

San Diego

Earth Times

Special Earth Day Issue

April 2017

EarthFair in Balboa Park

Sunday, April 23 - "Be A Solution"

Climate Change and Us

Making San Diego climate-resistant

Politicians vs. Scientists

Why that's so dangerous

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CUT TO THE CHASE – FROM THE EDITOR

Change causes upset – then what?

WHY WE HATE POLITICS...
AND WHY WE CAN’T AFFORD
TO



by Carolyn Chase

Can we be really honest? We don’t like politics. Mostly, most people don’t want to do what it takes to make a difference politically. They’d rather do the comfortable things in response to the politics of the day: ridicule, laugh or simply turn away. Marching may matter if people persist. But in the end, changing minds and getting new voters to the polls is what matters.

Here’s more bad news: national politics is going to get a lot worse before it gets better.

Political culture

Bureaucracies are controlled by bureaucrats. They are either motivated by public service or they are not. Each agency has its own culture. What matters is the CULTURE in any human enterprise. Whether a church or a corporation, they are all run pretty much the same: by people. They are either compassionate or they are not. They are balanced or not. They have anger issues or not. The bosses are jerks or not. They have control issues or not.

We’ve been extraordinarily lucky during our lifetimes (so far) that most (not all) politicians were motivated by the public good and less by ideology. However you explain it, the middle must rise or we’re in for seldom-ending wars and rising domestic violence as fear is artfully generated by Darth Bannon, and channeled by POTUS 45 and his minions.

Our desires to control the activities of others is our undoing. Yet one person’s control is another person’s cost. Good government requires balance, feedback, and continuous examination.

It’s become all about tearing down one set of priorities for another. It’s easy to pontificate and therapize and listen to pundits, most of whom have little real clue about the impacts they rail on about. It’s all a distraction... entertainment, if you will... massaging ones ego.

Politics and conflict

We don’t like politics because it requires conflict. Period. Doing what is effective takes time and can be uncomfortable. Controversial change requires persistence and usually sacrifice.

At a civilized level it’s known a negotiations; or at elite levels, diplomacy. Nowadays, it’s overly emotional and little listening is happening. This reduces the action to a battle of wills, instead of representatives negotiating together for the best possible outcome regardless of ideology.

The cost of change

Think about it. Change causes upset. The degree of upset is directly
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Special thanks to **Jennifer Hewitson** for donating this year’s “Solution Tree” artwork, shown on page 15. See the article about EarthWork’s long-time benefactor on page 14.

Cover photo by Carolyn Chase

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ReWild Mission Bay

THE DECADES-LONG PROJECT TO RECREATE THE HISTORIC WETLANDS IN THE NORTHEAST CORNER OF MISSION BAY IS COMING TO FRUITION.

ReWild Mission Bay is a project of San Diego Audubon and their partners to enhance and restore up to 170 acres of wetlands in the northeast corner of Mission Bay, creating opportunity for wildlife to thrive and San Diegans to enjoy nature in their own backyard. Wetlands keep our communities beautiful, supply habitat for local wildlife and provide us with clean water. Wetlands let us experience San Diego to the fullest.

What is ReWild?

Restoring Mission Bay has been an initiative of the City of San Diego for decades, and the pieces are finally in place to see how it can happen. San Diego Audubon is working with partners, stakeholders, and community members to develop three versions of a community-informed plan to restore and expand wetlands in the northeast corner of Mission Bay.

Following the conceptual plan design and a feasibility study, the San Diego City Council will determine which plan moves forward. Next, they move on to permitting, implementation, and follow-up monitoring. Ultimately, the restoration will provide opportunities for plants, animals, and humans to thrive.

Where?

ReWild Mission Bay does not impact all of Mission Bay. This project focuses on existing natural spaces and developed areas east of Crown Point, along Pacific Beach Drive and on both sides of Rose Creek.

The importance and benefits of wetlands are numerous and expansive, but they often go unnoticed until they need our help. Think of it like your health: When you are healthy, you don't think much about it. It's only when you become unhealthy that you notice how precious your health is and how important it is to take care of. It's very much the same with wetlands: important, but often not noticed when functioning as normal. And that's exactly where we are now.

What are wetlands?

"Wetlands" is a catchall term for habitats that are at least periodically saturated with salt, fresh, or brackish water. In San Diego, this can include open water, bays, mud flats, eelgrass, salt marsh, transition/upland habitats, and rivers.

ReWild Mission Bay is working to restore the wetlands that form at the mouth of a river or creek – in this case, Rose Creek.

Wetlands serve a variety of important purposes depending on their location. They protect communities from flooding by providing a cushion during high tides that stabilizes shorelines. They improve water quality and provide habitat for baby fish. Healthy wetlands attract wildlife. Birds stop at Mission Bay wetlands during their migration along the Pacific Flyway during winter months.

What makes Mission Bay important?

- Mission Bay is the largest man-made public aquatic recreational area in the United States.
- More than 15 million visitors enjoy Mis-

provided by San Diego Audubon Mission Bay every year.

- Mission Bay comprises 4,600 acres of water outlined by 27 miles of shoreline.
- At least 144 bird species and 56 plant species call Mission Bay home.

Mission Bay used to have nearly 4,000 acres of salt marshes. Sadly, only about five percent of the historic wetlands remain today.

ReWild and You

The public is a crucial part of the ReWild Mission Bay team. This project requires public participation in the process to restore healthy Mission Bay wetlands. Regular public meetings will coincide with key milestones during the project, each including educational and comment components to ensure that your voice is heard and that you have a say in shaping your community. **ET**

The mission of San Diego Audubon Society is to foster the protection and appreciation of birds, other wildlife, and their habitats, through education and study, and advocate for a cleaner, healthier environment.

For opportunities to get involved, please contact San Diego Audubon: info@rewildmissionbay.org, (858) 273-7800 x 101, [facebook.com/rewildmissionbay](https://www.facebook.com/rewildmissionbay)



Making San Diego climate-resilient

WEAVING TOGETHER SCIENCE, COMMUNITY, AND ART TO SAFEGUARD OUR COMMUNITIES FROM CLIMATE IMPACTS

San Diego has already begun to feel the impacts of climate change in the form of heat waves, drought, extreme weather, flooding, and sea level rise. The frequency and severity of these climate change impacts will surely increase. We must come together as a community and create solutions to help San Diego adapt.

Toward this end, Climate Science Alliance-South Coast has formed a network of more than 130 organizations, including government representatives, businesses, university researchers, conservation organizations, educators, and artists. The Alliance's goal is to demonstrate innovative thought, inspire action, and provide leadership to conserve and manage the communities and natural resources of southern California in the face of a climate change.

Alliance partnerships weave together science, community, and art in innovative ways to safeguard our communities and coastline from climate impacts. For example, the Resilient Coastlines Projects of Greater San Diego, led by the San Diego Regional Climate Collaborative, supports community-based coastal hazard planning.

Kids care

In 2014, the Climate Science Alliance launched Climate Kids to engage and inspire youth to become environmental stewards and future leaders. Climate Kids programming utilizes hands-on science activities, storytelling, and art to unlock the scientist and artist

in each child. Each Climate Kids project brings together local artists, scientists, educators, and storytellers to promote experiential learning, generate environmental awareness, and foster a sense of stewardship for natural resource conservation. In 2016, the Climate Kids program engaged 12,000 youth in San Diego County, Tijuana, Mexico and in southern California tribal nations.

In addition to bringing the program into the classroom, the Alliance offer teacher training and networking opportunities to support including climate science in the classroom on a full-time basis.

Climate Science at EarthFair

Visit to the Climate Science Alliance Area at the EarthFair to enjoy fun, interactive activities for the whole family that focus on what YOU can do to help! The Climate Science Alliance, in partnership with the Resilient Coastlines Project, will be hosting 20 local organizations involved in climate change, ocean research, and education.

A Climate Kids activity guide will encourage visitors to interact with exhibitors and learn about environmental stewardship to win a prize. Visitors can view a special

provided by The Climate Science Alliance

climate change themed art exhibit and even participate in a community art project.

The area will also feature a stage with performances by local musicians, storytellers from the City of San Diego Public Library, a fashion show with reusable materials, and park rangers. We hope you visit us and learn how you can be part of the solution! **ET**

For more information, visit www.climate-sciencealliance.org.



How will climate change impact San Diego County?

The answer to this question is evident in the changes we have already seen in our local climate. San Diego County residents can expect to feel the impacts of climate change on our natural resources and quality of life in many ways:

- Water resources will become less reliable as warming temperatures combine with less frequent precipitation to worsen drought conditions.
- Coastal flooding will increase as extreme high tides and winter storms are magnified by sea level rise.
- Wildfire seasons may be longer and more extreme due to warming temperatures and less frequent rains that lead to drier soil and vegetation.
- San Diego's plants and animals will be threatened by changes in climate, weather patterns, and habitat area that require species to adapt faster than they are able.
- Health risks will increase as we experience more extended heat waves and less nighttime cooling.

