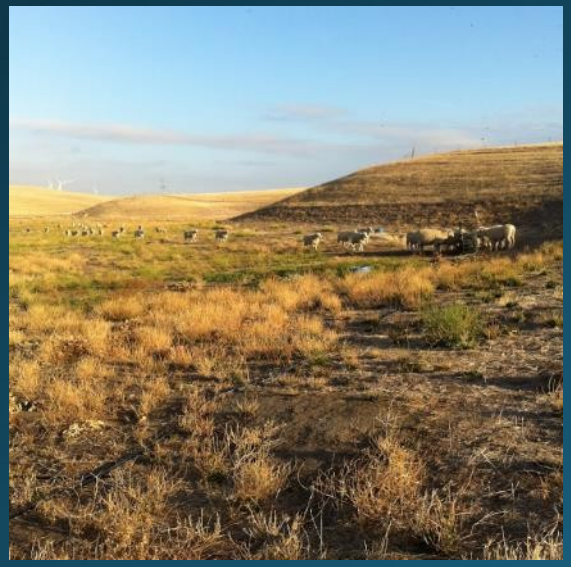
FLYING MULE FARM

Our Drought Strategy

Fall 2014

Overview

- Background on Flying Mule Farm
- A look back at last year
- Impacts and responses
- Information sharing
- Our plans for 2015



Located in the Sierra foothills near Auburn, California, Flying Mule Farm is owned and operated by the Macon Family. Our farm is grass-based – we graze un-irrigated annual rangelands and irrigated pasture.

Last fall/winter, I also worked for McCormack Sheep and Grain in Rio Vista. That job ended because of the drought.

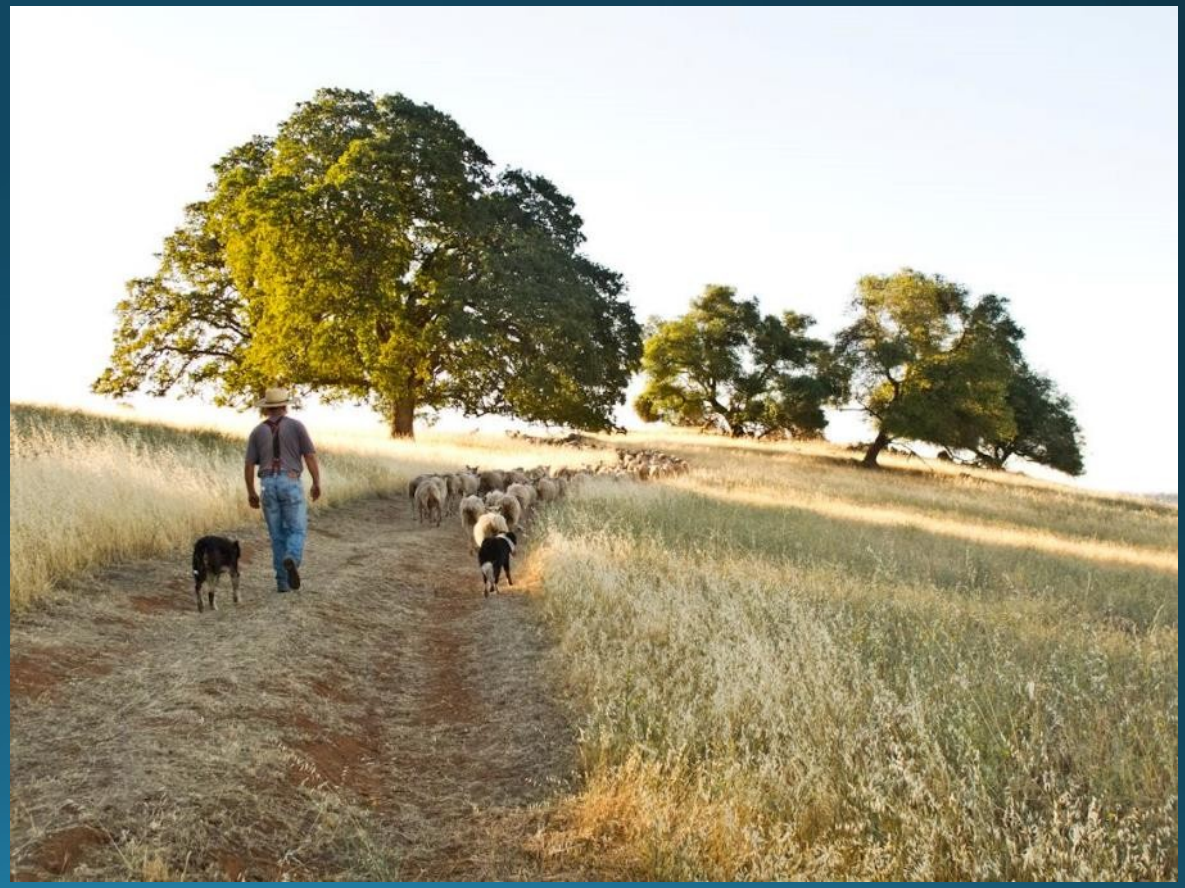
We have raised sheep in the Sierra Foothills for more than 20 years – at a commercial scale since 2005. We produce 100% grass-fed lamb using a 3-breed system developed to fit our land and our customers' palates. We have typically sold lamb, mutton and fiber products at local farmers' markets and to local restaurants and shops.

