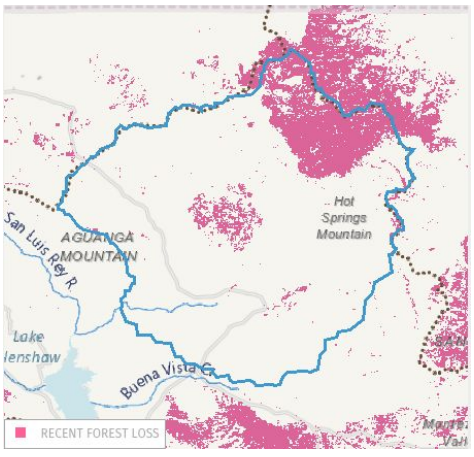
Santa Ysabel Nature Preserve in Julian, California is a 3,800-acre open space sanctuary that is home to many different species native to southern California. Santa Ysabel has 8.5 miles of trails, including two loop trails that wind through the various habitats of the mountainous preserve (Source 1).

In the deliberation process of choosing our forest, we chose San Ysabel because it's just down the road from Jame's cross country camp (Camp Cedar Glen)– so he was already somewhat familiar with the area. Since he had run through these trails on a daily basis, he was able to know which areas presented the most biodiversity– which would be our starting point documenting the preserve.

Santa Ysabel is home to many species, the most common being cows, which are not to be approached due to their protective nature involving their calves (Source 2). We noticed that there weren't any of them on the trail as we walked through. Yet there was evidence that they had been there in the form of cow pies and depressions in the ground left by their hooves. However, this isn't the first thing that we observed in the preserve while walking through. Very near to the entrance of the preserve, there was a wild blackberry bush followed by a grassland with a single oak tree in the middle with nothing but dry wildgrass within a couple hundred feet. About a half mile into the preserve trail, a tree line formed and a small stream flowed at the base of a hill– which runs along the entire northern boundary of the sanctuary (source 1). There was also visible fire damage on the hillside, displaying the scars of the recent forest fire in 2003, The Cuyamaca Forest Fire. The trees and foliage are in the process of repairing themselves– as seen in our photographs, there are many signs of regrowth of these trees shown through the green leaves they are beginning to exhibit on their limbs. We also observed that the preserve was not a level area and was comprised of hills and their intersections, along with the scattering of massive boulders throughout the dry high grass. We couldn't find any invasive species because the park is a managed preserve that has maintenance rules (like not bringing foreign wood or plants into the reserve) to deter invasive species: Park rangers will remove dead trees that may harbor/spread species like the shot hole borer and the goldspotted oak borer (Source 1).

We observed that there was little to no air pollution, resulting in clear skies and no signs of acid rain. We then discovered that the population of Santa Ysabel is extremely low at a meager 1,244 people. Yet since commute times take relatively 34.27 minutes– air quality has been diminishing. Yet the community has had a population growth of -23.45 percent since 2000– allowing air pollution to diminish. (source 5) However even though air pollution is no longer a driving threat the ecosystem's climate poses larger risks.

Throughout our observations we noticed that the preserve was relatively dry and possibly suffering from drought, due to the dry and hot environment and recession of the creek. March and June are when the preserve normally gets the largest amount of rain, the preserve is then closed to prevent damage to the trails until they dry out (Source 2). According to Global Forest Watch, Santa Ysabel showed extreme baseline water stress, which measures the ratio of total water withdrawals to annual available renewable surface water



supplies. Yet even though the environment is under this stress there has only been an average of two forest fires over the last ten years. The preserve also scored a 5 on the risk score for forest loss; Santa Ysabel experienced 881 hectares (Source 4) of tree cover loss from 2001 to 2014, accounting for 21.55% of total tree cover (2000), presenting a negative trend (Source 3)(Seen in picture above).

The conclusions we can draw from Santa Ysabel is that if the drought persists it will lead to an increase in fires, loss of forests and thus a loss of biodiversity/species. Although the preserve normally has hot and dry summers, California's drought has taken a toll on this sanctuary. It's gone from green hills and blooming wild flowers to dried grasslands and recessing waterbeds. This would lead to a decrease in tourism, thus financial problems would arise and preservation of the land would become harder as well as keeping out invasive species– leading to the destruction of this ecosystem. (Represented in the pictures below)

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