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**Analyzing Proposed Dairy Margin Protection Program Enhancements**

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***Invited presentation at the 2018 Southern Agricultural Economics Association Annual Meeting, February 2-6, 2018, Jacksonville, Florida***

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# Analyzing Proposed Dairy Margin Protection Program Enhancements

2018 SAEA

*February 5, 2018*

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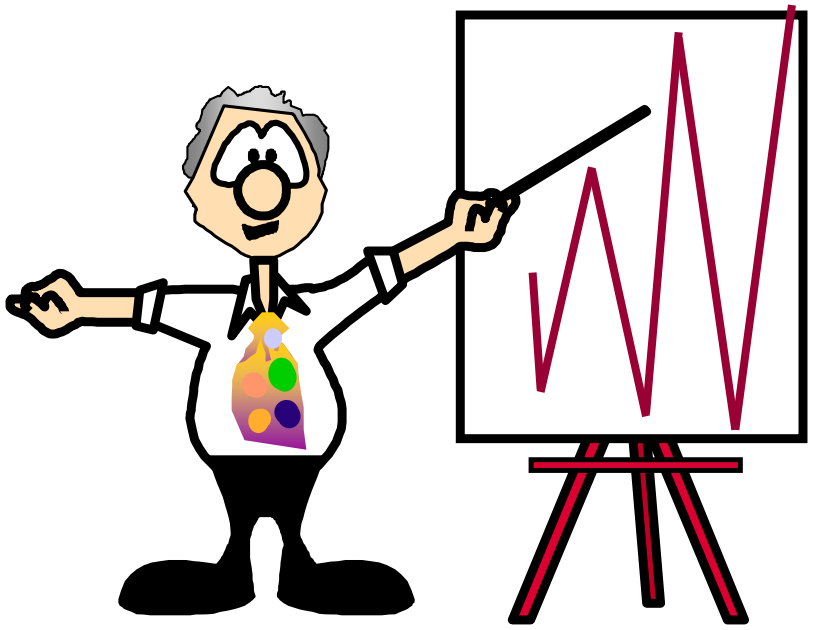
AFPC
Agricultural and Food Policy Center

# Overview

- Motivation for the study
- Methods
- Results
- Conclusions
- Questions



# Motivation

- Dairy Margin Protection Program hasn't provided the support that was intended
- Very few producers have received payments over the first 3+ years of the program
- Major shift in the protection levels farmers are electing

# Purpose

- Examine the program as it was designed to determine where some of the flaws are
  - Would the results looked better in a different time period
- Looking for adjustments to the program to make it more effective
  - $5-9 coverage range instead of $4-8
  - Calculate the MPP payments on a monthly basis instead bi-monthly

# What is in the Margin Protection Program

- The MPP provides
  - Base program starts if calculated margin falls below $4.00/cwt
    - Cost $100/Dairy
  - Supplemental program covers margins below $8.00/cwt at $0.50 increments
  - Can buy supplemental on 25 to 90 percent of production in 5 percent increments

