EARTHOPTICS™

HOW CARBON MARKETS ARE PAYING RANCHERS ACROSS TEXAS

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Overview

As both a rancher and part of the EarthOptics team, I've long been interested in understanding whether soil carbon markets truly deliver meaningful value for producers like me. I didn't want theories or models—I wanted to see the numbers. My family and I operate ranches in both South and West Texas, and over the past few years, we've enrolled a substantial amount of acres in soil carbon programs. We've now signed four soil carbon contracts, giving us firsthand experience with both the process and the payoffs.

This case study is a continuation of an earlier article I wrote on the opportunities and challenges of monetizing ranch stewardship through carbon markets. Based on feedback from that piece, I wanted to take a closer look—using actual data from both my own operation and from across Texas—to answer a simple but important question:

Does **stewardship really pay?**

Challenge: Does **Stewardship** Really Pay?

To answer this, I compared three common sources of ranch income—**cattle, wildlife leases, and soil carbon credits**—using current (2025) market data for both **West and South Texas**.

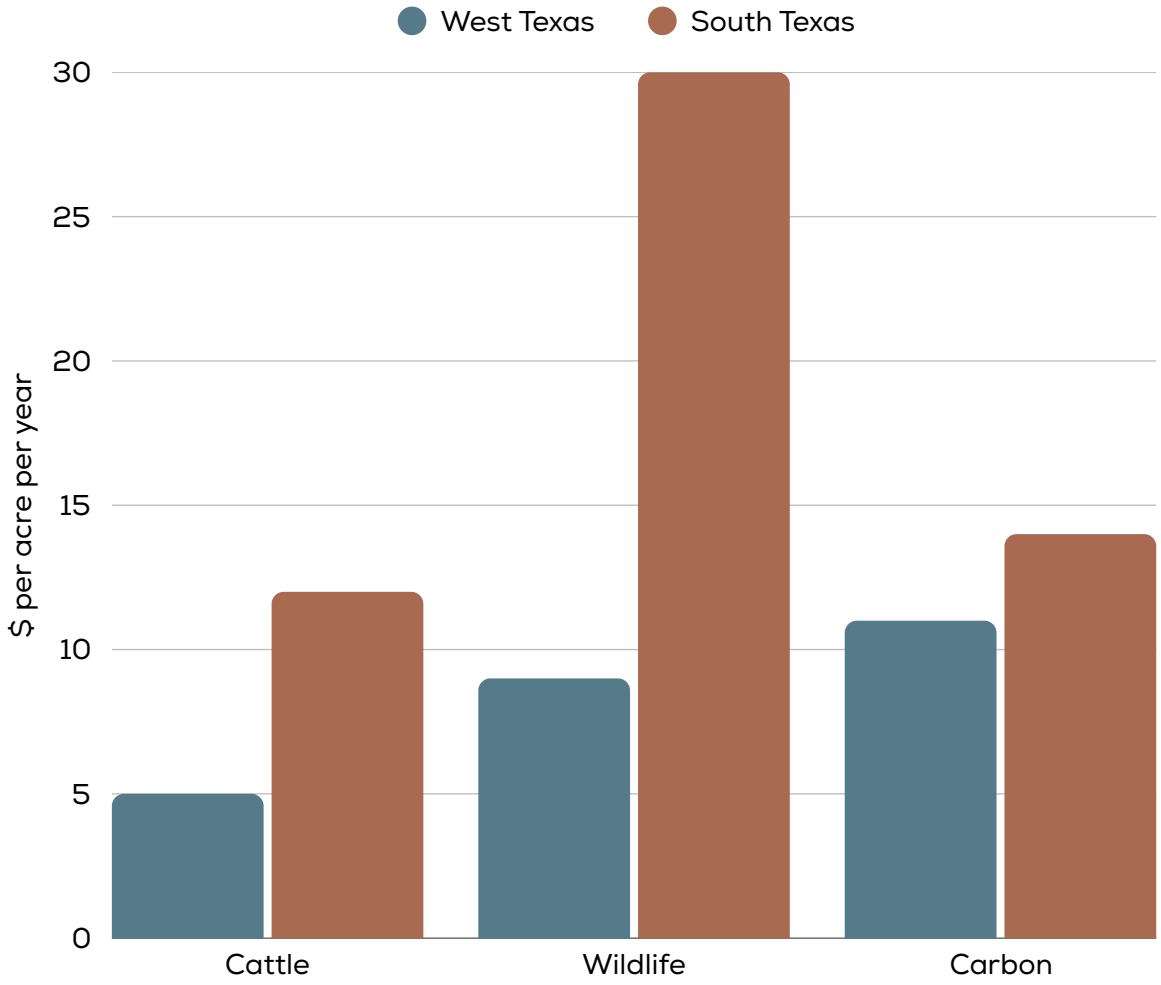
Wildlife lease rates were derived primarily from deer, quail, and mixed hunting opportunities [1,2]. Cattle figures represent cow-calf operations on native range. Carbon values come from active project developers offering verified soil carbon contracts, including Grassroots **Carbon, Kateri, Native, Range Carbon Management**, and **Agoro Carbon Alliance**, with contract lengths ranging from 10 to 40 years [3–6].