We also provide and manage targeted grazing services to help landowners manage vegetation.

We currently have approximately 150 ewes.

Fundamentally, our business involves using sunlight, soil, CO_2 and water to grow grass. Our 4-legged harvesters – our sheep! – convert this grass into fiber and meat – products with which we can feed and clothe our community (and from which we make part of our living).

When one of these elements is in short supply, it throws the entire system out of whack!



sunlight + water + CO_2 + soil = grass!


NO RAIN = NO GRASS (January 2014)

In our Mediterranean climate, we expect rain from late October through late April. Last winter, we had no rain from early December through late January (which set a record).

We track the rolling 12-month precipitation total to give some idea of real-time moisture conditions.

- October 2013 – 26.5”
- November 2013 – 21.1”
- ***December 2013 – 10.6”***
- ***January 2014 – 9.9” – the driest 12-month period in California’s recorded history!***

Timing was also an issue for us in 2013-2014. We had a heavy rain in late June 2013, which actually germinated annual grass seeds. We had our first germinating rain of the fall on Labor Day (1.75"), but October was dry (which meant this first grass shriveled and died). Just before Thanksgiving, we received another germinating rain, and then it turned cold, pushing soil temperatures below the threshold where grass will grow. Finally, we had snow in early December, followed by even colder weather – and no additional precipitation until January 29!

<u>The bottom line: we had no grazable green forage until early March!</u>

Early fall 2013

February 2014 (in Rio Vista, CA)