# Premium Rates for Different Coverage Production Level

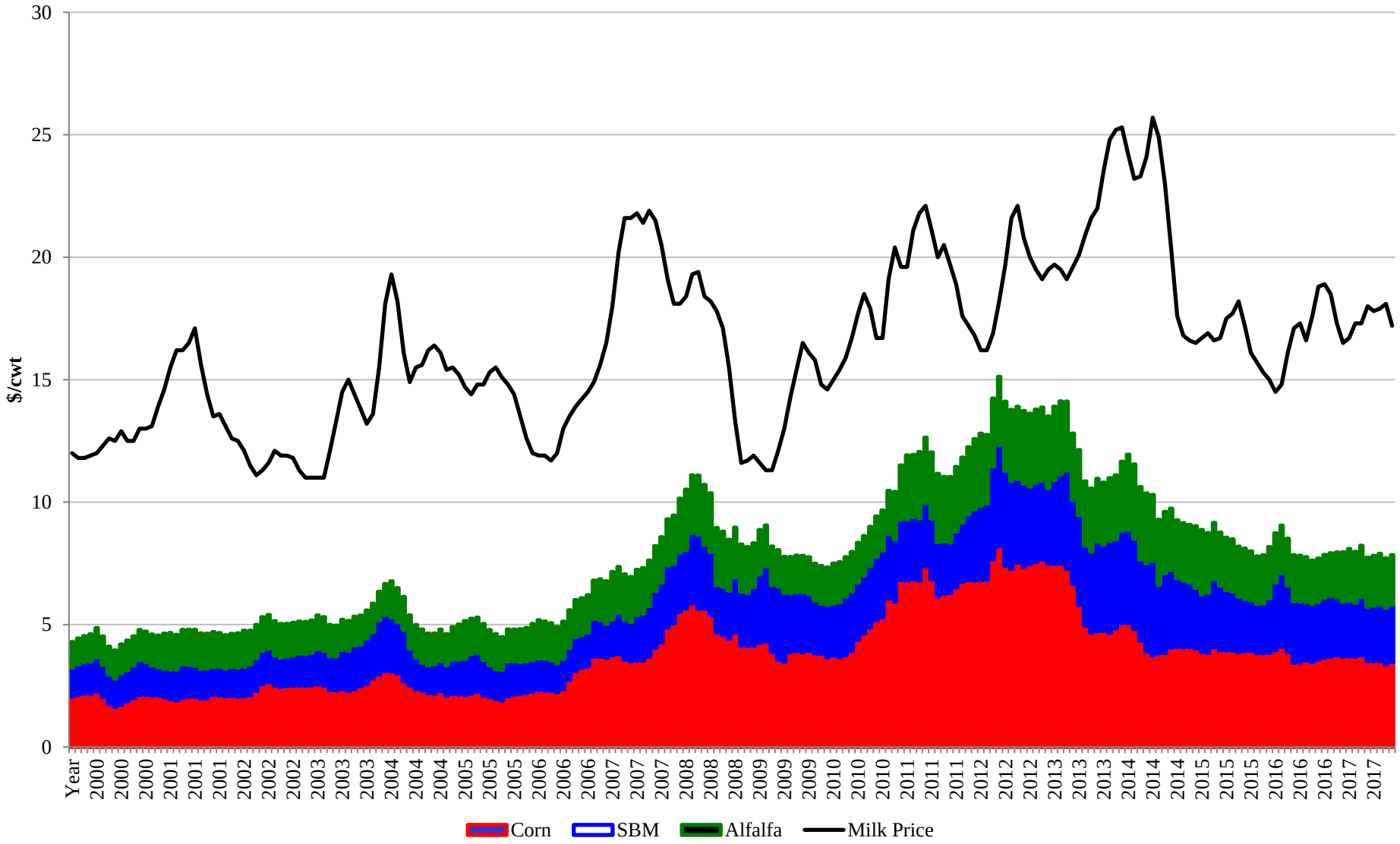
| Margin Coverage level | $/cwt (first 4 Million lbs) | $/cwt (4+ Million lbs) |
|---|---|---|
| 4.50 | 0.010 | 0.020 |
| 5.00 | 0.025 | 0.040 |
| 5.50 | 0.040 | 0.100 |
| 6.00 | 0.055 | 0.155 |
| 6.50 | 0.090 | 0.290 |
| 7.00 | 0.217 | 0.830 |
| 7.50 | 0.300 | 1.060 |
| 8.00 | 0.475 | 1.360 |

- 2014 and 2015 premiums were reduced by 25% for coverage levels $4.50 to $7.50
- $4 Margin coverage is $100 per dairy

