

## MANY SMALL BECOMING MANY LARGE: UNDERSTANDING CHANGES IN CULTURAL LANDSCAPES

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**Abstract**—On the northern Channel Islands, environmental studies of historical land use tend to be framed with respect to a legacy of environmental impacts and disturbances. Few studies have sought to take the perspective of the historical land user faced with the task of fulfilling land use objectives with the available means while also inheriting the environmental legacies of previous landowners. This paper takes such a tack by tracing changes in fence plans on Santa Cruz Island, California. We use historical maps, documents, field surveys, and a geographic information system to discuss broad changes in fencing plans from a landscape of many small and few large enclosures to one of few small and many large enclosures. We discuss how these spatial changes reflect changes in the functional organization of ranching activities. We argue that changes to cultural landscape artifacts involve the process of *becoming* rather than *appearing* and *disappearing*, which complicates the management of natural and cultural resources.

### INTRODUCTION

This paper aims to describe the reasons and means by which ranchers used fences to spatially and temporally partition Santa Cruz Island in the nineteenth and twentieth centuries. While there has been considerable research on the impacts of the island's ranching history on patterns of vegetation and erosion (Junak et al. 1995), there has been little effort to delineate the spatial, temporal, and functional variability of the activity itself. In this paper, we primarily focus on the role of fencing for cattle breeding activities on Santa Cruz. In part, this is because cattle have largely been conflated with sheep as part of a general historical ranching era, even though both developed along different trajectories, reached their peak at different times, and varied spatially across the island. Thus at its most immediate level, this paper seeks to fill this gap by offering a collection of facts regarding the historical and spatial development of cattle ranching on Santa Cruz Island that may help environmental scientists interpret historical impacts to the island.

Beyond the specific relevance of a local history, the paper also aims to discuss a broader problem in studies of cultural landscapes that deals with the shifting semantics of cultural artifacts. On the Channel Islands, cultural resources are often material objects that no longer serve the purpose for

which they were made. The reasons for this obsolescence are many: the objectives of the land user may change, there may be new ways of achieving these objectives, or the people who work the land may leave and the ones that follow may not share their values. Whatever the reasons, a landscape will accumulate artifacts that no longer fit the current plan, and at any moment, those charged with the stewardship of the land will be pressed with decisions on what to do with the artifacts of the old days. This is by no means a problem unique to the current management of cultural resources. In this paper, we aim to show how historical changes in ranching plans reflect a general process of cultural landscape change that is defined not by artifacts *appearing* or *disappearing* but rather by one artifact *becoming* something else. This complicates the management of cultural resources as it is perhaps a simpler task to keep artifacts from disappearing than to keep them from becoming something else.

The paper is structured as follows. We begin by reconstructing the origin and change of island fences using four different historical map collections to show changes in spatial configurations between 1850 and 1987. We then present historical evidence to show that broad changes in the twentieth century spatial organization of the island are associated with a novel plan for breeding cattle. We conclude with a

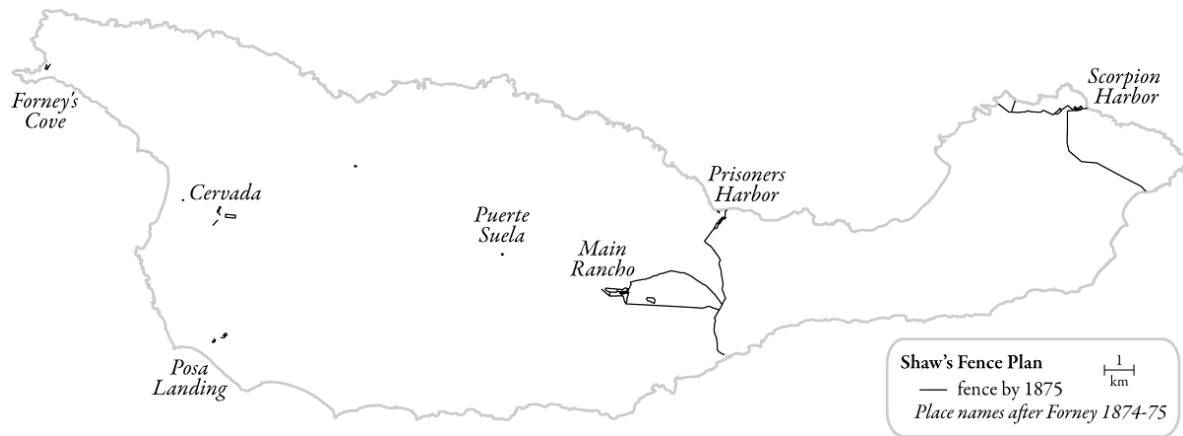


Figure 1. Shaw's fence plan for Santa Cruz Island.

