

**May 12, 2015**

**Regular Meeting**

**Item #13c**

**Public Works**

**Conway Ranch Update and  
Emerging Opportunities**

To the Mono County Commissioners:

I am encouraging the consideration of an agriculture use lease for the 75-acre Conway aquaculture property. There are multiple aspects at Conway that lend space supporting a systems approach model. A farm would provide local enterprises direct access to a variety of meat and produce grown in a historically productive landscape and supporting regional development. Provided is a brief synopsis of land characteristics and possible implementation of a biologically diverse farm operation.

Soil samples provide that Conway sandy loam and DeChambeau gravelly complex comprise the 75 acres, respectively. The majority being Conway sandy loam provides an average 3000lbs/ac of forage, and is prime agriculture land if irrigated and drained. Replanting of native grass seed could enhance productivity without need of irrigation. The remaining acreage of DeChambeau gravelly complex is ideal arable land and of statewide importance for agriculture.

System thinking presents an agroecology model that uses natural combinations and extensions of the farm functions with its surrounding elements- usually in the form of silviopasture and agroforestry. For example, certain production fruit and nut tree plantings around a pond will reduce evaporation, create a wind break for reduction of evapotranspiration, and finally give a wood substrate for mushroom inoculation; this in addition of these trees respective crops and give fodder to animals. There is also an emphasis on creating a more closed loop, with few external inputs. The aquaculture pond could be used for rearing of native fish, edible or not, will provide effluent for nutrient application. Using the process of nitrification, this water is filtered through various mediums to switch nitrites to nitrates. This offers a more contained nutrient system for established crops. A comprehensive nutrient management plan will have to be created to balance the application. Certain crops will need higher amounts than others; however, organized guilds of trees and crops with different but symbiotic function utilize their required amount of nutrient need. Though alternative in relation to industrial agriculture, these indigenous uses of the landscape have the highest yield efficiencies.

Further reducing water use, planting using swales along contour absorbs more water into soil organic matter with slower release. Contour trenching in combination with the established aquaculture infrastructure gives ideal prospect for key line irrigation, using the established flood and drain system. Eventually, drip irrigation can be used to provide direct watering with minimal loss. However, key line offers ideal absorption of soil organic matter, lending to a slow release and a successful 90% retention. Crops will also be inoculated with mushroom mycelium to provide further filtration and another crop. Slow release is essential in the desert climate,

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where evapotranspiration lends to lost moisture. Allowing a plant to continue absorption through roots while its stomata are closed is essential for efficiency.

Agriculture guilds also provide needed water demands of the variety of crops, meaning less moisture lost to evapotranspiration. For instance, forage and orchards use 2000 AF/yr. or 3cfs, while vegetable crops are 100 AF/yr. or 1.4cfs. Combining the use of forage, trees, and grazing animals provides efficiency within the system and less water demand. Different traits and needs provide a niche for each at optimal biological efficiency.

Along the line of following local traits, managing Fallow deer, chukar, quail, trout, bees and mushrooms utilize the natural habitat provided on Conway soil. More traditional ungulates with appropriate adaptation may also be incorporated. Forage needs and habitat of wild populations will be considered in the grazing management plan. Electric fencing will give high mobility for ease of access in rotational grazing and predator protection, allowing versatility in management.

The DeChambeau soil location provides an opportunity to offer a more traditional agriculture methodology on available arable land. Preferably, a no till approach will retain soil and mycelium structure, avoiding erosion by wind or precipitation. Polycultures will be maintained to exploit niches, and considering 4-5 year rotation of crops will be on a 1-2 acre scale. This gives an approachable model that relies on bio-intensity for sustainable yields. The use of this land would provide produce for sale to a Community Supported Agriculture program or restaurants, grocery stores, and farmer's markets supported by the extensive tourism industry. Expanded past production, there is also opportunity for interactive workshops or agritourism events that offer a perspective on high desert agriculture. Allowing an alternative agriculture model will provide multiple facets for generating revenue.

More than taking advantage of tourism establishments or increasing food security of Mono County, the availability of a small-scale agriculture operation encourages local employment and vocational training. Programs could be used that provide educational credits during the school year, while internships could be provided to establish marketable skills, employment, and retain a presence of motivated peoples hoping to cultivate Eastern Sierra agricultural heritage.

Sincerely,

Jake Suppa

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