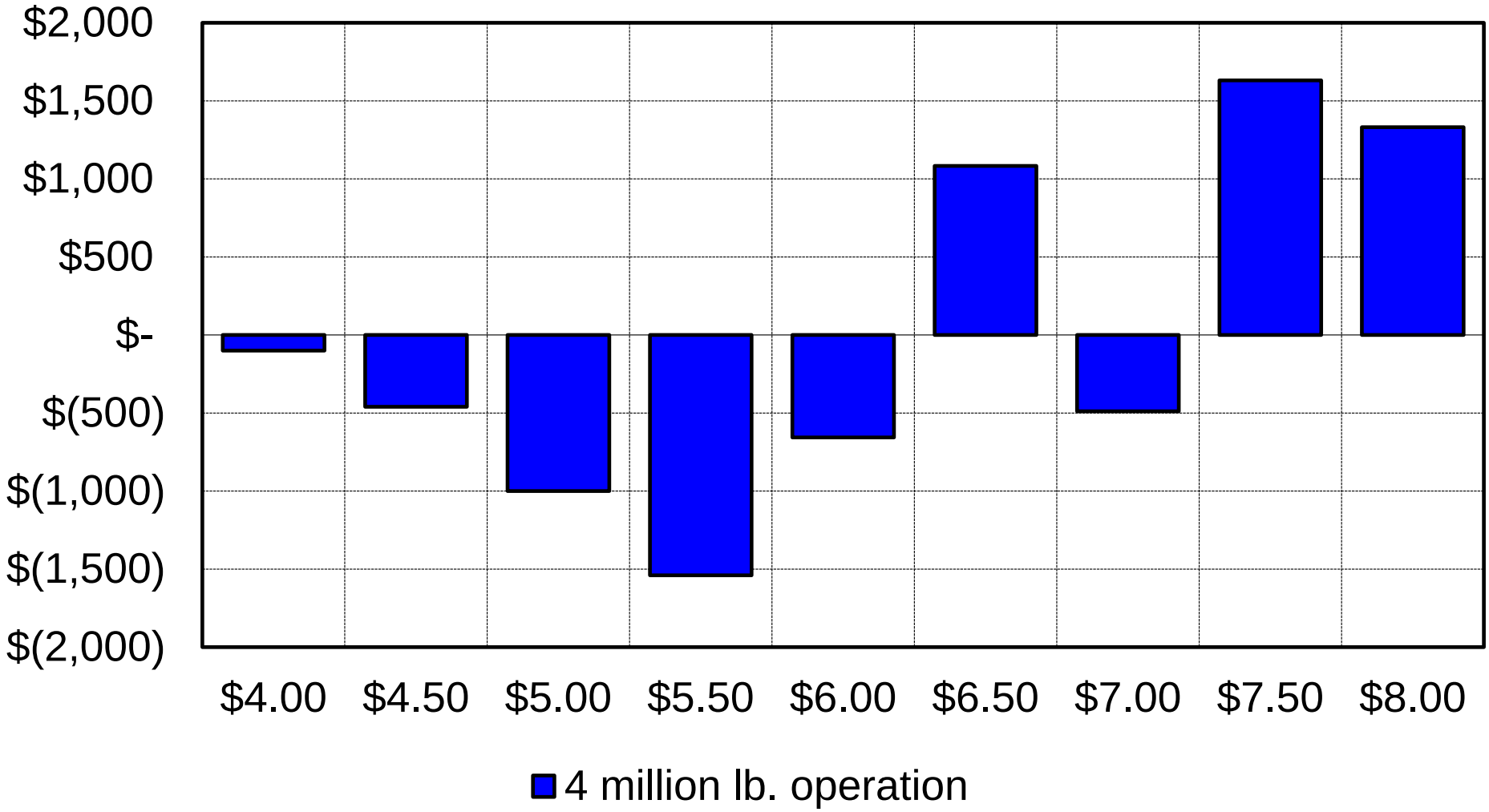
# Margin Protection Program Calculation

- Margin = US all milk price (USDA/NASS) – 1.0728 x US corn price (USDA/NASS) – 0.00735 x soybean meal price (USDA/AMS, Central IL) – 0.0137 US alfalfa price (USDA/NASS)
- If the average margin falls below the trigger for "a consecutive 2 month" period then a payment is made (Jan-Feb, Mar-Apr, May-Jun, Jul-Aug, Sep-Oct, Nov-Dec)

