

VIEWS FROM THE WATERSHED

Spring, 2023

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Chairman's Column by Stephen Williams

Sierra Club. Greenpeace USA. EarthJustice. 350.org. National Audubon Society. What is your reaction when you read the names of these organizations? Do you consider them friends of agriculture? Or maybe not so much? Each has its own causes to promote and methods for accomplishing their objectives.

There was an interesting article in Politico recently entitled "Justice or Overreach? As Crucial Tests Loom, Big Greens Are Under Fire." It gave the example of the Sierra Club under its new President, Aaron Mair, who brought a new mission to the organization – social justice causes. The definition of social justice was "communities of color battling against industrial pollution rarely seen in wealthy white areas." Members saw this as a white organization's embrace of diversity and inclusion. Others saw it as an abandonment of core principles. The Sierra Club was now a full-fledged combatant in the culture wars. Old time supporters felt alienated. The younger, more diverse workforce of the organization complained that not enough of a commitment was being made to equity and inclusion.

By taking on new missions and recruiting staff to match, the green movement had opened its doors to staff, and even new members, who wanted organizational change faster than some of the organizations' leaders. Greenpeace USA found that the need to keep its internal house in order, had sapped away energy and leaders' time from the battle for climate change legislation it wanted. Keeping the internal house in order amounted in dealing with "woke" employees who perceived that management was committing micro-aggressions against them by not heeding their desires for more effort expended on social justice issues. Employees forced unionization at the National Audubon Society and 350.org. Dealing with unionized employees' demands took time away from the organizations' missions.

Older activists expressed discomfort about embracing a broader social justice mission, while newer ones feared that this mission would not meet the challenges of a new era. If this is, indeed, the

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new direction of national environmental organizations, it appears to me that less of their time, energy and funds will be directed to activities that are so frustrating to those of us engaged in agricultural pursuits. The leadership and management of the Big Greens will now have to spend more time dealing with their aggrieved employees.

On a topic directly related to the NRCDs, there is legislation working its way through the legislature to provide direct funding for Conservation Districts. HB2444 creates a NRCD Funding Commission. It also provides a direct appropriation to the Commission to fulfill its duties. The Commission will be composed of NRCD board members representing seven geographic areas in Arizona. Native American Districts are included, also. The structure is similar to the Water Protection Fund in that one of the Commission's primary duties will be to administer grant applications submitted for projects by the Districts. The Commission shall also include a request of not more than \$40,000 for each District, and \$60,000 for each District that operated an Education Center (which the Santa Cruz NRCD does). Administrative procedures for how the Commission operates will need to be developed. As of this writing HB2444 passed the House and was transmitted to the Senate. By the time you read this we should know if the legislation passed or not. There will be an update in the next newsletter.

The Nogales Water Festival was held on May 2 and 212 students from the 5th & 6th grades attended. They studied topics such as water conservation, water cycle, and watershed dynamics. See the pictures on Page 2.

Stephen Williams, SCNRCD Chairman

Nogales Water Festival Pictures

**ECO-GRIEF by Stephen Williams, SCNRCD Chairman**

Have you heard about Eco-Grief? An article in the January-February, 2023 issue of *The Wildlife Professional* written by Michelle Doen, a consultant, and Breanne H. Cavoy, a career specialist, lump it in with Climate Trauma in their article entitled "Acknowledging Trauma in the Work Place." They state that Climate Trauma results from the chaos, uncertainty and infringements on personal safety that results from the climate crisis. They go on to say that natural resource managers may experience a sense of hopelessness in not being able to protect the land and the wildlife under their care. The U.S. Fish and Wildlife Service is offering workshops to its employees to ease this stress and trauma. Really. I am not kidding you.

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Although trauma has no single definition, the American Psychological Association describes it as “an emotional response to a terrible event like an accident, rape or natural disaster.” That raises an important distinction between the term “traumatic” and “trauma”. Traumatic events are what happens to us. Trauma is what happens within us. Trauma is the emotional, psychological and physical response we have to the event. It is unique to the individual.

