

Feb. 6, 2015

Dear Commissioners,

Pursuant to my testimony at yesterday's hearing on the RESP, and your discussion at the next RESP hearing on February 26, I would like to clarify and respond to a few points regarding the inclusion of potential habitat for sensitive species in the permit streamlining process.

Mr. Keith provided the theoretical example of a survey for red-legged frogs, stating that if a proposed RE site was found to have "a pond nearby and there's foraging habitat on site, that would probably kick it out of the streamlining."

This not the case with the RESP as currently proposed. Rather, if there were a nearby pond and foraging habitat – i.e. potential habitat for that threatened species but no frogs found on site, it would be eligible to be included in the streamlining process, not required to be excluded.

Mr. Caruso asked, "If there isn't a sensitive species on the site, what are we worried about?"

I reproduce below the relevant text from the 2010 report of the GEOS Institute and Local Government Commission, "Integrated Climate Change Adaptation Planning in San Luis Obispo County," as I cited in my testimony (emphases added):

Many important strongholds for threatened and endangered species are **not** protected and are **not** included in critical habitat designations. Critical habitat needs to be revisited and revised to include these areas as well as buffers for climate change **range shifts**.

Climate change may make marginal farmland available for conversion to coastal wetlands or native grasslands. Topographic complexity provides climate change refuges for species across the County as they **shift to new areas**. Many areas are currently available for providing **buffers** and **connectivity** for natural ecosystems (primarily on private land), but **these areas could be lost to development** if new policies and approaches are not quickly instituted with climate change in mind.

Full report at

http://www.lgc.org/wordpress/docs/adaptation/slo/NatSystReview_03_03_2010opt.pdf

This is the argument for leaving the word "potential" in front of "sensitive species habitat" in the RESP as a disqualification for the streamlining process, ensuring that development proposals for such lands get a full review and a public process, in which issues such as those raised by the LGC report – including potential for conversion to wetlands or grasslands, incentives for climate change easements on private property, regional analysis of potential buffers and corridors and a better understanding of how and where species will move -- can be

fully vetted. The RESP provision in question has the potential to work against or foreclose such potential conversion, incentives, analysis and understanding.

For the County to retain these options as necessary for climate change adaptation planning, your Commission must retain “potential habitat” in the RESP as a bar to consideration for streamlining.

Andrew Christie, Director
Santa Lucia Chapter

To: San Luis Obispo County Planning Commission
Date: February 17, 2015
Re: Feb. 5 hearing, Agenda Item #4,
Renewable Energy Streamlining Program. Continued to Feb. 26 hearing,
not yet agendized.

Members of the San Luis Obispo County Planning Commission have an unusual opportunity to hold a vision of decreasing our county carbon footprint in as many ways as possible.

One of methods would be focusing on CO₂ sequestration. by encouraging livestock producers to use rotational grazing, farmers and gardeners to use no-till methods. Research has shown that this management change has the potential for an area to be a model of CO₂ mitigation. This would be especially effective in our county with our large proportion of grazing land using the natural ability for soil and plants to sequester carbon by being rotationally grazed by livestock.

Since 1976, my husband and I have been interested in lightening our carbon footprint and improving the soil on our 10-acre place on Jespersen Rd near the SLO Airport. We went to solar power about 10 years ago. We have raised a mix of livestock or only cattle, gardened and composed organic waste making compost for our land. In 2002 we began experimenting with paddock or Holistic Management of our pastures and became even more convinced after visiting a managed pasture ranch in Zimbabwe.

We then found with an application of compost, we had even more improvement in the indicators of increased carbon sequestration. Even imperfectly done, on a smaller than ideal scale, this pasture rotation appears to have helped us retain more rainwater in our soil. Our pastures are lush and last longer during the dry season, which is consistent with findings of the professional researchers.

We are participating in a CO₂ Sequestered Measuring Project by Peter Donovan of Soil Carbon Challenge, (PO Box 393, Enterprise, OR 97828). Donovan has mapped several locations in SLO County, including pasture locations at Cal Poly. He is mapping many locations for sequestered CO₂ increase, as well as control plots, on a three-year cycle in many areas around the globe.

Anti-cattle and anti-livestock folks may bristle, yet experience in many areas of the world have shown that rotationally managed grazing, Holistic Management, or mob grazing is proving to be successful in increasing our capacity to hold water in soil. This statement would not be true for CAFOs (concentrated animal feeding operations).

