

# National Ranchland Property Index TR

## Methodology



December 2024



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## Introduction

The National Ranchland Property Index is a market-weighted benchmark of the US Ranchland Property Market. In response to a growing demand by individual and institutional investors to invest in Agricultural related property investments, Ranchland Capital Partners has created the National Ranchland Property Index (“NRPI”) given the lack of available benchmark data on the Ranchland segment.

The NRPI seeks to track performance of the US Ranchland property market on a total return basis by using publicly available data provided by the United States Department of Agriculture (USDA). This includes their annual census data on price per acre for US Pastureland, and annual census data on cash rents received per acre.

## Highlights

The index is designed to track the market weighted performance of national ranchland properties in the United States. For this, the index is rebalanced annually to align with the frequency of data reported by the USDA on both land prices per acre, and cash rents received per acre on US Pastureland. Each US State has a weight equal to its total acres of pastureland reported by the USDA, multiplied by its average price per acre, divided by the total market value of pastureland in the US.

The NRPI has the following features:

- Official index calculation and dissemination by Ranchland Capital Partners.
- The index calculation begins with a value of 1,000 on December 31<sup>st</sup>, 1997.
- The annual rebalancing is reasonable, balancing investability and representation given the long-term nature of the asset class.
- The index provides insights into total returns on US Ranchland, which are difficult to calculate given limitations on price discovery given non-disclosure laws in certain US states.
- USDA “Pastureland” is defined as “Pastureland supports introduced or domestic native forage species and is used primarily for livestock production.”
- The methodology was created by Ranchland Capital Partners to achieve the prior mentioned goal of measuring the underlying performance of US Ranchland. Any changes to or deviations from the methodology are made in the sole judgement and discretion of Ranchland Capital Partners so that the index continues to achieve its objective.



## Eligibility Criteria

### Index Eligibility

The NRPI compiles publicly available USDA data through their National Agricultural Statistics Service (“NASS”) found [here](#). All index constituents are US States that report pastureland and cash rent data to the USDA annually. States that do not report this information or that do not participate in the annual census are excluded from the index. The states that historically have not participated in the annual NASS data collection cumulatively represent less than 14% of the total US pastureland values as of 2024 and are generally not representative of the US Ranchland market when you also consider their contributions to annual livestock production in the US.

We classify “Eligible” index constituents as the following US States:

- At least 20 consecutive years of actual cash rent prices per acre reported in the annual USDA NASS Census.
- At least 20 consecutive years of survey data representing total pastureland acreage in production within the State.
- At least 20 consecutive years of annual census pastureland price per acre data for State.

The following states met this eligibility criteria during the index construction:

1/2 Reporting State	2/2 Cumulative MV%	1/2 Reporting State	2/2 Cumulative MV%
Texas	27.4%	Utah	76.0%
California	34.0%	North Dakota	77.5%
Oklahoma	39.4%	Virginia	79.0%
Montana	44.4%	Alabama	80.1%
Florida	48.6%	Georgia	81.1%
Kansas	52.7%	Iowa	82.1%
Nebraska	56.7%	North Carolina	83.0%
South Dakota	60.5%	Louisiana	83.8%
Missouri	63.5%	Mississippi	84.6%
Colorado	66.4%	Wisconsin	85.2%
New Mexico	69.1%	Illinois	85.8%
Wyoming	71.8%	Pennsylvania	86.2%
Tennessee	73.9%	Minnesota	86.7%



## Index Construction

### Approach

The index series is market-capitalization weighted and calculated in two phases to develop a total return benchmark index, comprised of a price return calculation, and an income return calculation with adjustment for property taxes. The resulting index construction can be considered a passive benchmark, whereas an investor buys land, and leases it out to an operator for cash rents.

### Market Value Calculations

We first remove all ineligible states from the universe. Refer to Eligibility criteria for our approach to this part of the index construction.

