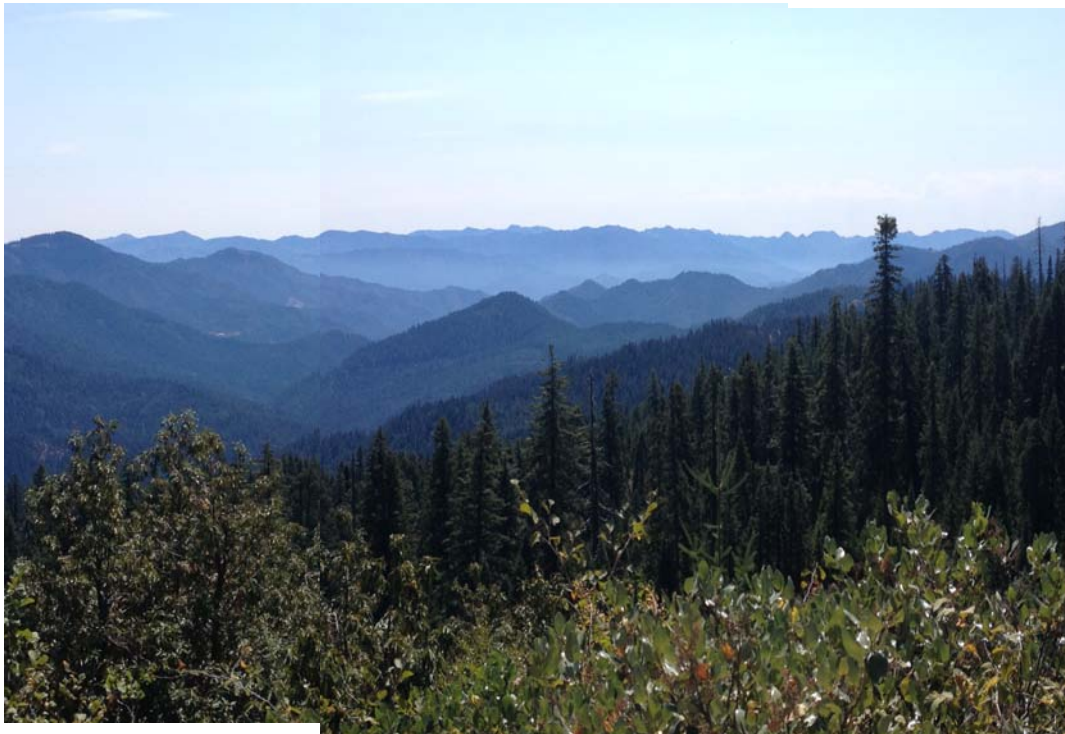


# WOLF DISTRIBUTION AND MICRO-CLIMATES



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## WOLF DISTRIBUTION AND MICROCLIMATE PATTERNS

### Introduction

The famous Wolf OR 7 came to California in 2011. He entered my neighbors ranch or my own on the California / Oregon border. I never saw or heard him. But I found his tracks. At first I thought I was looking at bear tracks. But soon realized it was a canine. Canis Lupus the wolf.

So the search for answers, and what can I do had begun. There were many meetings and many opinions but no answers. How do I protect my livelihood and the ranch we worked so hard to achieve?

The local meetings and discussions always seemed to revert back to the Wolves legal status. My fears and concerns soon turned to frustration. So I began calling ranchers outside of my area. To areas that had already faced the same issues. What I found was the ranchers who had the Wolf on or close to their ranch were still looking for solutions to the same issues. How can we deal with this threat and remain a viable ranching operation? In California at the beginning we were told we could do nothing to harass or hinder the wolf in anyway. Which only compounded the friction between the Ranchers and regulatory agencies.

Unaware at the time I had already began developing a procedure that would escalate into an effective deterrent. This process began by taking in some cattle to feed through winter. They were quite a difficult set of cows. At the time I had a pup that could be described much in the same way. The two seemed to fit, so it began. As both sides became aware of the other, a unique behavior began to appear. Cattle standing in a group aware of the dog but content with standing until the pressure was removed. Then one day I was driving the tractor as my wife was feeding, and "NO" it doesn't have a heater. And I can't feed properly, so I'm told. All the cattle quit eating and began grouping. My first thought was the DOG, but as I looked in the direction of the cows' attention there was a small group of coyotes. The cattle responded by herding into a defensive posture. It was the beginning of what was later named [PREDATOR AWARENESS](http://www.rancherpredatorawareness.com).



