Shear Salvation

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MAPA (IMAGINARIO) RIO PICHI LEUFU
Ingrid Roddick

SHEAR SALVATION

At the edge of the world, the wind is strong enough to make you stumble, and it never seems to stop. Constant gusts batter the southernmost tip of Argentina, just across the Strait of Magellan from Tierra del Fuego, where sheep graze on gently rolling grasslands as whitecaps race across the South Atlantic.

David Fenton holds his hat on tight as he gazes across the Estancia Monte Dinero, a 65,000-acre ranch estate that has been in his family for five generations. “The wind is dangerous,” he says. “It can separate lambs from their mothers. We’ve had gusts over 75 miles per hour.”

The wind may be endless, but change is coming to this part of Patagonia, the remote region spanning southern Argentina and Chile. Founded as part of the estancia system imported from Europe at the end of the 19th century, Monte Dinero is home to 20,000 sheep raised for wool and meat. But here and in much of the rugged southern tail of South America, ranching has taken a toll on the vast but fragile grasslands that first drew European settlers. Constantly grazing sheep have nibbled and tramped the fields down to bone-dry soil, which is lifted by the unceasing winds and carried out to sea in immense dust plumes visible from space.

Today, David’s son Ricardo manages Monte Dinero with help from his own children. But if the current trends continue, one day there may be too little grass left to support future generations.

Recently, however, Ricardo has transformed the family ranch into a test bed for a new program aimed at stopping and eventually reversing the demise of these grasslands.

The project, a partnership among Patagonian ranchers, The Nature Conservancy, and the outdoor gear and clothing company Patagonia Inc., could serve as a model for the restoration of one of the largest grasslands left on Earth.

Almost all of South America's 400 million acres of temperate grassland lie in Argentina, with a small percentage in Chile. Nearly three times the size of California, the grasslands run from the mild pampas around Buenos Aires to the frigid, storm-battered tip of Patagonia.

Most of southern Argentina between the Andes and the Atlantic Ocean is covered by Patagonian steppe, endless acres of grass and shrub lands inhabited by equally tough animals like guanacos—wild cousins of llamas—and the flightless lesser rhea, which looks like a runty ostrich. Thanks in part to recent gas, oil, and hydropower development, this sparsely populated region is also one of the fastest growing parts of Argentina. Yet more than three-quarters of Patagonia is still dedicated to sheep ranching for wool and meat on large private estancias. That has made Argentina the world's fifth-largest producer of wool.

In Patagonia's dry climate, with its brutal winters and merciless wind, a century and a half of continuous grazing by tens of millions of sheep has slowly pushed the grassland ecosystem to the brink of disaster. The warming and drying effects of global climate change have made the problem worse. The result is a South American dust bowl in progress: some 20 million acres of Patagonia's grassland are now little more than blowing sand, causing the abandonment of hundreds of ranches in Argentina alone. One-third of Patagonia suffers severe desertification, and soils in 90 percent of the region are degraded to some extent.

"This is the number-one conservation issue for Patagonia," says Carlos Fernandez, the director of the Conservancy's Patagonia program, which was launched in 2008 to protect the region's southern temperate grasslands. The Conservancy's goal is ambitious: to preserve a tenth of the region—15 million acres—for the benefit of both the land and the people who call it home.

If the plan succeeds, Patagonia's wildlife will once again thrive across the grasslands while ranching and development will continue—with a more conservation-conscious mindset. The challenge lies in enlisting the help of the very landowners who many think caused the problem in the first place.

"How do you balance production and conservation?" says Fernandez. "We believe it's possible."

In a barn on the Estancia Monte Dinero, Ricardo Fenton clamps a sheep upside down between his legs and reaches for a set of blade shears. The animal seems relaxed, or at least resigned, as Fenton steadily strips it of wool, moving it from one hold to another, like a wrestler.

Eventually, he lets the sheep go and flips the fleece onto a table in one large

RIGHT:
ESTANCIA MONTE DINERO
Nick Hall

POCKET LANDSCAPES–6 DE AGOSTO & 8 DE SEPTIEMBRE
Lorraine Green

piece, like a blanket. Under its dirty outer layer the wool is creamy white and soft, crimped like an '80s hairdo and waxy with lanolin. Patagonia produces some of the highest-quality wool in the world, and fine merino like this—soft against the skin and an excellent insulator, even when wet—has been enjoying a resurgence in clothing and performance apparel.

