How I Got Hooked on Biochar
From Ansel Adams to Kelpie Wilson
By Raymond Baltar

My journey to become active in the worlds of sustainable forestry and regenerative agriculture as critically adaptive climate change strategies has been a long, strange road. The last 16 years, in particular, have been a particularly fertile period filled with amazing learning opportunities and professional connections in the fields of environmental sustainability, regenerative practices, and alternative business models. This period has also been steeped in deep reflection about how to alter the unsustainable path our society is on, and what I could do to affect real change. But this journey started in my teens and is my story about how a relatively happy and successful professional photographer turned into a passionate purveyor of charcoal as one of the simple strategies we can use to help save our civilization. Charcoal, you say? Read on.

Growing up in Berkeley with a father who co-founded the Berkeley Ecology Center in 1969 and who ran the Ecology Center Press for many years after that, I have considered myself reasonably enlightened and concerned about environmental issues. But for most of the intervening years I have mostly been a distressed bystander. Not anymore!

My first personal introduction to environmental activism was as a high school senior attending Symbas, an alternative High School in an amazing community called Project One in San Francisco. Project One was an early urban co-work experiment, described on Wikipedia as a "technological commune," that was formed in 1970 and that lasted about a decade. As part of a school work experience project I had scored a job as an operator for the San Francisco Switchboard on an old PBX machine, also in the building, when I started getting calls about an oil spill in San Francisco Bay caused by two Standard Oil tankers that had collided.

Thousands of people wanted to know if and where they could volunteer to help rescue birds and clean the beaches, and over the next several weeks almost everyone in the building helped to build an old-school information hub, complete with a phone bank, whiteboards and rumor control. We coordinated with other volunteer hubs that had sprung up in Marin County, Half Moon Bay and elsewhere to try and manage the volunteer effort, and though most of the birds died, the beaches did eventually get cleaned and the effort spawned the International Bird Rescue group that has responded to many subsequent spills and has learned how to save much more wildlife.

Over the years I have been righteously outraged by the almost daily, blatant disregard for the health of the very ecosystem services so essential to our survival on the planet as well as the millions of organisms that we share it with. With each new logging tragedy in the Amazon rainforest, or destruction of a fishery in the Atlantic or Bering Sea, or some other triumph of human/corporate greed over common sense and the health of the shared commons, there

seemed to be a collective numbness that set in, making our business-as usual, everyone-out-for-themselves system seem somehow inevitable.

Like so many others, while I supported environmental causes through donations, attended Earth Day celebrations, and supported from afar the amazing people willing to put their lives and livelihoods on the line to try and stop or protest some new environmental horror, my voice was pretty much silent. Too busy raising a family and running a business, I told myself, to make a difference…until 2003.

Coming across a book by Paul Hawken called "The Ecology of Commerce", I had a wakeup call not only about how serious things were getting with ecosystem degradation but also that there was a potential pathway to change our societal trajectory. While voices of protest were and always will continue to be important, the book points out that unless we change the way business is done in terms of product development, supply chain management, built-in obsolescence, and our throwaway, consumerist culture—not to mention a corporate structure that legally and singularly prioritizes profit over good environmental stewardship and social equity—that nothing of meaning will change. Paul was, of course, right.

I started reading everything I could get my hands on about the environment, new business models, and career alternatives, all the while managing my photography Studio (did I mention I got a B.A. in Art, Photography Emphasis, from SF State and have made my living as a professional photographer for 40 years??) and trying to figure out how to plug in and make a difference.

I started attending meetings of the local Redwood Chapter of the Sierra Club 2006, and in 2007 I was nominated to run for the Executive Committee of this group, and I won the first and only election I ever entered. During that same year a group called Solar Sonoma County (SSC) was forming, a group that had grown out of the successful Solar Sebastopol effort and that was trying to scale its solar advocacy influence to the county level. I was appointed as the Sierra Club's representative to SSC, and coupled with my experience on the EC this time period was my first exposure to the wonky politics of environmentalism, and how challenging it is to turn meetings and discussions into actual, positive actions. However, in collaboration with groups like the Climate Protection Campaign, Sonoma County Water Agency, Conservation Action, local solar pioneers, and many others, SSC advocated for the formation of a Community Choice Aggregation entity that allows a coalition of local governments to decide where to source their power, instead of PG & E, and this in turn has enabled a greener electricity supply and investments in local renewable energy infrastructure.

