), farmers in California and Texas fallowed cropland and sent cattle prematurely to slaughter to cope with the drought of 2009. In the Southeast, after 20 months of dryness, Georgia Governor Sonny

Perdue stood outside the State Capitol in November 2007 and led a prayer for rain, beseeching the heavens to turn a spigot on for his parched state. Two years later, Perdue was pleading instead for federal aid after intense rain storms near Atlanta caused massive flooding that claimed eight lives.

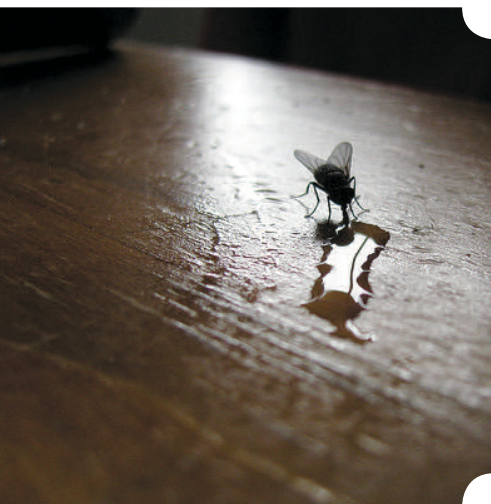
Although none of these disasters can be pinned directly on global warming, they are the kinds of events climate scientists warn will occur more often as the planet heats up. It's through water that we'll feel the strains of climate change—when we can no longer count on familiar patterns of rain, snow, and river flow to irrigate our farms, power our dams, and fill our city reservoirs.

In answer to the climate crisis, the economy will need to move away from fossil fuels toward solar, wind, and other non-carbon energy sources. But there is no transitioning away from water. Water has no substitutes. And unlike oil and coal, water is much more than a commodity: It is the basis of life. A human being can only live for five to seven days without water. Deprive any plant or animal of water, and it dies. Our decisions about water—how to use, allocate, and manage it—are deeply ethical ones; they determine the survival of most of the planet's species, including our own.

Shifting Course

For most of modern history, water management has focused on bringing water under human control and transferring it to expanding cities, industries, and farms. Since 1950, the number of large dams worldwide has climbed from 5,000 to more than 45,000—an average construction rate of two large dams per day for half a century. Globally, 364 large water-transfer projects move 105 trillion gallons of water annually from one river basin to another—equivalent to transferring the annual flow of »

THE UPSHOT OF THIS SHIFT IN THINKING IS A NEW MOVEMENT IN WATER MANAGEMENT THAT IS MUCH MORE ABOUT IDEAS, INGENUITY, AND ECOLOGICAL INTELLIGENCE THAN IT IS ABOUT BIG PUMPS, PIPELINES, DAMS, AND CANALS.



» 22 Colorado Rivers. Millions of wells punched into the Earth tap underground aquifers, using diesel or electric pumps to lift vast quantities of groundwater to the surface.

Big water schemes have allowed oasis cities like Phoenix and Las Vegas to thrive in the desert, world food production to expand along with population, and living standards for hundreds of millions to rise. But globally they have also worsened social inequities, as poor people are dislocated from their homes to make way for dams and canals, and as downstream communities lose the flows that sustained their livelihoods.

Such approaches also ignore water's limits and the value of healthy ecosystems. Today, many rivers flow like plumbing works, turned on and off like water from a faucet. Fish, mussels, river birds, and other aquatic life no longer get the flows and habitats they need to survive: 40 percent of all fish species in North America are at risk of extinction.

As we face the pressures of climate change and growing water demands,

many leaders and localities are calling for even bigger versions of the strategies of the past. By some estimates the volume of water moved through river transfer schemes could more than double globally by 2020. But mega-projects are risky in a warming world where rainfall and river flow patterns are changing in uncertain ways.

Such big projects also require giant quantities of increasingly expensive energy. Pumping, moving, treating, and distributing water takes energy at every stage. Transferring Colorado River water into southern California, for example, requires about 1.6 kilowatt-hours (kWh) of electricity per cubic meter (about 264 gallons) of water; the same quantity of water sent hundreds of kilometers from north to south through California's State Water Project takes about 2.4 kWh. As a result, the energy required to provide drinking water to a typical southern California home can rank third behind that required to run the air conditioner and refrigerator.

Planners and policy-makers are eyeing desalination as a silver-bullet solution to water shortages. But they miss—or dismiss—the perverse irony: By burning more fossil fuels and by making local water supplies more and more dependent on increasingly expensive energy, desalination creates more problems than it solves. Producing one cubic meter of drinkable water from salt water requires about 2 kWh of electricity.

Water for People and Nature

As the limitations of big-infrastructure strategies have become more apparent, a vanguard of citizens, communities, farmers, and corporations are thinking about water in a new way. They're asking, what do we really need the water for, and can we meet that need with less? The upshot of this shift in thinking is a new movement in water management that is much more about ideas, ingenuity, and ecological intelligence than it is about big pumps, pipelines, dams, and canals.



60 percent of the world's fresh water comes from rivers shared by at least two countries.



www.YesMagazine.org/drink

It's everybody's water—watch the video



FROM LEFT, PHOTOS BY PAULINA RUIZ, CORY GENOVESE, MARINÉ PÉREZ, ELLY HO, BIANCA PREUSKER, SOHRAB ARORA

These solutions tend to work with nature, rather than against it. In this way, they make effective use of “ecosystem services”—the benefits provided by healthy watersheds and wetlands. And through better technologies and more informed choices, they seek to raise water productivity—to make every drop count.

Communities are finding, for example, that protecting watersheds is the best way to make sure water supplies are clean and reliable. A healthy watershed can do the work of a water treatment plant—filtering out pollutants, and at a lower cost to boot. New York City, for instance, is investing some \$1.5 billion to restore and protect the Catskill-Delaware Watershed (which supplies 90 percent of its drinking water) in lieu of constructing a \$6 billion filtration plant that would cost an additional \$300 million a year to operate. A number of other cities across the United States—from tiny Auburn, Maine, to Seattle—have saved hundreds of millions of dollars in avoided

capital and operating costs by opting for watershed protection over filtration plants.

Communities facing increased flood damage are achieving cost-effective flood protection by restoring rivers. After enduring 19 flood episodes between 1961 and 1997, Napa, Calif., opted for this approach over the conventional route of channelizing and building levees. In partnership with the U.S. Army Corps of Engineers, the \$366 million project is reconnecting the Napa River with its historic floodplain, moving homes and businesses out of harm's way, revitalizing wetlands and marshlands, and constructing levees and bypass channels in strategic locations. In addition to increased flood protection and reduced flood insurance rates, Napa residents will benefit from parks and trails for recreation, higher tourism revenues, and improved habitat for fish and wildlife.

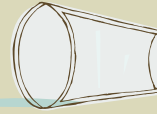
Similarly, communities facing increased damage from heavy

stormwater runoff can turn roofs, streets, and parking lots into water catchments. Portland, Ore., is investing in “green roofs” and “green streets” to prevent sewer overflows into the Willamette River. Chicago now boasts more than 200 green roofs—including atop City Hall—that collectively cover 2.5 million square feet, more than any other U.S. city. The vegetated roofs are providing space for urban gardens and helping to catch stormwater and cool the urban environment.

Many communities are revitalizing their rivers by tearing down dams that are no longer safe or serving a justifiable purpose. Over the last decade more than 500 dams have been removed from U.S. rivers, opening up habitat for fisheries, restoring healthier water flows, improving water quality, and returning aquatic life to rivers. In the 10 years since the Edwards Dam was removed from the Kennebec River near Augusta, Maine, populations of alewives and striped bass have returned in astounding numbers, reviving a

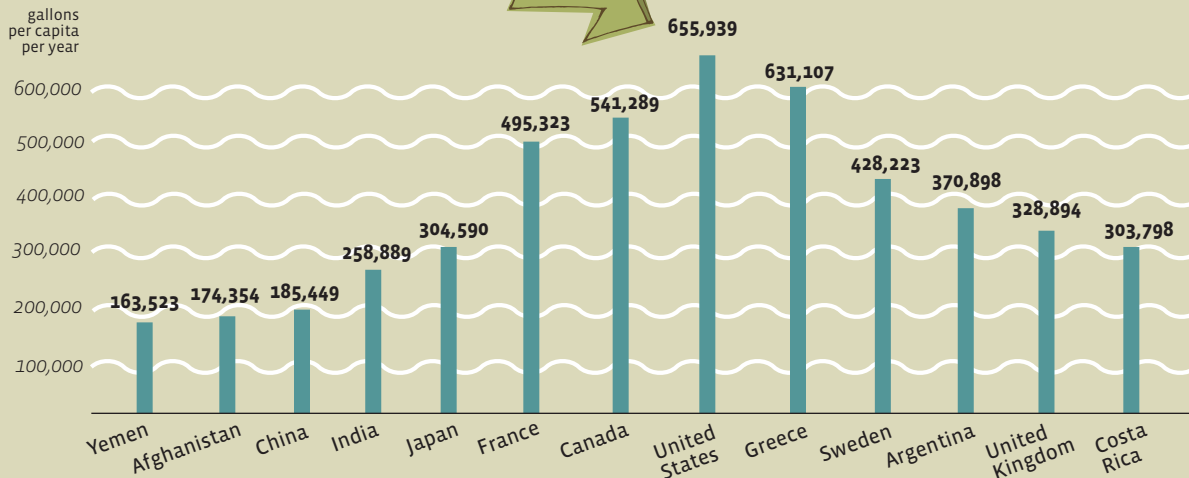


Just the Facts



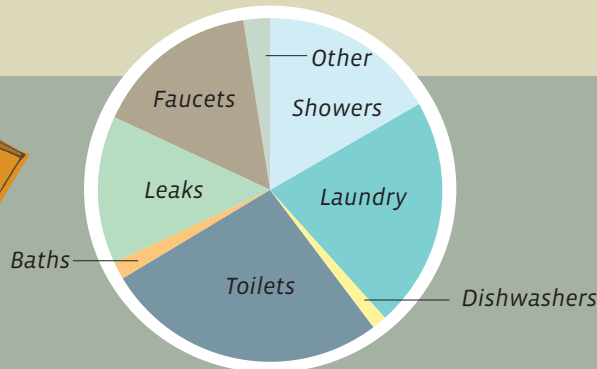
A water footprint is the water you use directly—for things like drinking, bathing, and laundry—plus the water used to make the products and energy you use and to grow food. Below is a sampling of countries' per capita annual water footprint. The world's biggest is the **United States**; the world's smallest is **Yemen**.

U.S. Water Footprint



Indoor Water Use

In the U.S., indoor direct use for the average person is **69.3 gallons** a day. Here's how that breaks down:



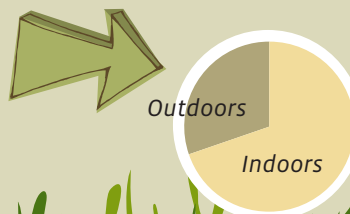
In the U.S. each day ...

By comparison, that's how much a person uses for everything in ...

Showers 11.6 gallons	Laundry 15.0 gallons	Toilets 18.5 gallons	Baths 1.2 gallons	Leaks 9.5 gallons	Faucets 10.9 gallons
Bangladesh	Pakistan	China	Somalia	Afghanistan	Paraguay

Outdoor Water Use

Direct use for a family of four in the United States is **400 gallons** a day. 30 percent of that is for outdoor use: **30 gallons** per person. That's how much a person uses for everything in: **Algeria**



Source citations for this issue at www.yesmagazine.org/citations54

RESEARCH BY BERIT ANDERSON

YES! MAGAZINE GRAPHIC, 2010



Desalination plants produce less than 0.5 percent of the water used in the world.

» recreational fishery that adds \$65 million annually to the local economy.

Conservation remains the least expensive and most environmentally sound way of balancing water budgets. Many cities and towns have reduced their water use through relatively simple measures like repairing leaks in distribution systems, retrofitting homes and businesses with water-efficient fixtures and appliances, and promoting more sensible and efficient outdoor water use. Motivated by a cap

As individuals, we'll also need to make more conscious choices about what and how much we consume. Some products and foods—especially meat—have a high water cost. It can take five times more water to supply 10 grams of protein from beef than from rice. So eating less meat can lighten our dietary water footprint (while also improving our health). If all U.S. residents reduced their consumption of animal products by half, the nation's total dietary water

policies to “solve” one problem simply make the other one worse. For example, the 2007 congressional mandate to produce 15 billion gallons of corn ethanol a year by 2015 would require an estimated 1.6 trillion gallons of additional irrigation water annually (and even more direct rainfall)—a volume exceeding the annual water withdrawals of the entire state of Iowa. Even solar power creates a demand for water, especially some of the big solar-thermal power plants slated for

IF ALL U.S. RESIDENTS REDUCED THEIR CONSUMPTION OF ANIMAL PRODUCTS BY HALF, THE NATION'S TOTAL DIETARY WATER REQUIREMENT IN 2025 WOULD DROP BY A SAVINGS EQUAL TO THE ANNUAL FLOW OF 14 COLORADO RIVERS.

on groundwater pumping from the Edwards Aquifer in south-central Texas, San Antonio has cut its per capita water use by more than 40 percent, to one of the lowest levels of any Western U.S. city. Even more impressive, a highly successful conservation program started in 1987 in Boston cut total water demand 43 percent by 2009, bringing water use to a 50-year low and eliminating the need for a costly diversion project from the Connecticut River.