We calculate the market capitalization of each eligible State based on reported ranchland acreage in production, and reported prices per acre for that year.

$$\text{State's Market Cap} = (\text{Pastureland Acres}) \times \text{Price Per Acre}$$

Then we calculate the total market capitalization of the eligible states by summing the individual market capitalizations to get the “national market capitalization” figure.

$$\text{National Market Cap} = \sum_{i=1}^N \text{Market Cap}_1 + \text{Market Cap}_2 + \cdots + \text{Market Cap}_N$$

### Index Constituent Weight Calculation

To determine the state’s relative weighting in the index, we divide the state’s market cap by the national market cap:

$$\text{Constituent weight} = \frac{\text{State's Market Cap}}{\text{National Market Cap}}$$

### Price Return Calculation

The price return is a simple holding period return calculation, ran for each state in the index universe. The holding period return takes the current year-end reported price per acre, and divides it by the prior year-end’s price per acre, then subtracts 1 to get a percent price return.

$$\text{Price Return} = \left[ \frac{\text{Price Per Acre}_t}{\text{Price Per Acre}_{t-1}} \right] - 1$$



## Income Return Calculation

First, we adjust the reported cash rent per acre for each eligible state downward by estimating property taxes using the following formula:

Adjust Rents for Taxes	
<b>Tax Per Acre</b>	
Avg Price per AUM	\$ 27.00
AUM Per Acre	0.50
Grazing Period (monts)	8.00
Total AUMs Per Acre Per Year	4.00
<b>Agricultural Use Value Per Acre</b>	<b>\$ 108.00</b>
Assumed Tax Rate	2.16%
<b>Assumed Tax Adjustment Per Acre</b>	<b>\$ (2.333)</b>

The -2.33 is added to the reported cash rent price per acre to come up with an adjusted figure, representing the passive income from owning a ranchland property. While there are additional factors that may increase or decrease the annual income to passive ranch ownership, they are largely subjective and highly dependent on the management style of the operator.

To calculate each constituent's income return component, we take the adjusted cash rent per acre in the current period, and divide that figure by the previous period's reported land price per acre.

$$\text{Adjusted Income Return} = \left[ \frac{(\text{Cash Rent Per Acre}_t) - 2.33}{\text{Price Per Acre}_{t-1}} \right]$$

This standardizes the reported cash rent in dollars per acre into a percentage return figure which can then be added to the price return.

## Total Return Calculation

The total return formula is a simple addition of the price return for the period plus the income return for the period. The total returns are calculated for each state using the methodologies described above.

$$\text{State's Total Return} = \text{Price Return} + \text{Adjusted Income Return}$$





## Index Total Return Calculation

The total return for the index is the summation of the market-value weighted returns for each state:

$$\text{Index Total Return} = \sum_{i=1}^N W_1 \times TR_1 + W_2 \times TR_2 + \cdots + W_n \times TR_n$$

Where  $W_i$  is the constituent weight for the state, and  $TR_i$  is the total return for the state during that period.

## Index Value Calculation

The initial index value was set at a base level of 1,000 on December 31, 1997. The index value for the current period is simply the prior year-end index value, multiplied by 1 plus the current year total index return:

$$\text{Index Value}_t = \text{Index Value}_{t-1} \times (1 + \text{index total return}_t)$$

In order to maintain index series continuity, our approach to calculating the total return index allows for the addition or subtraction of US States depending on reported data going forward. The historical index calculations assume the eligible state list referenced in Eligibility Criteria above is held static given they are the only states which reported both price and cash rent data for all years going back to the base year of 1997.

## Data Sources

We use the USDA Quick National Agricultural Statistical Service (NASS) tool to obtain annual data for total pastureland acres, price per acre, and cash rents per acre by state. They can be found here:

- US Pastureland acres by state: sourced [here](#)
- US Pastureland price per acre by state: sourced [here](#)
- US Pastureland cash rents received by state: sourced [here](#)
- Property Tax Adjustment data was derived through various sources and is assumed to be representative of the average annual property taxes. Additional source information can be found [here](#), [here](#), and [here](#).



## Index Maintenance

### Rebalancing

The index is rebalanced annually to align with the reporting frequency of the USDA data. At each rebalance, price and income data are weighted based on the year-end market values of Pastureland within each state. As the number of acres in production and average state-wide price per acre change, the weightings in the index will change.