Rancher STOCKMANSHIP and STOCK DOGS deter WOLF conflicts

Still in search of answers, it led me to call two environmental groups. Their response was ecstatic, that a rancher and president of the local cattlemen's Association would be seeking

proactive solutions to this problem. What began was a Range Rider effort that soon became The Working Circle. It began with myself and one other part time Range Rider. And our knowledge of the area and cattle were put to good use. A unique idea was installed to involve agencies and private biologists and individuals that had a good working knowledge of the area. They would contact me with sightings and information of any kind. After one year of working with the environmentalists, a mutual agreement to part ways occurred. But my established connections remained intact and my contacts still share information about the wolf. It has been a culmination of this relayed information that this theory has been achieved.

Some of the people that I was able to meet while chasing Wolves opened an idea of a theory of the wolves having behavioral movement that may be related to climate. I was told on numerous occasions that the wolf could endure severe sub zero conditions and could deal with any body of water. But the wolf didn't care for warm or hot temperatures. And one of his preferred venues is wet meadows. And the wolf requires an abundant water source. But when the wolf experts were here it was in the fall of the last year of a multi-year drought. It was a challenging time for an adequate supply of water even in a normal year for most N CA and S OR ranges.

California compared to other areas that the wolf has occupied is quite different. Our state goes from sea level to Mt. Whitney, the highest peak in the lower 48 states. We have 24 separate climate zones. But the zones that relate to N CA and S OR and most of the ranches grazing practices are the Mediterranean 0-2000', the Intermountain 2000' to 3500' and the Alpine 3500' + elevations.

By looking at a California climate zone map the first realization is that the zones are mostly north to south. This is in relation to California's geography that relates to two of the main geographical structures of the state The Sierra Nevada Mountains and the Coastal Range. In Oregon it's the Cascades and the coastal range.

Realizing that temperatures fluctuate and are not static. There is a geographical and temperature relation. If you were to measure the temperature at any elevation, let's say 3000' on any given day and if there were no storm fronts or storm lows. Those temperatures would be relatively consistent for the length of that climate zone and that elevation. Moving north to south measuring great distances of the state. But movement in an east west pattern would change elevation and temperature readings would change in a much shorter distance.

So if we look at a temperature of 50 degrees as a measuring point like a dot on a map. That static temperature will have a movement. That movement will correlate to elevation. Beginning at sea level moving to the alpine climate zone and then returning to sea level given the day by day temperature variations of the seasons, a west to east movement. The Climate zones will have a relation to elevation and are set as an annual measurement of temperature. And the climate zones will lay for the most part N/S.

Again let's look at the 3000' elevation level. It will have distances that have that same elevation north to south and cover elongated zones. These two factors combined, temperature and geography (altitude), create a moving microclimate. This temperate circle or microclimate moves, but that dot that represents a specific temperature. This entire zone moves east to west. This is not an annual measurement but a climate of movement. But the altitude and climate zones create an expansive north/south corridor. The theory is the wolf moves within that zone. Which creates the scenario of constant movement with the seasons. The wolves' location will be different in December versus August.

Each climate zone will have dates that move with the seasons that support these movable microclimate zones. If we begin with the Mediterranean climate the temperature would be in our occupational range from December-February. The Intermountain would have spring of March – May, the Alpine of June through September, and fall supported by the Intermountain October and November. And beginning at Mediterranean again, these dates would be our actively occupied microclimate zones and their relation to season.

Through the information network and hearsay sightings, a pattern emerged. The pattern that presented itself was a correlation between temperature and the wolves' location. The relative correlation seemed to be close to temperatures from 30 to 52 degrees. These temperatures seemed to support more sightings. This does not mean that they can't exist outside that temperature window. The theory is that wolves are possibly seeking these temperatures as a comfort and moving with these micro-climate zones. The temperature seemed to play a greater role than time of day or whether it be night or day. Granted these observations and theory are based in response to hearsay evidence.

Although for a period of time our only trackable wolf was OR7 and, in released CDFW travel patterns, those patterns seem to support the theory of temperature over game patterns. This explains his close proximity in the winters 2011 to 2013 to metropolitan areas. And OR25 ventures close to Ashland, OR also support the microclimate temperature scenario.

With this theory it could be asked why this doesn't happen in other areas where the wolves are already established. The fact is they don't have the climate zones of California/Oregon. They may have a much more uniform climate over greater distance. That doesn't allow such movement inside of this moving microclimate. And it's more that the wolf does not have a choice of a preferred climate. In California and Oregon, travel for temperature control is a short distance for a species so mobile. Moving to a suitable temperature is easily achieved here.

