

TEN RIVERS FOOD WEB & SOUTHERN WILLAMETTE VALLEY FOOD SECURITY (2019 updated report by Harry MacCormack)

Between 2005 and 2007 a group of people concerned about the converging catastrophes of the 21st century created Ten Rivers Food Web. We were primarily concerned with what could actually be grown as a basis for human health and well being in the local of Linn, Benton and Lincoln counties. We partnered with others doing similar work in Lane, Polk and Marion counties Oregon. The ten rivers in the organizations name indicate a sub Bio Region that defines food production in the Central Willamette Valley and Coastal areas. The terms sustainable and locally based were fast becoming part of ordinary language, usually as answers based in beliefs about how local dynamics provided more security than either regional or national/international food systems offered. TRFW set about testing those beliefs, through encouraging on-the-ground locally based food production, processing, availability and delivery systems, and accompanying analysis and support actions.

An early aid in our work was offered by Jason Bradford, who, in a 2005 study for Willits CA food security noted that for the daily human caloric need of an average of 2500 calories, 90% (especially in an “emergency” situation) will come from dried grains and legumes. That figure assumed that the other 10% could come from a very local supply of plant- based foods, dairy, eggs, and various meats, including fish.

Fresh in our minds around 2005 was James Kunstler’s just published book *The Long Emergency*. That projection about our collective future shocked those who were paying attention. Now, in 2019 we are obviously in that future; the wild swings of climate change affecting everyone on the planet; a number of esteemed Scientists predicting multi species extinctions that include humans. These circumstances set the parameters and timing for a re-evaluation of the whole notion of survival rooted in a locally based, integrated working, of a consciously organized food web.

The transparent effects of climate change from global warming, and the accompanying social disruptions worldwide, change the dynamics involved in sourcing of human foods. Here in Western Oregon our Maritime Climate seems to modulate the extremes being experienced elsewhere. But even here high and low pressure systems get stuck, and we have already experienced summer temperatures that are much hotter for longer periods than were once considered normal. We have also experienced years of lower snowpack levels and aquifer recharge translating into threats of drought conditions for dry farming, lowered irrigation possibilities,

brittleness and death of some trees, scorching of some blossoms and fruits, and a general change in the timing of planting and harvest seasons.

Jason Bradford's assessment that legumes and grains constitute the basis of all human diets seemed an absent perspective in most discussions of local food security. That is still often the case. Yet, grains, beans, edible seeds and nuts have defined cultures for centuries. Asia is generally a rice culture; although wheat, barley, and corn have been prominent in modern times. Soybeans, lentils and fava or broad beans have been major rotation crops and food staples in both Asian and Middle Eastern cultures pretty much since the beginnings of settled agricultural communities. Mediterranean and African cultures are thought to be the cradles of ancient wheat, barley, teff, millet, chickpeas and certain other beans and nuts. The Americas are defined as creation centers of corn, quinoa, amaranth, and many bean and edible seed varieties. European diets are rooted in shorter season varieties of oats, wheat, rye, spelt, barley, buckwheat, flax, green, golden and split peas, and varieties of nuts. When you eat culturally the variety is usually based in region-specific staple crops. And if you have animal products in your diet, most farm or homestead animals, even those that are pasture fed, require a ration of grains, beans, or peas at various points of production.

In early TRFW discussions regarding what actually constitutes a locally based food web it became clear that food staples in any culture are those foods that can be stored. To make both grains and pulses edible for humans they are either sprouted or ground or cooked in some way using fire. There was a history of both Indians and settlers in the Willamette Valley planting, harvesting, processing, and storing some grains, seeds, and nuts; mostly wheat, rye, and some buckwheat, flax, hazel, acorn, and walnut varieties. But facilities for local storage were mostly nonexistent in 2005. We are really no better off today; although we have generated small processing mills, the largest being Camus Country Mill in Eugene, that mill one result of TRFW's early organizing work. However, even that mill is now sourcing from all over the Pacific Northwest, as does the even larger Bob's Red Mill in Portland; meaning that Willamette Valley grains were not sufficient to keep businesses of that scale going. Not because grains and seeds don't grow here, but because of community and general consumer, hence farmer focus and will.