brief discussion of the resource management implications of cultural landscape change.

## HISTORICAL FENCING PATTERNS

In this section, we identify four different plans for fencing Santa Cruz Island that were implemented between 1850 and 1987. We used historical maps and field surveys to reconstruct these fencing patterns. Figure 1 shows fence-lines depicted on Stehman Forney's 1874–1875 topographic map of Santa Cruz Island (Forney 1874–1875). We used a digital camera to photograph sections of the original maps at the National Archives, geo-referenced these tiles with a geographic information system (GIS), and then digitized all the fence features. Figure 2 shows all fence-lines depicted on George M. Derickson's

series of plats for Santa Cruz Island (Derickson 1918–1919). We made copies from the collections of the Santa Barbara Museum of Natural History and the Channel Islands National Park, scanned these paper sheets, geo-referenced the maps based on ortho-rectified air photos, and then digitized the fence features. We then compared these fence features to those depicted in an older collection of maps made by the Santa Cruz Island Company in the late nineteenth century (Santa Cruz Island Company 1883–1898). In Figure 2, the black lines show fences that also appear in this older collection. We interpret the inclusion of these fences on these nineteenth century maps to mean that these features were part of the ranching plan in the late nineteenth century. In contrast, the dotted lines show fences that are not depicted in this older map collection. We interpret this to mean that these fences were constructed sometime in the early twentieth century.



Figure 2. Caire fence plans for Santa Cruz Island.