After a year on the Sierra Club EC I decided to take a 9-month sustainability course from the Leadership Institute for Ecology and the Economy, and because I only had so much free time I decided to resign the Sierra Club position, though I kept an advisory position with SSC for another year.

Sometime in the Spring or Summer of 2008, at a sustainability conference in Sonoma County, California, I had a long discussion with a woman recruiter from the Green MBA program at Dominican University. That December, on a lark, I decided to apply and write up the required essay on why I wanted to join the program. In early January, 2009 I found out I had been accepted, and late that month I began a 2.5-year journey attending the oldest green/sustainability oriented MBA program in the country almost every weekend while still trying to run my Studio full time. It was incredibly challenging, but oh-so enlightening. So here I found myself in my 50's, up to my eyeballs learning about how to change the system from within, about what a completely unsustainable economic system we have built, and with and about the many amazing people who were looking for alternatives to our currently destructive path.

When I was looking around for a capstone project I came across this stuff called biochar, and the more I read about it the more amazing it sounded. Here was a waste management solution, a renewable energy solution, an agronomic superstar with an amazing array of benefits, and a way to sequester carbon for hundreds, even thousands of years. And it was an ancient solution that had been used around the world for centuries that anyone could produce in his or her backyard. Sounded almost too good to be true, which is how most people in the industry got hooked, just like I did.

So I found a spreadsheet wizard who also caught the biochar religion and we worked on a capstone project together, producing a business plan for a 1 MW gasification facility to be designed and built by Phoenix Energy and located at the Sonoma Compost site at the Sonoma County Landfill. (Long story, but it never got built, unfortunately.) When I started my research I happened to look on the International Biochar Initiative web site and noticed someone from Sonoma had JUST announced he wanted to form a local biochar group: Ray Gallian, a guy I already knew but had no idea he was interested in biochar! Over the next several months we, along with carbon pioneers David Morell, Richard Dale, and a number of others, founded the Sonoma Biochar Initiative. I graduated with an MBA in Sustainable Enterprise in 2011.

Initially an ad-hoc group that knew very little about biochar, over the next 8 years SBI attracted important voices like Susan Haydon of the Sonoma County Water Agency, Peter Hirst of New England Biochar, Matt Banchero of Banchero Tree Service, along with many others too numerous to name, and our sophistication grew. I was named Director of SBI in 2011 and have overseen a number of projects that have helped spread the message about biochar and its many attributes.

We hosted and managed the 2012 USBI national biochar conference at Sonoma State University, received a USDA Conservation Innovation grant to produce biochar with an Adam-Retort and measured its effects in three local farms, and co-produced the Biochar School at Swallow Valley Farm. We received a California Department of Resources grant to measure biochar's ability to save water in agriculture, have given over 30 conservation burn trainings up and down the state, and managed a citizen science project that introduced biochar to over 200 local gardeners.

In 2016 I was hired by the Sonoma Ecology Center as Biochar Projects Manager (and where I now work), and was one of the co-founders in 2017 of the California Biochar Association that was created to expand the biochar conversation to a statewide audience.

Also in 2016 I started consulting for the Redwood Forest Foundation, Inc.(RFFI), a non-profit organization involved in the sustainable management of the 50,000-acre Usal Forest in Mendocino County, and my real education began in how biomass acquisition and feedstock management fits into the biochar production life cycle. I researched and wrote a biochar marketing study for RFFI in 2016, managed a biochar production facility in Piercy, California in 2017 using surplus tanoak from the Usal, and researched and wrote a biochar technology survey in 2018. I have come to appreciate the huge procurement and logistical costs necessary to bring surplus biomass out of the forest and to a processing facility, and the machinery, infrastructure and labor costs associated with running such an operation. There are definitely challenges, and right-sizing operations, choosing the right technology, and securing sales channels are all critical components for a successful project.

While progress feels painfully slow at times, and money is always a limiting factor, it looks like 2019 and 2020 will be breakout years for biochar education, production and use.
There are a number of great projects in the works throughout the state, around the country, and around the workd, and coupled with the fact that biochar is finally getting the traction it deserves on the world stage as a carbon sequestration strategy, and that a major new documentary called Ice on Fire profiles biochar as an important carbon drawdown strategy, we are very encouraged about being able to scale the use of biochar. It is just one of the many things we can do to (hopefully) minimize the worst effects of climate change while also building a more resilient and regenerative agricultural system, but in our view a very important one.