This information along with much more about the current state of climate change research, planning, and action in San Diego County is available in the Climate Education Partner's report, "San Diego, 2050 Is Calling. How Will We Answer." (www.sandiego.edu/2050). **ET**

Earth Artists

Do you have artwork or craft pieces made from recycled, reused, found or sustainable natural materials? If so, we invite you to consider showing or selling your works at the **eARTH Gallery** at EarthFair on April 23.

For more information, and to register for the eARTH Gallery online, please visit www.SDEarthGallery.org.

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Educación sobre cannabis en español también será disponible.

The Cannabis Village will be located in the heart of Balboa Park during EarthFair!

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Iron Sage Wood



Contact: **Dallin Young** or **Sapphire Blackwood** for details!

Dallin@GrassrootsResources.com or Sapphire@GrassrootsResources.com

California universities launch experiment to go carbon-neutral “at scale”

by Jon Christensen

What does it look like when a university decides to walk the walk as well as talk the talk on climate change? The University of California system – which encompasses 10 university campuses and two national scientific research laboratories – is about to find out.

Two years ago, Janet Napolitano, the president of the University of California, pledged that the whole UC system would become the first university in the world to become carbon neutral by 2025. That is to say that in just 10 years, the hundreds of thousands of students, faculty, and staff in the UC system will no longer

contribute to climate change while going about their normal business in the university.

Can the lessons we’re learning here in California be scaled up to the nation and the world? That’s the question that 50 researchers from a wide range of disciplines throughout the University of California ask in “Bending the Curve: Ten Scalable Solutions for Carbon Neutrality and Climate Stability,” of which I was senior editor. It’s being released October 27 at a summit meeting with Governor Jerry Brown, Napolitano, and many of the researchers, including atmospheric scientist V “Ram” Ramanathan, who will take the recommendations to the global climate summit in Paris next month.

Getting to scale

Can California be a model for confronting climate change? The answer is yes, but not, of course, in a simple way. If California were a country, it would have the eighth largest economy in the world. What works here will not automatically work everywhere.

But there are solutions that can scale (as we like to say here in the home of Silicon Valley) and perhaps surprisingly, they are not all technological.

Indeed, the big takeaway message from this report is that if science and engineering were enough to halt carbon emissions, climate change would already be well on the way to being solved. The rest of us – social scientists and scholars of the humanities, education,

communication, the arts, policy, and law – could all go home. But we can’t because it will take all of us working together not only to make the University of California’s campuses carbon-neutral, but to scale up solutions.

That means work must be done with colleagues around the world to bend the curve of carbon emissions to neutral – or very close – worldwide by 2050 to stabilize Earth’s climate in the twenty-first century.

If California were a country, it would have the eighth largest economy in the world. What works here will not automatically work everywhere. But there are solutions that can scale...

Existing tech, public communication

What will it take? The solutions in our report include:

Target short-lived climate pollutants immediately. Short-lived climate pollutants – methane, black carbon, hydrofluorocarbons, and ozone – are powerful contributors to global warming. Unlike carbon dioxide, emissions of these pollutants can be cut back quickly, slowing warming in the near term, averting extreme climatic events, and providing breathing room for the world to fully transition to carbon neutrality.

If, for example, we reduce methane emissions by 50 percent, black carbon by 90 percent, and completely eliminate hydrofluorocarbons by 2030, we can cut the predicted global warming in half by 2050, our report finds.

Reducing these pollutants will also have immediate and dramatic health benefits for residents suffering from air pollution in cities worldwide, and it will help to decrease crop losses and water shortages associated with these climate pollutants.

Immediately scale up the technology we already have. Solar and wind power, electric light-duty vehicles, and efficient end-use devices, particularly for lighting, air conditioning, and industrial processes, are ready for widespread use now.

We need to promote and provide econom-

ic incentives for using existing technology now, while investing in research and development of emerging solutions – such as better batteries and other energy storage devices and cost-effective carbon sequestration – to fully transition the world to carbon neutrality around 2050 and then bend the carbon curve downward in the years beyond.

Communication is crucial, and religious and community leaders are vital

allies. Because fundamental changes in attitudes and behaviors are critical, climate change is a cultural phenomenon as well.

Messages that work for some people will not work for

others. People need to see that they can take concrete steps in their lives to help solve our shared climate crisis. As Pope Francis has so dramatically demonstrated, religious and community leaders at every scale are crucial allies for creating a culture of climate action.

Reduce emissions from the wealthiest, empower the poorest. Climate action requires dramatically lowering the carbon footprint of the wealthiest one billion people on the planet who contribute roughly 60 percent of the climate pollution, while promoting clean energy solutions for the poorest three billion people, who will suffer the worst consequences of climate disruption.

Some of the poorest people in the world also live in and manage many of the great forests and other ecosystems that capture and store carbon. We need to learn from them and better support them in managing these crucial resources of our global climate system.

Creating models for the world

California’s success in curbing greenhouse gas emissions while continuing to thrive economically does offer lessons for other parts of the world. Chinese officials have visited the University of California to learn how Los Angeles has made dramatic progress in cleaning its air in recent decades.

California is now relentlessly ratcheting (Continued on page 9)

Science, not silence

MARCH FOR SCIENCE
SATURDAY, APRIL 22 – 10:00 AM
SAN DIEGO CIVIC CENTER PLAZA
1200 THIRD AVE, SAN DIEGO CA 92101

March for Science of San Diego is a non-partisan group made up of scientists, engineers, and enthusiasts. We include people of all backgrounds and beliefs.

United by our awe of the universe, we remain firm advocates for the contributions science makes to our daily lives. Our mission statement is:

“The march for Science of San Diego stands for public policy that both supports, and is supported by, openly shared science.”

The National March mission statement is: “The March for Science champions publicly funded and publicly communicated science as a pillar of human freedom and prosperity. We unite as

a diverse, nonpartisan group to call for science that upholds the common good, and for political leaders and policymakers to enact evidence-based policies in the public interest.”

For latest info please visit: marchforsciencesd.com **ETI**

CLIMATE SCIENCE

Reality happens, regardless of politics

THE PEOPLE’S CLIMATE MARCH
JOIN NATIONAL ACTION ON SATURDAY, APRIL 29 – 10 AM
County Administration Building, West Side Steps,
1600 Pacific Highway, San Diego
RSVP: www.PeoplesClimateSD.org

As the world continues to drag its feet on climate action, the earth’s average temperature continues to relentlessly increase, and more extreme weather events occur as a result of rising atmospheric carbon dioxide (CO₂) levels.

The concentration of CO₂ in the atmosphere is now around 402 parts per million (ppm), well over the 350 ppm considered the highest safe limit for avoiding the worst impacts of climate change. We are well into the danger zone.

Back to the future

The last time the CO₂ concentration was this high, there were no humans on the planet. This was the Pliocene era, three- to five-million years ago... and the sea level was up to forty feet higher than it is now.

The sea level has already risen 4-8 inches just in our lifetimes. A rise of three feet or

more rise is likely by the end of this century, forcing millions of people to migrate away from their homes.

Other serious impacts of climate change include increases in illnesses like asthma and dengue fever, more frequent and intense storms, wildfires, heat waves, and drought.

Don’t give up!

SanDiego350 works to avoid this catastrophe. Our members meet with state and local officials to push for legislation that can make a difference, such as Climate Action Plans and Community Choice Energy. We march, we rally, we publish articles explaining the need for immediate action, and we give presentations in schools, churches, and other venues.

There is a place for you in our organization.

What can you do now? Take action!

by Mark Hughes
RSVP to join the People’s Climate March on April 29th, 10:00AM at the County Administration Building’s west side steps (1600 Pacific Highway).

Strength is found in numbers. The power of our voice is in volume. Join yours with ours, and be a part of the marches that take place in DC and around the country that day. **ETI**

Mark is a volunteer and editor for San Diego 350. Visit their tables at the EarthFair in Balboa Park on April 23rd.

SanDiego350 is an inclusive, grassroots, volunteer-led San Diego County nonprofit organization devoted to inspiring a movement to prevent the worst impacts of climate change and climate injustice. Please visit their website, sandiego350.org, to learn about their various teams, upcoming events, and how to get involved.

EarthFair 2017 in Balboa Park on April 23

A QUICK GUIDE TO WHAT TO SEE AND DO AT THE 28TH ANNUAL CELEBRATION.

by Chris Klein

EarthFair 2017 is San Diego EarthWorks’ 28th annual event. EarthFair in Balboa Park is the largest free annual environmental fair and Earth Day celebration in the world and has been for decades!