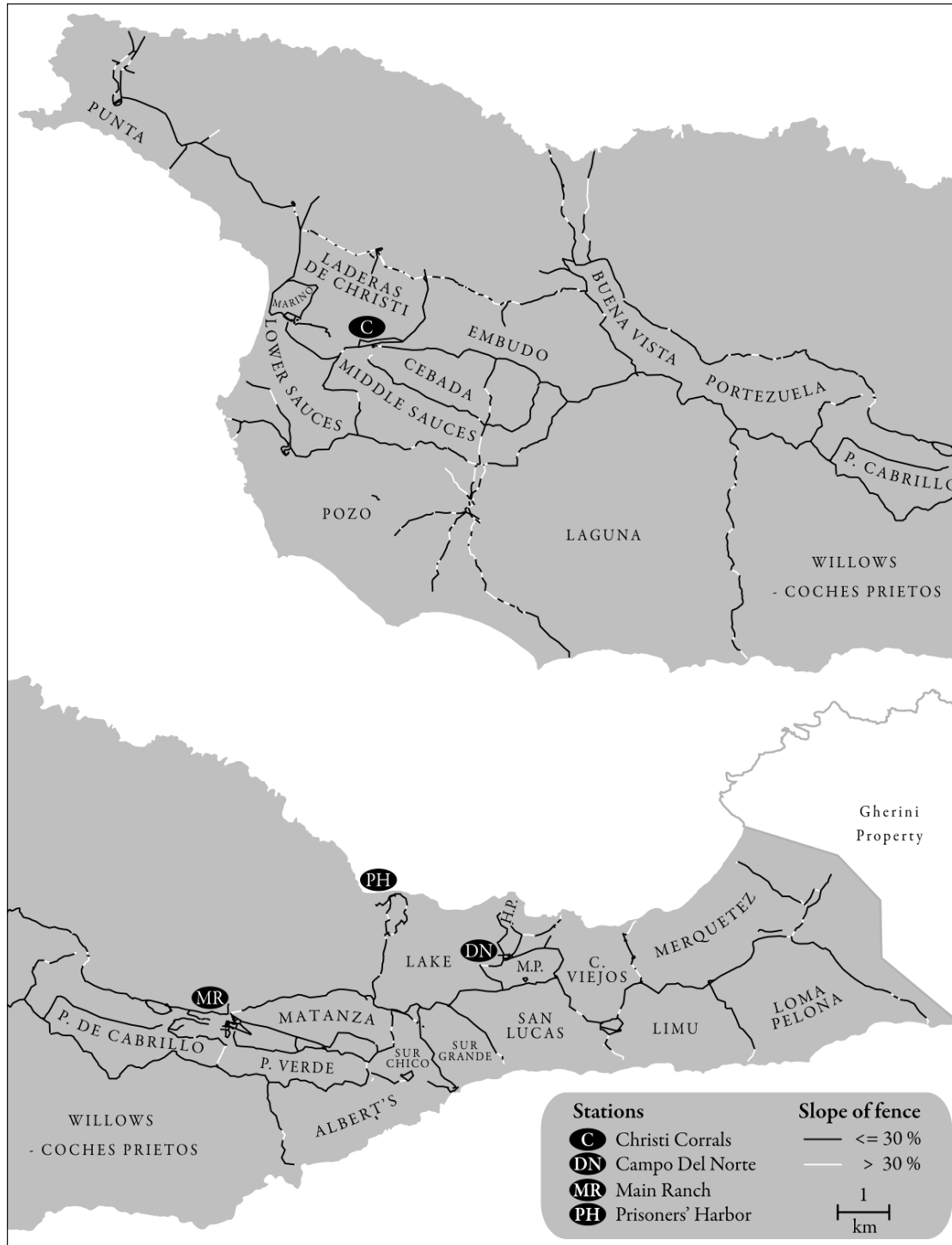


Figure 3. Stanton fence plan for Santa Cruz Island.

Figure 3 shows the fence-lines depicted on a 1964 map of island pastures (Santa Cruz Island Company 1964). We surveyed this fence with a global positioning system, mapped all the vertexes, and

then used a GIS to convert these field points into the polylines shown in Figure 3.

Perhaps the simplest way to describe the changes in fence configurations shown in these

three figures is from *many small, few large to many large, few small*. The nineteenth century plans seem to consist of few large enclosures and many small enclosures while the late twentieth century plan consists of many large enclosures and few small enclosures. In the next section, we present historical evidence to show that this change in the spatial organization of the island marks not simply the replacement of one land use with another but rather the accommodation of a new plan with the legacy of its predecessor.

### MANY SMALL, FEW LARGE

While Southern California was a stronghold for cattle ranching throughout much of the nineteenth century (Dana 1840; Cleland 1941; Menzel 1944), Santa Cruz Island did not mirror this trend. The earliest record of cattle on Santa Cruz Island dates back to April 1830. That is the month that 31 Mexican prisoners were left on the island, “the mission furnishing some tools, cattle, hooks, and a little grain,” until a fire purportedly destroyed the encampment and the men abandoned the island on rafts (Bancroft 1886, 48). The fate of the cattle is less certain. In 1851, U.S. Coast Survey Lieutenant Commander James Alden noted: “There are a few cattle here [Santa Cruz], but, like the other islands, there are no inhabitants” (Alden 1853, 105).

Alden was in fact grazing upon private property. Santa Cruz Island was then the possession of Mr. Andres Castillero, who had been granted the island by the governor of Mexico in 1839. Santa Cruz, however, had not been Castillero’s first choice. He had originally chosen Santa Catalina but quickly changed his mind, complaining that Catalina was “wholly unfit for cultivation or the raising of stock” (Perez 1996, 32). Still, Castillero did not immediately begin to develop these activities on Santa Cruz. It was not until after 1851, when he employed Dr. James Barron Shaw, that island ranching began. In *Castillero v. US* (340 SD 176), Shaw claimed to have “placed cattle, horses, and sheep on it [Santa Cruz]; built houses and made canals and cut roads on it.” His initial stocking program favored sheep over cattle. In 1860, Shaw paid tax on 3 bulls, 72 cows and calves, 116 rodeo cattle, 108 horses, and 12,375 sheep. While the presence of bulls does suggest that Shaw was

engaged in a program to breed cattle, this was clearly overshadowed by his sheep program (Gherini 1994; Junak 1995).