But the potential for conservation has barely been tapped. It is especially crucial in agriculture. Irrigation accounts for 70 percent of water use worldwide and even more in the western U.S., so getting more crop per drop is central to meeting future food needs sustainably. In California, more farmers are turning to drip irrigation, which delivers water at low volumes directly to the roots of crops. Between 2003 and 2008, California's drip and micro-sprinkler area expanded by 630,000 acres, bringing its total to more than 2.3 million acres—62 percent of the nation's total area under drip irrigation.

requirement in 2025 would drop by 261 billion cubic meters per year, a savings equal to the annual flow of 14 Colorado Rivers.

We'll need to change how we use water in and around our homes and neighborhoods. Turf grass covers some 40.5 million acres in the United States—an area three times larger than any irrigated farm crop in the country. Particularly in the western United States, where outdoor watering typically accounts for 50 percent or more of household water use, converting thirsty green lawns into native drought-tolerant landscaping can save a great deal of water. Las Vegas now pays residents up to \$1.50 for each square foot of grass they rip out, which has helped shrink the city's turf area by 125 million square feet and lower its annual water use by 7 billion gallons. Albuquerque, New Mexico, has reduced its total water use by 21 percent since 1995, largely through education and rebates to encourage water-thrifty landscapes.

Energy and water are tightly entwined, and all too often public

the sunny Southwest.

It's still possible to have a future in which all basic food and water needs are met, healthy ecosystems are sustained, and communities remain secure and resilient, even in the face of climate disruptions. Just as the economic crash is forcing Americans to reassess what they value financially, the water crisis requires us to pay attention to how we value and use water. Across the country, communities will need to learn to take care of the ecosystems that supply and cleanse water, to live within their water means, and to share water equitably. 



Sandra Postel is director of the Global Water Policy Project, a fellow of the Post Carbon Institute and the first freshwater fellow of the National Geographic Society. She is the author of numerous books and articles, including the award-winning *Last Oasis: Facing Water Scarcity*, which became the basis of a PBS documentary.

This article is an adaptation of a longer essay from *The Post Carbon Reader: Managing the 21st Century's Sustainability Crises*, forthcoming in Fall 2010 from Watershed Media. Full citations for this article at www.yesmagazine.org/yes54postel



Restoring the Wild

WHY MORE WATER FOR WILDLIFE MEANS MORE WATER FOR PEOPLE

Jane Braxton Little

Jim Wilcox is sitting on a rock near a quarter-acre pond watching a pair of willow flycatchers flit in and out of the brush across the water. The 15-inch rainbow trout he spied a week ago does not flash on this summer morning, but Wilcox knows it's down there somewhere beneath the surface.

He allows himself a small smile. Three years ago his pond-side perch was in the middle of a sagebrush field high in the headwaters of California's Feather River, 170 miles northeast of Sacramento. Red Clover Creek trickled through in a braided network of rutted gullies.

A century of logging, road-building, and intensive overgrazing had reduced this and other meadows throughout the Sierra Nevada to baked and barren flats. Today the stream meanders through a meadow lush with native grasses and small ponds.



PHOTOS BY JANE BRAXTON LITTLE



Lake Mead, Nev., has a \$1 billion a year tourism and recreation industry. There's a 50-50 chance the lake will be dry by 2050.

Left, the restored Red Clover Creek. Jim Wilcox, below, is among those who have worked for 25 years to improve the land and water that runs through the Feather River watershed.

Wilcox, a former logger, is part of a 25-year effort to restore all of the meadows within the upper Feather River basin, an area larger than Delaware. As program manager for the Feather River Coordinated Resource Management group, he works with ranchers, timber owners, anglers, and federal and state agency officials—anyone who shares an interest in improving the land and the water that cascades down to the Sacramento Valley and the delta that empties into San Francisco Bay. At a time when climate change is putting unprecedented pressure on water supplies, these mountain meadows may be a first step in preserving both the environment and the economy. Restoring them helps revitalize the watershed and wildlife, and it also helps sustain the downstream farms, ranches, towns, and cities that depend on the alpine water.

Water, after all, delivers most of the effects of global warming: melting icebergs, rising sea levels, lower stream flows, reduced snowpacks, and increased tropical storms. Throughout the American West, communities, cities, and entire state economies have relied on mountain snowpacks, which replenish the streams that feed water supplies. Now, as climate change is altering historic snowfall patterns, land managers are turning to meadows to help reduce the effects of a warming planet.

Nature's Reservoirs

Mountain meadows store water, acting as natural reservoirs that hold back floodwaters. By slowing the heavy spring flows and releasing them gradually over the dry summer months, healthy watersheds can increase the quantity of water available downstream.

In California, where agriculture is the economic mainstay, the impacts of climate change could be devastating. The Sierra Nevada snowpack supplies two-thirds of the state's water needs.

The Sierra's 22 major river systems nourish farms and orchards in California's Central Valley, which produces 8 percent of the nation's crops. Over the last century, however, late spring runoff has declined 25 percent. Scientists predict even more dramatic reductions over the next 90 years, as global warming restricts snowfall to the highest elevations. The timing of peak snowmelt throughout the range is already earlier and could occur a full two weeks sooner by the end of the century, according to climate scientists.

Scientists and land managers are launching innovative plans to maximize the storage capacity of meadows throughout the Sierras, which stretch 400 miles along the state border with Nevada. The most ambitious project involves nearly 300,000 acres of floodplains, an area about 20 times the size of Manhattan. The National Fish and Wildlife Foundation, a Washington, D.C.-based nonprofit created by Congress, is providing \$15 million and coordination for work in as many as 20 Sierra Nevada watersheds over the next 10 years. Along with restoring fish and wildlife habitat, their goal is to continue delivering fresh water to the rest of the state.

"Everyone agrees that California will have less snow and more rain in coming decades. There is no doubt that water is the crisis here and now," says Timothy Male, the foundation's director of wildlife and habitat conservation.

The diminishing snowpack is likely to provoke more skirmishes in the statewide water wars that pit the north against the south, farmers against environmentalists, and rural interests against urban. The underlying problem is a demand for water that has outgrown today's supplies, U.S. Interior Secretary Ken Salazar told *The Los Angeles Times*. California, he said, is "sitting on a ticking time bomb, and you better get your act together,

because otherwise the bomb's going to go off."

Making Up for Lost Snowpack

The Feather River watershed lies at the northern end of the Sierra range among its lower peaks. The impacts of diminishing snowpacks will take their toll here first, says Wilcox, who has lived in these mountains since the 1970s. The effects on the quantity and timing of the downstream flow will be dramatic, he says. That puts even more pressure on restoring meadows in the watershed that provides more than 5 percent of California's freshwater supply.

Wilcox wasn't thinking about climate change when he began working with the Feather River alliance 25 years ago. The group's focus was on the erosion that was choking the river. Instead of conventional dredging of reservoirs and riverbeds, a handful of local entrepreneurs decided to try reducing the sediment buildup where it began: upstream in the tributary creeks and meadows.

In 1985, just before winter closed the roads, they built four small U-shaped rock and gravel dams in Red Clover Creek, 60 miles above a series of hydroelectric dams owned by Pacific Gas & Electric Company. The dams were designed to slow the water flow and trap in-stream sediment. That winter tested the experiment. The 20 inches of rain that fell in five days washed out century-old bridges and roads. To nearly everyone's surprise, the dams not only survived; they also held back their share of sediment.

Emboldened by that success, the small coalition of county officials and businessmen expanded to include ranchers, environmentalists, and state and federal officials. Although many of them had been at odds over land management issues, they realized they could only heal the watershed if they cooperated. Wilcox had been a first-hand witness to stream dredging and »

NOW, AS CLIMATE CHANGE IS ALTERING HISTORIC SNOWFALL PATTERNS, LAND MANAGERS ARE TURNING TO MEADOWS TO HELP REDUCE THE EFFECTS OF A WARMING PLANET.

» other practices harmful to ranchlands and forests. A man more at home in a pickup truck than an office, he was eager to be a part of reversing the damage. “I believe in watershed restoration. It has always been in my bones,” he says. And that became the Feather River coalition’s goal: restoring entire meadows along with the creeks flowing through them.

Among the methods they have pioneered is a low-tech procedure known as “pond and plug.” Crews with heavy equipment dig several of the channels wider and deeper, creating small ponds. They use the excavated dirt to fill the remaining gullies back to the original ground level. Along Red Clover Creek, the groundwater began rising almost immediately after the crews finished plugging the channels. By the following spring the ponds were flush with the water that would otherwise have raced downstream in late winter. Above and below the pond where Wilcox sits, the creek has found its way across the meadow in a natural, meandering channel.

The Feather River group has completed 66 restoration projects, which include 3,900 acres of meadow and 44 miles of stream. Since the work began, the data from a series of permanent monitoring stations show that the flow out of restored meadows is greater and lasts longer into the summer. Water temperatures have dropped despite an increase in average air temperatures, and stream turbidity, a measure of the amount of dirt and debris suspended in the water, has decreased to almost half pre-project levels. Groundwater, which never reached the surface before the restoration work, is now consistently at or above ground level for at least part of the year.

From Water to Wildlife

The Feather River projects have inspired the much larger Sierra-wide meadow restoration coordinated by the National Fish and Wildlife Foundation. Private landowners, universities, local and national resource organizations, and the U.S. Forest Service are working together to design strategies that will raise the water table and slow the flow out of mountain meadows. In an area from the Pit River in the north to the Kern River in the south, they are evaluating potential projects to determine which will yield the maximum benefits to fish and wildlife and the greatest quantities of water. Their goal is to restore at least 20,000 acres a year by 2014, says Male.

“Nationwide, we’re looking for tangible actions that address the realities of climate change. This is one of the best examples in America of a restoration initiative that can directly help people and wildlife adapt to our changing planet,” Male says.

The plan, over the first five years, calls for restoring 60,000 acres of meadow. As the water table rises and meadows soak up more water from melting snows, native habitat lost for decades should return. Among the endangered species expected to benefit are the yellow warbler, Yosemite toad, Lahontan cutthroat and golden trout, Townsend’s big-eared bat, and the Sierra Nevada red fox.

But the effects of widespread meadow restoration will also flow downstream to farmers and other water users. The Forest Service manages about half of the Sierra’s degraded meadowlands. The agency is determining which of the 11,700 separate meadows in 10 national forests need to be restored. All are located on streams important for water supply, says Barry

Hill, a regional hydrologist. Using foundation funds, the Forest Service hopes to determine the amount of additional water available for downstream use once the meadows return to health.

The Sierra projects are unique among large-scale water restoration efforts in the United States because of their potential to increase the amount of water available in a river system, says Male. Comprehensive efforts to restore the Chesapeake Bay, the nation’s largest estuary, focus on improving the quality of water flows throughout the 64,000-square-mile region. In the Everglades, a wide-ranging plan to revive a dying ecosystem aims to improve the distribution of flows throughout 18,000 square miles in southern Florida. Along the lower Mississippi River and coastal Louisiana, the largest wetlands restoration effort is designed to reverse the pattern of land erosion by buffering against floods and hurricanes and, like all of the major projects, improving wildlife habitat.

Just how much more water healthy Sierra Nevada meadows can deliver is a matter of debate. Some scientists believe the boosts in stream flow may be absorbed by increases in vegetation in the new, restoration-created habitats. Others believe restoration could contribute up to 6.5 billion gallons of additional water storage throughout the California range. Over time, says Male, these restored meadows could hold 16 to 160 billion gallons of fresh water. That’s equal to the size of one of the new dams state officials have proposed for construction to offset the state’s declining snowpack.

Restoring mountain meadows will not solve California’s water crisis. That will take a collective commitment from the agriculture industry, from



Water managers in 36 states expect shortages by 2013.



PHOTO BY DON SHALL



PHOTO BY BARBARA HANSEN

Leave It to Beavers?

It can cost millions of dollars to restore a river channel with artificial ponds and bulldozers. Some ecologists recommend turning to beavers, nature's water engineers, who will do that work for free.

Beavers, which were once common across North America, can live happily in nearly any freshwater habitat. But early settlers trapped and killed huge numbers of beavers, which were prized for their fur and considered a nuisance by farmers.

Ecologists working in the Feather River watershed have unearthed evidence of beaver activity dating back more than 1,000 years. They say the animals were a natural part of the watershed, and restoration techniques like "pond and plug" resemble beaver dams, which clean up river water by trapping silt and organic material.