Produced by 300+ volunteers, EarthFair 2017 will feature more than 300 exhibitors, theme areas, a food pavilion, a special Kids’ Activity Area, four entertainment venues, the

Change causes upset

(cont. from page 3)

related to one’s attachments to what’s being lost. But change is a constant companion, like it or not. Perhaps worst of all, most changes, especially the most upsetting ones, are out of our control.

Take all the political changes. It’s hard to know how to respond. It’s disquieting when the world as you know it shifts underneath you. It is, as I understand it, the feeling of loss that Trump America wants us liberals to feel, as if we didn’t or couldn’t feel it before. We did and we could.

While change is a constant companion throughout life, the rate of change can overtake our sensibilities. There is no question that technology has vastly accelerated the rate of change. What adaptations are needed to adapt? To cope? To thrive?

We will rise

Even as things are being torn down, eventually we will be able to rebuild – and it’s quite likely that what can rise out of rubble will be better. In the meantime, let’s keep working to build the better world that everyone can live in regardless of their political, or religious views. **ETI**

Carolyn Chase is co-founder of San Diego EarthWorks, the non-profit organizers of the annual Earth Day Fair in the heart of Balboa Park, San Diego. She also served as a Planning Commissioner for the City of San Diego, and was a founder of Move San Diego (now Circulate San Diego), committed to improving the sustainability of transportation choices in the San Diego region.

Earth Day Parade, the eARTh Gallery eco-arts and crafts show, and two Beer Gardens.

Earth Day is a “big tent” celebration, including everyone and everything that concerns the care and preservation of our environment. EarthFair mirrors this broad view.

Exhibitors

The exhibitors are the heart of EarthFair. They represent every type of environmental organization, governmental program and commercial enterprise with goods, services, and causes that address our environment and quality of life. EarthFair exhibitor fees are graduated to allow everyone to participate, from the smallest club to the largest corporation, and financial aid is provided for worthy causes that cannot afford the fees.

It’s impossible to list everything you’ll find at EarthFair: traditional conservation organizations, wildlife preservation groups, green building, products made from natural and organically grown crops, electric cars, organic gardening information, alternative energy vehicles, eco-tourism opportunities, many alternative and traditional health care products and services, pet adoption services, clean air and clean water products, habitat

Carbon-neutral

(cont. from page 7)

down on greenhouse gas emissions statewide. For example, electric utilities are required to purchase a large percentage of their electricity from renewable sources and the state has adopted a low-carbon fuel standard for tailpipe emissions.

Governor Brown has also promoted voluntary climate action agreements at the subnational and international levels, which serve as a model for the voluntary agreements expected in Paris later this fall.

The University of California is becoming a living laboratory for technological and other solutions as it moves toward climate neutrality. Researchers in the UC system are working with colleagues around the world to

preservation groups... the list goes on and on.

If your organization, club, or company is interested in exhibiting at EarthFair, please visit www.EarthDayWeb.org.

Special for Kids

In our Children’s’ Activity Area you’ll find crafts, games, face painting, story-telling, and hands-on activities for children of all ages. Activities are designed to educate, entertain, and inspire youth in the spirit of Earth Day. Participants can take part in a number of eco-friendly projects and crafts, including Jeanne’s Garden Program for Children. Our Children’s Stage features performances throughout the day.

Also in the Children’s Area this year, the Climate Science Alliance will host 20 member organizations with activities designed to teach climate science in a fun, interactive environment.

Earth Day Parade

The Earth Day Parade begins at 10:30AM; see the map on page 16 for the route. Participants are invited to dress up as endangered species or present their favorite earth-friendly (Continued on page 11)

share these and other lessons that are emerging, not just from the University of California, of course, but from research and action being undertaken around the globe today.

In this way, the University of California is much like every other university in the world, and we hope that others will join us as we figure out how to walk the walk as well as talk the talk in our common challenge to bend the curve of climate change. **ETI**

Jon Christensen is Adjunct assistant professor in the Institute of the Environment and Sustainability, the Department of History, and the Center for Digital Humanities, University of California, Los Angeles. This article was originally published in The Conversation, theconversation.com.

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EarthFair 2017

(cont. from page 9)
messages. To find out more, see photos of previous parades, or to register, visit www.EarthParade.org. Entry is free!

eARTh Gallery

The eARTh Gallery features crafts made from recycled, discarded or waste materials; and artwork depicting “Endangered Spaces” in San Diego County. The Gallery is located close to the corner of Park Blvd. and Presidents Way, next to our Food Court and the Moon Stage. For information about displaying or selling your eco-arts or -crafts, please visit www.SDEarthGallery.org.

If You Care, Repair

The San Diego Reuse & Repair Network, The County of San Diego, the City of Chula Vista, and the City of San Diego are sponsoring a special area at EarthFair to showcase “higher use” ways to keep items out of the landfill. There will be business and non-profit booths, demonstrations, and many fun and creative ways to fix or repurpose items to extend their usefulness.

The Reuse & Repair area is between the UN Cottages and the Pan American Plaza.

Try Transit for Earth Day!

Take any Blue or Orange Trolley Line to the City College Station in downtown San Diego. The station is located between 11th Ave. and Park Blvd., and C St. and Broadway. The Route 7 bus stop is just steps away at the corner of 11th Avenue and C Street. Remember to get a Day Pass when you start your trip on the trolley.

Use the Transit Trip Planner on-line at transit.511sd.com. For automated schedule info, call: 619-685-4900.

Remember, riding MTS buses and trolleys make every day “EARTH DAY.” When you use transit instead of driving a car you reduce greenhouse gases, slow global warming, and improve our air quality. Saving just one gallon of gas can eliminate 19 pounds of carbon dioxide emissions.

Cleaner Car Concourse

The Cleaner Car Concourse features alternative-fuel and high-efficiency privately-owned vehicles of all descriptions (hybrids included). See the vehicles and hear enthusiastic owners talk about them. The vehicles will be on display in the Pan American Plaza.

Do you have a vehicle that belongs in the show? Visit www.EarthDayWeb.org for more information and to register.

First, you have to get there

If you plan on arriving at EarthFair after 11:00AM, there will be little or no car parking close to the park. Instead of sitting in your car looking for that one needle-in-a-haystack parking place, try one of these alternatives: **bike; use transit; or use off-site parking.**

You can find maps and more at www.earthdayweb.org/EarthFairTransportation.html.

Ride a bike

The San Diego County Bicycle Coalition will offer free, guarded bike parking in two locations (see map on pages 12-13):

- **On Village Place** (off of Park Blvd., south of the Zoo).
- **In the California Quadrangle** (across the street from the Museum of Man entrance, just after you cross the Cabrillo Bridge).

If you don't want to ride the entire way to the park, drive part way, park in a convenient spot, and ride the rest of the way.

Ride public transportation

There is a trolley stop about a ten-minute walk from the Park, and San Diego Transit runs extra busses for EarthFair. See the details in the **Try Transit for Earth Day** below.

Off-site Parking

About 1,000 off-site parking spaces

are provided at City College, a short walk from EarthFair. NOTE: No shuttle service will be provided from City College this year.

To get to the **two City College lots**, from the 163 freeway, exit on Park Blvd. and follow the signs: turn right (south) on Park, then turn left (east) on C St. From C you can either: (1) turn left (north) on 16th, and go straight ahead to the parking structure across from Garfield High, or (2) go straight ahead, turn right on 17th, and park in the multi-level parking structure.

And... VOLUNTEER!

It takes about 350 volunteers to produce this event. In fact, without this community participation, EarthFair as we know it would not be possible. Come make a difference, and help create a fun, safe, productive event for 60,000 of our closest friends.

There are 23 different volunteer jobs: some are active and physical, others mental and social, still others almost contemplative. No experience required – you will be trained so you know exactly where to go and what to do. Work one 3-hour shift, or pitch in all day. Your choice. Check it out: EFVol.org. **ET**





Attend Awards Reception in honor of Earth Day

San Diego EarthWorks presents the 24th annual V.I.P. Reception (Very Important Planet) and E.A.R.T.H. Awards: **Wednesday, May 24, 6:00PM-9:00PM**
9601 Ridgehaven Court, Kearny Mesa

Business and community members will gather at the V.I.P. Reception to celebrate Earth Day, acknowledge individuals and organizations who have taken extraordinary action on behalf of our environment, and support San Diego EarthWorks programs. The evenings activities will include:

- A **Silent Auction** with eco-friendly goods, services and entertainment packages.