For Ten Rivers Food Web the above food security perspective translated into a project. The Southern Willamette Valley Bean and Grain project was begun in 2007. Our hope was that by 2012, 30% of the food consumed in our 6 county bio region would be from local sources. Reality was that by 2012 small pockets in Eugene and

Corvallis were analyzed as showing between 5%-10% local consumption. Figures showed that most local consumption remained around the national average of 2% or lower. Several mid scale farms were producing grains, beans, and edible seeds for the 80% -90% of human and animal diets that were, as if in the long emergency, actually feeding from the local food web. They soon found that they were overproducing and had to find sales on regional and national scales. Those mid scale farms established small, very local milling facilities. Green Willow Grains had a mill in Brownsville. Lonesome Whistle Farm south of Junction City maintains small scale milling facilities. TRFW supported development of even smaller, usually on-farm, cleaning and milling operations, through grants and interactive meetings.

In 2019 no recent analysis of local food consumption percentages exists for our area. Collin Durling, TRFW Board Member, has produced rough data showing the acreage required in the Southern Willamette Valley if all roughly 700,000 inhabitants were to eat locally using a plant based diet. One of TRFW's tasks has been to alert people to food security being dependent on local food production, and to encourage local growers, processors, and distributors in that effort. Obviously, there is a lot of work to do, especially as we engage the effects of climate change on dry farmed staple or survival crops.

From 2007 on TRFW organizers worked with farmers, the general public, and sister organizations to get acreage into high quality, organic, bean, grain and edible seed production. Early on Willamette Farm and Food Coalition based in Eugene helped with the public presentation efforts and with organizing meetings with over 40 area farmers. Part of our effort was to also get Homesteaders and back yard and urban growers to do plots of grains, beans, and edible seeds. Most of the chronicling of that work is still available at <https://mudcitypress.com/beanandgrain.php>. The Southern Willamette Valley Bean and Grain Project. Dan Armstrong continues to chronicle some efforts. What was in the beginning the small wholesaler Hummingbird Wholesale has become much larger, and continues trying to source locally grown staple products, along with all the other products they make available from around the world.

That organizing effort had to confront entrenched paradigms that still exist in the farming, consuming and food activist communities. Those paradigms entail: (1) staple commodities are grown for export; (2) food should be cheap, or 'purchase what is cheapest'; (3) vegetables and fruits grown locally are the basis of local diet. TRFW work eventually helped transition nearly one thousand acres of several hundred thousand acres of grass seed land into high quality, locally based grains,

beans and edible seeds for human and animal consumption. We also helped growers set sales that actually covered all costs of production, including reasonable living wages for farmers and staff. All of those transitions also included moving conventionally farmed chemical ground into organic production.

Success was measured in several ways. First was monitoring growers as they introduced varieties that some in the Extension Service maintained wouldn't grow successfully here. Various Red Wheat varieties were one shining example. Protein measures in wheat were in 11% -14% or more ranges that were thought impossible in this locality. It was discovered that wheat has vintage seasons, like grapes. Some Oats were measured to be the most nutritious being grown in the whole USA. Other measures were the numbers of people attending field day demonstrations on farms. Hundreds attended, and there was TV coverage. Many small and some larger retailers, bakeries, restaurants began sourcing locally grown grains, beans, and edible seeds. TRFW initiated a Fill Your Pantry event in 2008 to allow individuals to purchase bulk staple foods for home or business storage, one way to tackle the lack of storage facilities in our area. Our first event was an immediate success. It was followed by a similar event on a larger scale in Eugene. And during 2017 and 2018 there are now FYP events in Portland and elsewhere run by sister organizations.