Fenton, with his red beard and ruddy complexion, has been a face of change in the Argentine ranching industry for years. He describes the effect grazing has had on his family's land, which was taking longer and longer to recover from droughts. "We were applying the best of range science on the farm," he says, "but we were just managing it, not improving it."

In 2003, Fenton and grassland science expert Pablo Borrelli founded a network of small- and medium-sized Argentine wool producers dedicated to improving grazing practices throughout Patagonia.

They called it Ovis XXI, from the Latin word for "sheep," with a nod to the 21st century. The organization has experimented with new techniques, such as changing how long flocks are grazed in pastures and when they're rotated from one field to another.

Participating ranchers have kept detailed records and made management decisions based on hard evidence, rather than tradition or trial and error.

Ovis and the Conservancy quickly found that their objectives of protecting the region's biodiversity while reinvigorating its traditional industries lined up well. But even though conventional grazing was clearly hurting the land, Ovis still needed some way to ease the transition and help persuade conservative ranchers to change their ways. That's where the third partner came in.

In 1973, climber Yvon Chouinard, who pioneered routes up the granite spires along the southern border of Chile and Argentina, founded Patagonia Inc. The company has always had a focus on conservation. Every year, it donates one percent of its sales to environmental groups. Patagonia has also worked hard to use sustainably produced materials in its products. In 1994, for example, the company began a two-year transition to using all-organic cotton.

Wool seemed like another opportunity for environmentally enlightened sourcing. In December 2010, Patagonia, Ovis, and The Nature Conservancy agreed to collaborate to protect and restore Patagonia's grasslands. The Conservancy helped Ovis develop the Patagonia Grassland Regeneration and Sustainability Standard (GRASS), a voluntary system in which estancias that reach specific rangeland conservation goals earn certification from Ovis.

Each ranch has to have a detailed management plan that takes into account factors like water quality, the effect of grazing on local wildlife, and amount of land that can be converted to nonnative grass species. Regular monitoring, yearly reviews, and external audits track progress and ensure that the standards are being met.

People are willing to pay a premium for organic coffee, free-range eggs, and dolphin-safe tuna, Fernandez thought. Could the same kinds of incentives work with sustainable wool from South

America? Sweaters and socks, he realized, might help save Patagonia's grasslands. And what better company to make and sell them than a worldwide apparel manufacturer committed to environmental causes—one already named after the region itself?

Added together across hundreds of ranches, those measures should replace dry and eroded landscapes with healthy grasslands that hold moisture from rain instead of letting it run off or flood. Plant and animal biodiversity, Fernandez says, should rise as well.

On the other end of the supply chain, Patagonia Inc. has committed to buying the certified wool and using it in its clothing this fall. The certification lets consumers know that their buying decisions can protect ecosystems and support ranchers on the other side of the world who are working to protect their lands. Jill Dumain, Patagonia's director of environmental strategies, says, "It's one of the first times in our history that we're actually improving a place by placing business there, and not merely sustaining it."

The certification program should also benefit native animals. Restored grasslands mean more grazers like rodents and rabbits, which in turn means healthier populations of predators like red foxes and pumas. Improved habitat will also benefit large birds like rheas. Better land for sheep means better land for wildlife such as guanacos as well. "We'll be able to make conservation decisions from the basis of abundance, not desperation," says Conservancy senior ecologist Chris Pague, who helped develop the standards.

Under the program, ranch managers are free to use any strategy—such as reducing their herd size or limiting the amount of time sheep are allowed to graze a particular area—to meet the GRASS sustainability standards. But the outcomes for the health of the grasslands must be measured using the best science available.

OPPOSITE: WILD HORSES (DETAIL)
Nick Hall

PATAGONIAN SUNRISE
Nick Hall

One promising option, called holistic management, was first developed in the 1960s by Zimbabwean biologist Allan Savory. Healthy grasslands, like those formerly found in Patagonia, need herbivores, grasslands expert Borrelli says. The animals' grazing and trampling encourage plant growth and help return nutrients to the soil. Sheep may have replaced wild horses and guanacos as the dominant grazers in Patagonia, but they can still play the role of the animals they replaced. This runs counter to the traditional practice of trying to help grasslands recover by simply grazing fewer and fewer animals.