- A **buffet dinner**.
- **San Diego EarthWorks' "E.A.R.T.H." Awards.**

V.I.P. Reception sponsors include San Diego County Air Pollution Control District, San Diego Gas & Electric, and the City of San Diego Department of Environmental Services. To purchase tickets, donate to the silent auction, or volunteer, please visit VIPReception.org. **ET**

For more information, visit VIPReception.org, email vip15@earthdayweb.org, or call (858) 272-7370.

Award inspiration

NOMINATE A DESERVING INDIVIDUAL OR GROUP FOR AN E.A.R.T.H. AWARD

by Alice Martinez

Often, the people making extraordinary efforts on behalf of the environment and our quality of life are unappreciated beyond a small circle of friends and associates. EarthWorks'

E.A.R.T.H. Awards (Environmental Action & Restoration That Helps) honors these special individuals and groups, gives them the wider acknowledgment they deserve, and encourages others to follow their example.

You may know individuals or groups worthy of an E.A.R.T.H. Award. For example, it could be a student that has set up a recycling program at school, a restaurant that has converted to recycled paper products, a government department that has eliminated pesticide use, or an organization that is promoting zero-waste. The possibilities are endless.

EarthWorks asks YOU to nominate potential recipients for the **E.A.R.T.H. Awards**. **The nomination deadline is May 10, 2015**. Self-nominations are welcome.

A nomination form can be filled out at the EarthWorks on-line registration system:

- Go to sdew.earthmedia.bz/login
- Register yourself on the system as a New Associate
- Click the **E.A.R.T.H. Award 2016 Nomination** button and fill out the form.

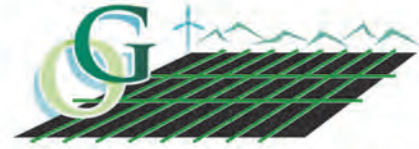
If you don't have web access, please call the EarthWorks office at 858-272-7370. The awards will be presented to the winners on Wednesday, May 28 at the 25th annual V.I.P. Reception (see story above). **ET**

E.A.R.T.H. AWARDS

On-line EarthFair Exhibitor Finder

To help you find specific exhibitors that present what YOU are interested in, we have a special web-based service.

Go to EFExh.org. You will find a list of 60 topics, like "Climate Change", "Peace", "Solar-electric" and "Waste Reduction." Check off the topics you are interested in, press the "Show Exhibitors" button, and the system will list the exhibitors that address those topics, their exhibit descriptions, and a link to their websites. One week before EarthFair we will also list their exhibit locations.



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VOLUNTEER at EFVol.org

Behind the Art

Since 1989, Jennifer Hewitson has been creating artwork expressing the spirit and culture of Earth Day and San Diego Earth Day in particular. Her interest and support for environmental causes stems from her father John, a biology teacher, environmentalist, and involved in the first sit-ins at San Dieguito High School in the 70's.

Jennifer Hewitson became a freelance illustrator in 1985, after graduating from California State University Long Beach with a Bachelor of Fine Arts degree in illustration.



Artist Jennifer Hewitson

Born and raised in Southern California, Jennifer has been drawing and painting since early childhood, thanks to encouragement from her parents, who were both teachers.

Sources of inspiration

From her biologist/piscatorial painter father, she also learned valuable lessons on appreciating and gaining inspiration from nature and travel. This has spurred many long and exotic trips across the globe, viewing wildlife in Africa, and witnessing the beauty and cultures of Papua New Guinea, New Zealand, Australia, and Peru.

The evolution of her illustrations became both the reason for, and the result of, learning about the world – the perfect inspiration. She works from her studio in her hometown of Encinitas and loves to travel when possible. She spends most non-working hours enjoying her family, volunteering at her children's schools, and taking walks. She occasionally writes poetry and stories about her children and other subjects, for future book projects.

Jennifer has taught editorial illustration at Laguna College of Art and Design, San Diego State University, and Palomar College. She

by Alice Martinez

presently teaches drawing and children's book illustration at UCSD Extension.

Most of Jennifer's illustrations are created on scratchboard: a thin cardboard with a clay coating, inked with black, or left white for hand inking, colored separately.

Her public art projects include two large outdoor mosaics and sundials for the Sage Garden Project, a school garden and nutrition program which installed a kitchen and expanded garden at Ocean Knoll Elementary in Encinitas, and The Monarch School in San Diego. She also hand painted benches for for The Benchmark Project and for San Diego Earth Day Balboa Park Centennial celebration in 2015.

Jennifer's most recent contribution to San Diego EarthWorks is the **Solution Tree**, shown in the center of the page to the right.

"We are more than fortunate to have Jennifer's artwork, to inspire and match the kind of work we have been doing, for so many years," said Chris Klein, EarthFair production manager. "Each one teaches us something more about the spirit of Earth Day." **ET**

See more of her art at: jenniferHewitson.com.

SAN DIEGO EARTHWORKS PRESENTS EARTHFAIR 2017 BALBOA PARK • SAN DIEGO • APRIL 23, 2017

SD Commission for Arts and Culture



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28TH ANNUAL

Haiku for Interesting Times

by Carolyn Chase

In honor of living in interesting times, I've been inspired to poetry, a specific kind of Anglacialized Haiku, a short form of Japanese poetry. In English, the form is three phrases of 5, 7, 5 syllables respectively (or less) and in my case, sometimes, more. Short and not-so-sweet.

Interesting times
Bully-in-chief thunders
Protest the rain

Conflicts of interest
Enforce the Constitution
How long does it take?

Daily tantrums
from toddler-in-chief
Getting old

Top Bully daily lies
In angry tweets he plies
Dying, reason flies

Many losses ahead
Election consequences
We shall persist

Alternative facts
are also called lies,
if you're honest

Give a hoot!
Jobs need not pollute
Plenty of sun juice

Does not listen
Personal insecurity
National insecurity

With a lying leader
How can we know if the sky
is really falling?

Dishes it out bigly
Can't take it
Get out of the kitchen

De-regulating pollution
The art of the bad deal
Bad business overreach

When it began
Resist came the call
Persist is required

Deluded to the right me
Disorganized on the left
Will the middle please rise?

Draining the swamp?
You gotta be kidding...
Circling the drain!

Change causes upset
Find your way through
From agonize to organize

Daily demonstrating
The power of denial
Needed now: denial of power

We the people
Watching, learning, planning
Peaceful majority

Reality check
Mother Nature bats last
We're still here

Watching and learning
Looking for leadership
Who will answer the call?

What are these?
Short Attention Span Outrage
Truth-telling soundbites

Moment of Clarity
Facts replaced with beliefs
Pravda in the USA

Propaganda replaces facts
Daily demonstrating
The power of denial

March to keep the pressure up
Then find new voters
Get them to the polls

Lonely big man
Do you hurt others
Because you hurt?

What a mess
Private gain from public service
Court cases coming

Science is a method
It's not about what you believe
Science measures everything else

What makes it science?
You don't have to believe it
Test it and find out

Don't forget
Keep creating beauty
While persisting

Love love love
I'll say it again
What the world needs now

Anger rising
on top of sadness
let's try peace

ET

EarthFair Sponsors

San Diego EarthWorks acknowledges and thanks our sponsors and supporters without whose generous support the EarthFair would not be possible.

- City of San Diego Commission for Arts & Culture
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- City of San Diego Dept. of Environmental Services
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- San Diego Gas & Electric / Sempra Utilities
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- EDCO Waste & Recycling Services
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- Solid Waste Planning & Recycling
- City of Chula Vista
- City of Chula Vista Environmental Services
- Sierra Nevada Brewing
- Golden Coast Mead
- San Diego County Bicycle Coalition
- Urban Corps of San Diego
- Zero Waste San Diego
- Loma Media

Sun Stage

Federal Bldg. Lawn



Produced by Balboa Ave Coop, Satya, and Apothekare

Come celebrate and learn more about the planet's best plant for food, fiber, paper, plastic, construction, and medicine.