> **We didn't want theory, we wanted to see the real numbers. As both a rancher and part of EarthOptics, I wanted to quantify what carbon stewardship actually pays.**

Across both regions, soil carbon payments already meet or exceed average cattle revenue per acre (Figure 1). In West Texas, carbon contracts lead the pack. In South Texas, they're neck and neck with cattle returns. And this is before factoring in projected increases in carbon credit prices over the next five years.

Figures 1. Average annual revenue per acre from cattle, wildlife, and carbon contracts in West and South Texas [1,2,6].

Figure 1: Revenue Ranges by Enterprise



Results: Real Revenue, Real Resilience

Carbon credit contracts are typically structured as per-acre payments based on the prevailing price per metric ton of CO_2 removed or avoided.

In 2025, soil carbon credits are averaging $30–$35 per ton, up from $16 just two years ago [6,7]. At that price, the average ranch return is $13–$20 per acre per year—already competitive with traditional operations.

Looking ahead, the financial upside is significant. If credit prices grow 8–12% annually (a conservative projection given recent market performance [7,8]), returns could exceed $60–$100 per acre by 2030 in some regions.

At our South Texas ranch, for example, we currently receive about **$13 per acre**, and based on measured sequestration rates and rainfall, we expect that to exceed **$60 per acre** within this decade.

On our ranches, we sequester between **0.5 and 1.4 tons of carbon per acre per year.** All of this depends on soil type, rainfall, and management [6]. When you multiply that by forecasted credit prices, the revenue potential becomes clear (Figure 2): stewardship isn't just good ethics—it's sound economics.

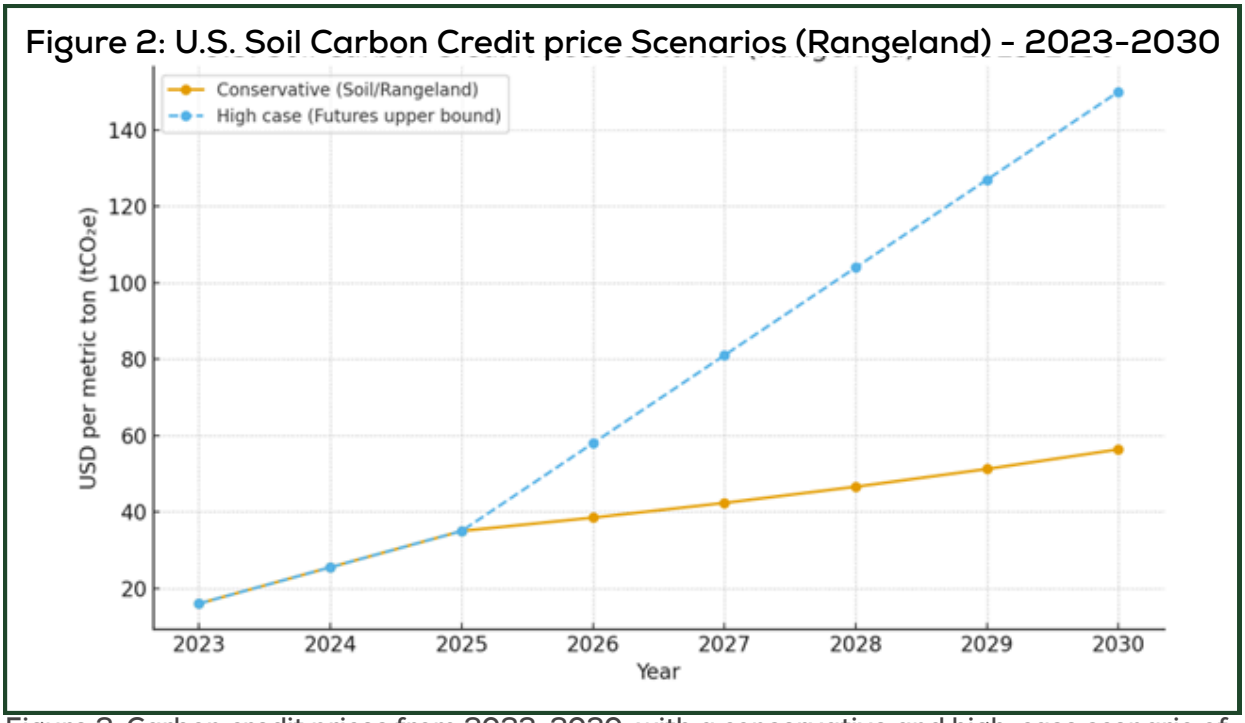


Figure 2. Carbon credit prices from 2023-2030, with a conservative and high-case scenario of appreciation [7]