February 2014 (beginning of lambing season – in Auburn, CA

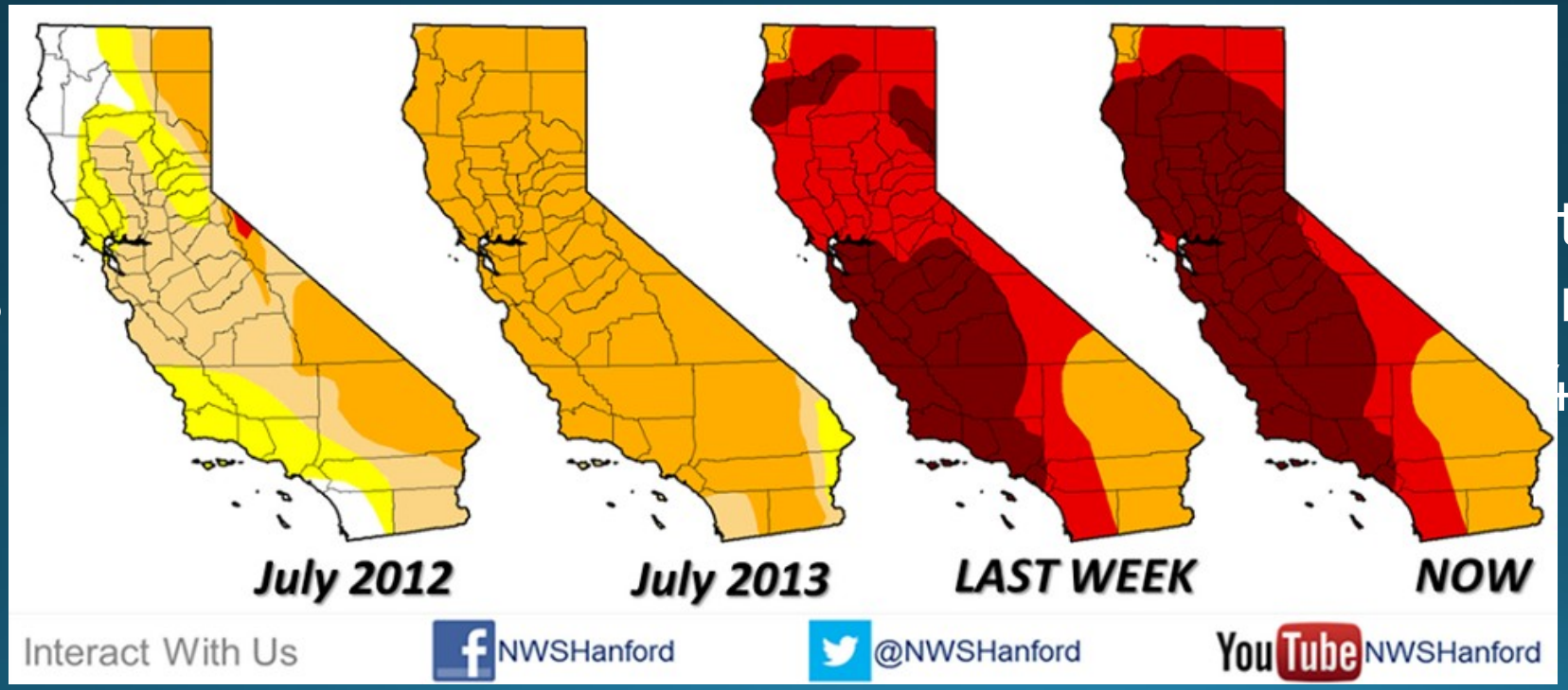
Empty stock pond – January 2014

February 5, 2014 in Rio Vista – this pasture had been rested for 45 days!

This is really the driest of three consecutive dry years. Much of our summer irrigation water falls in the Sierra in the form of snow, but