### Currency of Calculation

The index is calculated in U.S. dollars.

### Index Actions

**Constituent Change:** When a constituent of the index is no longer eligible, or if a constituent that was previously excluded from the index becomes eligible based on our eligibility criteria, we simply make the adjustment to the available constituents when calculating the current period's national market cap and subsequent state market cap weightings. The updated weights are used in the calculation of total returns, and the current period index value reflects the change.

**Property Tax Changes:** We use the annual Montana property tax rate for agricultural land as a proxy for national property tax rates, given lack of available state-by-state data and to make a simplifying assumption for the downward adjustment to income. If the property tax rate changes, the updated tax rate will be used in the cash rent income adjustment.





## Index Data

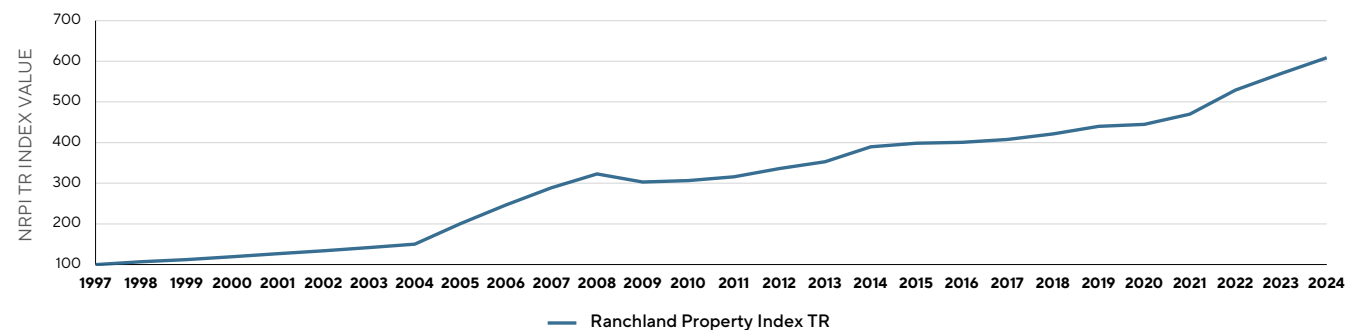
### Quick Facts

Weighting Method	Market Capitalization
Rebalancing Frequency	Annually
Calculation Frequency	End of Year
Calculation Currencies	USD
Launch Date	December 31, 2024
First Value Date	December 31, 1997

All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance, and is based on the index methodology in effect on the index launch date. Back-tested performance reflects application of an index methodology and selection of index constituents with the benefit of hindsight and knowledge of factors that may have positively affected its performance, cannot account for all financial risk that may affect results and may be considered to reflect survivor/look ahead bias. Actual returns may differ significantly from, and be lower than, back-tested returns. It is not possible to invest directly into an index. Past performance is not an indication or guarantee of future results.

### Historical Index Performance

Depending on index launch date, all charts below may include back-tested data



### Annualized Performance

Index Level	Annualized Returns					
	1 Yr	3 Yrs	5 Yrs	10 Yrs	15 Yrs	20 Yrs
Net Total Return						
6,085	6.79%	9.01%	6.70%	4.56%	4.76%	7.24%

Disclosure: all returns prior to December 31, 2024 are hypothetical backtested returns on the index, refer to risk section.



## Calendar Year Performance

2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Net Total Return									
6.96%	7.71%	12.61%	5.60%	1.10%	4.42%	3.34%	1.80%	0.57%	2.24%

Disclosure: all returns prior to December 31, 2024 are hypothetical backtested returns on the index, refer to risk section.

## Risk

Annualized Risk			Annualized Risk-Adjusted Returns			Max Drawdown
3 Yrs	5 Yrs	10 Yrs	3 Yrs	5 Yrs	10 Yrs	All Years
Standard Deviation from Net Total Returns						
2.55%	3.70%	3.51%	2.74	1.27	0.73	-6.20%

Risk is defined as standard deviation calculated using annual values. Risk free rate assumed to be 2.0% for risk-adjusted return calculations.