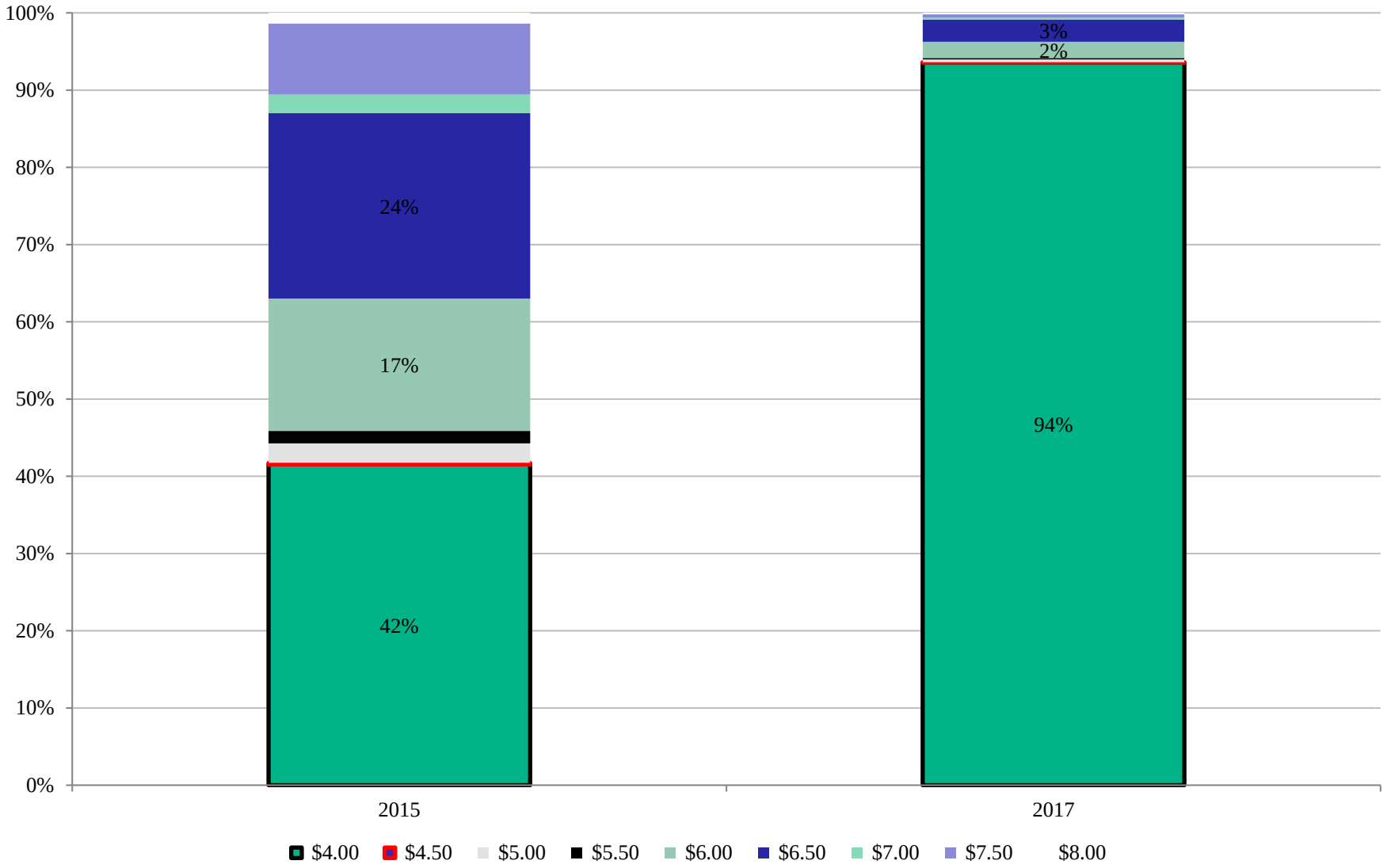
# Milk Price vs Margin Components 2000-2017