- 10:00 Dion Markgraaff – *What is Cannavillage?*
- 11:00 Chris Siegel – *What is the ACP?*
- 11:30 Iron Sage Wood – *Folk, singer-songwriter*
- 12:15 Speaker – *What is Cannabis / Hemp?*
- 12:45 TBA
- 1:30 Steven Clarke, Sergiy Hempire - *Hemp Products*
- 2:00 TBA
- 2:45 Speaker – *Cannabis is medicine*
- 3:10 Pato Banton – *Reggae*

Magic Stage

El Prado

Produced by Jacqueline Silva, Harmony Playground

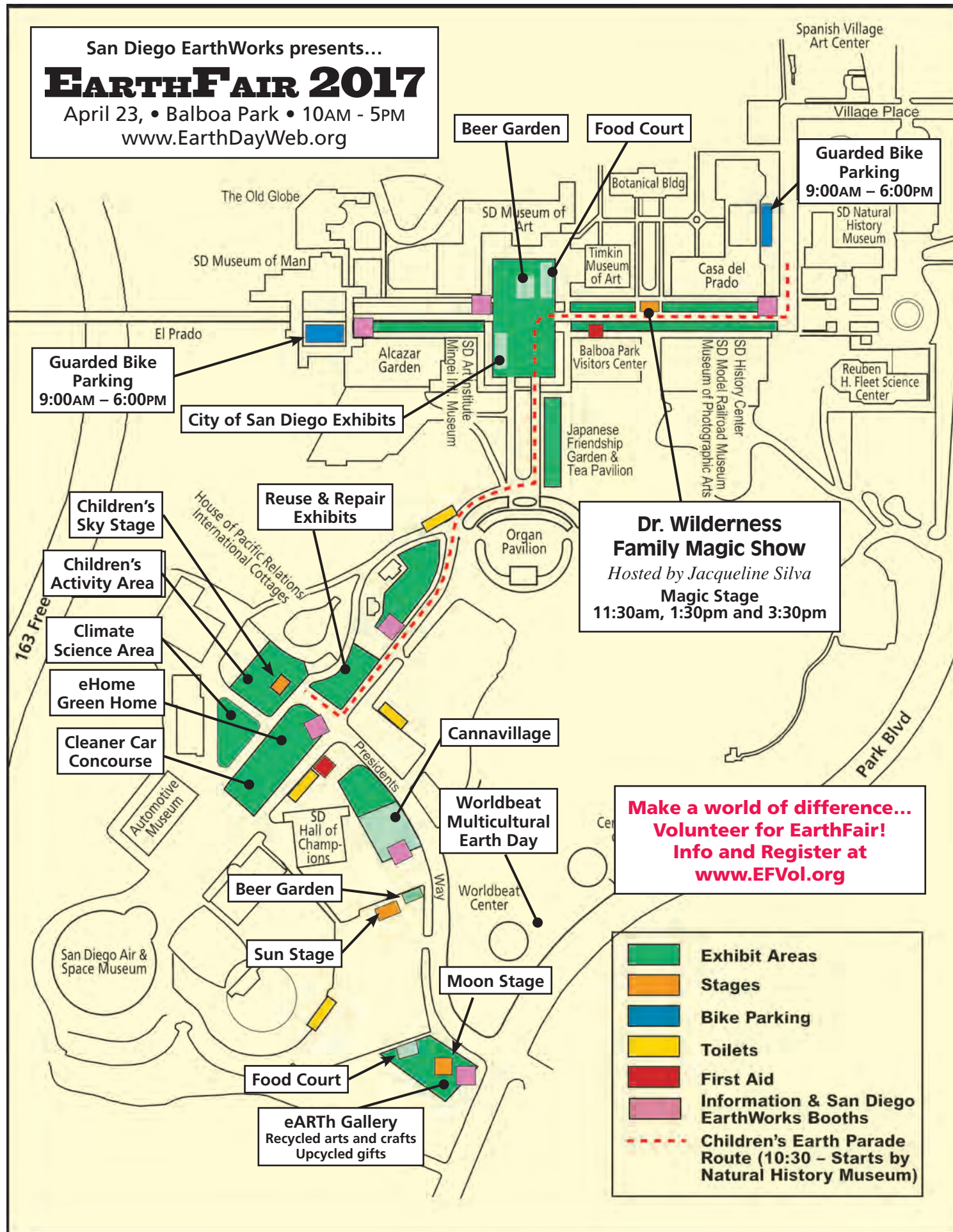


Dr. Wilderness Family Magic Show

11:30am – 1:30pm – 3:30pm

Music, speakers and performance throughout the day

San Diego EarthWorks presents...
EARTHFAIR 2017
 April 23, • Balboa Park • 10AM - 5PM
www.EarthDayWeb.org



Zero Waste at EarthFair

EarthFair has a goal of Zero Waste, meaning everything that is thrown away will either be recycled or reused. Last year, almost 80% of our waste was diverted from the landfill.

If you have food, paper or other waste, don't just put it in a trash can. Instead, go to one of the 25 **Zero Waste Stations** throughout EarthFair and recycle! Each station, under a big umbrella, will have **blue Recycling** and **green Composting** bins, and our volunteer **Trash Talkers** who can answer any recycling or composting questions you have, and help you get your waste in the right bin.

Moon Stage

Park & Presidents Way

Produced by Donna Larsen and DeuxRay Productions

- 10:30 DesDoc James – *Singer-songwriter*
- 11:00 Robin Henkel – *Blues Man*
- 11:35 Sharon DuBois – *Artful Jazz*
- 12:00 Christine Gilardi – *Blues Singer-Songwriter*
- 12:40 Enter the Blue Sky – *Country/Americana*
- 1:30 The Jeff Ousley Band – *Rock*
- 2:20 The Donna Larsen Band – *Pop Rock*
- 3:10 Skyler Lutes Band – *Reggae*
- 4:00 Sons of Eden – *Americana/Rock*

Children's Sky Stage

Children's Area

Produced by Maria Connors, VIP School of Music, and Heather Nagey

- 10:00 Dance Scene San Diego – *Variety of Dance: Tap, Jazz, Tahitian, Hip Hop, Belly Dancing*
- 12:00 Generations After School Program – *Songs, Instruments & Dance*
- 1:00 Capoeira Brasil San Diego – *Brazilian Martial Arts/Dance*
- 2:30 VIP School of Music – *Soloists, Bands, Originals & Covers*

Climate Science Alliance

Children's Area

Visit 20 organizations with exhibits and activities that will demonstrate the many aspects of climate science. Activities include a "climate science scavenger hunt" for children, a public art project, storytelling, and performances.

