



## Sheep Docent Program Packet

### Grassland Restoration at the San Marcos Foothills

#### The San Marcos Foothills

The San Marcos Foothills "West Mesa" is a 101-acre open space grassland near highway 154 between Santa Barbara and Goleta. A planned development for the 101-acres was canceled when a coalition of groups that included Channel Islands Restoration (CIR) purchased the property for inclusion into the greater San Marcos Foothills Preserve (SMFP). The SMFP is a County of Santa Barbara open space immediately east of the West Mesa. The Preserve encompasses 200 acres. Habitat restoration activities on the entire 301 acres are managed by Channel Islands Restoration (CIR).

#### Goals of the Docent Program

The goal of the docent program is to provide information and to engage in conversation with visitors of the Foothills. We need your help with explaining this restoration project to people visiting the West Mesa.

#### What's Happening on the Foothills?

We are using sheep grazing to restore native grasslands on the West Mesa. The number of sheep will fluctuate, but ultimately 150 ewes (female sheep) and their lambs (juveniles) will be grazing. The sheep and guard dogs will be inside fenced pastures and will protect the sheep from predators and help move them from one pasture to the next. All grazing will happen in a series of fenced pastures that will each be about 2 acres in size. They will be in each pasture for one to three days and then they will be moved to the next pasture. This is called rotational grazing (rotating from one pasture to the next). It will take them about 3 to 4 weeks to graze the grassland on the West Mesa.

The fencing has an electric current that results in a slight charge when it's touched, so it is important to avoid touching the fence. The fences will not harm mule deer and other large animals. The fences will get moved each time the sheep move and the fencing will be removed entirely from the West Mesa at the end of the grazing period.

#### Benefits of Grazing

In addition to restoring the grassland to a more natural state than currently exists, grazing has a demonstrable effect for fire safety. We started our grazing program early in 2018 on the SMFP. In November of that year, the Cave Fire rapidly swept down the Santa Ynez Mountains, but it was extinguished at the SMFP. County Fire Chief Rob Hazard credits CIR's grazing program with saving a neighborhood around the SMFP. In a letter to CIR, Chief Hazard wrote:

*"By all accounts most firefighters were convinced the fire would burn into the developed neighborhoods in the North La Cumbre area and had the potential to result in significant structure loss. This did not happen, no structures were lost, and the primary reason was the buffer provided by the grazed areas in the preserve."*

CIR started with carefully designed grazing techniques to restore the grassland, but our work also helped prevent a disaster!

## **Native Grasslands**

In the past, large mammals inhabited California native grasslands and likely played a significant role in shaping grassland ecology. During the Pleistocene epoch, there were horses, mammoths, giant sloths and mastodons that grazed in the grasslands, trampling the vegetation, contributing nutrients, and causing disturbance. More recently, in our area, there were grazers like pronghorn and mule deer and maybe tule elk present. Today, mule deer is the only large mammal left grazing on the grasslands. Over the past 200 years, this property was grazed by sheep and later by cattle. The birds co-existed with the livestock and in fact, they were supported by the livestock grazing. For example, when the cattle were removed from the property in 2007, grasshopper sparrows disappeared. They were dependent on the effects on the vegetation that the cattle were having to provide suitable nesting habitat.

## **Why Grazing?**

Native grasses evolved over hundreds of thousands of years together with grazing by native animals. The native grasses are adapted to being stepped on and grazed by large animals and burning by indigenous Chumash People. These disturbances encourage regrowth and vitality that contributes to the health of the ecosystem.

Livestock grazing has been used to manage grasslands for thousands of years. In recent years, it has begun to be used as a holistic technique to restore native grasslands in western states. Grasses reproduce with seeds and annual grasses have a short life cycle. Many studies in the past, (plus CIR's own studies) have shown that annual grasses can be suppressed with targeted grazing. Also, native purple needlegrass responds favorably to high intensity-short duration grazing. Needlegrass is also susceptible to competition from non-native species, and when growing among non-native annual species, it benefits from grazing because competition from these annuals is reduced.

Removal of thatch increases the amount of bare ground and increases the establishment of needlegrass seedlings. Patches of bare ground are used by birds and other animals as part of their foraging grounds. Grazing creates a mosaic of grassland in which some areas have bare ground between native grasses, and other areas have some thatch between grasses with which ground nesting birds can build and hide nests. The sheep grazing is designed to change the habitat for the benefit of the native birds and has the side effect of helping to slow wildfires.