After Shaw’s tenure ended in 1869, when the island was sold and the Santa Cruz Island Company formed, there was apparently some renewed interest in cattle breeding. The 1869 incorporation letters indicated that the company was formed “for the purpose of engaging in, conducting and carrying on the business of raising Cattle within the State of California and selling and disposing of the same...” (Santa Cruz Island Company 1869). Yet, the assessor records indicate that the company quickly sold off the cattle stock. By 1871, they report only 1 bull, 7 cows, and 96 cattle. The breeding program was apparently halted the following year. In 1872, they report 10 calves and 10 cows, but no bulls. The next year, they report 20 “stock cattle.” Over the years, the number of island cattle dwindled as the company focused efforts on sheep breeding. By 1882, the company reported only 7 mixed cows and 1 stock cattle compared with 25,000 common sheep and 37 imported sheep (Santa Barbara County Assessment Tax Rolls 1871–1882).

The design of many small and few large enclosures reflects the plan for achieving the goals of producing wool and mutton given the means available at the time (Fig. 1). The plan divided the island into western and eastern halves with a fence that originated from Prisoners’ Harbor. This fence may have been intended to facilitate gathering sheep by keeping them from moving off the isthmus and into the rugged canyons to the west of this fence. In addition, the fence could help direct sheep towards Prisoners’ Harbor or Main Ranch during round-ups. The fence on the East End between Scorpion and Smugglers’ may have served a similar “funneling” function for Scorpion Harbor. On the western side of the island, the plan consisted of five separate corrals where sheep could be altered or separated for shipment. In general, the fence configuration suggests functions that facilitate gathering sheep but not necessarily excluding them from any places outside a few small cultivated fields.

The specific elements of the fencing plan changed after 1880, when Justinian Caire, one of the original investors in the Santa Cruz Island Company, became sole owner of the Santa Cruz Island Company, but the general strategy of many small and few large enclosures did not (Fig. 2).

Caire sought to improve the function of the sheep corrals scattered on the western side of the island while also introducing the new goal of wine production at the Main Ranch (Gherini 1994; Junak 1995). The plan expanded the extent of cultivation on suitable lands near the western corrals and also enclosed approximately 200 acres for grape cultivation around the Main Ranch. Cattle, however, did not figure prominently into the Caire plan until the beginning of the twentieth century. Ranch records indicate that between 1901 and 1908 the Santa Cruz Island Company constructed the fences shown as dotted lines in Figure 2 (Santa Cruz Island Company n.d.). In total, these new lines enclosed approximately 170 acres of new land for cultivation, primarily around the Main Ranch (~110 acres) and near Christi Ranch (~60 acres). In addition, approximately 2000 acres of new pasture were enclosed with fence. All of these new “potreros” occurred on the west side of the island, particularly in the vicinity of Christi Ranch. While the ledger does not explicitly document reasons for these improvements, it does indicate their coincidence with an investment in cattle. For example, the book includes the entry:

On the 6th of October 1903 aboard the Pasadena were imported on the Island 302 heifers from Paso Robles... Some of the older unused to sheep ground broke their backbone on the Potrero Norte barrancas...

The phrase “sheep ground” suggests that land previously used for pasturing sheep was now being used for cattle. The book also indicates that bulls were imported to the island during this time, suggesting that the Santa Cruz Island Company had again imparted on a program for cattle breeding.

However, if the new fence was part of a plan for breeding cattle, it does not appear that it sustained the function of enclosing space over time. On November 11, 1916, the superintendent wrote to the island owners:

We would like instructions relative to the amount of fence work we should do. There is a lot of this work to be done and one place is about as important as another. It will require the expenditure of considerable money in labor and material. Fully one half of the fence

around the Potrero Norte will have to be replaced. At Christi practically all of the wire on the old fences is rusted out and the same applies between Scorpion and Smugglers ... (Santa Cruz Island Company 1916–1920)

Work repairing fence was a common refrain in this weekly correspondence between island superintendent and absentee owner. By November 1917, the Potrero Sauces fence had blown down, built just 10 years earlier. In November 1918, the superintendent wrote:

We have fence and road repair work for at least 26 men for a year. If you can send good men they will be very welcome. We have had too many of the other kind lately. The force of men now on the Island is not sufficient to keep up with the routine work (Santa Cruz Island Company 1916–1920).