# 2016 Net MPP Revenue



# Coverage Level Purchased Across Southern States in 2015 and 2017



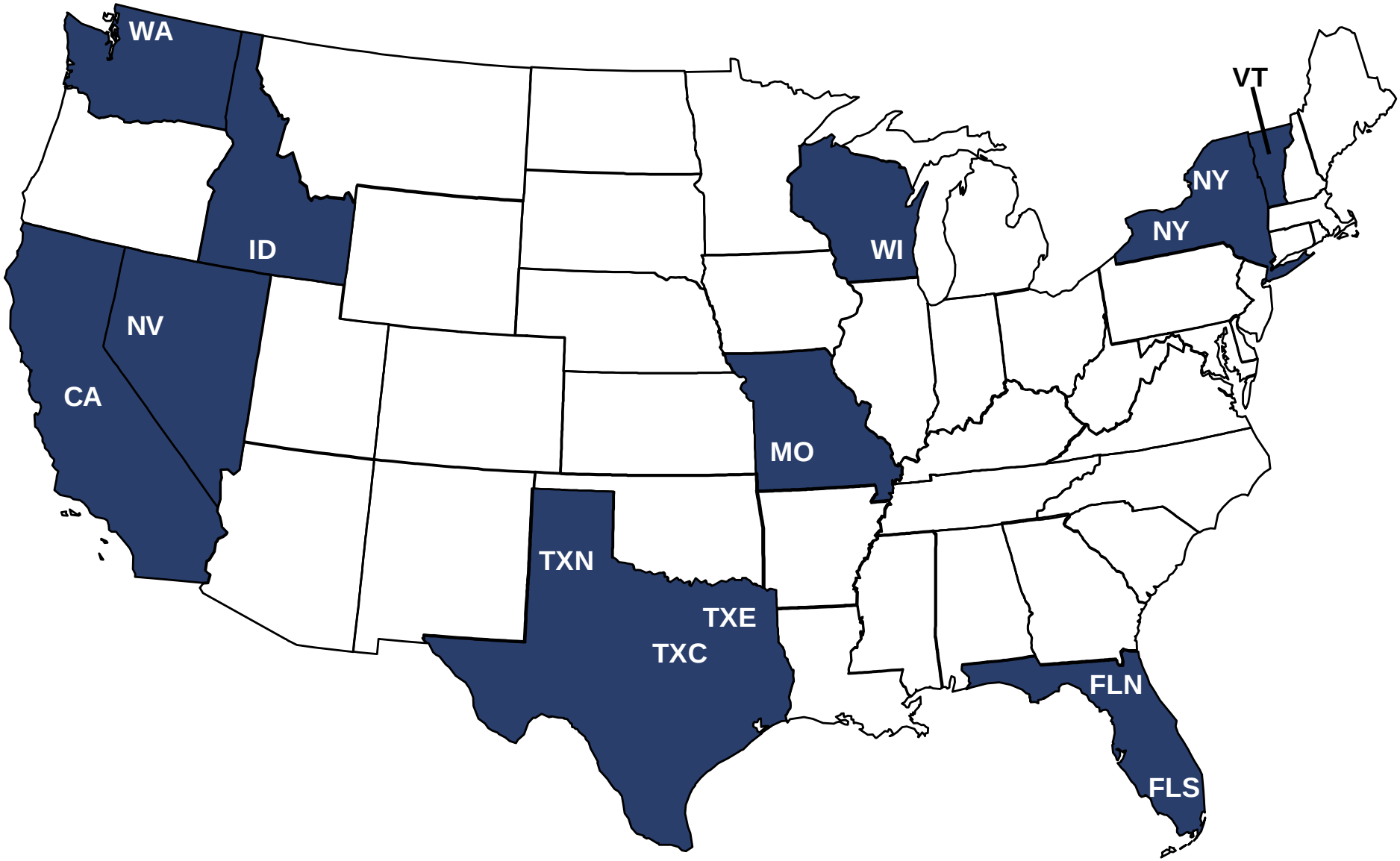
# Method

- Using AFPC Representative Dairy Farm production levels to calculate their net returns based off simulated margins