## **Seeding and planting**

CIR will collect seeds from native grasses to be scattered in the grasslands and to be grown in a nursery. These plants will serve as a "seed farm" to provide larger quantities of seeds for further restoration. Where feasible, we will also plant native grasses and some shrubs in the grasslands.

## **How to Talk to the Public**

It is important that we treat visitors to the Foothills with the utmost respect. We are here to provide information, not to enforce rules. We will answer questions about the grazing and help prevent conflicts between off-leash dogs and the sheep. If a visitor with an off-leash dog approaches the grazing area, please tell them that there are off-leash guard dogs present and advise the visitor to use a leash.

Although the West Mesa is still private property (owned by CIR and another conservation group) the rules against visiting with dogs off leash are not followed by most people. It is not our job to enforce this law, but we will warn and advise people approaching the grazing area that there are off-leash guard dogs in the present. Incidentally, the West Mesa is slated to be transferred to county ownership this year to become part of the SMFP.

## **The Future**

Sheep grazing is expensive. Although the State of California is now providing funding for grazing to reduce fire danger,

that is usually timed for later in the wet season after the nonnative grasses (and native plants) have grown and dropped their seeds. Grazing for restoration of grassland usually involves a two-phased approach where grazing occurs early in the rainy season and again at the end of the wet season. The timing is designed to have the maximum effect on the nonnative grasses while avoiding damage to native plants.

Can you, someone you know, or a visitor to the West Mesa help fund this effort? It doesn't take much to make a big difference. Please let us know! Call Ken Owen at or 805-448-5726 or email him at [ken@cirweb.org](mailto:ken@cirweb.org).

#### **Where Can I Learn More?**

The restoration plan has a lot of scientific research and other information that is interesting and helpful. It can be read and downloaded here:  
<https://cirweb.org/grassland-restoration>

#### **Important Numbers**

Aaron Kreisberg, CIR Staff Ecologist	805-448-4175
Ken Owen, CIR Executive Director	805-448-5726
Jack Anderson, Shepherd	510-734-8334

CIR recognizes and reminds us all that the beautiful land we all enjoy in this region is the unceded territory of the indigenous Chumash people. We respect their wisdom and commitment to the land and seek their advice and participation in our work. CIR is committed to fostering diversity and inclusion in the conservation movement, pursuing equitable outcomes in our work, and fostering a just and healthy environment for all.

**Watch out for the electric fence! Watch your pets and children and yourself, even a light touch to the fence can cause a painful shock. It is not enough charge to cause any lasting harm, but can really be uncomfortable. An off leash, or unmonitored dog will likely learn about the fence the hard way! You can get shocked yourself, through someone else if you are touching your dog or child and they touch the fence. Our team has been shocked countless times, it is completely safe... but it really hurts!**

# FAQs

## Why are the sheep here?

The sheep are here to benefit the native grasslands of the San Marcos Preserve and the ground nesting birds (the Western Meadowlark, Burrowing Owl, and Grasshopper Sparrow) that depend on this amazing and endangered ecosystem. We time their impact to positively benefit the native bunchgrasses and negatively impact the annual invasives that crowd out these ecosystems (mustards, brome grasses, etc.) The sheep also remove “thatch” — the buildup of dead grasses — inviting more diversity of wildflower species, the spread of native bunchgrass seed, and reducing the intensity of wildfire.

## How does it work?

The sheep eat everything: the invasives and the natives. The difference is in the plants' response to this grazing impact. The native bunchgrasses have huge root systems that reach 10+ feet deep. These root systems create underground ecosystems of mycorrhizal relationships that support diverse soil biota, which in turn support native wildflowers, oak trees, and forbs. This investment in their roots enables the bunchgrasses to recover quickly, even after the last rain has fallen, and continue to flower and seed. In contrast, the invasive annual plants have shallow roots and have little stored energy to recover. In addition, native bunchgrasses rely on grazing or fire to rid them of their dead leaves. Bunchgrasses cannot drop leaves like a tree can, and so rely on these interactions to remove dead thatch. You can see in areas of the park that haven't been impacted by either grazing or fire how much thatch (dead material) the bunchgrasses contain. This prevents sunlight from reaching their growth nodules and inhibits growth and well-being for the bunchgrass. So by grazing, we are interacting with these bunchgrasses in a way that stimulates them and promotes growth. It is how they coevolved.

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## What kind of sheep are these?