EARTH FAIR EXHIBITORS

AS OF 3/21/17

- | | | | |
|---|---|---|--|
| 180 Solar Power
39th District
91X - Local Media San Diego
Activist San Diego
American Association for Nude
Recreation, Western Region
American Cetacean Society - San
Diego
Amnesty International Group
137
Amusement Artists
Apothokare
Aunt Be Botanicals
B 'N' B Kettle Corn
Bags and More by Tess
Baha'i Faith
Balboa Ave Cooperative
Balboa Park Cultural Partnership
- Sustainability Program
Bastyr University California
Be Love
Beautiful MB, Inc.
Birch Aquarium at Scripps
Bite
Boho Vibes
Brady Campaign to Prevent Gun
Violence, San Diego Chapter
Buddha's Light International
Association
Buddhist Temple of San Diego
Buddhist Tzu Chi Foundation
Bureau of Land Management -
California Desert District
CaboandCoral.com
Cabrillo National Monument
(NPS)
Cali Life Co.
California Department of Fish
and Wildlife
California High Speed Rail
Authority
California Native Plant Society-
San Diego Chapter
California Wolf Center
Can Crafts by John
Cannabis Energy Drink USA
Cannabis Irrigation
Center for Biological Diversity
Cheetah Conservation Fund,
Southern California Chapter
Christian Vegetarian Association
City of Oceanside
City of San Diego -
Environmental Services Dept.
Clean Vehicle Rebate Project
Climate Science Alliance
Committee Opposed to
Militarism and the Draft
Cosmic Solar
Councilmember Christopher
Ward
County of San Diego/Solid Waste
Planning & Recycling
Cruisin Juice
Cultural Homestay International
Da Big Show BBQ
De Coral Clothing and Designs
Democratic Socialists of America | Didjeridoo Daddy & ReWear
Clothing
Donate-a-Pack Foundation
Dr. Bronners
Earth Made Snow Cones
Eat Your Heart Out SD
EcoCork Sustainable Handbags &
Accessories
EDCO Waste & Recycling Services
Environmental Center of San
Diego
Environmental Services
Department
EPTTEAM Network, UCSD
Essential Addictions
Fairy Fly Entertainment
Farm Fresh To You
Feetz
Ferdinand's Familia & Rescue
Fiesta Island Dog Owners (FIDO)
Fiesta Ziesta
Fleet Readiness Center
Southwest
Flora and the Sun
Golden Coast Mead
Goodwill Industries of San Diego
County
Gratitude and Love Bottles
Green Places
Gudi's Aromatherapy
Haley Schildgen
Heifer International
Hempmedspix
HENNA TATTOO
Henna Trendz By Wardah
HERO - Human and Earth Rights
Organization
High Tech High Media Arts
High Tech High North County
Hostelling International USA,
San Diego
House of Israel
I Love A Clean San Diego
IBEW Local 569
"In Their Shoes" IHL Action
Campaign
Inca Aromas USA
International College of Holistic
Studies
Intertwined Conservation
Corporation
ISKCON
Jewish Voice for Peace
Josie's Kitchenette FKA LaVera
Delight
kb Pure Essentials
KDsDreamcatchers
Kona Ice Coastal
Kookiez inc
Kynd Clothing Inc.
La Jolla Bamboo Boutique
Laguna Mountain Volunteer
Association
Last Chance for Animals
League of Women Voters of San
Diego
Ledemas Foods
Lemurian Fellowship | Les Crème Essence
Lisa Ann Sparks & Recyclicious
Lobos Del Mar
Love, Create & Help
LucysRoom
Lumbercycle
Mankind Cooperative
Masala Cottage
Mauzy Heating Air & Solar
Melissa Heaney
Mercy For Animals
Michelle G. Torres
Mission Trails Regional Park
Foundation
Modern Day Hippie
N and B Suppliers LLC
Nataraja Meditation and Yoga
Center
Natural Body & Bath
NextGen Climate
No BS Therapy
NOAA, NWS
Noor Collective
Norwex
NUA Sapprow Program
OFFGrid Systems Inc.
Olivia's Kitchen
Original Grain
Pacific Coast Naturals
Pala Band of Mission Indians
Palm Springs Vintage
Palomar Mountain Water
Peace Pies
Pixygio Designs
Plant With Purpose
Point Loma Patients Association
Portable Outdoor Travel-Toilet
Poster Heaven
Pure Thai Designs
Quae Juice
Rays the Bar
Re-Pac Bags
Records and Stuff
RED Sambusas
Regeneration-Art
Registrar of Voters, County of
San Diego,
Renewal by Andersen
Renovate America / HERO
Program
Reusable Finds
Rhonda Ruiz
Rita's Santee
RMac Properties Inc
Rock Ants
Rosenblatt Studios
Salvadorean Food Pupas
San Diego Audubon Society
San Diego Beekeeping Society
San Diego Canyonlands
San Diego Chapter, National
Organization for Women
San Diego Coastkeeper
San Diego County Air Pollution
Control District
San Diego County Office of
Education
San Diego Falun Dafa
Association | San Diego Habitat for Humanity
San Diego Metropolitan Credit
Union
San Diego Peace Corps
Association
San Diego Veterans For Peace
SanDiego350
Santee Dental Care
Satya
Scripps Institution of
Oceanography
SD Regional Climate
Collaborative / Resilient
Coastlines
Sea Shepherd Conservation
Society
Seal Society of San Diego
Seedosphere Organic Seed Ball
Blends
Share International USA
Sharp Hospital Outpatient
Pavilion Health Library
Sierra Club, San Diego Chapter
Sierra Nevada Brewing Company
Sisters of Perpetual Indulgence
Solana Center for Environmental
Innovation
SolarCity
Soleil Communications/Welk
Resorts
SOUL Charter School
Soul Grow
Spanish Village Art Center
Spay Neuter Action Project
SPIRIT SOUL & FRIENDS - A
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Sullivan Solar Power
Sunday Assembly San Diego
Sunfinity Solar
SunFusion Solar
Surfrider Foundation
TestBed
The Friendly Feather Shop
The ManKind Project San Diego
The Raptor Institute
The Waldorf School of San Diego
tilly + wren
Toyota
Trashy Crafter
TUWA Elements of the Earth
U.S. Fish & Wildlife Serv., Office
of Law Enforcement
UC San Diego Extension
Upcycle and Company LLC
UPcycled Works
Viva Pops
Water Conservation Garden
WP Ice Inc
YoungLiving
Zero Waste San Diego
zovargo |
|---|---|---|--|

Sustainability

Landmark report: Hundreds of native bee species sliding toward extinction

"IF THE BEE DISAPPEARED OFF THE SURFACE OF THE GLOBE, THEN MAN WOULD HAVE ONLY FOUR YEARS OF LIFE LEFT. NO MORE BEES, NO MORE POLLINATION, NO MORE PLANTS, NO MORE ANIMALS, NO MORE MAN." – ALBERT EINSTEIN



The Center for Biological Diversity has completed the first comprehensive review of the more than 4,000 native bee species in North America and Hawaii. Of the species that had sufficient data for the assessment, more than half the are declining. Nearly 1 in 4 is imperiled and at increasing risk of extinction.

The new analysis, *Pollinators in Peril: A systematic status review of North American and Hawaiian native bees*, revealed that more than 700 species are in trouble from a range of serious threats, including severe habitat loss and escalating pesticide use.

"The evidence is overwhelming that hundreds of the native bees we depend on for ecosystem stability, as well as pollination services worth billions of dollars, are spiraling toward extinction," said Kelsey Kopec, a native pollinator researcher at the Center and author of the study. "It's a quiet but staggering crisis unfolding right under our noses that illuminates the unacceptably high cost of our careless addiction to pesticides and monoculture farming."

Decline in Americas matches Europe

The widespread decline of European honeybees has been well documented in recent years. But until now much less has been revealed about the 4,337 native bee species in North America and Hawaii. These mostly solitary, ground-nesting bees play a crucial ecological role by pollinating wild plants and provide more than \$3 billion in fruit-pollination services each year in the United States.

The key findings:

- Among native bee species with sufficient data to assess (1,437), more than half (749) are declining.

- Nearly 1 in 4 (347 native bee species) is imperiled and at increasing risk of extinction.
- Many of the bee species, although lacking sufficient data for a full assessment, are also likely declining or at risk of extinction, highlighting the urgent need for additional research.

The declines are caused primarily by habitat loss, heavy pesticide use, climate

...more than 40 percent of insect pollinators are highly threatened globally, including many of the native bees critical to unprompted crop and wildflower pollination across the United States.

change and urbanization.

These troubling findings come as a growing body of research has revealed that more than 40 percent of insect pollinators are highly threatened globally, including many of the native bees critical to unprompted crop and wildflower pollination across the United States.

Counting the bees

To assess current population trends and threats as comprehensively as possible for the 4,337 described species of North American and Hawaiian bees, Center staff reviewed the current conservation status of 316 species as established by state, federal or independent research. We then conducted a comprehensive review of all available literature on native bees to determine a status for an additional 1,121 species.

"We're on the verge of losing hundreds of native bee species in the United States if we don't act to save them," said Kopec, who spent more than a year analyzing the data. "Almost 90 percent of wild plants are dependent on insect pollination. If we don't act to save these remarkable creatures, our

provided by *The Center for Biological Diversity*

world will be a less colorful and more lonesome place."

The assessment highlights five imperiled native bees that offer a vivid snapshot of the unchecked threats driving declines in many native bee species:

- **Yellow carpet solitary bee:** This dark, olive-green bee, whose fate is intertwined with its floral host and California's dwindling vernal pools, is severely threatened with extinction.
- **Sunflower leafcutting bee:** This spectacularly large bee used to be seen patrolling sunflower stands throughout the Great Plains; it is now in steep decline and rarely seen.

- **Wild sweet potato bee:** Known for its unique three-lobed snout, this bee, once commonly seen foraging across much of the East, is now dangerously imperiled.
- **Gulf Coast solitary bee:** Completely dependent on the disappearing coastal plain honeycombhead plant and the barrier-island sand dunes where it nests, this bee is now found only within a shrinking portion of its range along the Gulf Coast.

- **Macropis cuckoo bee:** This nest invader, which takes over the nests of other bee species to lay its eggs, was once common across much of central and eastern North America but is now considered that region's most endangered bee. **ET**

The Center for Biological Diversity believes that the welfare of human beings is deeply linked to nature – to the existence in our world of a vast diversity of wild animals and plants. Because diversity has intrinsic value, and because its loss impoverishes society, they work to secure a future for all species, great and small, hovering on the brink of extinction. They do so through science, law and creative media, with a focus on

(Continued on page 25)

Nominate at CoxConservesHeroes.com
April 24-May 12, 2017



Who's your
environmental
hero?

Cox Communications, in partnership with The Trust for Public Land, is seeking nominations for environmental volunteers in Cox's service areas in San Diego, Orange County and Santa Barbara who are creating, preserving or enhancing outdoor spaces.

One winner will receive up to \$10,000 to donate to his or her selected nonprofit beneficiary. Two other finalists will receive \$5,000 each for their nonprofits of choice.

Visit CoxConservesHeroes.org for more info and to nominate your 2017 Cox Conserves Hero!



Repair aware

WHAT'S BETTER THAN RECYCLING? REUSE AND REPAIR!

by Carolyn Chase

I tend to break stuff. And since what I break is often a treasured memento, I pick up the pieces, and with the help of a friend, they get glued together again.

In the end, the repair process is extremely satisfying. While I hadn't given it much thought, this list explains why repairing is both satisfying and better all-around for you and the environment.

