

July 2019 Hill Ranch Update

July at Hill ranch saw a transition from developing irrigation on the 150 acre seeded area to focusing primarily on weed control throughout the 1,400 acre expanse of the ranch.

Overall the ranch is having good success with grass germination, creating a good balance of cool and warm season grasses in areas formerly dominated by annual weeds. While too early to claim long term success of this years efforts, mid season results have been encouraging.



Figure 1: A.J. Smethers, a Buena Vista high school senior and summer "ranch hand" learns about grassland ecology as he helps monitor range health on a section of hill ranch slated for future restoration efforts.

Early in the month mowing began on the irrigated area and then moved strategically throughout the ranch, prioritizing weeds on the verge of going to seed. In addition to removing seed heads, mowing opens the canopy and gives the newly sprouted grasses room to grow and access to sunshine.



Figure 2: Chunks of peat mingle with native soil along a drill row of newly establishing native warm and cool season grasses.

One of our big challenges is working in areas that contain a thick, surficial layer of dried peat. The peat, created by a century of flood irrigation, does not allow seed to soil contact and has been a major barrier to previous restoration efforts.

By running a furrowing bar through the field and incorporating the peat into the mineral soil, seed is now showing good germination rates.

Each furrowed row requires hours of work by hand, digging peat out of the furrows and circumventing numerous animal burrows to usher water from the top to the bottom.

Once established our efficiency increases significantly when water is rotated back on these areas.



Figure 3: Annual weeds tower next to newly mowed ground. Mower height is adjusted to remove the overstory of weeds while leaving new native grass shoots untouched.

Once we wind down irrigation, mowing and targeted herbicide application, our team will begin to focus on studying our test plots to determine which seed mixes and field techniques showed the greatest efficacy. This scrutiny will help fine tune our efforts for the 2020 growing season.