The National Council for Behavioral Health determined that 70% of adults in the U.S. have had a traumatic event at least once in their lives. The American Psychiatric Association reports that one in eleven people will be diagnosed with post-traumatic stress disorder at some point in their lives. Women are twice as likely as men to have PTSD, and Latinos, African Americans and American Indians are disproportionately affected.

Doer and Covey identified some forms of trauma that might be most evident. They are: individual, generational, organizational, climate and eco-grief, cultural and colonial. Organizational Trauma results from the people’s responses to traumatic events experienced in the workplace. Examples are workplace accidents, mismanagement of organizational change efforts, frequent reorganization, harassment, toxic work culture and repeated exposure to destructive criticism.

Why am I bringing this to your attention in a natural resources newsletter? I feel it is important for you as District Cooperators to know what agency personnel you may work with are exposed to within their respective agencies, and from one publication they might read. You may not know what trauma they are dealing with, if any. If they are it can impact your working relationship with them.

IS THERE A CHANGE AHEAD IN STATES’ WILDLIFE POLICY?

By Stephen Williams, SCNRCD Chairman

A recent article on the Meat Eater’s website entitled “Inside the Campaign to Divorce Hunters from Wildlife Policy” captured my attention. It presented a nationwide campaign that is underway to limit the influence of hunters in crafting wildlife policy. An accelerated effort has begun to pass bills at the state level to remodel state game commissions along less hunter friendly lines. Wildlife For All, an environmental non-profit, articulates the ideas that underwrite these efforts. The Humane Society, Sierra Club, Wildearth Guardians, Animal & Earth Advocates and Project Coyote past and present employees all described the current system of wildlife management as outdated.

“The hallmarks of this outdated system are a focus on producing a harvestable surplus of game animals under an agricultural model and preference given to consumptive wildlife users over the broader public” says Wildlife For All. For over 80 years, hunters and anglers have formed the bedrock of the American system of conservation funding. This “user pays, public benefits” structure has allowed the North American Model of Wildlife Conservation to become the world’s most successful conservation framework.

Recent attempts in various states, like Maryland, New Mexico, Oregon, Colorado, Vermont and New Hampshire, contain language requiring representatives from “wildlife preservation” and “passive wildlife recreation communities” to serve on their wildlife boards. Sportsmen see changing the makeup of game commissions as a stepping stone to a larger goal of anti-hunting groups.

If you are wondering what this means to Arizona’s Natural Resource Conservation Districts (NRCDs), which understand that conservation is based on proper and wise use of natural resources, it depends on what may happen to the Arizona Game and Fish Commission (Commission), and subsequently, the Arizona Game and Fish Department (AGFD).

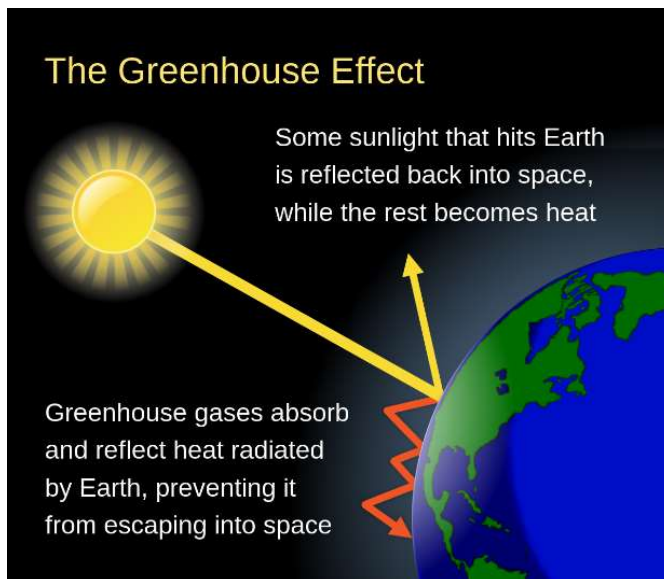
Currently Arizona’s ranchers have a very good relationship with sportsmen and the AGFD. Ranchers benefit from the distribution of sportsmen dollars for on the ground projects through the AGFD’s Habitat Partnership Committee, Landowner Relations program, and others. Since the Commission provides direction for the AGFD, a change in the composition of the Commission could change direction for how these dollars are distributed in the future.