## Correlations

Ranchland	S&P 500	Hedge Funds	Global Equities	US Bonds	Commodities	Gold	Real Estate	US T Bills	CPI Inflation
Correlation from Net Total Returns									
1.00	-0.24	-0.20	-0.16	-0.13	-0.02	0.11	0.44	0.47	0.50

Correlations are calculated as historical correlations of total returns from 1997 to 2024, correlating the National Ranchland Property Index to the following indices: Sources: US Bonds: Bloomberg Barclays US Aggregate Bond Index; US Equities: S&P 500 TR Index; Real Estate: NCREIF National Property Index; Global Stocks: ACWI Ex-US Index; Hedge Funds: CISDM Equal-weight Hedge Fund Index; Gold: Historical Price per Ounce; Commodities: Bloomberg Commodities Index (TR); US T Bills: 3-month Treasury Bill Index; Ranchland: National Ranchland Property Index TR; CPI Inflation: US CPI Inflation.



## Index Governance

The index is maintained by Ranchland Capital Partners. There are three managing members of the company; all are full-time professional members of RCP. Due to the infrequent rebalancing and data limitations on the index, ongoing governance and changes to the index are unlikely to occur more frequently than annually during the annual reconstitution and rebalance. Thus, we have engaged a third-party verification service provider to review the index performance calculations annually, including a formal verification of back-tested index performance.

The NRPI index is a new index, and does not have any publicly traded products linked to its performance.

Index Dissemination will be annually, published on the Ranchland Capital Partners' Web site, [ranchlandcp.com](http://ranchlandcp.com).

*For information on Quality Assurance and our Third-Party Verification provider, [Alpha Performance Verification Services](#), please contact RCP at [contact@ranchlandcp.com](mailto:contact@ranchlandcp.com).*



## Index Limitations

The NRPI, while designed to provide a robust and market-weighted measure of US Ranchland performance, is subject to the following limitations:

- **Survey-Based Data**  
The index relies on USDA survey data, which is not derived from transactional market data. Survey responses may reflect appraisals or estimations rather than bona fide, arms-length transactions.
- **Lag in Data Collection**  
Survey data reflects annual reported data and may not capture rapid changes in market conditions or short-term fluctuations in pastureland prices.
- **Potential for Bias**  
Survey results may be influenced by participant subjectivity or self-reporting biases, which could affect the accuracy of reported price per acre.
- **Methodological Constraints**  
The methodology relies on weighted averages of survey data, which may not fully account for structural changes or variations in liquidity across different Ranchland markets.
- **Investability**  
The index represents passive exposure to national Ranchland, which often exceed \$10 million USD in market value for a single property. Based on broker reports and publicly available sales data, such as [Montana Land Source](#) and other similar digital listing services, the annual deal flow in this segment of the market is estimated to be between \$3 billion and \$5 billion dollars in the US annually. While investors could invest in the index through passive ranch ownership, lack of liquidity and high minimum investment sizes may create frictions for non-institutional investors seeking exposure.

This index should be used as a broad indicator of pastureland market trends and performance, recognizing the inherent limitations of the data source and methodology. Users are advised to consider supplementary data sources when conducting detailed performance analyses or making investment decisions.



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### Index Management

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Ranchland Capital Partners provides institutional access to the Ranchland property market through private funds and separate accounts focused on ranchland properties. While the National Ranchland Property Index serves as a reference for tracking trends within the ranchland asset class, RCP does not aim to replicate, track, or benchmark its performance against the index. The index is independently maintained and does not directly influence the investment strategy, performance targets, or portfolio composition of Ranchland Capital Partners' investments.

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## About Ranchland Capital Partners

As a real asset investment manager focused exclusively on large western Ranchlands, we provide clients access to professionally managed, institutional-quality assets. Through our vertically integrated approach, we seek to deliver attractive risk-adjusted returns for our clients while improving the ecosystems in which we operate.

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