All of which shows a certain excitement around the availability of local, organic, beans, grains, edible seeds, nuts, and other vegetable and animal products that can be stored. Most events also feature locally grown, frozen meats for storage.

Several questions were brought forth from our work. Partial solutions followed.

- (1) Flax and hemp were both major Willamette Valley crops in the past. Our project suggested that both should be reintroduced to the valley. Which they subsequently have been, on small scales so far.
- (2) Oil seed crops and oil from grape seed were targeted for testing. Some of both kinds of oil, along with a minor amount of Olive oil are now available.
- (3) Hard Red Wheat was thought to be low yielding in the Willamette Valley. Our farmers found varieties that yielded well, and that produced Protein numbers that local bakers could use in high quality breads.
- (4) What are the optimum conditions for planting and harvesting teff, millet, dry corn, flax, quinoa, and buckwheat and all the pulses in the Willamette Valley, and also at the Coast and in the foothills of both the Cascades and the Coast Range? Some of that information should in 2019 be available from growers, but hasn't been gathered or assessed.

- (5) How do we get Carbon into valley and other soils, both to sequester Carbon from atmospheric overloads, and to provide energy for releasing soil Silicates? Active Carbon and activated Silicates (along with traces of Boron) are necessary for Calcium and other minerals to be of high quality in nutrient dense food production.
- (6) How can allelopathic compounds released as exudates by grains be used as weed control in follow crops? Grains were typically rotated through vegetable fields for cannery production during that era in this valley.
- (7) Other than calories, what are the amino acid, vitamin, mineral values in beans, peas, grains, edible seeds, and nuts grown in the Willamette Valley and surrounding area? Can we enhance those values through growing techniques, and by using grains, peas, beans, seeds and nuts in sprouted form?
- (8) We began organizing local plant breeders during 2007-2008. In 2019 major breeding offerings include those of Frank Morten at Wild Garden Seeds, Carol Deepe with Paul Harcombe, and at least one breeder at OSU, looking at everything from corn to quinoa. These local projects have national attention and were not happening before the SWVBAG project.
- (9) Can we utilize all the diversity possible in our locality to identify a cuisine? And should locally grown products from our area carry a local or regional label? As they do in regions of Europe, and elsewhere.
- (10) Are there ways to hold small and large crop production acres in perpetuity? Larger field scale production would be necessary if eating local were to become the norm for the majority or even a higher percentage of people. Having a secure land base for community food production is a necessity that has not translated into a priority in recent generations. This is necessary to not only generate opportunities for younger growers, but as a base for food security. This was a primary reason that TRFW developed its Food Land program. In 2017 the dangers involved in leasing land for a local food system became evident as almost 400 acres being farmed by Green Willow Grains as a major participant in the Bean and Grain project, was sprayed out by the Landlord who actually owned the land they were farming. That action put Green Willow Grains out of business. Another of our larger B & G farms is actually owned not by the farmer, but by a supportive couple, that couple now at retirement age and wanting to put their money elsewhere, preferably without damaging the farm.
- (11) The really large food security question: Will the majority of consumers shift their food buying habits so that a locally based economy can develop?
- (12) Should TRFW partner with other organizations focused on various levels of emergency food preparations, especially around availability in disasters?

In 2019 TRFW's work on locally based food security has progressed from where it started in 2005. But if there were a large crisis that disrupted most food being transported, is our locality at a point of awareness and practice that would weather that crisis? Some believe with scientific support that we are now residing in such a crisis situation. Scenarios of "the big one" or a catastrophic earthquake, even longer periods of drought forecast by scientific models, possible apocalyptic levels of flooding by Pacific Atmospheric Rivers, all are projected. How would a locally based, regional food economy that was actually producing staple foods hold up in any one of those conditions? That is the ongoing question that should focus us and guide our programs and community organizing. And the answer to how we activate a local food web always has to be based in food quality and overall health and well being.