Thus, the fences that appeared as lines on the late nineteenth and early twentieth century maps did not effectively delineate one space from another on the island itself over time. The men struggled to maintain the many small enclosures of corrals and fields, while few large enclosures actually functioned to exclude or contain animals.

## FEW SMALL, MANY LARGE

In 1937, the Santa Cruz Island Company was sold to Edwin L. Stanton. Between 1954 and 1962, the Santa Cruz Island Company constructed nearly 180 km of fence, roughly the distance from Santa Barbara to Long Beach. This statistic is even more impressive when it includes a measure of the slope of the land that the fence traverses (Fig. 3). More than 22.5 kilometers of the fence crosses over land that exceeds 30% slope. Anyone who follows this line, particularly the lines on the western portion of the island, will appreciate the remarkable effort that it took to build this fence. At every place the line changes course, you will find that the men built a solid brace, shaped like a double H, using railroad ties and redwood posts. In all, they built more than 2700 of these braces.

While most of the fence built under the Stanton tenure was new, in the sense that lines appeared in



Figure 4. Clearing sheep between 1956 and 1962.

areas where no fence had been built previously, the materials used in the construction of the lines themselves were often taken from the earlier fences. This shows that the Stanton plan adapted the previous plan in a literal sense: by re-purposing the material artifacts that were left over from the old days. In particular, the braces of the H-post vertexes were redwood posts that had been salvaged from the earlier lines. On many of these, you can still find the cut nails and pieces of the old, thick gauged wire that distinguish the nineteenth century lines. In addition, a few old lines were adopted into the new configuration. This includes the east line of Matanza and the line that divides Embudo and Christi pastures. These older lines are characterized by a higher frequency of redwood posts (the earlier lines did not use metal posts) and either a more meandering line (without distinctive vertexes) or the use of X-braces at the vertexes (rather than H-posts).

This re-purposing of material artifacts also corresponded with a change in the semantics of the animals that the fence functioned to either exclude or contain. Stanton's goal was to breed cattle, while sheep no longer served their original purpose as a means for producing wool or mutton. Thus the Stanton plan called for conserving the island's available forage for cattle, which meant that they needed to control the amount of grazing pressure that any area endured. To do this, they had to first clear sheep from the portions of the island that would be most suitable for cattle. After clearing, they needed to keep the sheep from returning and then move cattle from one pasture to another in

order to sustain the pasture's function for providing forage.

The Stanton fence was thus designed for these various ends. The plan included twelve different "traps" that were used to clear sheep. Between 1956 and 1962, Santa Cruz Island employees carried out 108 individual "corridas" to remove more than 24,000 sheep from a contiguous strip of land running from Punta to Merquitez (Fig. 4). They focused on clearing the relatively gentle sloping lands on the isthmus, in the Central Valley, and along the west and southwest coasts. They did not clear sheep from the more rugged terrain along the south and north shores. Thus, they created an island for cattle bordered on three sides by sheep, which meant that they needed to maintain these boundary fences in order to keep waves of sheep from spilling back in. Some pastures apparently "leaked" more than others. For example, the fence between Pozo and Laguna crossed some particularly rugged terrain (Fig. 3), making it difficult to maintain, as can be seen in the number of sheep removed from Pozo by The Nature Conservancy between 1978 and 1987 (Schuyler 1993). It should be noted that under Stanton's plan the sheep did not so much lose their purpose as acquire a new one. They became a means for hunting and, beginning in the early 1960s, the Santa Cruz Island Company derived a reliable income from a private hunting concessionaire.