we had very little snowpack in 2013 – and even less in 2014.

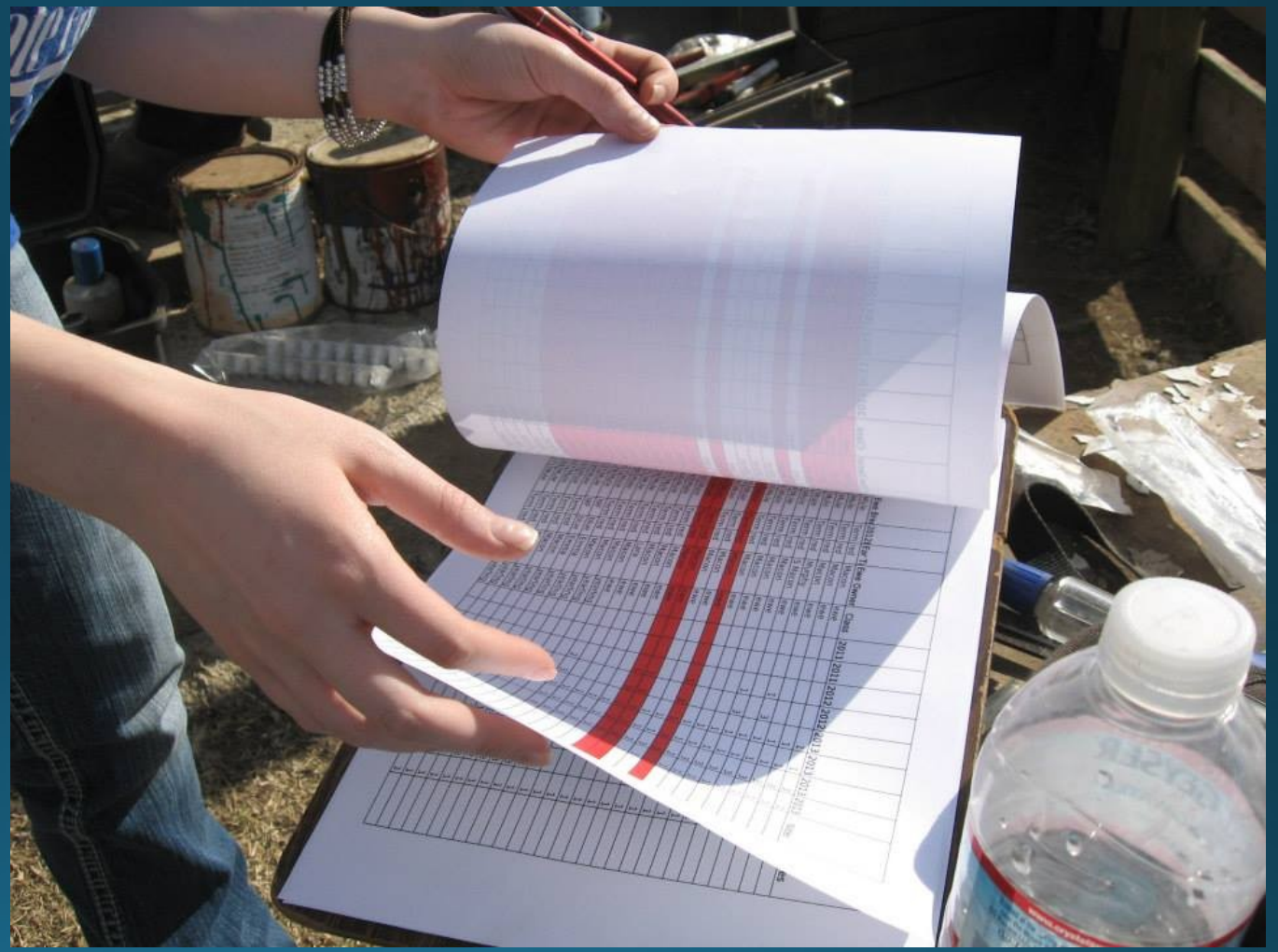
Forage production (grass growth) on our annual rangelands was 77% of normal in the spring of 2014. The dry winter stressed the perennial grasses in our irrigated pastures, too. And there was virtually no green grass from October through February.