Dr. Heidi Perryman, president of the beaver advocacy group Worth A Dam, in Martinez, Calif., says beaver dams create habitat for fish and the insects they feed on. And when beavers chomp on trees, that stimulates dense regrowth, creating vegetation that's appealing to birds. —Ashlee Green



www.YesMagazine.org/beavers

A warm and fuzzy alternative

municipalities, and from everyone who depends on the Sierra snowmelt for their livelihoods and their lives. It will also require more political will than elected officials have traditionally marshaled. Wilcox believes the public recognizes the value of healthy watersheds. He is optimistic that stream restoration will become routine as more people understand its importance upstream and downstream.

Meanwhile, the benefits to wildlife

are unequivocal. In the wet meadow surrounding Red Clover Creek, the number of waterfowl species has doubled since Wilcox and his crews completed the pond-and-plug project. He has seen buffleheads, gadwalls, and two species of teal breeding in early spring. Sandhill cranes, willow flycatchers and 10 other species on state and federal watch lists have returned to the area. Walking through Red Clover Valley from the pond, Wilcox bends down

to study a clump of dancing hairgrass, one of a handful of plant types that have regenerated from seeds dormant in the soil for decades. He has yet to see elk but he has found their tracks—the first in the area in decades. ①



Jane Braxton Little covers natural resource issues from California's northern Sierra Nevada. Her work has appeared in *Scientific American*, *Nature Conservancy*, and *Audubon*, where she is a contributing editor.

Western Showdown



HOW THE TRIBES OF THE KLAMATH RIVER STOOD UP FOR THE SALMON—AND WON

Alice Outwater

It was a dramatic scene in a classic Western water war: Thousands of dead fish, washed up on the shores of the Klamath River. A move meant to help farmers—using Klamath water to irrigate crops—triggered a loss for Indian tribes and the salmon.

That was five years ago, when a detente in the battle was nowhere in sight.

As with many Western rivers, irrigators own nearly all of the water in the Klamath. The river, which straddles the border between Oregon and California, irrigates fields and generates electricity, but it also serves as fish habitat.

The Klamath River was once the third largest salmon fishery on the West Coast, producing roughly a million salmon a year. The upper reaches of the Klamath were originally enormous wetlands and lakes that served as a stop-over for millions of waterfowl migrating along the Pacific Flyway, a nursery for tens of millions of fish, and home to two unique species of suckers.

The conflict between Klamath-area farmers and fishermen has lasted for

decades, complete with lawsuits and public relations campaigns, a disastrous political intervention, and a thrilling finale. But this year, after 15 years of meetings, an agreement was forged to allow the parties to share water; a related agreement calls for removing four dams. The linchpin? The Yurok and Klamath tribes.

Indian treaties from the 19th century give the Yurok and Klamath the right to speak for the salmon. Through these treaties, the tribes established the salmon's right to water and required that the river be managed with the health of migrating salmon in mind. Since Indian treaty rights predate the farmers' rights,

salmon have priority over crops.

In 1994, the Yurok formed a fisheries program to develop the legal, political, and biological expertise to restore the Klamath Basin. "We're salmon people," says Yurok tribal member Troy Fletcher. "The existence of the Yurok people depends on the health of the Klamath and its fisheries. This is something the creator provided the tribe, and it is the responsibility of the tribe to have healthy fisheries."

But first, a deal had to be made.

How the Water Was Won

Water is scarce in most Western states, and the laws governing its use



PHOTO BY KEN MALCOLMSON

The Klamath River, looking upstream toward Orleans, Calif., in the Six Rivers National Forest.



As of 2009, 832 dams had been removed from U.S. rivers.



PHOTO BY PATRICK MCCULLY/INTERNATIONALRIVERS.ORG



PHOTO BY THOMAS B. DUNKLIN
THOMASBDUNKLIN.COM

Klamath Basin tribes and allies fought for removal of PacifiCorp's Klamath River dams to help restore salmon runs. The photo at right was used in court to establish the extent of algae blooms, which turn the river green and kill the fish.

date all the way back to the mining days of the 1800s, when mine owners diverted the high mountain streams to power mills that crushed ore; open-pit miners also used water to separate gold from gravel. But rather than allow one person to divert the entire stream, individual mining camps divided the flow into water rights based on the location of the diversion, the amount of water taken, and the date the right was established. Water courts, set up shortly after Western territories became states, enforced these rules. A water right keeps its original date no matter how many times it's bought and sold; earlier rights have priority.

When ranchers and farmers moved in, salable water rights worked as a way to cope with low rainfall. Farmers without a stream running through their property, for example, could buy rights to use water from a neighbor's stream. Ranchers and farmers own between 75 percent and 95 percent of the surface flow in Western states, while government-funded dams have helped provide water for holders of more recent water rights—cities. By the 1960s, most Western rivers were dammed, and irrigators with frontier-era water rights drained many rivers. Since then, fish populations have crashed, and rivers have become battlegrounds for fishermen,

farmers, ranchers, tribes, utilities, businesses, environmentalists, and recreationists.

With modern irrigation systems, farmers can cultivate the same acreage using much less water. But according to mining-era laws, you lose rights to water you don't use. So across the West, farmers grow wet-weather crops on arid land with inefficient irrigation methods in order to avoid losing their water rights. Meanwhile, cities run dry. In a reasonable world, some of a river's flow would be diverted for agriculture, and some of the flow would remain in the river to nurture the fish. But when water »

» is privately owned, those management decisions are more difficult. Take the Klamath Basin, where farmers own 93 percent of the surface water.

Starting in 1905, the federal government began draining much of the Klamath Basin wetlands and lakes for farmland. Today, farmers there cultivate about 500,000 acres of irrigated cropland adjacent to six national wildlife refuges, which serve as a stopover for migratory birds and shelter the largest wintering population of bald eagles in the contiguous United States. The Bureau of Reclamation built two dams on the Klamath and dammed many of its tributaries, while utilities built three others downstream. Upstream farmers divert most of the water to irrigate crops, and manure and fertilizers contaminate the river's reduced flow. Dams slow the flow, the water heats up, and pollutants

to irrigate.

During the drought of 1992, the U.S. Fish and Wildlife Service shut off the irrigation water from Clear Lake to protect endangered suckers and was sued by a group of farmers and ranchers from the Langell Valley. More lawsuits followed.

In 1995, U.S. Sen. Mark Hatfield, R-Ore., assembled the Klamath Basin stakeholders and asked them to resolve the water impasse. Local businesses, farmers, ranchers, utilities, conservation groups, the commercial fishing industry, and the tribes were represented in the working group, and Hatfield promised that if they came up with a solution, he'd make it happen. He retired two years later, but the meetings continued.

In 2001, the Klamath Basin received half its normal rainfall, and a group

in to open the ditch gates herself. By the end of the summer, low water and high temperatures triggered a bacterial infection that left at least 34,000 dead salmon rotting in the Klamath River.

The waste of those tens of thousands of chinook salmon—some of the last Klamath salmon on Earth—shocked all the parties involved into recognizing that even though farmers held rights, what was happening was wrong.

Everyone was “totally frustrated,” said Fletcher, who helped negotiate the agreement for the Yurok. “They were broke, and beat up by Congress and the administration. All of the parties tried litigation. All tried political routes. And in the end, it turns out that the communities in the basin are the ones who know best how to solve the problems they’re faced with.”

On Feb. 18, 2010, all 28 parties

INDIAN TREATIES FROM THE 19TH CENTURY GIVE THE YUOK AND KLAMATH THE RIGHT TO SPEAK FOR THE SALMON ... SINCE INDIAN TREATY RIGHTS PREDATE THE FARMERS' RIGHTS, SALMON HAVE PRIORITY OVER CROPS.

breed algae that color the river a bright pea green every summer. The river is so badly damaged that the Klamath's coho salmon face extinction.

Enter the 1973 Endangered Species Act (ESA) and Native American treaty rights. The ESA protects the habitat that endangered plants and animals need to survive. The Lost River sucker and the shortnose sucker, two species of formerly plentiful lake fish in the Klamath Basin, were listed as endangered in 1988; the Klamath coho salmon was listed in 1997. According to the ESA, these fish have the right to survive and need water for habitat. And by treaty, the Yurok and Klamath tribes have the right to catch them. When the Yurok treaty was ratified in 1855, the tribe retained its right to fish for salmon. In 1864, the Klamath tribe was granted a federally reserved fishing right. Since water rights are based on prior appropriation, the Indian treaty rights to fish trump the farmers' rights

of environmentalists and the fisheries industry sued the Bureau of Reclamation to limit water deliveries to farmers. Scientists at the U.S. Fish and Wildlife Service and the U.S. National Marine Fisheries Service concurred, and the Bureau of Reclamation cut off water to the 1,200 farmers in the Klamath's upper basin. The farmers lost their crops, for which the government compensated them \$36 million.

The next year was dry as well but the farmers had no intention of losing their water a second time. The Klamath Bucket Brigade, a grassroots organization of farmers, had a message for Washington, D.C., from rural America: They claimed that the Endangered Species Act threatens the nation's economic health, and rural property rights were being abused. Their plight struck a chord with the Bush administration, and the irrigators got their full measure of water in 2002. Interior Secretary Gale Norton flew

signed an agreement to restore the Klamath Basin. “The Klamath River, which for years was synonymous with controversy, is now a stunning example of how cooperation and partnership can resolve difficult conflicts,” Interior Secretary Ken Salazar said in announcing the agreement. The 369-page plan includes habitat restoration and flow management. Water is provided for agriculture, but the levees around the lakes will be breached, wetlands restored, and, according to the companion agreement, four dams removed to allow salmon access to hundreds of miles of spawning streams while improving water quality.

The plans amount to a compromise; no interest group got all it wanted. And federal money still must be set aside.

It's a daunting task, Fletcher said. “Now we have to make it happen.” 🍷

Alice Outwater is a writer based in Durango, Colo. She is the author of *Water: A Natural History* and co-author of *The Cartoon Guide to the Environment*.

Maude Barlow: 3 World Water Wins



Almost 20 percent of the world's people live in areas where water is scarce.

Everybody needs water as much as they need air or food. So what happens when a corporation steps in and turns public water into private profit? It can spell disaster in a poor community or a place where clean water is scarce. Ten years ago, Bolivians made headlines when protests by Cochabamba's people overturned a private water contract that made water rates catastrophically expensive. Since then, people around the world have been fighting to keep water public. From Canadian towns banning wasteful bottled water to cities across France reclaiming privatized water systems, there's a growing global movement of citizens taking back their water. Here are some key wins.

1

Uruguay Bans Privatization

Since 2004, water activists around the world have celebrated "Blue October," marking a citizen-led movement that succeeded in reforming the Uruguayan constitution to ban water privatization.

In 2000, the Uruguayan government signed an agreement with the International Monetary Fund to privatize the nation's water and sanitation systems. A broad coalition of environmental organizations, trade unions, artists, community activists, politicians, and progressive academics formed to fight the agreement. The coalition led a four-year campaign to change the Uruguayan constitution to recognize public water as a human right and ban the privatization of water services. The coalition's petition drive gathered the signatures of 10 percent of the population and put the measure on the ballot. In October 2004, the constitutional measure passed with 60 percent of the vote, and the water system returned to public ownership.

2

Kerala Shuts Down Coke Plant

Plummeting groundwater levels and growing pollution caused by a large Coca-Cola plant in Plachimada, a village in a remote part of Kerala, India, led to crop failure and illness. In 2002, the women of Plachimada began a vigil in front of the plant gates. For over four years they maintained a constant presence there to fight one of the most powerful companies on the planet. As a result of their dedicated activism, the state government forced the factory to close in 2004 and two years later imposed a broader statewide ban on the use of groundwater in soft-drink production. The government of Kerala is now seeking compensation for the community's agricultural and health losses. Coke denies pollution or overuse, and continues to pursue reopening the plant.

3

Soweto Activists Take Prepaid Water Meters to Court

Soweto was the center of resistance to South Africa's apartheid regime. Apartheid is gone, but for ordinary Sowetans, the daily struggle continues, this time over water. The South African government's push for water privatization includes installation of prepaid water meters—which make water unavailable to the neediest people and are a documented factor in cholera outbreaks.

The Phiri 5, a group of Sowetan activists, took the government to court, claiming that their rights had been violated when prepaid water meters were forced upon only the poorest citizens. The Johannesburg High Court ruled in their favor in April 2008, but that decision was overturned on appeal in October 2009. Nonetheless, the courage of these five Sowetans has raised awareness worldwide of the dangers of prepaid water meters.

These are no longer isolated acts of resistance. For more than a decade, a global water justice movement has played an active role in creating international support for local struggles. By sharing stories through the Internet, the traditional media, and global conferences, water justice activists strengthen grassroots campaigns by connecting them to a global water struggle. People around the world are taking inspiration from these and many other examples of the power citizens wield when they act together to protect the right to water and preserve water as a commons.