Addressing Common Rancher Concerns

In my conversations with fellow ranchers, I hear a lot of the same concerns:

1. Data and Verification Burden

Many producers worry about the hassle of monitoring, reporting, and verification (MRV). At EarthOptics, we've built systems to minimize that burden. Our GroundOwl™ sensor platform can measure up to 5,000 acres per day, allowing us to efficiently collect high-quality data while respecting your land and time. Project developers also provide clear guidance and tools to simplify compliance and ensure transparency [6].

2. Practice Change, Additionality, and Costs

Some fear that participation means expensive or disruptive management changes. In our experience, most beneficial adjustments—like combining herds, resting pastures, or tweaking rotational grazing—cost little to nothing and often increase productivity. On our own ranches, these changes have doubled or tripled stocking rates, improved wildlife populations and cattle revenue (from improvements in soil health), and generated steady carbon income [6].

For capital-intensive upgrades such as fencing or water systems, carbon programs often allow you to reinvest early payments or use developer assistance to offset those costs [6].

3. Extreme Circumstances and Risk of Penalty

Drought, fire, or labor shortages are inevitable realities in ranching. Strong carbon contracts include adaptive management clauses or exemptions for these events, ensuring producers aren't penalized for conditions beyond their control. Many developers also offer agronomic and soil-health consulting that strengthens resilience and long-term land value [3,6].

The Reality Check on Soil Carbon Prices

The current U.S. market for verified soil carbon credits varies widely, but trends are clear:

- **2023:** ~$16 per ton (average)
- **2025:** ~$35 per ton (today's midpoint)
- **2030 (forecast):** $60–$150 per ton, depending on market tier [3,6–8]

High-quality soil and removal credits are already transacting above **$60 per ton**, and several market analyses forecast a continued price climb as demand from corporate sustainability programs accelerates [5–8].

When you compare that to cattle returns—typically **$4–$20 per acre per year** depending on region—the financial case for participating in carbon markets becomes difficult to ignore [1,2].

Conclusion

Carbon markets aren't replacing traditional ranching—they're enhancing it. By quantifying the stewardship value of practices we've followed for generations, these programs give ranchers new ways to generate income while improving land health and resilience.

For our family, soil carbon credits have become a reliable secondary revenue stream—one that complements our cattle and wildlife income rather than competing with it. And right now, with cattle prices high, it's the perfect time to build cash flow and reinvest in your operation. When markets eventually swing—as they always do—carbon becomes the constant that steadies the ship between those highs and lows.

Every year we wait to enroll is a year of lost opportunity. The longer we postpone participation, the more "additionality" standards tighten, potentially reducing eligibility or payout.

In short, stewardship now pays—not someday, not in theory, but right now across Texas and beyond.

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Definitions

Carbon credit. A verified certificate representing one metric ton of CO_2 equivalent (CO_2eq) avoided or removed.

Soil carbon/ag credit. Credits issued for measured or modeled increases in soil organic carbon from management changes (e.g., rest, rotation, cover). NOT subsidized by the government.

ACCU. "Australian Carbon Credit Unit," the tradable credit in Australia's compliance market.

EU ETS / EUA. European Union Emissions Trading System; an "EUA" is the regulated permit priced in euros per ton of CO_2e.

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About EarthOptics

Headquartered in Minneapolis, Minnesota, EarthOptics harnesses advances in soil-sensing technologies, genomics, and data science to provide farmers and ranchers with deep, actionable insights into their soil's chemical, physical, and biological properties. By blending cutting-edge laboratory analysis with industry-leading field-based sensors, we deliver powerful predictive insights that enable producers to optimize input use, improve soil health, increase yields, and unlock new opportunities in sustainable agriculture.

EarthOptics is also the leading carbon measurement company in the U.S., supporting the growth of carbon markets with accurate, verifiable soil data. The company has offices in Raleigh, North Carolina; Emeryville, California; Blacksburg, Virginia; and Fayetteville, Arkansas, with laboratories in Emeryville, California, and Memphis, Tennessee. Learn more at www.EarthOptics.com.