With data and ting some decision dates ning lambs early, etc. We .



Impacts and Responses (so far…)

- Culled sheep to reduce feed demand (sold 90 sheep – 38% of flock)
- Found additional grazing land (sheep are much more flexible than cattle in this respect)
- Reduction in lambing percentage (10-15% lower) due to nutritional stress during our fall breeding season
- Experienced increase in pneumonia (smoke and dust)
- Increased labor (we didn't hire help, but we worked longer days for the same wages)
- Applied for emergency assistance from USDA in March 2014 – will hopefully have our projects funded by November 2014.




Cal


Wool

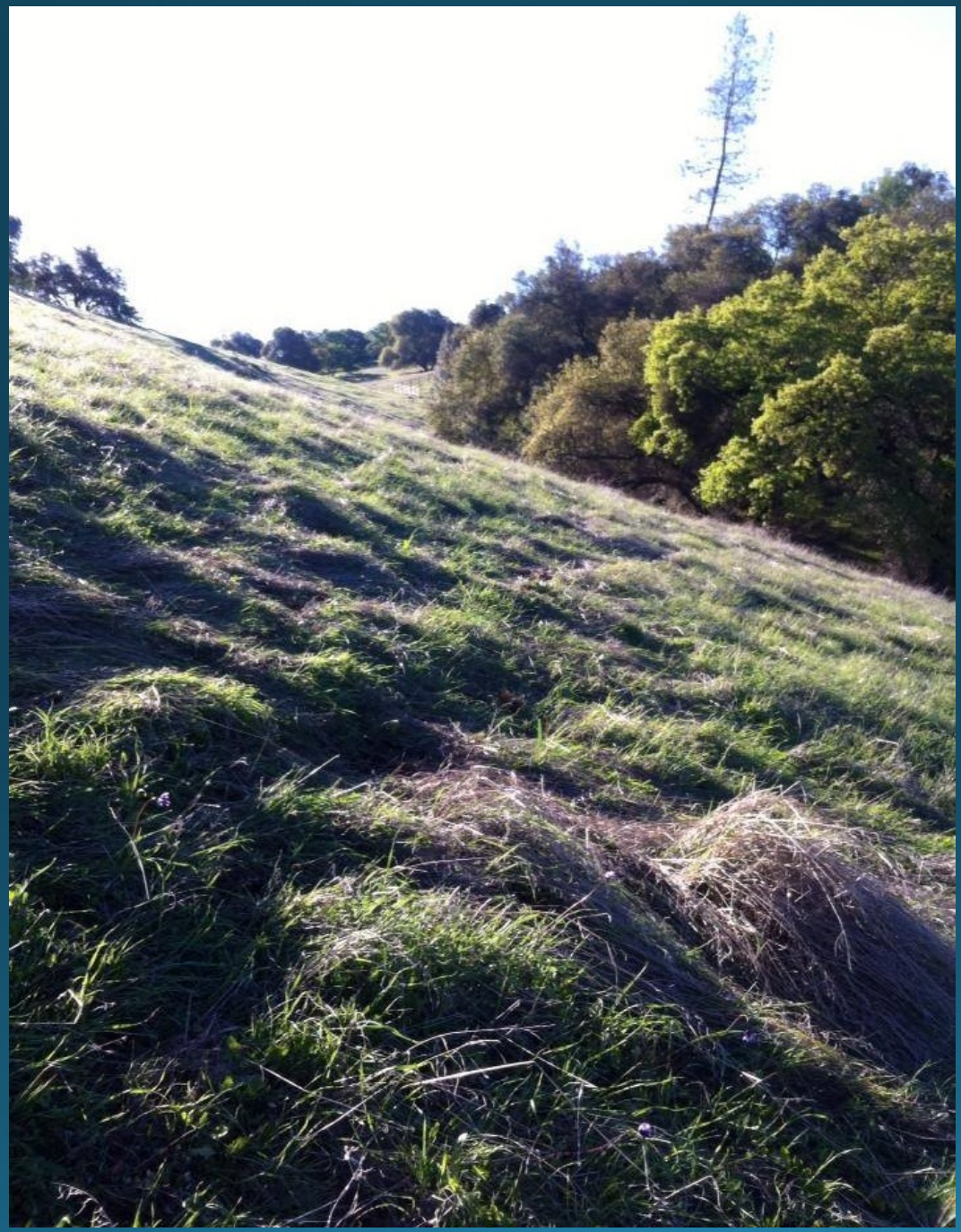
Our sheep business has to stand alone – we are unwilling to subsidize the business with our off-farm income. This is the difference between a business and a hobby.

We can't afford to survive the drought by feeding hay. One month's worth of winter pasture for our flock costs us $0-$450. One month's worth of hay costs $4,500!

My first obligation is to take care of the land. We need to leave enough residual vegetation for soil protection, germination and fall forage. I must make the feed that grew this spring last until next year's grass starts to grow!

Feeding this…

…is much more expensive than building fence around this!



The sale of breeding animals represents a loss of equity in our business and a loss of our genetic base.

Our culling strategy resulted in a 40% reduction in equity in our business.