—Maude Barlow, Anil Naidoo, and Meera Karunanathan

Maude Barlow is the national chairperson of the Council of Canadians and chairs the board of Washington, D.C.-based Food and Water Watch. She is the bestselling author or co-author of 16 books. **Anil Naidoo** is the project organizer for the Council of Canadians' Blue Planet Project. **Meera Karunanathan** is the national water campaigner for the Council of Canadians.

Robert Kennedy Jr.

Citizens, Defend Your Local River

Interview by Sarah van Gelder



PHOTO BY SHADIA FAYNE WOOD

Whose job is it to protect our waterways? Water quality laws and enforcement are only as strong as the popular movements that press for them. Unless we stand up, those who would privatize, pollute, or divert our waters get away with it. That's the message of Robert Kennedy Jr., founder of the international Waterkeeper Alliance and chief prosecutor of the New York-based Riverkeeper, which helped lead the successful movement for the restoration of the Hudson River.

Sarah van Gelder: When did it first occur to you that ordinary people might be the best protectors of their waterways?

Robert Kennedy Jr.: I started working with Riverkeepers in 1984 when it was still called the Hudson River Fishermen's Association. It was a blue-collar coalition of commercial and recreational fishermen who mobilized to reclaim the river from its polluters.

In 1966, Grand Central Railroad was vomiting oil from a four-and-a-half-foot pipe in the Croton-Harmon Rail Yard 30 miles north of New York City, blackening the beaches, and making the shad taste of diesel. The people of the village of Crotonville, N.Y., were mainly commercial fishermen, and about 300 of them—a large number of whom were former Marines from Korea and World War II—came together in an

American Legion Hall. They talked about blowing up pipes on the Hudson and stuffing a mattress up the Penn Central Pipe or floating a raft of dynamite into Indian Point Power Plant, which was killing a million fish a day and taking food off their family tables.

A guy named Bob Boyle, another Korean War vet, came to the meeting. Two years before, he'd written an article for *Sports Illustrated* about angling in the Hudson. Researching that article, he discovered an ancient navigational statute called the 1888 Rivers and Harbors Act that made it illegal to pollute any waterway in the United States and included a bounty provision that said that anybody who turned in a polluter got to keep half the fine.

The law had never been enforced in 80 years, but it was still on the books. Boyle stood up in front of this gathering of people who were all talking about violence, and he said, "We shouldn't be talking about breaking the law. We should be talking about enforcing it." They resolved that night to start a group they called the Hudson River Fishermen's Association and to go out and track down and prosecute every polluter on the Hudson.

van Gelder: When did you get involved?

Kennedy: I came along in 1984. I was doing volunteer work for



84 percent of North America's surface fresh water is in the Great Lakes.

the association, and a guy came into the office one day and said, the whole city of Newburg, N.Y., [then a poor, predominantly black city north of New York City—Ed.] was being overrun with pollution. I offered to go over there with him, and we ended up walking seven and a half miles up the Quassaick Creek, and we found 24 different illegal polluters.

van Gelder: When you were slogging up that polluted creek, did it ever occur to you that this is no job for a Kennedy—that you should be sitting in a law office?

Kennedy: No. I actually got lawn chairs and I sat next to pipes all night. At one point I crawled into a big discharge pipe into a dye factory and saw where they were dumping vats of dye into the creek. I swam across a pool in the middle of the night to take samples from another pipe that was illegally discharging from a textile house.

We found 24 polluters, and I set to work suing every one of them. Everything they were doing was illegal, but the state and federal agencies had essentially been captured by the polluters that they were supposed to regulate, and they weren't doing what they were charged with doing. I didn't know much about environmental law at the time, but I learned it as I prepared the lawsuits.

van Gelder: How important is the public trust doctrine in enforcing the idea that the waters are a commons and that ordinary people have a right to it?

Kennedy: There are two ancient laws that underlie all modern environmental laws: One is the nuisance doctrine that essentially says you can use your property any way you want, but if you pollute and it escapes your property and goes onto somebody else's property, you're violating the law.

The other is the public trust doctrine, which says you can't do anything that is going to diminish the commons, which includes any property that is not susceptible to private property ownership, like air, water, the fisheries, wetlands, wildlife, the wandering animals, rivers, streams, shorelines, aquifers, underground rivers, etc. Everybody has the right to use the commons, but nobody can use them in a way that diminishes their use and enjoyment by others.

This is ancient law that goes back to Roman times when every citizen—rich or poor, humble or noble, African or European—had a right to cross the beach, throw in a net, and take out a share of the fish. And the emperor himself couldn't stop them.

The first thing that happens in a tyranny is the privatization of the public trust by powerful entities. So, when Roman law broke down in Europe, the local kings and feudal lords began privatizing public trust assets. For example,

in England, King John said the deer—which were an important food source to the poor—could only be hunted by the wealthy; that's what got him in trouble with Robin Hood. And he privatized all of the fisheries of the Thames and the other rivers of England. This caused the public to rise up and confront him at the Battle of Runnymede, where he was forced to sign the Magna Carta, the first exercise in constitutional democracy. The Magna Carta includes chapters on free access to navigable waters and fisheries.

When we had the revolution in this country, those rights went to the states. So, the constitution of every state says that the people of the state own the fisheries and the waterways of the state. Those ancient rights were basically codified by the Clean Water Act in 1972.

On the first Earth Day, 20 million people, 10 percent of our population, came out in the street, which made Earth Day the largest national demonstration in U.S. history. People were upset about air pollution, but mainly about water pollution, about the Cuyahoga River burning, the Santa Barbara oil spill, and the fact that you couldn't swim or fish in the Hudson, the Potomac, the Charles, and the major rivers of our country.

van Gelder: What is your assessment of the Barack Obama presidency so far in terms of these issues?

Kennedy: It's a huge and refreshing sea change from the previous administration. They're restoring a lot of the damage that the Bush administration did to our environmental statutes, like the Clean Water Act. But, I'd say the biggest single accomplishment is putting the brakes on mountaintop removal.

van Gelder: They're still issuing permits, aren't they?

Kennedy: They just issued new standards that are going to make it very difficult for anybody to qualify for another permit.

van Gelder: If you were to advise someone who wanted to protect their own watershed, what would you say would be a good place to start?

Kennedy: I'd say contact the Waterkeepers, and we'll help you do it. We're the largest water protection group in the country and probably the world. We have 200 Waterkeepers; each one has a patrol boat; each one has a full-time paid keeper. We litigate on behalf of the community against polluters, and we protect local waterways from people who would injure them. Anybody who's interested in starting one should contact us, and we'll show you how to start your own Waterkeeper. 📍

Sarah van Gelder is executive editor of YES! Magazine.



www.YesMagazine.org/waterkeepers

Robert Kennedy Jr. introduces the Waterkeeper movement.

River Rescue

WHO PROTECTS THE PUBLIC'S RIGHT TO CLEAN,
ACCESSIBLE WATERWAYS? WE DO



PHOTO BY EDEE DANIEL



Photo essay: the urban watershed
www.YesMagazine.org/daniel

Elizabeth Grossman

Thanks to a group of determined citizens and a legal principle that dates back to the Roman Empire, fences are coming down along the Hudson River, allowing people access to the riverfront from the George Washington Bridge to the shores of Staten Island.

Starting in the 1980s, high-rise development boomed along the New Jersey shore of New York Harbor. The developers were allowed to build right down to the shoreline on the condition that they construct walkways to give the public access to the water. When they reneged on their promise, citizens groups, led by New York/New Jersey Baykeeper, sued.

They won their case in 1999, setting in motion construction of the Hudson River Walkway, which, when completed, will run for more than 18 miles along the New Jersey riverfront. The victory helped launch an ongoing campaign to clean up industrial and urban water pollution and protect streams and wetlands throughout the Hudson-Raritan Estuary, one of the country's most densely populated waterways.

At the heart of Baykeeper's strategy was a centuries-old concept called the public trust doctrine.

The public trust doctrine holds that "By the law of nature, these things are common to mankind: the air, running water, the sea, and consequently the

Volunteers from all over the city pick up trash and debris during Milwaukee Riverkeeper's annual spring cleanup.



Meet citizen riverkeepers from Milwaukee, Atlanta, and Washington, D.C.

www.YesMagazine.org/riverkeepers

shores of the sea," explains environmental attorney Jim Olson, quoting a translation from the original Latin. Olson has been advocating for environmental protection in the Great Lakes region since the 1970s. "The deep intent," he says, "is that these things are not owned by anyone but that they are held in trust for the benefit of all." This notion helped give rise to the idea of the public commons—places and natural resources that are shared by all citizens.

In the United States, the doctrine has been used to affirm that we the people share in common America's rivers, streams, lakes, wetlands, and coastal waters. It says that water cannot be deemed private property and that our right to access and use these waterways must be maintained.

While the origins of the public trust doctrine are ancient, activists are now invoking its tenets to tackle some very modern threats—including waterfront high-rises and other urban and industrial developments that physically block public access to a river, lake, or coastal area. The doctrine is also proving instrumental in fighting water pollution and stopping commercial water bottlers



One quart of used motor
oil can contaminate
250,000 gallons of water.

from selling public water.

"People may not have heard of the public trust doctrine, but they have an innate sense of what it means," says Debbie Mans, executive director of NY/NJ Baykeeper.

"We were able to rally great neighborhood and community support [for our efforts and] people inherently understood this idea."

Baykeeper is a member of the Waterkeeper Alliance, founded in 1999 by environmental attorney Robert F. Kennedy Jr. and fellow environmental advocates. The Alliance has grown into an international network of nearly 200 locally based groups of citizen "Riverkeepers" and "Waterkeepers" who work together to protect waterways. The movement builds grassroots advocacy by connecting people to their local rivers and coastal waters. Waterkeepers also defend citizens' rights to clean and accessible water, whether it's an industrialized urban river or a mountain stream.

Waterkeepers all across the country are now using the public trust doctrine to protect water quality and public access to local water. "If I go out on the river," says Brett VandenHeuvel, executive director of Columbia Riverkeeper, "I should be able to catch fish and eat them and swim in the river without having my access impeded."

The New Western Water Culture

In the rugged high country where the Cache La Poudre River flows from Colorado's Rocky Mountains through the city of Fort Collins, activists are using the Waterkeeper strategy to fight a huge dam and reservoir project. Poudre Waterkeeper is building local support by helping residents get to know their river. "Cities have been establishing kayak parks, and Fort Collins now has a bike path along the Poudre River that's become a center of the city's recreation," says Gary Wockner, the group's executive director.

Nearly 90 percent of the Poudre is currently diverted or dammed. Several more large dams and reservoirs have been proposed for the basin by the Northern Colorado Water Conservancy District. More dams would further reduce river flow; harm aquatic life, such as native fish and insects; worsen pollution; and cause sediment buildup—all of which threaten drinking water, recreation, and local fishing.

Support for the "Save the Poudre" campaign has grown as Waterkeepers have gotten local residents out onto the water and helped them understand the river's delicate ecology and the impact of the proposed dams. "We've had tremendous success with building support for keeping water in the river," says Wockner.

Western environmental law favors active use of water, typically for irrigation but also, increasingly, to support urban and suburban development, Wockner explains. Leaving water in the stream to support the ecosystem or enhance community quality of life has not traditionally been considered a "beneficial use."

To a certain extent, says Wockner, it's "Old West versus New West." But priorities are changing as people understand the importance of preserving natural river flows. A growing segment of the community wants to preserve water as part of the commons, however there is still much work to be done.

Poudre activists are now organizing more public comment and scientific, economic, and legal assessment in advance of the next Environmental Impact Statement on the proposed dams due out in the summer of 2011.

Protecting Water Beneath the Surface


In Michigan, river advocates are working to extend their passion for water protection to the water that lies beneath the surface—in the underground streams and aquifers that feed

the Great Lakes. And they're using the public trust doctrine to help make their case. They have introduced a bill into the state legislature (Michigan H.B. 5319) to ensure that "The waters of the state, including groundwater, are held in trust by the state. The state shall protect these waters and other natural resources that are subject to the public trust for the benefit of present and future generations."

The Great Lakes Compact, passed recently by the eight states that share the region's waters, prevents water withdrawals to outside the region—by pipe, tanker, or plastic water bottle. But the law doesn't mention groundwater. The Michigan bill would close that gap.

That's important because groundwater, like surface water, is vulnerable to depletion, especially as global warming alters patterns of drought and precipitation. Impacts to groundwater affect surface water, and vice versa. Extracting groundwater faster than it can be replenished can reduce water levels throughout a watershed, including in its lakes and streams. "This hydrological connection has not been appreciated, historically," explains Grenetta Thomassey, policy director of Tip of the Mitt Watershed Council.

Efforts to protect groundwater and defend the public right to it are gaining strength. It's the logical next step—in protecting water, making sure we have enough, and keeping it clean and accessible—and it requires extending public stewardship to a watershed's entire ecosystem.