Under holistic management, stocking rates can actually increase. Periods of heavier grazing, with longer intervals in between for the land to recover, can mimic the movement of native herds in the past. The key is the timing of the grazing and the length of the rest periods.

Getting that balance right isn't easy, and finding it requires a few years of training with an accredited GRASS educator. Ranchers, Borrelli says, "need to learn how to see the land, to recognize the indicators of good and bad trends, to learn how to move their sheep."

To cover the up-front costs of implementing the standards, which run about 30 cents per acre for measures like new fencing, Patagonia and the Conservancy have donated more than $80,000. That kind of investment can quickly pay off. Soon after the Fentons started experimenting with holistic management at Monte Dinero in 2008, Ricardo says, "We saw the grasslands come to life." Plant species that were once seen only sporadically were soon everywhere.

"They were impressive results," Borrelli says. "Things we hadn't seen in 30 years." The prospect of being able to graze more sheep has brought new hope to struggling ranch owners, he adds. More than 30 ranches in Argentina and Chile are now trying holistic management in some form.

"I knew we were doing wrong, using traditional management," says Matias Soriano, owner of a 200,000-acre estancia 750 miles north of Monte Dinero. But after three years of holistic management, he is already seeing improvement. "Annual and perennial plants are growing—plants we usually didn't see before because they were eaten by the sheep."

Stephen Gallie, who owns the 67,000-acre Estancia Morro Chico near Rio Gallegos, has been involved in the sustainable-grazing program for more than two years. He says it's too early to judge the results, but the deterioration of Patagonia's grasslands gives ranchers like himself no choice but to try something new.

"The world changes," he says. "We have to be flexible. We have to adapt."

Major changes always spark resistance, and the wool-certification program is no exception. "Sheep and land are easy—people are the challenge," says Borrelli. "For traditional farmers, the transition has been very hard."

Because holistic management is still new to the region, it is controversial among some ranchers, scientists, local environmental organizations, and the government. "Some of it is a matter of distrust, and some of it is genuine disagreement," says the Conservancy's Pague. "Many people have tried intensive rotational grazing without the planning, and failed. The stories spread quickly."

Yet the movement to enlist Patagonia's ranchers in saving the grasslands they depend on is gaining momentum. Fifty-two estancias are now enrolled in the sustainable-grazing program. Three-quarters are in southern Argentina, and the rest are in Chile, and they range in size from 5,000 to 250,000 acres. Altogether, they encompass nearly 3 million acres.

The partnership's goal is to have another 12.1 million acres under sustainable-grazing management by 2019. It has set up a scientific advisory committee that includes Argentinian scientists and will soon use real-time satellite imagery to identify conservation sites and track results.

About 500 estancias will have to come on board to reach the tipping point of 10 percent of Patagonia's grasslands, Borrelli says. From there, he thinks the land regeneration will take on a momentum of its own.

It may still take a decade or more for the ecological benefits of the wool-certification program to become clear, says Pague, but so far he finds the results encouraging. "Find me another place in the world," he says, "where ranchers who control almost 3 million acres have agreed to try doing things a different way."

From FLOWERS OF THE PATAGONIAN STEPPE
Lorraine Green

This fall, customers will be able to find more than 50 products in Patagonia Inc.'s catalog and stores made from Patagonian certified wool, from merino base layers to sweaters. Patagonia Inc. hopes to switch entirely to certified wool some day, Dumain says, and the company's leaders hope their competitors follow suit. Getting other clothing manufacturers on board will be critical to making the certified-wool program completely market driven and self-sustaining.

"We feel it's part of our responsibility to talk about this in our industry," she says.

Dumain has already handed out certified-wool socks to ranchers in Argentina—the first time some of them had ever seen a product made from wool they grew. "Some of them cried," she says.

Ricardo Fenton was not one of the ranchers who shed a tear, but that doesn't mean he takes his pioneer role any less seriously. "We all want to leave a good legacy to our children. Nobody wants to ruin their own land," he says. "We have a lot of work to do."

"Shear Salvation," *by Julian Smith*, Nature Conservancy