Yet the Stanton plan did not simply divide the island into land for either cattle or sheep. Rather, it partitioned the island at a spatial granularity that mapped to the functional granularity that is embedded in the language that ranchers use to

describe cattle breeding activities. The Santa Cruz Island Cattle Books, kept by Dr Carey Stanton between 1954 and 1987, describe actions carried out on different kinds of cattle: bulls, heifers, cows, calves, weaners, culls, and so on (Santa Cruz Island Company 1954–1987). The recurring activities of cattle breeding involve putting bulls with cows, separating bulls from cows, calving, branding calves and castrating bull calves, weaning and culling calves, and shipping culls. This cycle was controlled by the decision of when to put the bulls with the cows. On Santa Cruz, this decision was made based on the rancher's knowledge of the island's precipitation patterns, island topography, and rangeland vegetation. About 94% of the island's rainfall generally comes between November and April (Boyle and Laughrin 2000). Because of this, Stanton's plan for Santa Cruz consistently put the bulls with the cows in the middle of February, often around Valentine's Day, so that the cows would begin calving as the grass began growing the following fall. As a result, the round-ups for marking and castrating calves were consistently carried out in March, while the round-ups for weaning and culling consistently occurred in August–September.

To efficiently use the transverse shape of the land for cattle breeding, the plan parsed the cows into two sub-units. The following discussion refers to place-names shown in Figure 3. One sub-unit herd was pastured in the mid-east isthmus section of the island and utilized the Campo del Norte corrals for round-ups and brandings. The other herd was based on the island's western end, and round-ups and branding were done at the Christi corrals. Meanwhile, the bulls were kept in the small pasture between Matanza and Potrero Verde in the Central Valley for most of the year. On the west side, cows were frequently put in Sauces and Christi for rearing and calving. On the east side, Lake (Del Norte), Old Corrals, and Merquitez (Mielquieres) pastures frequently served these functions. Summer pastures were Pozo, the Point, San Lucas, and Loma Pelona. Cows were rarely put in the Central Valley, which kept them separated from bulls. In addition, cows were rarely put in the rugged South Side pastures. These rugged pastures, such as the Laguna, Coches, Willows, and Matanza, were used more frequently for fattening younger animals, including both heifers and steers. Calves, however, were not put in

these rough terrains. When they needed to be weaned from their mothers, they were often put in Cebada and Mount Pleasant (M.P.) pastures.

Due to the island's rugged terrain and limited road system, most of the cattle moving and gathering was done by vaqueros on horseback. Quasi-permanent groups of horses were based at both Del Norte (in the horse pasture, "H.P.") and Christi (in the Marino pasture). Horses were almost always kept at both places though not necessarily the same individuals. In general, for the vaqueros, a typical day's work with the cattle fell into two broad patterns. During breeding and calving season they rode the pastures checking on the condition and health of animals. For round-ups, they would head out at first light to the farthest reaches of an appropriate pasture and then gather the animals back toward the corrals, often finishing at dusk. The animals would be held overnight and then run through the corrals the next day. After the spring round-up, the animals would be left another night near the corrals in order for the cows and calves to pair back together. Shipping activity was more common in the fall. Bulls from the west would be driven to the Main Ranch and then down to the Prisoners' Harbor corrals, while culls from Del Norte would be driven through the Lake (Norte) Pasture to the Harbor the day before shipping so that that animals could be loaded early in the morning. Interspersed with this work would be riding the fence lines to check for repair needs or seeing that the water supplies were functioning.

In March 1988, following the death of Dr. Stanton, The Nature Conservancy assumed total control of island management and the Stanton land use plan came to an end. In the last round-up, the cows and their newborn calves were gathered from Sauces and Christi pastures on the west and Del Norte (Lake) and Old Corral pastures on the isthmus. They were taken to the Harbor, run through a squeeze chute that had been brought there for the event, and then shipped off the island.