"To keep water as a commons in the 21st century we have to make sure there is public trust in every arc of the water cycle," says attorney Jim Olson. 



Elizabeth Grossman is the author, most recently, of *Chasing Molecules: Poisonous Products, Human Health, and the Promise of Green Chemistry*. She writes from the banks of the Willamette River in Portland, Ore.



The Little Town That Sent a Corporation Packing

WHY CONTROLLING YOUR WATER SUPPLY IS SO IMPORTANT



Putting water in plastic bottles and shipping it just 125 miles uses 1,100 times more energy than producing tap water.



JENN IRELAND FOR YES! MAGAZINE

Felton FLOW steering committee members, left to right, Frank Adamson, Larry Ford, Jim Graham, Connie Barr, and Fran Adamson celebrate with—of course—glasses of drinking water.

Tara Lohan

In 2008, weeks after communities all over the United States celebrated the Fourth of July, the tiny town of Felton, Calif., marked its own holiday: Water Independence Day. With barbecue, music, and dancing, residents marked the end of Felton's six-year battle to gain control of its water system. The fight, like the festivities, was a grass-roots effort. For when a large, private corporation bought Felton's water utility and immediately raised rates, residents organized, leading what was ultimately a successful campaign for public ownership and inspiring other communities nationwide.

Like many other communities with a privately controlled water system, Felton quickly experienced some of the drawbacks: skyrocketing rates, and little public recourse. But officials of some cash-strapped towns seek privatization because they believe a corporation will help lift their burden. Across the country, public water systems require massive repairs to deteriorating infrastructure, at an estimated annual cost of about \$17 billion over the next 20 years. Our aging water mains result in some 240,000 breaks a year, and more than a trillion gallons of wastewater spill into our waterways annually. Federal funds typically help communities pay the repair bills, but escalating costs have prompted many cities to look for alternatives.

Some local leaders, eager for financial help, have turned to private companies to buy their utilities or lease them—arrangements known as public-private partnerships. Companies promise system improvements, greater efficiency, and money up front, but increasing evidence suggests that cities are getting the raw end of such deals: Privatization jeopardizes public supply and access to water and drives up costs for citizens.

"Providing clean, accessible, affordable water is not only the most basic of

all government services, but throughout history, control of water has defined the power structure of societies," Alan Snitow and Deborah Kaufman, filmmakers who documented the effort of Stockton, Calif., to fight privatization, wrote in the book *Water Consciousness*. "If we lose control of our water, what do we as citizens really control through our votes, and what does democracy mean?"

Communities Fight Back

A former logging town in the redwood hills above Santa Cruz, Calif., Felton had a privately run water system, a holdout since privatization fell out of favor in the late 19th century. It hadn't been much of an issue until 2002, when Citizen Utilities, the small company that ran the water system, was acquired by American Water Works Co. Its subsidiary, California-American Water (Cal-Am), took over Felton's water utility. American Water was acquired shortly afterward by London-based Thames Water.

In November 2002, Cal-Am proposed a 74 percent rate increase over three years, subject to approval by the California Public Utilities Commission. Felton residents formed Friends of Locally Owned Water (FLOW), and with legal help from Santa Cruz County, fought the rate increase, which the utilities commission knocked down to 44 percent. But the threat of escalating costs loomed, so FLOW began working on a plan to buy the water system and turn it over to the nearby San Lorenzo Valley Water District (SLVWD), a public utility. By 2005, FLOW had enlisted the help of Food & Water Watch and was working on a ballot initiative to raise the estimated \$11 million to buy the system from Cal-Am/RWE.

Jim Graham of FLOW said the group sent volunteers door to door three times throughout the community to educate residents about privatization and the public ownership campaign. That meant urging »

- » voters to accept a property-tax increase of up to \$600 a year for 30 years.

Their efforts were successful, and the ballot initiative won with nearly 75 percent of the vote. SLVWD then proposed to buy the water system for \$7.6 million, but Cal-Am/RWE refused to sell. So SLVWD pursued eminent domain to force a buyout. Just before the case was to go to jury trial, the company settled with SLVWD. Today, with Felton's water back in the hands of a public utility, the average resident's bill has dropped by at least 50 percent. FLOW has calculated that even with the tax increase, most residents are already saving as much as \$400 per year.

A Private Matter

In recent decades, the government's role in water service has changed. Three years before Reagan took office, 78 percent of money for new water projects came from the federal government. Nearly 30 years later, the proportion has fallen to 3 percent. Then the Clinton administration made several tax-law changes that made it easier for cities to privatize local water and sewer systems and for foreign companies to enter the market, explained Emily Wurth, water program manager for Food & Water Watch.

Food & Water Watch has studied the effects of water-system privatization and has helped Felton and other communities turn—or return—to public control. In a 2009 report that examined nearly 5,000 water utilities and 1,900 sewer utilities, the organization found that the private entities—which have a fiduciary obligation to shareholders—charge up to 80 percent more for water and 100 percent more for sewer services. Privately owned utilities cost more to operate, too: They typically have to pay income and property taxes, while public utilities are exempt. In all, according to Food & Water Watch, operation and maintenance costs of privatized water systems can spike 20 to 30 percent, when dividends, taxes, and profits are factored in. It follows that corporations make more money if more water is

used; conservation and repairs, then, can fall off the priority list. When Stockton, Calif., privatized its wastewater system, higher-than-promised rate hikes, poor maintenance, and sewage overflows followed. When 8 million gallons discharged into the San Joaquin River, the spill went unnoticed for 10 hours and unreported to the public for three days.

According to a 2002 Century Foundation survey of 245 municipalities, 73 percent of them ended private water contracts because of poor service. In Lee County, Fla., officials realized that after five years of control by Severn Trent Services, a British multinational corporation, the county needed \$8 million to repair improperly maintained systems, which could have jeopardized environmental and public health. The county lost money on the deal and didn't renew the five-year contract once it ended. Other cities that privatized sewer systems—including Woonsocket, R.I., and Wilmington, Del.—have discovered chronic pollution problems.

Meanwhile, some cities turn to water-system leases. But under a lease, the city retains control of the infrastructure, so the corporation has even less incentive to perform proper maintenance. If spills or overflows result in environmental damage, it is often the municipality that has to pick up the tab on any fines.

In 2008, the city of Milwaukee was looking for solutions to an impending \$100 million shortfall when the city's comptroller recommended a lease of the Milwaukee Water Works. He hoped a private company would pay the city \$500 million for the right to lease the utility for 99 years. "The driving reason wasn't that our water system was falling apart or in need of maintenance," said Deputy Comptroller Mike Daun. "We wanted a public-private partnership that would result in a very large transfer of funds to the city up front, which we'd use to create an endowment and address the deficit."

But not everyone shared that vision.

Research by Food & Water Watch revealed that for every dollar the city received from the lease, residents would end up paying \$1.60 to \$5.40. The organization aided a grassroots effort in Milwaukee that helped defeat the privatization plan, at least for now.

Cities such as Chicago continue to contemplate privatization, while many others are reverting to public control or fighting privatization at the outset.

Wenonah Hauter, executive director of Food & Water Watch, says that her organization advises communities to focus on who is able to stop the privatization threat, usually the city council or water board. That means doorbelling, working with the media, releasing reports that challenge the company's claims, and working closely with labor groups and community groups. If cities need to make improvements to ailing systems, municipal bonds are usually a cheaper option than private financing, and they can seek public-public partnerships (PUPs), an alternative to public-private partnerships. PUPs, according to the Transnational Institute, are "a collaboration between two or more public authorities or organizations based on solidarity to improve the capacity and effectiveness of one partner in providing public water or sanitation services." Essentially those communities with well-run systems offer their expertise to managers of utilities in need of some help.

But for many, the issue of water privatization isn't just about money. Felton FLOW member Barbara Sprenger said she was motivated to act primarily "because it was water." Private ownership, she said, meant extra costs without the necessary monitoring and transparency.

"The people on our water board manage our water as part of a watershed," she said. "They care, and they are local—we see them at the grocery store. You really have to have local control over something so vital." **Y**

Tara Lohan is senior editor at AlterNet and editor of *Water Consciousness*.



A 1 percent increase in organic matter allows soil to hold 16,000 more gallons of water per acre.

FOOD IN DRY TIMES

Organic Farming Is Still the Answer



Frederick Kirschenmann

I learned the important lessons about water very early in my life. My father and mother began their life on our family farm in North Dakota in 1930. Their years as beginning farmers were thus spent in the midst of the Dust Bowl. My father understood intuitively that the devastation was not solely about the lack of water; it also was about the way land was farmed. The weather, including the scarcity of rainfall, was the immediate cause of the Dust Bowl, but the farming methods of that era had left the land vulnerable to incredible soil loss. As a result my father became a radical conservationist, and from the time I was five years old I can remember him admonishing me to “take care of the land.” As far as he was concerned, that was the most important moral duty imposed on any farmer—not only for the sake of the land, but also for the economic survival of the farmer.

Consequently, water has never been an isolated “thing” for me. I understood from my father’s »

Interns from Tishman Environment and Design Center at New York City’s New School learn organic farming methods at Stone Barns Center for Food and Agriculture.

PHOTO BY MATTHEW SUSSMAN / THE NEW SCHOOL

» tutelage that water was only one part of a complex web of living relationships that included, among other things, soil, climate, biodiversity, and husbandry. He understood ecology before most people had heard the word.

No Separate Parts

Although the science of ecology has been evolving for decades, it has barely begun to influence agriculture in the 21st century. We still manage farms as if all of their parts, including water, are separate entities. However, that method of farming is becoming increasingly dysfunctional, and the philosophy that informs it is being questioned more rigorously.

Cultural historian Morris Berman points out that since the dawn of the scientific revolution we have gradually adopted a “mechanical philosophy” that “insists on a rigid distinction between observer and observed” and assumes that our personal well-being is contingent upon acquiring personal wealth through the exploitation of natural resources.

Our attempt to isolate the welfare of the human species from the health of the rest of the biotic community is a direct outgrowth of this worldview. And perceiving water as if it were a separate entity, a thing, a commodity, is part and parcel of this same compartmentalized scientific culture.

But we now know that nature is not a collection of objects. It is not a machine. We are not the end point of evolution. And we are not, as environmentalist Aldo Leopold reminded us, “conquerors” of the land community, we are simply “plain members and citizens of it.”

The water issues we are facing are tightly coupled to a complex, interconnected set of relationships. We are unlikely to solve our water problems without addressing comprehensive ecological health.

One of the reasons that we are

A 40 Gallon Water Chaser For Your Beer?

The food we eat and the products we use contain “virtual water”—the water used to produce them. Cut down on home use, but here’s where you can *really* save some water.

40 gallons of water to make 16 ounces of beer



Water to make 1 pound of:

hamburger	2,029 gallons
chicken	468 gallons
apples	72 gallons
tomatoes	16 gallons
bread	171 gallons
cheese	600 gallons

Source: A.Y. Hoekstra & A. K. Chapagain,
Water footprints of nations, 2006
YES! MAGAZINE GRAPHIC, 2010

using such large quantities of water for irrigation is that we have not paid attention to the biological health of our soils. Soil is not a thing, but a dynamic web of relationships with billions of microorganisms at the base of soil life. Industrial agriculture treats soil as if it were nothing more than a material to hold plants in place while we insert the synthetic nutrients plants require.

Rebuilding My Home Soil

In 1976, after my father had a mild heart attack, I decided to leave academic life and return to manage our family farm operation. This provided me with the opportunity to explore alternatives to industrial agriculture.

Being on the farm with full management responsibilities for the first time gave me the opportunity to explore

theoretical questions I had: Were there ways to manage soil so it would absorb and retain more moisture to sustain crops during drought periods? Could I design a farming system with sufficient diversity to increase its resilience? Or one that was less energy intensive? Was it possible to create a farming system that was more self-renewing and self-regulating?

There was some immediate repair work to do. In addition to his passion for taking care of the land, my father was a progressive farmer, and he had always been interested in exploring technical innovations. When synthetic fertilizers first became available in our community in the early 1940s, my father was intrigued. He was deeply interested in increasing his wheat yields, and this seemed like an efficient way to do so.

But he also was concerned about the effect such inputs might have on his land and checked with our county extension agent and with other farmers whose judgment he respected. Everyone assured him that synthetic fertilizers would not have a negative impact on the health of his land. Based on those assurances, my father became the first farmer in our township to use synthetic fertilizers. The results were spectacular.

With this new technology he could plant wheat in successive years or grow it on simple rotations. And since wheat was the best possible cash crop in our part of the world, it simply made practical sense to raise more wheat and abandon other crops.

Replacing complex rotations with monocultures increased weed pressure. The more often we planted a cool-season crop like wheat, the more often cool-season weeds would produce seeds. So my father had to begin applying herbicides for weed control. By the time I returned to manage the farm, it was a fairly specialized wheat and sunflower monoculture farm operated in accordance with typical industrial



30 percent of U.S. groundwater used for crop irrigation comes from the Ogallala aquifer, which runs under parts of eight states.

farming practices—and the quality of our soil was significantly impaired.