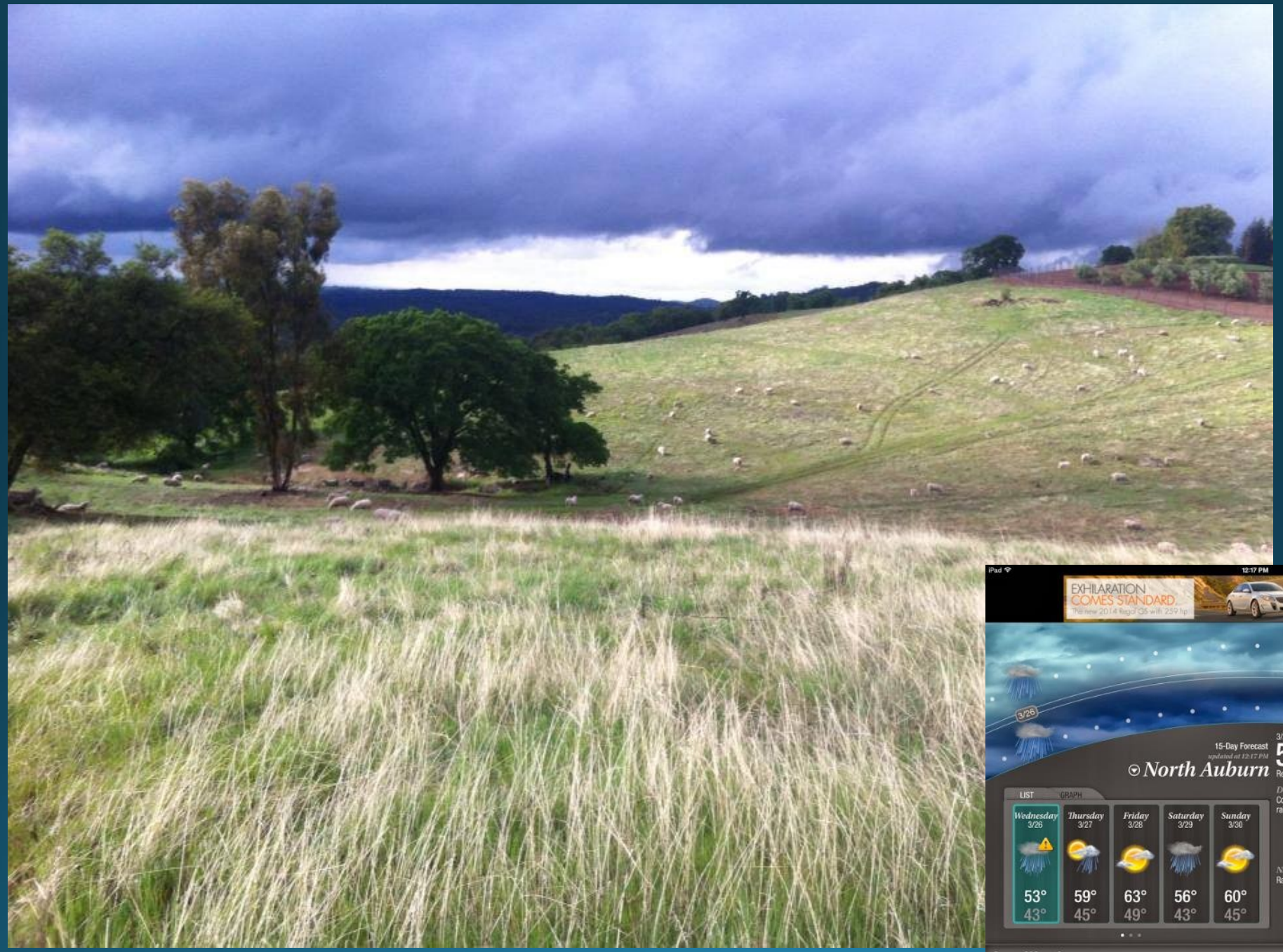
We select our replacement ewes for a variety of traits, including mothering ability and widely varied dietary preferences – purchased replacements don't have the same genetic traits. Purchased replacements aren't as productive.

The Emotional Toll of Drought

"Many a time I have found myself tired out from having tried, unconsciously and without success, to bring the distant rainclouds nearer to water our fields. I'm beginning to see how worse than useless is this exaggerated feeling of one's own responsibility."

Oklahoma Farmer Caroline Henderson

"Letters from the Dust Bowl" – *Atlantic Monthly*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88%
EXHILARATION COMES STANDARD.
BUICK REGAL GS
3/26
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North Auburn
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53°/43°F
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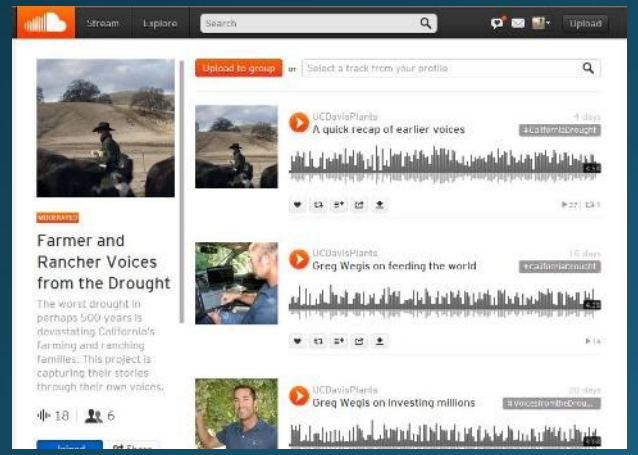
LIST
GRAPH
Wednesday 3/26 53° 43°
Thursday 3/27 59° 45°
Friday 3/28 63° 49°
Saturday 3/29 56° 43°
Sunday 3/30 60° 45°
Day
Cooler with rain
Precip
Probability 95%
Rain 0.55 in
Snow 0.0 in
Ice 0.0 in
Wind
Direction S
Speed 9 mph
Gusts 28 mph
Night
Rain
Precip
Probability 75%
Rain 0.35 in
Snow 0.0 in
Ice 0.0 in
Wind
Direction S
Speed 6 mph
Gusts 12 mph
AccuWeather.com

Selling animals that are in our care – because of the drought – is emotionally difficult. It feels like failure….