They are a Rambouillet - Targhee - Merino cross. Merino sheep originated in Spain, and were kept a prized secret by Spanish royalty for centuries. The origin of Rambouillet sheep (aka "French Merino") began when King Louis XVI purchased a flock of Merino sheep from his cousin King Charles III of Spain in 1786. The breed was bred to be larger and therefore provide more lamb meat as well as fine wool. Targhee sheep were bred in the American West around 1900 for their hardiness on dry Western range, and for their dual-purpose lamb and fine wool production.

There are also some hair sheep in the mix—no those are not goats! Hair sheep have hair instead of wool (wild sheep have both wool and hair and they can be bred for either). They are Black Belly Barbados mixed with Dorpers.

## What kind of dog is that?

She is a Great Pyrenees. Her name is Yoreh, which is Hebrew for "first rain." The Great Pyrenees was bred in the Pyrenees mountains between Spain and France to protect large herds of sheep from predation. They were brought to the States by Basque shepherds. You'll often find her resting during the day since she works hard during her night shifts, barking vigilantly in order to fend off coyotes. While she's dangerous to predators, she's gentle and nurturing with the sheep. She loves her job and is great at it!

## Where else do the sheep live?

These sheep are always on some kind of job! Whether it's eating the weeds down in vineyards or agricultural lands, doing ecological management at the Foothills, Elings Park, Parma Park, or on the Gaviota Coast, or fire fuel mitigation from Carpinteria to Santa Maria!

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## What's overgrazing and How do you prevent it?

Overgrazing occurs when a plant that has already been grazed is grazed *again* before it has enough time to recover. This results in the depletion of that plant's energy reserves, and over time causes stress and eventually the death of that plant. By giving enough time for the native plants to recover before grazing them a second time, we prevent overgrazing.

## Can I buy meat?

Yes! Lamb is available periodically throughout the year. We mostly sell whole and half lambs and sausage. Orders can be placed at [www.cuyamalamb.com](http://www.cuyamalamb.com)

## Can I buy wool/yarn?

Yes! Our next line of yarns will become available Fall 2023. Check our website for availability.

## Do you sell cheese or milk?

No—we do not milk our sheep. But we do love us some sheep feta!

## Can I touch the sheep?

The sheep don't like humans and would prefer to be left alone, please don't touch them. Also, you might make Yoreh upset if you're messing with her sheep!

## Can my dog herd the sheep?

Please keep dogs outside the fence at all times! There's too many potential hazards in having an untrained dog herd our sheep. They might bite, or push the sheep into the fence in which case the sheep may push through. There

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are programs where your dog can herd sheep, however. Ours just isn't one of them.

## How many sheep are here?

There are 320 mature sheep and 100 lambs!

## When were the lambs born?

The lambs were born this past October.

## Why are there no rams?

There are no intact Rams with them to keep them from breeding out of season. Their breeding is carefully timed so that we have access to the most nutritious and healthy feed conditions and can pay full attention to their birthing and it takes place in a 30 - 45-day window.

## Where do the sheep sleep?

The sheep sleep in their pens. They like to gather all together and sleep at the highest point in the paddock so they can have a careful eye on predators.

**Yoreweh sleeps and rests a lot during the day b/c a lot of her work is at night.** Yoreh is sleeping all day because she stays up all night watching for predators!

## Common predators on the property include:

Coyotes and mountain lions are primary predators although a bobcat and even large birds of prey can attack small lambs.

## Have there been any predation incidents?

We rarely have any predation incidents because of the watchful presence of the guardian dogs

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# **Why is it better to protect native species versus non-native species?**

Native plant species have co-evolved with local wildlife for a very long time. These insects and animals have developed beneficial relationships with native plant species that form a functioning ecosystem. Introduced, non-native species can outcompete native species, disrupt the wider ecosystem, and reduce habitat quality for local wildlife. Many native species also are more resilient to wildfire, sequester carbon, and prevent erosion compared to introduced non-native species. Restoring and protecting native species from disruption by non-native species enhances ecosystem function.

# **How is sheep grazing better than or different from cattle grazing?**

The difference between prescribed grazing and regular grazing is that we are working precisely with timing and density to achieve a desired vegetation treatment and not working to maximize benefits to the animals. Cattle grazing is often done in relatively large pastures and moved infrequently to save on labor and infrastructure costs. Our sheep grazing can pop up anywhere, with our infrastructure, manage the vegetation and be gone to allow for recovery of plants and maintenance of important wildlife habitat.

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