The appearance of fennel as dominant land cover has been one of the more noted changes to the landscape since the last round-up (Beatty and Licari 1992; Brenton and Klinger 1994; Dash and Gleissman 1994; Colvin and Gleissman 2000). Fennel is particularly dense in pastures that were used for calving over the winter of 1987–1988, before the animals were shipped off the island, and



Figure 5. Campo Del Norte corrals, 1974 and 2008.

in the old corrals at Del Norte and Christi. Figure 5 shows the Del Norte corrals at two different moments in time. The top photo shows the corral in 1973 while the bottom shows the same location in 2008. In the foreground of the older photo, you can see fennel stalks that appear trampled. There are also a few isolated patches of fennel stalks on the hills behind the corrals, but the vegetation cover there is notably low and open. The fence stands tall in comparison. In the more recent photo, the cover in the foreground has been mowed by a machine and the hills behind the corral are covered thickly with fennel. Pictures from the west end show a similar story. Figure 6 shows the Christi corrals in 1982 (top) and 2008 (bottom). It is possible that the recurring pattern of the fall round-up—bringing animals to and from the Del Norte and Christi corrals in August, when fennel was in seed—facilitated the dispersal of fennel into pastures that were used to separate the cows and calves. However, the persistent use of the pastures limited the cover through constant grazing pressure. With

the removal of cattle, this dispersal vector may have ended (replaced by vehicles along roads), but so too did the grazing pressure that limited the dominance of fennel.

## CONCLUSION

In this paper, we have shown that the fence constructed by the Santa Cruz Island Company after 1954 facilitated a system of land use with no precedent in the previous hundred years of ranching on Santa Cruz Island. For much of this history, Santa Cruz was a landscape of many small and few large enclosures. The mid-century fence was part of an innovative plan to breed cattle on Santa Cruz facilitated by a landscape of few small and many large enclosures.

Both the unintended and intended consequences of this plan are manifest in many vegetation patterns that can be seen on the island today. While fennel patterns may be one of the plan's more notorious unintended consequences, many island visitors may be surprised to learn that the distinctive vegetation

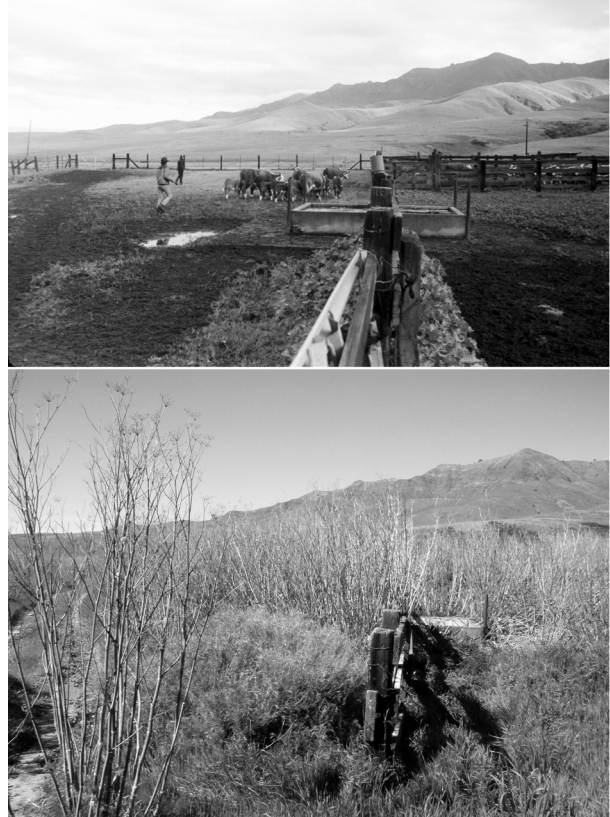


Figure 6. Christi corrals, 1982 and 2008.



boundary along the east line of the Loma Pelona was generated by a land use system instigated by ranchers in the mid-twentieth century. It would seem prudent at the very least to continue delineating the spatial, temporal, and functional pattern of land use history on Santa Cruz to better understand these very different kinds of environmental legacies.

This paper has also brought to light the shifting semantics of a plan's material elements that complicate the management and preservation of cultural resources. The pieces of nineteenth century fence that were used to anchor the vertexes of Stanton's fence provide tangible evidence that land use change does not involve one artifact *appearing* and another *disappearing* so much as one artifact *becoming* something else. In this sense, there was continuity in the cultural process of landscape change when The Nature Conservancy adapted the Stanton fence as part of their Pasture Improvement Program that removed sheep from the property (Schuyler 1993). The fence has now deteriorated to the point where it no longer serves a practical value. It will, perhaps, only be preserved into the future if it is re-purposed from functional to symbolic value as a practical landscape becomes picturesque.

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