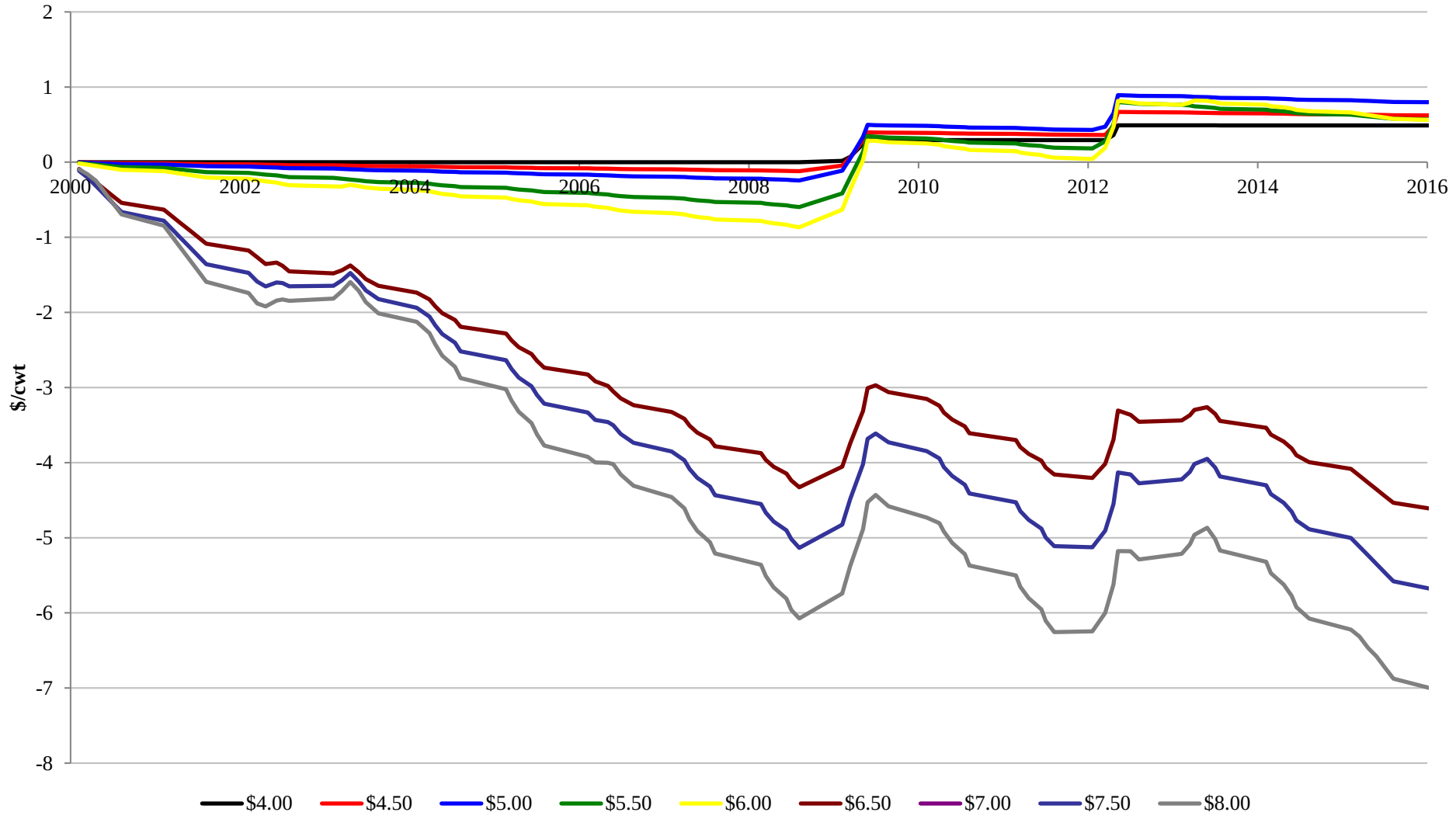
# Representative Farm Process

- 3-6 producers in region
- Similar in size and scope
- Farms updated every 2-3 years with face-to-face meetings
- In many cases, we have a moderate and large farm in the same location to show the effect of economies of size