We rarely saw an earthworm. Organic matter had declined, and the physical character of the soil had deteriorated. Soil granules had broken down, and there was little pore space in the soil. The soils on our farm were absorbing and retaining much less moisture from our limited rainfall. We were more vulnerable to droughts.

I remembered that almost 10 years earlier I had met a student who had served as a research assistant to an extension specialist at the University of Nebraska. The extension specialist had designed a research project to determine the effects of organic management on soil quality. The student shared some of the results: The soil in organic fields became more porous, its organic matter increased, and earthworms were present in greater abundance. Inspired by those results and the information I gleaned from soil-science classics of the first half of the 20th century, I decided to convert our farm to an organic operation.

Making such a transition in the 1970s was challenging. There were no mentors to call on for advice, and there were very few farmers in our part of the world with any experience in making such a transition. I learned how to make compost from Bob Steffen, a farmer in Nebraska. David Vetter, my former student, helped me think through crop rotation strategies. I made plenty of mistakes. But eventually, I devised a crop rotation that helped us control weeds, recycle nutrients, reduce disease, and find a niche for our crops in an emerging organic market. We began to see the quality of our soils improve.

By 1988, when we experienced one of the severest droughts on record in North Dakota, our soils were able to absorb and retain enough moisture to sustain our crops. Our fields managed to produce a 17-bushel-an-acre average

yield while conventional fields around us dried up, yielding no harvest at all.

Farming in a Changed World

Despite those results, our farm, in my judgment, is still far from “sustainable,” given the challenges that we are likely to see in the decades ahead.

As I see it, the key challenges we will face are to continue producing an adequate amount of healthful, nutritious food for a growing population in the face of disappearing fossil fuels, fossil water (the legacy of ice-age melting contained in our great aquifers), declining biodiversity and genetic diversity, and more unstable climates. In an effort to anticipate these challenges on our own farm in North Dakota I have tried to frame the daunting task before us into a self-evident question: Let’s assume that 10 years from now crude oil will be \$300 a barrel; that our planet will have only half the amount of fresh water available for food and agriculture; and that we will have twice as many severe weather events, droughts, and floods. What kind of agriculture will remain productive under those circumstances?

It is clear to me that the methods currently employed on our farm, despite the organic management practices we’ve instituted, still will not prepare us to meet that challenge. The farm has to be redesigned to be much more resilient under such difficult impending circumstances. What do we need to do now?

In the short run, we plan to increase the presence of perennial grasses and legumes in our crop rotations. Perennial plants are much more resilient than annuals, have much denser and deeper root systems, and do a superior job of restoring and maintaining the biological health of the soil. We will slightly shift the balance of our farm’s production to raise more livestock and less grain, but we will continue our practice of not feeding any grain to our

livestock. We will continue to sell our grain directly into organic markets for human consumption. Our livestock will graze on the perennial grasses during the summer and feed on the forages harvested from our legumes during the winter.

In the long run, we hope to convert annual monocultures on our farm to the perennial grains The Land Institute in Salina, Kansas, has been developing.

We will continue to rely on the “no waste” policy that we have adhered to for the past 30 years. And we plan to search out more innovative production systems based on energy exchange instead of energy inputs. We are trying to learn from creative farmers like Joel Salatin who have developed complex, synergistic systems in which the waste of one species becomes the food (energy) of another.

Finding Our Foodsheds

As much as possible, I plan to continue to be part of the larger effort to transform our food and agriculture system. I hope to champion more advances in urban agriculture, which has been evolving rapidly in recent years.

Many creative farmers are developing incredibly productive, synergistic systems. Will Allen’s Growing Power farm in Milwaukee is a prime example. By creating multiple synergies among species, Allen manages to “provide healthful food to 10,000 urbanites” on 3 acres of land. For example, Allen has created huge fish tanks in the center of his greenhouses that are 3 feet wide and 4 feet deep, extend the full length of the greenhouse, and are stocked with tens of thousands of perch and tilapia. Above the fish tanks Allen has installed beds of watercress. The water from the fish tanks is pumped into the watercress beds. The watercress cleanses the water for the fish, while the fish droppings provide the nutrients for the watercress. »

» Equally promising models of synergistic production are being developed by individual farmers in many parts of the world. These models are well-suited to community food systems where small-scale farmers have found ways to produce incredible amounts of food on limited acreage for local populations. The efficient recycling of water often plays an integral part on these farms.

As our energy-water-climate challenges impose themselves upon us, we will need to gradually embrace the concept of “foodsheds”—a concept borrowed from our knowledge of watersheds. Foodsheds are geographic areas wherein people engage in a civic exercise that determines the most sustainable food system for their region. The first priority of a foodshed is to produce as much of the food as possible by people in the foodshed for people in the foodshed; exports and imports become the second priority.

This community foodshed concept is fully compatible with the United Nations’ new mandate to foster “food democracy, food justice, and food sovereignty” as the means by which global food problems can best be solved. It also is in accord with the G8 countries’ recent recognition that it is a critical task to revitalize the food production capacity of local communities rather than encouraging the producing and shipping of food to such communities from other parts of the world.

How the next chapters in the story of water are written in this country and around the world will depend in large measure on how creative water use is embedded in the ecology of these new food systems. **Y**



Frederick Kirschenmann is a longtime leader in sustainable agriculture. He is a distinguished fellow at the Leopold Center at Iowa State University and president of Stone Barns Center for Food and Agriculture in New York State.

Frederick Kirschenmann’s essay “Tending the Land” adapted with permission of the National Geographic Society from the book *Written in Water: Messages of Hope for Earth’s Most Precious Resource*. Edited by Irene Salina. Copyright ©2010 National Geographic Society

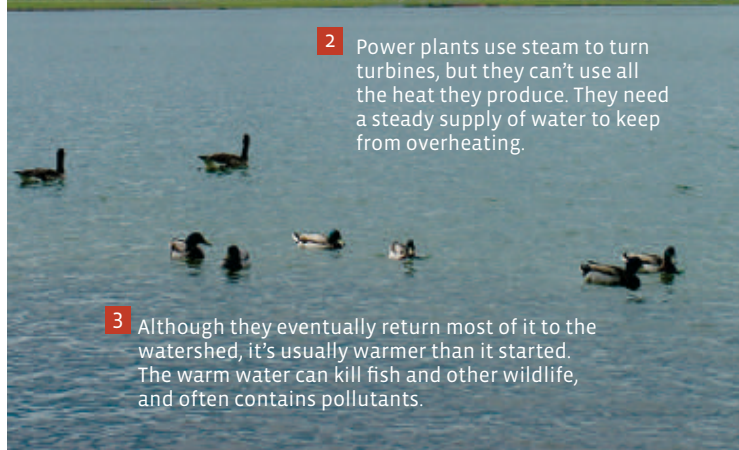
How Water Is Wasted On Electricity

Power plants suck more water out of the nation’s watersheds than any other single user—more than 40 percent.

1 About 90 percent of U.S. electricity comes from thermoelectric power: turning water into steam by burning coal, natural gas, or oil, or using the heat from nuclear reactions.

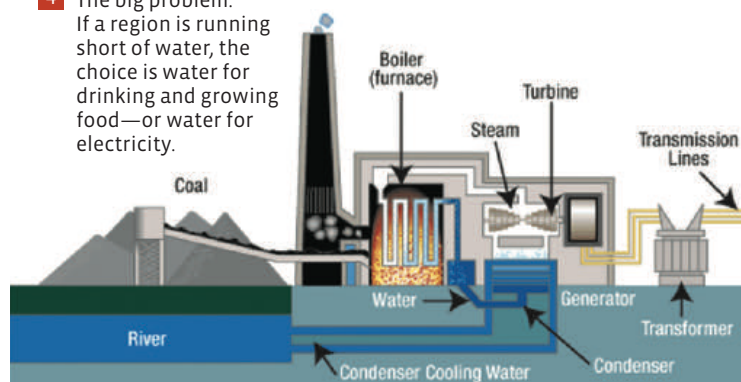


2 Power plants use steam to turn turbines, but they can’t use all the heat they produce. They need a steady supply of water to keep from overheating.



3 Although they eventually return most of it to the watershed, it’s usually warmer than it started. The warm water can kill fish and other wildlife, and often contains pollutants.

4 The big problem: If a region is running short of water, the choice is water for drinking and growing food—or water for electricity.



5 So we need to move pretty quickly to ways of making electricity that don’t use steam to turn turbines. Wind turbines, for instance. Or photovoltaics.

Source: Photo of power plant on Lake Julian, N.C., by Bullet Miller; coal plant illustration by Tennessee Valley Authority

YES! MAGAZINE GRAPHIC, 2010

{ACEQUIAS}

ANCIENT TRADITIONS KEEP DESERT WATERS FLOWING

Arturo Sandoval

New Mexico has a spiritual power emanating from the landscape—its *rios*, *mesas*, *llanos*, *sierras*—that informs our traditional cultures.

Native Americans live each day in a vibrant relationship with everything around them. For them, New Mexico is not just a place to live. It is a way to live.

Similarly, Indo-Hispanos have created an intimate relationship with the landscape over the past three or four centuries. They built *acequias*—communal irrigation systems—not only to sustain an agricultural lifestyle, but also to caress and sustain the Earth and its natural creatures.

Acequias evolved over 10,000 years in the deserts of the Middle East and were introduced into southern Spain by the Moors during their nearly 800-year occupation. Spanish colonizers took acequias to the New World. Acequias included specific governance over water distribution, water scarcity plans, and all other matters pertaining to what was viewed as a communal resource. The *mayordomo*, or watermaster, of the acequia made

decisions about water distribution among community members, with the consent and advice of the acequia members.

This communal system of irrigating was a response to the scarcity of water in arid regions and was key to the survival of agricultural communities. In many instances, the acequia governance system was also used to settle other community conflicts, especially in areas like New Mexico, located far from the seat of government in Mexico City. The irrigation system that evolved over centuries and that was implemented in New Mexico was created to ensure a formal civil process to resolve water-rights issues, especially in dry times. Each irrigator had one vote to elect the *mayordomo*. The *mayordomo* had ultimate authority over water disputes and his word was final. He derived his authority from the communal power vested in him by all of the irrigators.

In the spring, every able-bodied male was required to show up on the appointed day and time to clean and repair the *acequia madre*—the mother ditch from which each individual plot





In Arizona, uncovered swimming pools lose 4 to 6 feet of water a year to evaporation. There are 300,000 pools in Phoenix.

received irrigation water. Once the main irrigation canal was repaired and water began flowing, the mayordomo monitored the use of water for irrigation by each acequia member. Each member was assigned a specific time each week to irrigate his personal field. If an irrigator used water without the mayordomo's permission, he was severely punished by having water withheld from his fields. If the acequia madre was breached during the year, the mayordomo called on every irrigator to help repair it. This was considered a sacred duty.

This commitment to maintaining the village's primary irrigation supply bonded villagers together over the years. The concept of working communally became an integral part of a village's world view: the group was valued over the individual.

Community in a Changed World

This model of cooperation and communal ownership can be a guide as we enter a time when climate change, lack of oil, or economic turmoil will require deep change in the way we live.

Author James Howard Kunstler predicts a "long emergency"—a time when world oil production peaks and the remaining oil to be exploited is geometrically more difficult and expensive to find and extract. What that means is that we will be pushed to plant and grow food closer to home, since transporting food from other parts of the world will become too expensive due to the rising cost of oil. >>

The acequias of New Mexico are communal irrigation canals, a way to share water for agriculture in a dry land. Excavated in the early 18th century, this acequia is in the village of Corrales, along the Rio Grande. Tiwa Indians irrigated farmland in the area as long as 1,300 years ago.

PHOTO BY DAVID BALES, DAVIDBALES.COM

» Our energy-intensive water systems, based on moving huge amounts of water long distances or pumping it from deep underground, will become unworkable. Homegrown food will become affordable once again, and acequia systems can step in to provide the water to produce healthy, affordable, locally-grown food for local foodsheds.

Kunstler argues that this long emergency as we move into an oil-depleted economy will change forever everything about a society so dependent on cheap petroleum. He presents a bleak future for all of us.

He does, however, offer one ray of hope: "If there is any positive side to stark changes coming our way, it may be in the benefits of close communal relations, of having to really work intimately (and physically) with our neighbors, to be part of an enterprise that really matters and to be fully engaged in meaningful social enactments instead of being merely entertained to avoid boredom."

I would argue that we already have those conditions to live successfully in a postmodern world in New Mexico. We have those close communal relationships.

We need to study our acequias to see how people can find a livable future using the most effective power source available—local communal vision, cooperation, and mutual support.

Collaboration Across Cultures

To do that, we need to learn how to celebrate our roots and culture and still cross our individual cultural boundaries in hopes of building successful collaborations. We all want healthy people and communities; we all want good health care; we all want a good education for our children; we all want decent housing; we all want justice and peace in our lives.