A sense of community helps us cope!

Farmer-Rancher Drought Forum (Facebook group) – 400+ members

Farmer and Rancher Voices from the Drought (Facebook page) – almost 1100 "likes"

Farmer and Rancher SoundCloud Site – Audio Stories from California Agriculture

Workshops, meetings and informal gatherings

What does the future hold?

How long will we be able to irrigate this summer? The curtailment of junior water rights, and lack of conservation in urban areas, means no winter water from our irrigation district.

Did we keep enough dry forage to get us through this fall? There is a tension between landowner concerns regarding fuel-loading and our need to have forage in the fall.

Will next year be “normal”? Even if we receive normal rainfall, our reservoirs won’t re-fill. And

What are the long-term impacts?

How long will it take us to rebuild our equity (our flock)? A ewe lamb that was born in March 2014 will not provide us a saleable lamb until June 2016.

What are the environmental impacts of this drought? Will we see more invasive weeds? Disease problems? Pests?

Our Drought Plan – 2014/2015

- Complete an inventory of available forage – currently have enough standing forage (with no precipitation) until 6/29/2015.
- Cull ewes with poor EZ-Care Lambing scores, missing teeth and/or hard bags – don't try to "keep her one more year"
- Re-evaluate marketing options for 2015 lamb crop
  - Direct market?

Forage Inventory - Fall/Winter 2014

Property	Dry Acres	sheep Days/Acre	sheep Days	Days of Feed	Quality
Mt. Vernon 1	25	120	3,000	20.0	mod
Mt. Vernon 2	5	120	600	4.0	mod
Mt. Vernon 3	3	120	360	2.4	mod
Blue Oak	250	120	30,000	200.0	mod
Rock Creek	75	80	6,000	40.0	mod
Spring Creek	8	100	800	5.3	low
			40,760	271.7	

Flock Size	150

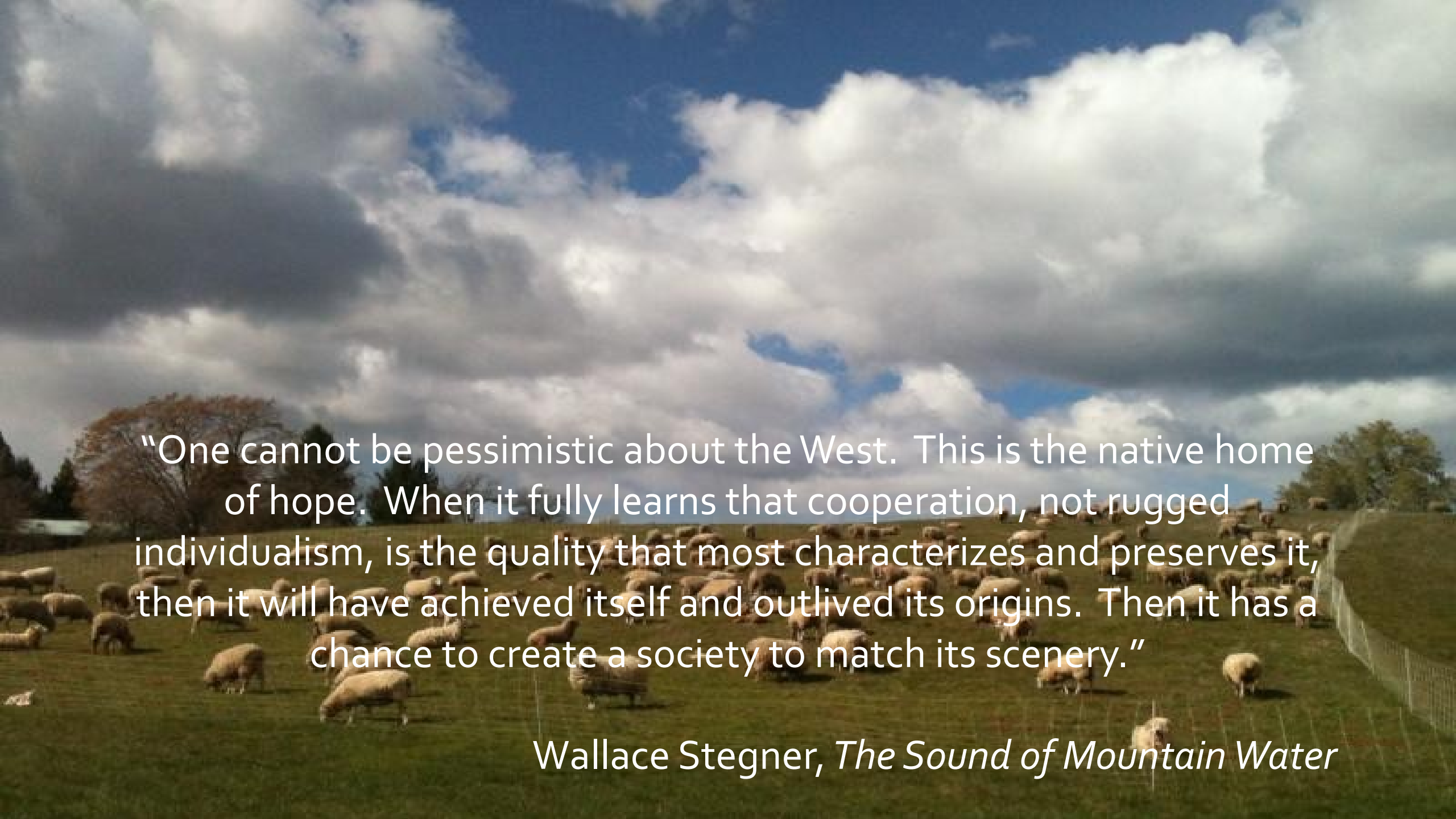
Start Date	10/1/2014
Potential End Date (w/ no precip)	6/29/2015