There is no telling how proponents of Wildlife For All, if given the opportunity to serve on the Commission, would choose to use sportsmen dollars. We need to be vigilant that habitat improvement dollars would continue to be used for that purpose.

Carbon Dioxide Facts by Bill Schock, SCNRCD Vice-Chairman

For many years now, we've been hearing that the earth's climate has been changing (getting warmer) and that carbon dioxide emissions by humans is the culprit. So just what are the physical properties of carbon dioxide that would cause such a change and how do they compare with other atmospheric gases? Carbon dioxide is colorless and odorless so you cannot see or smell it. The stuff coming out of smokestacks that can be seen is not carbon dioxide. There is certainly some there if there is normal combustion, but carbon dioxide cannot be "seen".

In the Wikipedia climate change diagram, the sun's rays come through the atmosphere heating it, strike the earth (also heating it), are reflected out towards space while some are then redirected back to earth. They say the redirected heat is "trapped". Since heat always travels from hot to cold, it cannot be "trapped". It can be slowed down by insulation, but it always moves towards cold which in this case is to space.



All atmospheric gases absorb heat from the sun's rays. The gas that absorbs most is water vapor. Our atmosphere is made up of about 78% nitrogen, 21% oxygen and 1% argon. All absorb heat but not nearly as much as water vapor. Water evaporation can increase the water vapor up to 4% in the atmosphere. On humid nights in the summer, as water molecules radiate their stored heat, the air can stay quite warm. On dry desert nights, it can get quite cold. As the earth rotates from day to night, this atmospheric insulating blanket heats in sunshine by absorbing sun rays and cools at night by radiating that heat to space. Carbon dioxide plays only a tiny role in this cycle. Carbon dioxide has only one fourth the ability of water vapor to absorb heat from the sun and only makes up 0.041% of the atmosphere. The other major gases nitrogen, oxygen and argon have less than a tenth of the absorbing capacity of water vapor but make up almost 100% of the atmosphere. As such, they also contribute to the insulating blanket.

The first measurement of carbon dioxide in the atmosphere was conducted in 1958 by Charles Keeling at the Mauna Loa observatory in Hawaii and was measured to be 0.0317%. That was next to the carbon dioxide spewing volcano. Now 0.041% is being measured showing a 25% increase or an addition of about 0.01%. Since the total mass of Earth's atmosphere is about 5.5 quadrillion tons (5,500,000,000,000,000), this would mean that at 0.041% there is roughly 2,255,000,000,000 tons (2.25 trillion) of carbon dioxide currently in our air. The 0.01% increase would be about 550,000,000,000 tons (550 billion). **CONTINUED ON Page 5**

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In the YouTube video “The Greenhouse Gas Demo” by Erik Christensen, his simple experiment with two bottles filled halfway with water and introducing Alka Seltzer into one to create carbon dioxide gas. The temperature difference when heated with a sun lamp is 9 degrees Celsius or 16.2 degrees Fahrenheit. If 100% CO₂ increases the temperature 16.2 degrees, then 0.01% would lead to an increase of 0.162 F (0.09 C) degrees. This would hardly lead to the massive climate changes that are being claimed. NASA does not provide a link to any experiment showing the temperature increase for a 0.01% CO₂ increase.