But for us to reach those goals, we all have to examine our own practices and beliefs. The acequias and other communal traditions in New Mexico demonstrate the positive values that

permit us to embrace each other despite our fears and biases. We must build on those and root out those negative behaviors that limit our capacity to grow and give.

We are blessed to have living among us a native son, our Chicano poet laureate, Jimmy Santiago Baca. For him, the Rio Grande is sacred. I leave you with a piece from his latest work:

"Winter Poems Along the Rio Grande":

"Sometimes I stand on the river bank and feel the water take my pain, allow my nostalgic brooding a reprieve.

The water flows south, constantly redrafting its story which is my story, rising and lowering with glimmering meanings—

here nations drown their stupid babbling, bragging senators are mere geese droppings in the mud, radicals and conservatives are stands of island grass,

and the water flows on, cleansing, baptizing Muslims, Jews and Christians alike.

I yearn to move past these days of hate and racism.

That is why this Rio Grande, these trees and sage bushes the geese, horses, dogs and river stones

are so important to me— with them

I go on altering my reptilian self, reaching higher notes of being on my trombone heart, pulsing out into the universe, my music according to the leaf's music sheet, working, with a vague indulgence toward a song called

we the people." 



Arturo Sandoval is founder and president of VOCES, Inc. and the Center of Southwest Culture, Inc. He has been active for more than 40 years in community, cultural, environmental, and civil rights efforts in New Mexico and across

the United States.



PHOTO BY SAMANTHA MASCAREÑAS



www.YesMagazine.org/acequias

Andrew Mascareñas' story of the importance of farming and flood irrigation to his family and to the culture of New Mexico

FROM THE PUBLISHER



AS OUR SOCIETY APPROACHES MAJOR TRANSITIONS AHEAD, WE MAY WELCOME OR RESIST THE CHANGES ... HOW WE REACT WILL REST PARTLY ON HOW WE FRAME THOSE CHANGES.

Winning the Frame Game

WHAT WOULD YOU be more interested in: “employment for building new infrastructure” or “green jobs”? “Re-regulating the financial sector” or “favoring Main Street over Wall Street”? The dry, technical one or the one with a host of connotations? How we frame issues can change the way we think about them.

Cognitive linguist George Lakoff notes that people rely on metaphors, usually subconscious ones, to think about complicated issues. Different descriptions of an issue evoke different metaphors, which in turn affect public opinion. Opponents of the estate tax couldn’t get political traction against a tax that affects only the richest 2 percent of Americans. So they reframed it as the “death tax” and got enough support to lower and, for 2010, suspend it.

Six years ago Lakoff claimed that liberals were losing the “frame game.” But those working to create a fairer, more sustainable world have since generated powerful frames that are now changing mainstream debate.

Take what’s happened to the word “green” over the last few decades. It’s a simple word with a boatload of positive connotations—trees, meadows, the “go” traffic light. Due to tireless efforts of such folks as those at Green America, “green” has gradually come to connote a whole way of thinking about how to reshape our economy and the way we live.

Author and activist Van Jones linked “green” to “jobs” to frame a solution to the pressing problems of both climate change and employment. That frame bridged the concerns of environmentalists and workers, people of color and whites. It proved so powerful that politicians inserted billions of dollars into state and federal legislation for green jobs programs.

At YES! Magazine part of our mission is to frame issues to help people see the positive possibilities. Early on, we saw the power of the green jobs framing and served as a platform for Jones’ cogent message.

Let me take a couple of lesser-known examples of such framing language. Shannon Hayes recently began blogging on our website. She calls herself a “radical homemaker” because she’s stepping outside the dominant culture to live a life she finds simpler and more fun, and depends less on money and more on community. By connecting the word “radical” to “homemaker,” she transforms the old-fashioned, pre-feminist connotations of “homemaker” to evoke a cool, cutting-edge approach to family life. Her blog is proving popular, providing thousands of people a fresh way to think about how they live.

Another example is “America: The Remix,” the title of your Spring 2010 YES! Magazine. By mid-century whites in America will be a minority. For

some, this is an unsettling prospect. “America: the Remix” evokes the metaphor of remixing music—updating older recordings to create a new, modern sound. Charles M. Blow, in a *New York Times* op-ed, picked up our “America: The Remix” phrase and from there it spread to *The Wall Street Journal* and other publications. Other newspapers and websites published Sarah van Gelder’s “America: The Remix” article, further spreading the positive frame on our increasingly multi-racial country.

On the YES! website I’ll post additional examples of positive frames on the changes ahead. Do you have some favorite phrases? Go to yesmagazine.org/frames and use the comments section to join the conversation.

As our society approaches major transitions ahead, we may welcome or resist the changes, find them fearful or exciting. How we react will rest partly on how we frame those changes and the metaphors our words evoke. This is a great time to frame needed changes in ways that help us all embrace the best possibilities ahead.

Fran Korten, Publisher

Join the conversation at
www.YesMagazine.org/frames



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At YES! Magazine we work with hundreds of organizations that are building a just and sustainable world. We develop special partnerships with some to help each of us reach more people. Here are three partner organizations whose work we think you'll want to know about.



WWW.GRIST.ORG

Laugh now—or the planet gets it. That's one of the mottos at **GRIST.ORG**. Grist has been dishing out environmental news and commentary with a wry twist since 1999. Each day, they use their Clarity-o-Meter to draw out the real meaning behind green stories, and to connect big issues like climate change to daily life. At Grist, they take their

work seriously. Themselves—not so much. Visit grist.org and see for yourself.



CORPORATE ACCOUNTABILITY INTERNATIONAL

is the education and advocacy organization behind Think Outside the Bottle, a national campaign to renew support for public water

systems and break the nation's bottled water habit. For 30 years, they have worked to protect public health and the environment by compelling Nestlé, GE, and Philip Morris to halt a range of abuses. Today, they are working to reverse the world water crisis by challenging World Bank lending practices that line the pockets of water profiteers while millions go thirsty. For information visit StopCorporateAbuse.org/Water-Campaign.



Back when the only bottles on the market were lined aluminum and polycarbonate plastic, the **KLEAN KANTEEN®**, made from 18/8, food-grade stainless steel, was invented as a safe, durable, BPA-free alternative. A family-owned business founded to promote health, sustainability and environmental responsibility, Klean Kanteen® was hon-

ored for leadership in sustainable business practices with a Breast Cancer Fund Heroes Award in April. Klean Kanteen® also sponsored the *Tapped* "Get Off the Bottle" movie tour. kleankanteen.com

YES! PICKS ::

Things To Do, Places To Go

National River Rally

May 21–24 in Snowbird, UT. Join key innovators of the watershed protection movement in a spectacular natural setting for several days of training, networking, arts, inspiration, and field trips. rivernetwork.org

Network of Spiritual Progressives

June 11–14 in Washington, D.C. Join Rabbi Michael Lerner, YES! Magazine board chair David Korten, Riane Eisler, Dennis Kucinich, Bill McKibben, and other thought leaders for a unique strategy conference on the progressive agenda, focusing on the opportunities and challenges posed by the Obama administration. spiritualprogressives.org

National Worker Cooperative Conference

August 6–8 in San Francisco, CA. Co-hosted by the U.S. Federation of Worker Cooperatives and Bay Area worker cooperatives, this third annual conference will focus on information exchanges and skill-sharing for creating and sustaining democratic workplaces. usworker.coop

Urban and Small Farm Conference

September 10–12 in Milwaukee, WI. Hosted by Growing Power, this international farming event will bring together sustainable urban farmer Will Allen and other small farm enthusiasts for hands-on workshops and learning intensives. growingpowerfarmconference.org

www.YesMagazine.org/events


For an expanded listing of upcoming events





WHY POWER IS NOT A DIRTY WORD

In *Getting a Grip 2*, Frances Moore Lappé looks at redefining power and taking it back.

 [www.YesMagazine.org/
getting-a-grip](http://www.YesMagazine.org/getting-a-grip)

Frances Moore Lappé

Why are we as societies creating a world that we as individuals abhor? It's a mind-bending question.

Who, after all, gets up in the morning pledging to starve children? Yet, each day over 24,000 young children die of hunger and poverty. Who, anywhere, sets out to heat the planet and rid the world of its species? Yet, every day roughly 100 more species are lost forever.

Do we simply lack the know-how to reverse these horrors? No. We humans already have proven solutions to everything from climate chaos to poverty.

Or is it human nature—underneath are we all just selfish little shoppers, so of course we're doomed?

No, again. In recent decades, a revolution in our understanding of human nature has produced evidence from neuroscience to anthropology that we have all the social "wiring" needed to make the turn toward life. It turns out we've evolved to take pleasure in and to need cooperation, empathy, fairness, and efficacy.

Then what is preventing us from moving toward the world that almost all of us want? My short answer is that we feel powerless. We feel powerless to act on what we know.

And what robs us of power?

For some, it's the false idea that we have to change human nature itself; that we have to overcome our Stone Age emotions, as esteemed biologist E.O. Wilson tells us.

Others cling to the notion that most of us are OK, but there's an evil minority—be it people raking in the dough on Wall Street or hiding in caves in Pakistan. The solution is to get rid of "them" so we can have the world we want.

To me, both seem daunting, truly impossible tasks.

What if there were a wholly different way of seeing the challenge that gets at the very root of our powerlessness, and is grounded in the latest science?

In *Getting a Grip 2: Clarity, Creativity and Courage for the World We Really Want*, I suggest that we humans find our power only as we embrace the totality of our complex nature: accepting that, yes, we are hard-wired (or at least, "soft-wired") to be caring and cooperative problem-solvers. And at the same time, lab experiments, as well as current and past genocides, prove that under »

PAUL DUNN FOR YES! MAGAZINE

» the right (wrong) conditions, most of us will brutalize others.

It's tough to truly accept that both attributes exist within virtually all of us, but the payoff for taking this mental leap is huge.

From this frame, we know what to do. We don't have to change human nature or get rid of the evil ones. We have to first identify the social rules and norms that both bring out the best in us and keep the worst in check; and then work to manifest precisely those conditions.

I believe the evidence shows that three conditions, in particular, lead humans to no good. They are con-

Hans-Peter Duerr reminds us, "There are not parts, only participants."

From this view, our power is evident. The only choice we *don't* have is whether to change the world: Every choice we make sends out ripples. This is not the rugged "loner" type of power glorified by our culture. It is power flowing from our interdependence, which recent neuroscience reveals to be vastly greater than we'd ever imagined.

In the early 1990s, neuroscientists were studying the brain activity of monkeys, particularly in the part of the brain's frontal lobe associated with distinct actions, such as reaching or eat-

moment to moment. For me, our "imprintability" is itself a source of hope. Our actions, and perhaps our mental states, register in others, so that we change anyone observing us. That's power.

The Power of Action

And we never know who's watching. Just think: It may be when we feel most marginalized and unheard, but still act with resolve, that someone is listening or watching, and their life is forever changed.

As I form this thought, the face of Wangari Maathai comes to mind. Maathai planted seven trees in Nairobi



EVERY CHOICE WE MAKE SENDS OUT RIPPLES. THIS IS NOT THE RUGGED "LONER" TYPE OF POWER GLORIFIED BY OUR CULTURE. IT IS POWER FLOWING FROM OUR INTERDEPENDENCE.



centration of power, anonymity, and scapegoating.

If that is the case, progress toward the world we want comes as we dissolve these conditions and move toward communities and societies with widely dispersed power, transparent public decision making, and shared responsibility for creating solutions instead of looking for someone to blame.

The great news is that millions of people worldwide are fostering the conditions that bring out the best in us. But if despair is still a danger for many who feel powerless to act on what we know now, maybe it's time we rethink power itself.

The Power of Interdependence

It helps to remember ecology's core teaching: We all exist in densely woven networks. From the cellular to the societal level, our context shapes each of us moment to moment. As physicist

ing. They saw specific neurons firing for specific activities. But then they noticed something they didn't expect at all: The very same neurons fired when a monkey was simply watching another monkey perform that action.

"Monkey see, monkey do" suddenly took on a whole new meaning for me. We humans are wired like our close relatives, and when we observe someone else, our own brains are simultaneously experiencing at least something of what that person is experiencing. The significance of these copycats, called "mirror neurons," is huge. We do walk in one another's shoes, whether we want to or not. "[Our] intimate brain-to-brain link-up ... lets us affect the brain—and so the body—of everyone we interact with, just as they do us," writes Daniel Goleman, in *Social Intelligence: The New Science of Human Relationships*.

We therefore co-create one another,

on Earth Day 1977 to honor seven women environmental leaders in Kenya. Over the next two decades, she was jailed, humiliated, and beaten for her environmental activism, but her simple act sparked a movement in which those seven trees became 45 million, all planted by village women across Kenya.