Much is stated about the wolf following prey, deer and elk herds. It may be better stated that the wolf, like any other wild animal is an opportunist, such as deer grazing alfalfa fields or deer entering your yard to help you harvest your flowers. The wolf may move with the microclimate zones, taking advantage of whatever opportunity presents itself. Some may be easy pickings, but that behavior correlates to most of the wildlife population in general, the path of the least resistance. The wolf isn't any different. This relates bone piles, hunting aftermath, road kills, pets, strays and light livestock such as sheep, goats, llamas and even larger cattle.

If this pattern is relevant, it may be used as a tool to better understand a range's or a ranch's risk factor, and the times that those risk exist or don't exist. OR7 wasn't present through the summer months in Redding or Red Bluff, when 100 degree days are normal. So it could also support the temperature theory of the wolf occupying moving microclimate zones.

"Water is the Key to Life" this is an old saying, but very fitting to the West Coast's ranges and their usage in grazing livestock, game and predators. As mid to late summer progresses, water supplies shorten, streams dry-up naturally, concentration of a Ranges water supply shrink, and concentrate all animals to the sources location. Whether the source be a manmade supply or natural is not of importance. The key is a limited supply. This is often a critical time for conflicts (the fall of the year). The concentration of Predator/Prey creates opportunities. The exploitation of opportunity is how and why predators exist. This water supply also relates to winter months. Often in the high desert settings of the Intermountain areas there are no running streams or water supply. Dry conditions and frozen supplies may create movement to lower altitudes, not due to temperature but to thirst, supporting the microclimate theory again with regard to the required water to support the wolves.

Seasonal water supply in N-CA and S-OR are a challenge to understand if one is from outside of our area. The supply and source of the creeks, springs, lakes, and ponds is runoff of the winters snow pack of the Sierras and the Cascades. Once the snow is gone, so is the supply source. Through the winter, altitude and temperatures keep the moisture accumulation frozen. With the spring warm-up, it melts and runs to the Pacific Ocean. A creek that is a wide torrent of white water in May, can be a dry bed of rocks in August. This is the natural weather pattern of N-CA and S-OR.

Night time temperatures also factor into the equation. If the daytime temperatures are too warm, their activities become nocturnal.

In the intermountain areas with daytime highs in the upper 90's and lows overnight in the mid 60's the risk may be lower. But move closer to fall, and the lows overnight often creates frost, possibly raising the risk of the presence of wolves. It is important to realize that temperature can assist you in your ranch's risk evaluations. Understanding that risk is the first step towards avoiding livestock conflicts.

Some of my ranch management decisions now include predatory risks. Some of my fall calving cows are weaned, and then the bred dries go to a warmer climate for summer. A range that used to be used as a winter grazing is now used in summer. This range through the winter also supports a large elk herd. I don't know many that would say elk aren't on a wolf's menu. By moving to summer grazing there is the benefit of the elk being at a higher elevation and not mixed with the cattle. Which means less fence repair and the cattle staying where they belong. Which means fix it once and it seems to last. Elk are tough on fences. The cattle grazing by management design may have less risk for conflict.

What we have also noticed is a better weed control of our yellow star thistle problem. By grazing through the life cycle prior to the thistle being mature, we are reducing the amount of seeds produced. By grazing and consuming those plants prior to seed production, we are getting more green dry matter (for feed) and creating better ranges with less re-establishment.



GRAZED.



INFECTED PASTURE.



NON-GRAZED

Another benefit is that Annuals grasses are dry and have already produced complete seed heads. Grazing and hoof action helps the seed make contact with the soil and promotes and aids in the establishment of those grasses the following year.

By understanding climate, we may understand our predatory risks a bit better. And by changing some practices, we may eliminate, or greatly decrease, our risk and improve our operation's long-term sustainability.

When we talk of direction, N/S or E/W, it is not specific, but is more generally applied to the lay of the land in general. California's dynamics are basically N/S, although there are many mountains that disperse in an opposite direction. Such as independent ranges or hogback ridges. Elevation may be a more relative measure. Through the seasons the climate zone of specific temperatures moves up and down geographical zones creating the moving micro-climate.