Peter Byck's created the film "Carbon Nation" a few years ago (available on Netflix). Peter connected with John Wicks of the Marin Carbon Project and then with Tim LaSalle

while Tim was on the East Coast as CEO at the Rodale Institute. For 34 years, Rodale has collected soil carbon data related to sequestration in farming systems. The Marin Carbon Project has peer reviewed data under Wendy Silver's leadership at UC Berkeley that shows if grazing land is dusted with compost or inoculated with compost tea and then combined with properly managed grazing for short-time high-impact exposure with cattle, there is a ton (yes, 2,000 pounds) of carbon (7,340 pounds of CO₂) is absorbed per acre annually from the atmosphere and sequestered in the soil. This is the process that lowered CO₂ levels from Earth's ancient past to make it livable, moderating temperatures, and weather and providing enough O₂ for our life forms.

The Marin Carbon Project's numbers match the levels the Rodale Institute showed in peer-reviewed work in their specific organic farming systems. Recently, Dave Johnson, a scientist at New Mexico State University, is showing even higher numbers than Rodale, thus indicating the critical nature of the fungi-to-bacterial ratios in compost that is key to robust sequestration. Recent research shows compost spread even once over grazing – a biological kick-starter for carbon capture – increases climate mitigation and watershed yield.

The critical levels of CO₂ in the atmosphere cannot be fixed with only emission reductions. Project ***Draw Down: the turning point for humanity and climate change***, has compiled the sequestering information and which will soon result in an upcoming book by Dr. Paul Hawken. Drawing down atmospheric CO₂ is pivotal if there is to be a future for our civilization. Without engaging the only technology available in turning the legacy numbers of CO₂ around, which is photosynthesis – taking CO₂ from the atmosphere and making CHO (carbohydrate) into many forms of carbon compounds that can be kept for short to long terms – assisting soil fertility and water-holding capacity resulting in more plant growth.

Drawdown is a mirror held up to the world about what “we” are doing about greenhouse gases, with the underlying motto that if it is happening, it is possible. Project Drawdown is a broad coalition of researchers, scientists, graduate students, PhDs, post-docs, policy makers, business leaders and activists to assemble and present the best available information on climate solutions, to describe their beneficial financial, social and environmental impact over the next thirty years.

Drawdown creates a realistic, optimistic and empowering view of our climate future. There are three paths to drawdown: reduce greenhouse gas emissions into the atmosphere through efficiency and resource productivity; replace existing energy sources with low carbon renewable energy; and bio-sequester carbon dioxide through innovative farming, grazing and reforestation practices.

In the last few days, there was an intensive internet conference session funded by California donors that brought together 40 researchers (including Tim LaSalle and those

mentioned above) from across the country. Explore current research and what policy shifts need to transpire to utilize the natural sun-powered technology of photosynthesis to guide us back to atmospheric levels of CO₂ that are manageable for a possible future for civilization.

As we know, water-holding capacity in California is in trouble and will be more so if climate predictions hold. Proper range management can increase watershed capacity, water yield, photosynthesis, carbon capture and many more benefits. Cities need good grazing in their watersheds, the carbon cycle needs to be better understood. Industrial agriculture and continuous grazing models need to be revolutionized. An example of this type of needed change is San Luis Airport working with Anne DeFeyter “the Goat Girl” and her Central Coast Green Goats with controlled grazing for weed abatement, which has many more benefits than just controlling weeds. Cal Poly also uses goats extensively for weed abatement.

Rebecca Burgess, who heads up Fibersheds (www.fibershed.org), participated in the recent CO₂ internet conference. This impressive program is developing a carbon sink/natural fiber project, where every piece of natural fiber – wool, cotton, flax, etc. – can be a *sequesterer* of carbon. This is in contrast to the current practice of industrial fertilizer-based farming or poor grazing practices and artificial fibers, which are usually petroleum based. This illustrates the more complex but **crucial shift**. We need to be looking toward and for ways to **create products that keep carbon out of the atmosphere**.

Besides Byck’s film “Carbon Nation,” He has a web-based grazing film called “Carbon Cowboys” at this site:

<http://www.carbonnationmovie.com/about/clips/225-new-video-soil-carbon-cowboys>

Peter Byck is also working with six university researchers and about 80 rancher's grazing lands in eight bio-regions. He will have even more data incorporated into a new film. This set of data will give us deeper insights into the biomass increases (carbon, soil cover, and thus water) that can occur in good management.

Grazing lands and how they are valued by the Planning Commission, society, ranchers, water users, and others is key. Grazing lands are often viewed as static bio-regions or simply resources to be developed into something of “higher use.” In today’s climate and water-challenged world, what is any higher use than pulling our legacy CO₂ from the atmosphere and increasing the water yield of our watersheds?

Conventional land use with tillage disturbs the soil and creates CO₂ loss. Degraded soil with impermeable surfaces creates water run-off and loss of soil, water and nutrients.