1. **Make your stuff live longer**
Don't ditch it, stitch it! Don't end it, mend it! Repairing items is a way to make them last.
2. **Repaired things are unique**
Even fakes become originals when you repair them.
3. **Repairing increases history**
Every time you repair something, you add to it potential, its history, its soul, and its inherent beauty.
4. **Repairing is a creative challenge**
Making repairs is good for the imagination. You may need to seek out new busi-

nesses or new tools.

5. **Repair survives fashion**
Repair is not about trends or styles but about valuing what you have and what it was made of.
6. **To repair is to discern**
As you fix objects, you learn how things work – or don't work.
7. **Repair – even in good times**
Repair is a mentality that saves things rather than replacing them.
8. **Repairing = independence**
Be a master to your stuff, not a slave to technology. If it's broken, and you can repair it, make it better. If you can't, seek repair masters who can.
9. **Look to buy things you know can be repaired and/or are built to last.**
Things should be designed so that they can be repaired. If they're not, avoid them.
10. **You – or someone – can repair just about anything.**
It may not be the same kind of thing, but

if it's useful, keep it going. **ET**
Based on the Repair Manifesto by Platform 21 in The Netherlands and updated by Carolyn Chase in honor of Earth Day 2017. Find local repair and reuse masters at the EarthFair in Balboa Park Reuse & Repair Area or find them online at the EarthFair website EarthDayWeb.org

How to Save the World
1) Go to EarthDayWeb.org
2) Click on the "Volunteer for EarthFair" box
3) Read the EarthFair job descriptions
4) Signup to volunteer
5) Go to a training
6) Do your job at EarthFair
7) The world is saved!
That wasn't so difficult now, was it?

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your most
comfortable
year yet.



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¹Please contact your tax advisor to determine if you may be eligible for tax benefits.

Why politicians think they know better than scientists – and why that’s so dangerous

ONE OF THE MOST UNEXPECTED POLITICAL DEVELOPMENTS IN RECENT MONTHS HAS BEEN THE POLITICAL AWAKENING OF SCIENTISTS IN THE UNITED STATES.

by Elizabeth Suhay

A normally reticent group (at least when it comes to politics), scientists are speaking out, organizing a major march and planning to run for public office. There is a growing sense that the danger posed by the Trump administration to evidence-based policy, and perhaps science itself, is unprecedented. I share this concern. The Trump administration’s actions and rhetoric appear to signal an acceleration of Republican skepticism toward scientific research carried out in the public interest.

This said, what is keeping political scientists, particularly those like me who study political psychology, up at night is not the Trump administration’s ideologically driven science bias. Rather, it is the fact that Trump himself exhibits an authoritarian style of motivated reasoning that appears to be intended (consciously or not) to consolidate his power.

This combination – institutional challenges to the scientific integrity of government employees and Trump’s willingness to disregard evidence on a variety of matters –

has broad and ominous implications beyond how science informs national policies.

Science as political target

Politically motivated skepticism of science is certainly not new. As I have argued elsewhere, science is consistently a political target precisely because of its political power.

Science has “epistemic authority,” meaning it is the best method humans have available to understand what is true about the

(Continued on page 25)

Why science? Why not?

SCIENCE SEARCHES FOR THE RULES THAT HOLD THE UNIVERSE TOGETHER. SO WHY HAS ATTACKING SCIENCE BECOME SO COMMON?

by Carolyn Chase

I never ever thought I’d need to defend science, yet history informs us otherwise, as does present-day politics. Feelings trump reality (pun intended).

testing reality, again and again, in service to humankind: the good, the bad and the ugly, but most of all, connected to reality.

If you’ve had major surgery or required antibiotics or other medications to address a health problem, science has saved your

Why blame science?

When science works for everyone, why deny it? This gets to the bottom of the title of Al Gore’s infamous Academy-award-winning movie title: *An Inconvenient Truth*. Reality can be very inconvenient.

When science works for everyone, why deny it? This gets to the bottom of the title of Al Gore’s infamous Academy-award-winning movie title: An Inconvenient Truth. Reality can be very inconvenient.

Psychologists have term for our emotional human response: denial. The definition: “An unpleasant reality is ignored, and a realistic interpretation of potentially threatening events is replaced by a benign

but inaccurate one.”

Author Upton Sinclair, in 1905 exposed the fetid free-market conditions at meat packing plants, and met with resistance. He pointed out specifically with respect to the ways we make our living, “It is difficult to get a man to understand something, when his salary depends on his not understanding it.”

Today, let us add, in addition to a man’s salary, the term “business model.” That is, it is difficult to get management to understand

(Continued on the right)

Good science, bad science

Some people mistrust science because, for all the good it’s done, it has also unleashed great harm with pollution, new toxins, and other harmful agents. Yet the damage is a function of the human nature that uses them, not the underlying science.

What is Science?

At its core, the key premise of science is that it describes universal rules that apply to everything and everyone. You can run a test (experiment), and everyone who does the test the same way will get the same result. This means that if you trust that another has done their work carefully and reported honestly, you don’t have to do it yourself.

Science works for everyone

When you get on a plane or use your cell phone, it’s something that works for everyone, every time, and when it doesn’t you can find out why. Even if I can’t figure out what’s wrong, someone else can: an engineer or a scientist. Most of all, science is about



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something when his business model depends on his not understanding it.

Ever worse than the pull of salary on decision making, big business and big politics has been shown to invest billions in preserving exploitative practices, even when they could well afford to change or evolve. We have learned the hard way that too many businesses are willing to cut costs by polluting and lying about it (tobacco, chemical, auto and oil industry examples come quickly to mind).

Science in service

Science provides both a method and process (peer review) for checking whether or not theories and results reflect reality, or whether or not something is merely wishful thinking... or worse, a flimflam. Science is able to provide testable truth in response to claims.

Politics trumping science

The President and Congress are proposing huge cuts to critical science programs in health, environment and research. Even as the Department of Defense has identified climate change as a security risk, the Environmental Protection Agency has been required to remove scientific information about climate

change from its websites while attacking other protections to water and air quality. Reasonable changes are not being considered; it’s attack mode against all regulations.

Support science

The March for Science is taking place on the annual official Earth Day this year. One value of Earth Day is its ability to empower everyone to become involved in protecting the environment. Just one of the many values of science is its service to good conservation and public health.

If you can’t march, then please write your elected officials, the President, Senators and Congressperson in support of public policy that supports openly-shared science. **ET**

For latest info on the March in San Diego, visit: marchforsciencesd.com, and see the article on page 8.

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Why politicians

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world. For this reason, policy decisions are expected to be based in large part on scientific conclusions. And as the size and scope of the federal government has increased, so has the use of scientific research in government decision-making, making it an even bigger target.

Scott Pruitt, a skeptic of well-established climate science and ally of the fossil fuel industry, will head the EPA, an agency charged with protecting the environment and health.

A number of actions taken so far by the Trump administration seem to portend hostility to government-sponsored science and science-backed policy. Many were alarmed by orders during the administration's first week in office that government agencies cease all communications with the public.

But likely more indicative of the administration's attitude toward government-sponsored research are Trump's nominees to head Cabinet-level agencies. These individuals have less relevant expertise than previous administrations, and Trump's Cabinet is the first in recent memory to include no one with a Ph.D. The nominee to head the EPA, Scott Pruitt, has questioned well-accepted climate science and worked closely with energy companies to undermine the agency he is to head.

In addition, Trump's choice for Office of Management and Budget director, Mick Mulvaney, has taken a similar tack with respect to government-sponsored science aimed at protecting the public's health. The two scientists said to be under consideration for science advisor both happen to be far outside the mainstream on climate science (neither is a climate scientist).

Bee extinction

(cont. from page 19)

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"Bending" science for political reasons

It is important to recognize that scientific evidence is not the only legitimate consideration underlying a policy decision. There may be larger ideological commitments at stake or constituents to please or (less justifiably) more strategic political considerations.

The problem for science and evidence-based policy comes when politicians and other political actors decide to discredit the science on which a conclusion is based or bend the science to support their policy position. Call it "policy-based evidence" as opposed to "evidence-based policy."

Unfortunately, there is reason to suspect that Trump's disdain for scientific research is not only driven by political ideology and the interests he represents. Trump clearly chafes against anyone or anything that challenges his power, including empirical reality.

Such bending of science comes in a variety of forms: cherry-picking studies and experts that support your perspective; harassing government-sponsored scientists – via cuts in funding or investigations – whose conclusions weigh against policies you prefer; forcing government scientists to change the language of reports for political reasons.

John Marburger was science advisor to George W. Bush, whose administration was criticized for manipulating how science was used in policy decisions.

Science bias in and of itself is not conservative or liberal, and one can find it on both sides of the political spectrum. However, if we are to avoid false equivalence, we must admit that most of the anti-science bias coming from politicians in recent decades has been from the Republican Party. This bias has been documented extensively. (One can also check out the two parties' 2016 party platforms.)