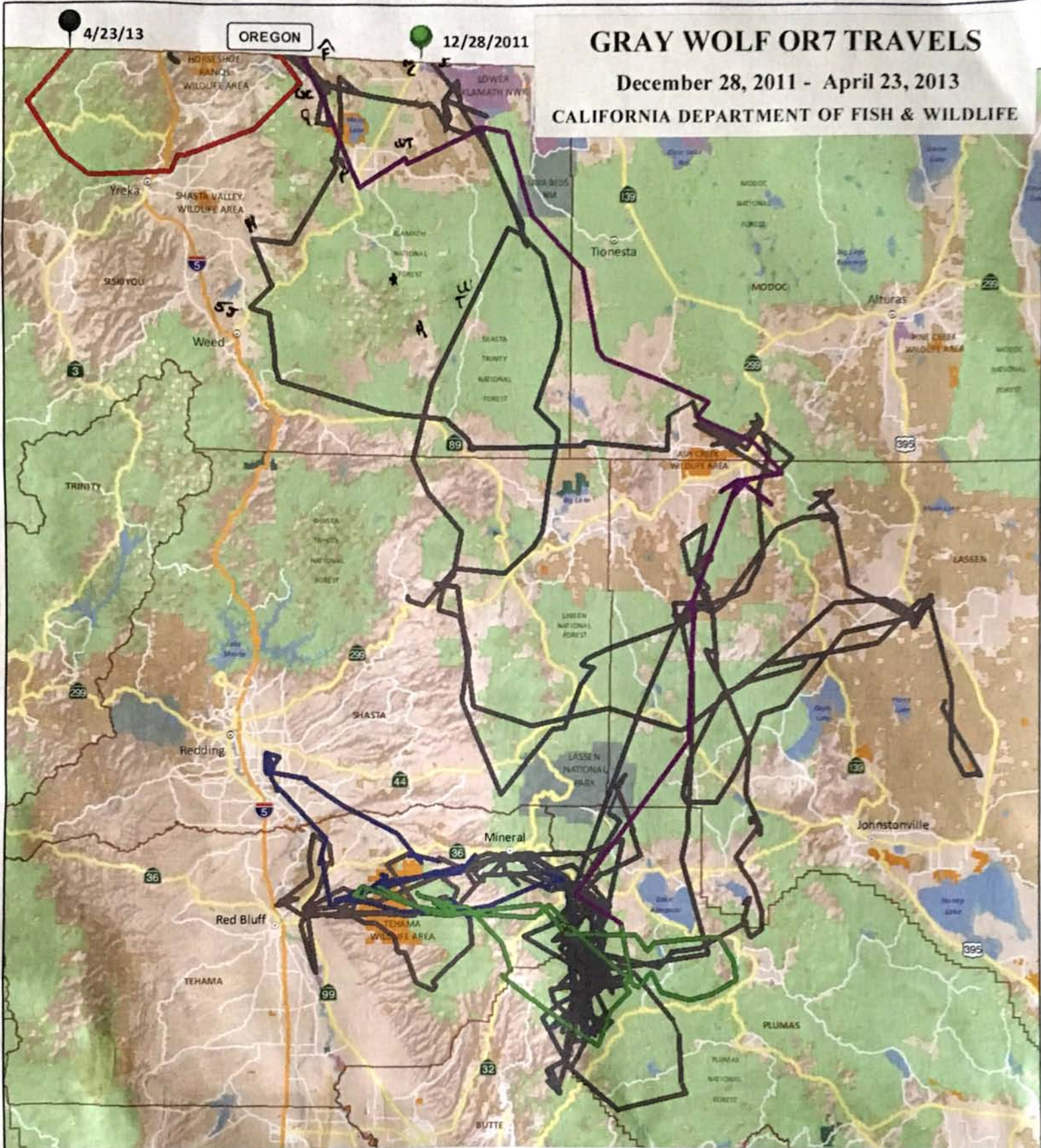
One comment that was relayed to me continually, is the wolf is difficult or impossible to predict, and his stealth is unmatched. Many pressures may move the wolf outside of these zones and often correlate with human presence such as hunting seasons, logging, fires... This paper only states facts of geography and climate that a ranch may consider in a ranch's predator management program.



# GRAY WOLF OR7 TRAVELS

December 28, 2011 - April 23, 2013

CALIFORNIA DEPARTMENT OF FISH & WILDLIFE



Months of Travel ● 12/28/2011 to ● 4/23/2013

— December 2011 - December 2012

— March, 2013

— January, 2013

— February, 2013

— April, 2013

0 5 10 Miles



Source: Oregon Department of Fish and Wildlife