In fall 2004, when Maathai got the call telling her she had won the Nobel Peace Prize, her first words were: "I didn't know anyone was listening." But, evidently, a lot of people were, from tens of thousands of self-taught tree planters in Kenya to the Nobel committee in Oslo.

From there I flash back to a conversation with João Pedro Stédile, a founder of the largest and perhaps most effective social movement in this hemisphere—Brazil's Landless Workers' Movement, which has enabled some of the world's poorest people to gain

Rethinking Power

POWER IS ...	POWER CAN BE ...
Zero-sum. It strengthens some people at the expense of others. It divides what already exists.	Mutually expanding. It builds the capacities of all involved. It is creative, generating new strengths and new possibilities.
A one-way force: either you have it, or you don't. Life boils down to the powerful versus the powerless.	A give-and-take, two-way relationship. No one is ever completely powerless because each person's actions affect others.
Limiting, intimidating, and scary.	Freeing.
Controlling.	Collaborative.
Rigid, static.	Dynamic, always changing.
Derived mostly from laws, status, force, and wealth.	Derived from relationships, knowledge, experience, numbers, organization, creativity, vision, perseverance, discipline, humor, and more.
About what I can do or get right now.	Mindful of creating and sustaining relational power over time.

Source: *Getting a Grip 2*

nearly 20 million acres of unused land.

Who helped motivate Stédile who did work in the 1980s under Brazil's military regime when gatherings of any kind were risky? It was Cesar Chavez and the United Farm Workers' struggle, he told me.

I'll bet Chavez never knew, or even imagined, his example was powerful enough to jump continents.

Just as important, the findings of neuroscience suggest a great way to empower ourselves. We can place ourselves in the company of those more courageous than we are. For sure, we'll become more like them.

Thus, our most important choices may be deciding whom we spend time with as friends, colleagues, and partners. And "spending time" means more than face-to-face contact. What we see on TV, in films, and on the Internet, what we read and therefore imagine—all are

firing mirror neurons in our brains and forming us. Knowing this, we can choose courage—and power.

Changing the Rules

Our every act shapes the field of power relationships, and the rules we create determine whether they will be life-serving.

Today's rules, for example, allow private-money's influence over public decisions to create one of the three conditions proven to lead to no good: highly concentrated power. Lobbyists spent \$3.5 billion last year to influence Congress, funding more than two dozen lobbyists for every single legislator citizens have elected to represent them.

Once we fully embrace the notion that dispersion and accountability of power is key to our thriving, then we will no longer be surprised when a new president fails to turn the ship of state.

Instead, we'll realize the need and see our power to change the rules.

Right now, we have a prime opportunity. Both houses of Congress are considering the Fair Elections Now Act, which would establish voluntary public financing of congressional elections. It would enable everyday citizens—the waitress, teacher, or truck driver—to run for office without being tethered to corporate money. It's built on a system that is already working in Maine, Arizona, and Connecticut.

No matter what else we are doing to promote democracy we can each press our representatives to get on board. We can make campaign finance reform a sexy, compelling issue, knowing it's needed to move on everything from serious climate-change legislation to remaking our banking system.

Rethinking Power

To inhabit this world of possibility, where we see our power everywhere, we can start by rethinking power itself.

Power is an idea, and in our culture it's a stifling idea—almost a dirty word—equated with manipulation, coercion, and destruction. We see it in abuses by unaccountable corporations and corrupt governments.

Defined this way, no wonder it looks negative and we feel powerless. But, if we understand that power is simply our capacity to act, we're free to be its co-creators. I've found many Americans returning power to its original meaning—"to be able." From there, power becomes something we human beings develop together—relational power. And that's a lot more fun.

Once we step up and face the uncomfortable truth about our nature—embracing the good, the bad, and the very ugly—we can focus on what really matters: together creating the social rules and norms that bring out the best, while dissolving the conditions that elicit the worst.

From there, we can rethink power itself, so that we fully realize our own and inhabit a world of possibility. 🙌

Frances Moore Lappé is the author of many books including *Diet for a Small Planet* and *Getting a Grip 2*. She is co-founder of Food First and the Small Planet Institute, and is a YES! contributing editor.

UPDATE

HAS THE PROMISE OF THE STORIES WE'VE PUBLISHED TURNED INTO REALITY?



PHOTO BY SOGOLON DJATA

Earth Stewards remove non-native grasses for a pollution mitigation project at San Francisco's Lake Merced.

Post-Prison Garden Project Grows Earth Stewards

10 YEARS AGO ...

YES! published the story of the Garden Project (YES! Fall 2000). Cathrine Sneed, a counselor at the San Francisco County Jail, started a project in 1984 to connect inmates with the land by teaching them gardening. The prisoners gained self-respect, and many wanted to continue the work after their release. So, in 1992, Sneed started the Garden Project, which employed ex-prisoners to garden, plant trees, and landscape Bay Area public property. At the time of our story, participants tended a garden that produced food for low-income residents and had planted more than 7,000 trees on the streets of San Francisco.

TODAY ...

The Garden Project has expanded to reach out to at-risk youth as well as ex-prisoners. In October 2000, the project received an Oprah Winfrey "Use Your Life Award" of \$100,000 and a tractor for the garden. The inmate program closed in 2002 due to lack of staff and funds, so Sneed left her counseling job to focus on the Garden Project. The Sheriff's Department let her continue to use the jail's 12-acre farm plot.

Alumni have been the project's biggest evangelists, touting its transformational power to their friends and families. By 2004, relatives of former members were frequently turning to Sneed seeking jobs. So the Garden Project collaborated with the San Francisco Public Utilities Commission (SFPUC) and the Sheriff's Department to create Earth Stewards, which hired 12 at-risk young adults to remove invasive plants from city property and replant with native species. Stewards receive wages and health benefits, but Sneed believes the wisdom they gain about ecology, hard work, and interconnectedness is the real payoff.

"Doing this work empowers them," she says. "With just their hands they can make this huge difference. And they can see it."

In 2009, the San Francisco Housing Authority identified as potential troublemakers 80 young adults from its housing projects. Sneed hired them for a summer of hard work, including monthly week-long trips to Yosemite's Hetch Hetchy Valley, where the crew cleared an average of two miles of road each week in 100-degree temperatures. Sneed taught lessons on ecology, horticulture, and nutrition. Only three quit.

"She is able to take an entire childhood of positive role models, like most of us had, and squeeze it into six months to a year," says San Francisco Sheriff Michael Hennessey. "And she does it by being a combination of Mother Teresa and a drill sergeant."

When summer ended, some Earth Stewards headed back to school, but those who were beyond school age were unsure what to do next. Sneed convinced the SFPUC to extend employment for anyone who wanted to continue in the program.

Today there are 37 Earth Stewards and seven full-time Garden Project employees. The two programs work side by side on the jail's farm plot, which contains a vegetable garden and a native plant nursery grown from cuttings and seeds collected locally. In 2009, the garden produced more than 25 tons of vegetables for donation to groups serving indigent seniors and families, including Project Open Hand, the Alviar Mission Education Project, and the Double Rock Baptist Church. Sneed hopes to sell some produce to Stanford University's dining services in the coming year to raise funds for employee housing and other program costs.

—Berit Anderson

Check out the YES! Magazine archive:

See our original story at www.yesmagazine.org/seeds-of-change



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Send questions to YES! But How?, 284 Madrona Way NE, Suite 116, Bainbridge Island, WA 98110 or to editors@yesmagazine.org

PAPER VS. CLOTH

Does buying recycled household-paper products make that much of a difference? Are there any better alternatives?

Most household paper products—paper towels, tissues, toilet paper, and napkins—are made of virgin pulp harvested from the Canadian boreal forest or from ecologically damaging monoculture tree farms in the Southeast. According to the Natural Resources Defense Council, “If every household in the United States replaced just one package of virgin-fiber napkins (250-count) with 100 percent recycled ones, we could save 1 million trees.” So, the short answer is, yes, purchasing recycled household-paper products appears to be a good choice.

It's surprisingly affordable, too. Contrary to popular belief, some recycled household paper products can be found for roughly the same price as their non-recycled competitors.

But finding the recycled symbol (whose use is poorly regulated) isn't the end of the story. First, choose products with high post-consumer recycled content; increased demand for these products helps encourage and sustain recycling programs. Second, check to see if the product has been bleached. Bright whites

come from chlorine, which can be harmful to streams and rivers, killing fish and disrupting aquatic ecosystems. Look for products labeled totally chlorine-free (TCF) or processed chlorine-free (PCF).

If you aren't quite sold on the environmental perks of recycled products or doubt their durability, try cloth. Although its production makes considerable demands on the environment, cloth allows multiple uses and eliminates the plastic packaging associated with disposable paper products. And if you throw your dirty rags in with the rest of your laundry and line dry them, the environmental impact of cleaning cloth is negligible. When possible, choose linen over cotton, as the cultivation of flax requires less water and fewer pesticides.

For more information on the environmental impact of household-paper products, visit treehugger.com and nrdc.org. —K.R.

A GREENER POUR

I see more and more “green” boxed wines hitting the shelves at the supermarket. Are these really better for the environment?

Wine boxes are making a comeback, filling the glasses of college students and oenophiles alike. But the classic

Our Issue 54 researchers

After YES!, **Berit Anderson** plans to start an environmental education program. Throughout her time on Bainbridge Island, she has delighted in sharing in the YES! extended community of movers and shakers. **Keith Rutowski** will pursue a career using art, literature, and multimedia to promote social change.



PHOTO BY SCOTT GAST

Keith Rutowski

Berit Anderson

bag-in-box (BIB) model isn't the only glass-bottle alternative. Wineries have begun using PET plastic wine bottles and Tetra Paks (often used in juice boxes).

The greenest choice: wine made from organic grapes in a BPA-free, BIB container printed with soy-based inks and sealed with cornstarch. Only a few wineries have come this far, so don't worry if you can't find a box of wine with these exact specifications.

BIB packaging still packs an environmental punch. A BIB uses a plastic bag fitted with a nozzle and nestled inside a cardboard box. Compared to the glass bottle, it is both

lighter and more efficiently packed for shipping, which reduces its carbon footprint. The box and plastic bag inside are both recyclable, so long as your area accepts no. 7 plastic. That kind of plastic, however, is often made with Bisphenol A (BPA). To make sure the bag is BPA-free, inquire with the winery. Each box usually holds three or four traditional 750-milliliter bottles, and its collapsing vacuum bag and airtight nozzle keep wine fresh for up to a month after opening. At the cost equivalent of about \$5 a bottle, these wines beat their bottle counterparts for price.

According to a life-cycle

YES! PICKS ::

Step Away From the Plastic Bag



My lunch embarrassed me. While my colleagues unpacked glass jars of noodles and opened cans of soup into ceramic bowls, I ate carrots out of a plastic sandwich bag—hidden in my lunch tote. I had plastic guilt.

My family packed—and trashed—as many as 10 plastic sandwich bags a day, and I knew I needed an alternative. Washing, drying, and reusing every sandwich bag would be a tough sell in my household. Bags made with recycled plastic or wax paper weren't enough of a switch. Glass containers were a reliable standby—but not practical to stash in my 6-year-old's lunch.

Where to start? Contrary to its name, reusablebags.com sells more than sandwich-bag alternatives. The site offers environment-friendly containers, dishes, utensils, and other household products from many small, often family-owned businesses with names like SnackTAXI and 3greenmoms. Other informational sites with retail links include biggreen-purse.com and wastefreelunches.org.

I picked fabric, a popular—and lightweight—option. Most cloth bags come in sandwich and snack sizes and function like envelopes with a fold-over flap and a Velcro seal. Designs cater to all ages, ranging from cartoonish animals, cars, and fruit slices to polka dots, stripes, and of course, solid colors. Some brands use a heavier, dishwasher-ready

cotton that wipes clean and dries fast; others, easily thrown in the laundry, could have come right off my sewing machine (note to self: Try this at home). At \$6 to \$9 each, buying just a few adds up, but they'll last well beyond that \$4 box of 100 plastic sandwich bags in the pantry.

I also bought a lined cloth place mat (\$8.95) that folds over its contents, sealed with Velcro. It's especially handy for lunch on the ferry or any other spot where numerous other people may have eaten before you. A set of three nesting stainless-steel containers (\$23.95) can replace plastic dishes and hold fruit, salad, and other foods requiring utensils. The down side: They don't go in the microwave.

Now if I can just get used to hauling around a glass dish of soup in my bike bag. —Kim Eckart

inventory of the production, transportation, and post-consumer recycling of Tetra Paks, glass bottles, and PET bottles, delivering 1,000 liters of wine in Tetra Paks uses less energy and produces less greenhouse gas than plastic PET bottles and traditional glass bottles, which clock in at 922 and 1,926 pounds respectively.

Tetra Paks are made from a composite of paperboard, aluminum, and polyolefin resins, but only the paper portion can be recycled.

To find out where Tetra Paks can be recycled and more about boxed wines, visit yesmagazine.org/boxed-wine. —B.A.

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