There is a straightforward reason for this partisan difference: Much contemporary government-sponsored research is in service of a growing regulatory state. Republicans tend to oppose federal government regulation because of their longstanding representation of business interests and commitment to states' rights. In recent decades, the Republican Party also has become the political home to religious conservatives, many of

whom distrust science because it challenges biblical authority, particularly with respect to evolution.

The George W. Bush administration was arguably the heyday for ideologically driven interference in government-produced science, something well-documented in two reports by the Union of Concerned Scientists. In response to this, the Obama administration put in place various institutional safeguards to protect the integrity of science, and Congress strengthened its protection of federal whistleblowers.

But Trump's rhetoric and actions – both before and after assuming the presidency – seem to foreshadow a return to Bush-era tac-

tics. Trump's Cabinet choices exhibit an unusual fixation on deregulation, particularly in the arena of energy and the environment. And both Trump and his powerful vice president have a history of making statements that are ignorant and mistrustful of science.

Danger in the rhetoric

Unfortunately, there is reason to suspect that Trump's disdain for scientific research is not only driven by political ideology and the interests he represents. Trump clearly chafes against anyone or anything that challenges his power, including empirical reality.

Trump's constant efforts to aggrandize himself are plain to see. In the past, Donald Trump lied about everything from the size of his home to his donations to charity. In service of whipping up a crowd, Trump has been willing to scapegoat entire minority groups and falsely question a president's citizenship.

So far, President Trump has focused mainly on crowd sizes, poll numbers and the merits of comedians' performances. Many Americans are tempted to not take these distortions of seemingly trivial topics seriously. But this is authoritarian rhetoric.

As with all presidents, Trump will eventually face data that reflect poorly on some aspects of his job performance: for example, pollution levels, disease rates, disappointing jobs figures, etc. He has been so consistent in his dissembling to protect his reputation that it would be surprising if this behavior did not continue in the face of more serious threats. Scholars are already speculating that

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We aren't so different – 3 steps to overcome hate and fear

AVOIDING TRUMP SUPPORTERS ONLY INCREASES OUR ALREADY DANGEROUS POLARIZATION. HERE'S HOW TO REALLY LISTEN AND FIND COMPASSION.

by Amanda Abrams

The election of Donald Trump has brought a number of ugly realities to light. One of the most disturbing is that an apparently large number of Americans hold racist, sexist, xenophobic beliefs, and outright hatred for others, and blame them for the country's problems. While that doesn't include all Trump supporters, it's certainly a critical mass, as evidenced by the steep rise in hate crimes and comments on social media immediately following the election.

This presents a challenge for those who strive to be compassionate and inclusive. How does one feel empathy for people who hate others simply because of what they look like or where they come from? It can be hard to feel anything but anger and to do anything but withdraw when confronted with those sentiments.

In politics, however, some level of anger can be useful in order to summon the strength and resources for continued fighting. But this country is already dangerously polarized, with the two main political parties demonizing each other and failing to listen to each other. It's one thing to view some politicians as corrupt and their policies as irredeemably bad, it's another to think of large numbers of fellow Americans as the "other."

However, we aren't so different. We're all people who suffer, whose beliefs have been shaped by the vagaries of our experiences, who are capable of ugliness. But we all have the potential to change.

Nelson Mandela, who leveraged the power of love and forgiveness to transform South Africa, knew something about that. Despite being the target of intense racism and hate during his early battles against apartheid,

"If I want to have compassion, I have to do something that goes against my implicit confirmation bias."

he was nonetheless able to view his opponents with kindness and to utilize reconciliation tactics in an attempt to heal this nation.

In his autobiography, *Long Walk to Freedom*, Mandela wrote about one of the correctional officers at the prison where he was held for 27 years: "It was a useful reminder that all men, even the most seemingly cold-blooded, have a core of decency, and that if their heart is touched, they are capable of changing. Ultimately, [the officer] was not evil; his inhumanity had been foisted upon him by an inhuman system. He behaved like

a brute because he was rewarded for brutish behavior."

Like Mandela, so many others are models of love in the face of hate. Their acts of compassion and tolerance can be examples to us today. There are practical steps we can take that can help us overcome our feelings of disgust and fear, and open up to others.

"If I want to have compassion, I have to do something that goes against my implicit confirmation bias."

The first step requires learning how to really listen and accept new information. "Our mind is a very conservative thing. We have a belief and we want to conserve it, so we find data that will support it," says Everett Worthington, whose research at Virginia Commonwealth University focuses on practical steps to forgiveness. Once we've decided that a certain group of people is mean or ignorant, he says, it becomes easy to repeatedly confirm that idea. Opening our mind is much harder.

"If I want to have compassion, I have to do something that goes against my implicit confirmation bias," Worthington explains. "That just opens me to new data; it doesn't change my mind, but it allows me to have

(Continued on the right)

Why politicians

(cont. from page 25)

Trump may employ Nixonian efforts to doctor official government statistics or discourage critical scholarly study of society under his administration by eliminating NSF social and economic science funding.

Between his executive power and the power of the bully pulpit, President Trump has considerable ability to harm the scientific enterprise and quite possibly democratic institutions as well. This is a time, in my view, for scientists, and experts more generally, to mobilize. As Jack

Goldsmith of Harvard Law School argues, experts play a critical role at moments like this as a "synopticon" – a large collective closely monitoring the actions of our political leaders. **ET**

Scholars are already speculating that Trump may employ Nixonian efforts to doctor official government statistics or discourage critical scholarly study of society under his administration by eliminating NSF social and economic science funding.

Liz Suhay specializes in the study of public opinion, political psychology, and political communication, all within the American context. She regularly teaches Introduction

to U.S. Politics, Introduction to Political Research, & Capstone in Political Communication, among other courses. She currently consults for the American Association for the Advancement of Science. She is assisting AAAS as they develop a new training program aimed at helping scientists better communicate their scientific findings to policymakers.

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some empathy for people who disagree." Worthington suggests researching the struggles that Trump supporters in economically depressed regions might be experiencing, as a way of understanding their attitudes and behavior.

Step two is perhaps the most important one: Make a conscious effort to connect with those who think differently, even if they are hateful. "Stay engaged no matter what," says Pamela Ayo Yetunde, a pastoral counselor and community dharma leader in the Atlanta area who has written about the relevance of Buddhism in the era of Black Lives Matter.

Yetunde explains that she's been thinking about the Rwandan genocide where people who'd lived next door to each other for years were suddenly incited to kill one another. "Leaders got involved and began to 'otherize' people," she says. "We can't think that as Americans that can't happen here. The danger is staying in one's comfort zone. Maybe people have to arrive at agreements about how, but to remain engaged is the key."

The real way change occurs is by hearing others' experiences and feeling heard.

It's OK to feel hesitant and vulnerable in the process, she adds. "Through mindfulness, we can recognize when we are cutting our-

selves off from people, [even if] we're doing it out of hurt and a desire to protect ourselves." That way, when we do finally connect, we can do so with more skill and self-awareness.

Finally, for step three, it is crucial to genuinely get to know one another, says Susan Glisson, founding director of the William Winter Institute for Racial Reconciliation at the University of Mississippi. "It's about

"Stay engaged no matter what"... The danger is staying in one's comfort zone. Maybe people have to arrive at agreements about how, but to remain engaged is the key."

building strong, trusting enough relationships where you can talk about hard stuff. It doesn't just happen; you have to create an infrastructure for respectful relationships."

Glisson should know. She, together with her husband, leads a consulting firm that runs racial reconciliation workshops around the country. Her team recently spent three weeks fostering trust between police officers, African American community members, and representatives from a Black Lives Matter group in Birmingham, Alabama.

"Spouting a bunch of studies – if that worked, it would've by now," she says. The real way change occurs is by hearing others' experiences and feeling heard. So let people tell their stories about who they are.

"When you do that, what gets built is an emotional connection: the ability to become compassionate about the experiences people have had that led them to the place where they are," she says. That allows people to rethink their stereotypes, and also creates space for them to reflect on the origin of their attitudes.

On a practical level, that might mean venturing into new places that include a wide mix of people – new restaurants, places of worship, or volunteer organizations. But don't dive right into asking about people's political affiliations, Glisson cautions. Take the time to learn who they are first: What do they value about themselves? Where do they feel safe? Only after trust has been established can the most powerful changes – on all sides – occur. **ET**

Amanda Abrams wrote this article for *YES! Magazine*. Amanda is a freelance journalist based in Durham, North Carolina. Learn more about her at amandaannabrams.com. Republished from *Yes! Magazine* with permission. www.yesmagazine.org

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