Our Drought Plan (continued)

- Complete installation of "emergency" EQIP-funded irrigation system upgrades.
- Experiment with low-tech dryland forage planting (RibEye ryegrass, forage triticale and intermediate wheatgrass).
- Continue documenting experiences and management actions.

Our Marketing Plan

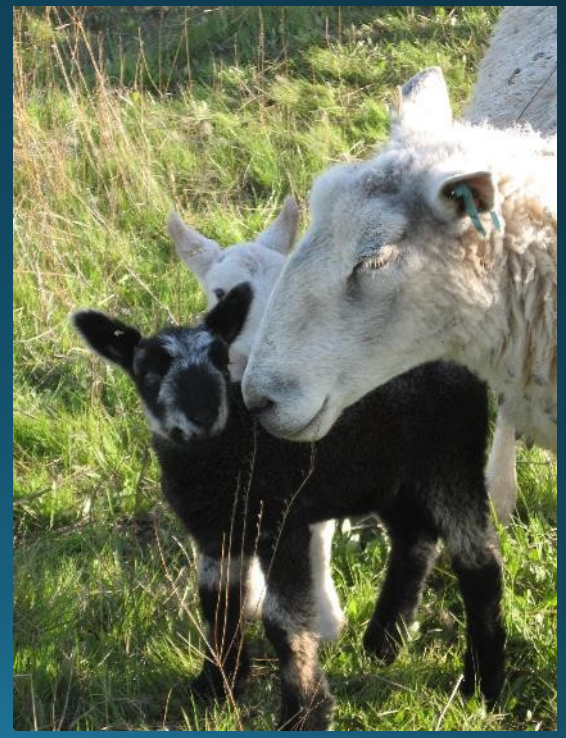
- We will retain only the lambs (replacement ewe lambs and feeders) that we have grass for.
- We will market as many of our feeder lambs through private treaty sales as possible.
- If we can hit key ethnic markets through our processor, we'll sell to them.
- Auctions are our last resort.
- Cull ewes will be marketed


"One cannot be pessimistic about the West. This is the native home of hope. When it fully learns that cooperation, not rugged individualism, is the quality that most characterizes and preserves it, then it will have achieved itself and outlived its origins. Then it has a chance to create a society to match its scenery."
Wallace Stegner, *The Sound of Mountain Water*

While we're planning for more drought, we still turned rams in with the ewes on October 1!

In other words, we're planning for the worst but hoping for the best.

It's impossible to persevere as a rancher and be a pessimist!



For more information:
www.flyingmulefarm.com
www.flyingmule.blogspot.com

Follow us on Facebook and Twitter (@flyingmulefarm)

Be sure to join our Farmer-Rancher Drought Forum on Facebook, too!