Tim LaSalle, former Cal Poly President Julian McPhee’s grandson, has also presented you with much of this information (in his letter to you), from his first

hand experience. He is a remarkable resource for San Luis Obispo County and will be able to answer questions. He has worked closely with this CO₂ sequester issue for many years, in several areas of the world. His contact information is 805-234-3448, tim.lasalle@gmail.com.

Thank you for your consideration of this information that could help San Luis Obispo County be a front-runner in making notable progress with mitigating the increasing CO₂ problem and be a model for other counties.

I hope you will seriously consider this little or no cost Vision and make thoughtful planning decisions and recommendations that encourage progressive farming and rotational grazing practices thus leading SLO County to markedly increase its levels of carbon sequestration.

I feel that any streamlining on planning needs to include process for public comment.

Respectfully,

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To: San Luis Obispo County Planning Commission

Re: Exemption for Discretionary Review for Development Permits

I know this may cause those with an anti-cattle view to bristle, but rotational managed grazing some would name as Holistic Management or mob grazing is proving essential to our capacity to address climate change. This statement does not hold true for CAFOs (concentrated animal feeding operations). Fairly recent research holds even more promise with compost spread one time over grazing land used as a biological kick-starter for carbon capture – thus meaning climate mitigation and water shed yield increases.

Peter Byck created a film a few years ago available on Netflix titled Carbon Nation. He connected with John Wicks of Marin Carbon Project and then with me while I was on the East Coast at the Rodale Institute with our soil carbon data in farming systems about sequestration. The Marin Carbon Project has peer reviewed data under UC Berkeley's Wendy Silver leadership that shows if grazing land is dusted with compost the biology will be kick started and then combined with properly managed grazing for short time high impact exposure with cattle there is a ton (yes 2,000 pounds) of carbon (7,340 pounds of CO₂) that will be absorbed from the atmosphere and sequestered in the soil.

Their numbers match the levels we showed in peer-reviewed work in specific organic farming systems at Rodale. Now a scientist, Dave Johnson, at NMSU is showing even higher numbers than we had indicating the critical nature of the fungi to bacterial ratios in compost that is the real key to robust sequestration.

The last few days I have just spent intensive work session with about 40 people from across the country (including those mentioned above) focusing on soil carbon and the current data, data sharing among the now many doing this research, and funders. The critical levels of CO₂ in the atmosphere cannot be fixed with only emission reductions. So *drawing down* the CO₂ - a new book title by Paul Hawken that will be coming out soon - is a pivotal necessity regarding civilization's possible future. Without engaging the only technology available to turning those legacy numbers of CO₂ around is photosynthesis - taking CO₂ from the atmosphere combined with water and making CHO (carbohydrate) into many forms of carbon compounds that can be kept for short to long terms where it assists soil fertility, water holding capacity, water retention, etc.

This brings us to water holding capacity in a state that is in trouble and will be if climate predictions hold. Proper range management can increase watershed capacity, water yield, photosynthesis, carbon capture, etc. Cities need good grazing in their watersheds - the carbon cycle needs better understanding, and industrial agriculture and continuous grazing models need revolutionizing.

A young lady, Rebecca Burgess, who is heading up a program on Fibersheds (www.fibershed.org) was also a part of this group. I was very impressed with the project in that they are developing a carbon sink based natural fiber effort where every piece of natural fiber - wool, cotton, flax, etc. can be a *sequesterer* of carbon, not the current

practice of industrial fertilizer based farming or poor grazing practices --- of course artificial fibers are usually petroleum based - a real carbon emitter. This illustrates the more complex but crucial shift we need to be looking to for ways to produce products that take carbon out of the atmosphere, from food to retrofitting buildings, etc.

You may enjoy Peter's film *Carbon Nation*, or a web based grazing film called Carbon Cowboys at this site:

<http://www.carbonnationmovie.com/about/clips/225-new-video-soil-carbon-cowboys>

His new film will not be out for awhile, but six university researchers and about 80 rancher's range lands in about 8 bioregions will have even more data soon. This set of data will be very robust giving us all deeper insights into the biomass increases (carbon, soil cover, and thus water) that can occur in good management.

Grazing lands and how they are valued by the planning commission, society, ranchers, water users, etc. are often viewed as static bio-regions or simply resources to be developed into something of "higher use." In today's climate and water challenged world what is any higher use than pulling our legacy CO₂ from the atmosphere and increasing the water yield of our watersheds? It is certainly not changing the land use where disturbing the soil creates CO₂ loss and hard surfaces create water run-off and loss.

Thanks for your consideration.

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