John Tyndall was the Professor of Natural Philosophy in the Royal Institute, London, who published “Contributions to Molecular Physics in the Domain of Radiant Heat” in 1872. His extensive experiments on heating and cooling of many gases determined their heat absorbing and cooling properties and concluded that water vapor absorbed the most. On pages 117 -119 and 137 - 143, he explains that “aqueous vapour” is responsible for temperature differences from cold dry mountainous regions to hot tropical regions. He never mentions carbon dioxide in his book about heat absorption and radiation by gases. He does some experiments with carbonic acid (H₂CO₃) that occurs when CO₂ is mixed with two parts H₂O and found it to have less heat absorbing characteristics than water vapor. This contrasts with the PBS “Decoding the Weather Machine” documentary that states that “Tyndall figured out that carbon dioxide traps heat”, and goes on to claim, “But even more importantly Tyndall realized that when we dig up coal and burn it, it's actually releasing more of these heat-trapping gases”. None of this information exists in Tyndall's work and simply appears to be made up.

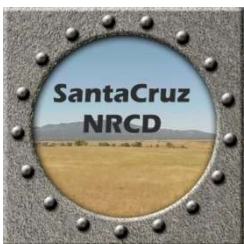
As far as the claim that heat rays are bounced back to earth from the atmosphere instead of continuing into space, this comes from Joseph Fourier's 1824 experiments with glass boxes that “trapped” the sun's radiant light rays after they passed through the glass. When the rays first strike the surface of glass panes, some are reflected because their frequencies are not able to pass through the glass. The ray frequencies that are able to pass through are changed by the glass itself by its coefficient of refraction. When they are reflected back from the inside of the box to the glass panes interior surface some rays can now pass back through while others cannot and are reflected back to the interior where they continue to build up heat. This heat can only then pass to the outside by conduction through the glass. Everyone knows how this works in cars with closed windows in the summertime. Heat builds up until nightfall when the car begins to cool by conducting heat to the outside air. This cooling continues until it reaches the same temperature of the night air. At dawn the heating process begins again. The coefficient of refraction of glass is 1.52, carbon dioxide is about 1.000449 and water vapor 1.000256. Both are insignificant and would lead to no “trapping” of heat. Also, at CO₂'s low concentration in air of 0.041%, there is a lot of space for all radiation frequencies to escape to space. To put this in context, if a sports stadium held 10,000 fans, only 4 would be CO₂ and they would be seated far apart.

What all of this means is that earth's temperatures are controlled by the sun's rays (see graphic below), the absorption and reradiation of heat by water vapor and the thickness of the non-greenhouse gas atmosphere. Other things play a part such as the absorption of heat by asphalt and the reflection from clouds, ice and snow among many other factors. Carbon dioxide is continuously being broken apart by photosynthesis in plants to retain carbon and give off oxygen. It is also being washed from the atmosphere by rain and is absorbed by the oceans. When we hear talk of billions of tons of CO₂ being emitted, remember that a billion tons is only 0.000,018% of the earth's atmosphere. It is really a small drop in the bucket.

This shows that carbon dioxide is a very weak greenhouse gas and that there isn't enough of it to cause any measurable climate change. We really need to let our children sleep at night.

Calendar of Activities/Events

- May 19, Santa Fe Ranch Days
- June 14 (Tentative), SC NRCD Teleconference to review Arizona State Land Plans of Work
- July 12 (Tentative), SCNRCD Teleconference to review Arizona State Land Annual Reports
- July 13-14 AZFB Summer Leadership Conference (Star Pass Resort, Tucson)
- July 19-22, ACGA Summer Convention (Loews Ventana Canyon Resort, Tucson)
- Summer 2023, NRCWAY Camp for students grades 8-12 (Mingus Mtn 4H Camp, Prescott)
- August 9-11, AZ Society for Range Management Summer Meeting
<https://azrangelands.org/> Ten-X Campground, Tusayan (Grand Canyon)
- AACD & NRCS Summer Meeting, July 30-31
- AACD Summer Meeting, August 1-2 (El Conquistador, Tucson)



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