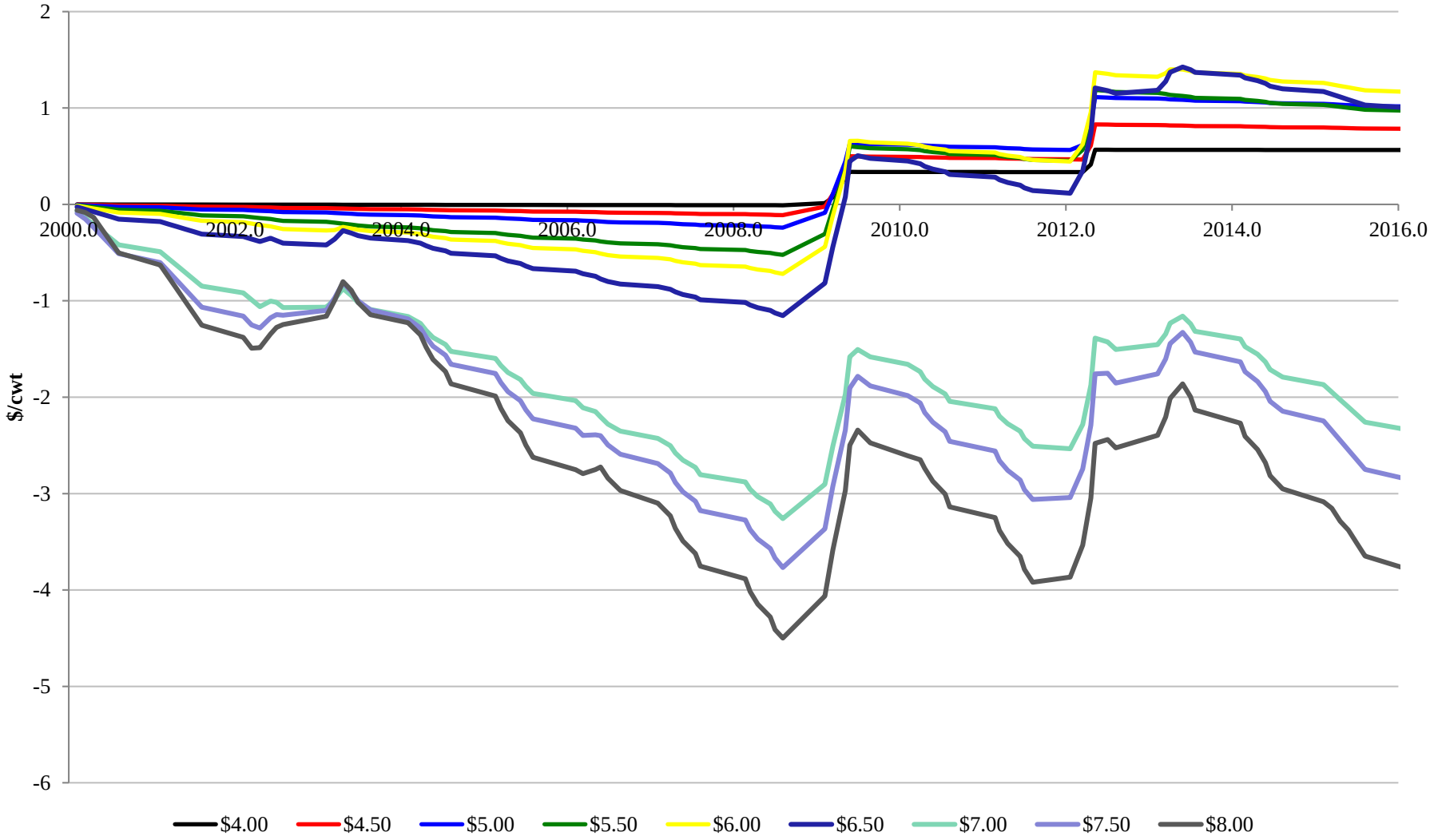
# Location of Representative Dairies



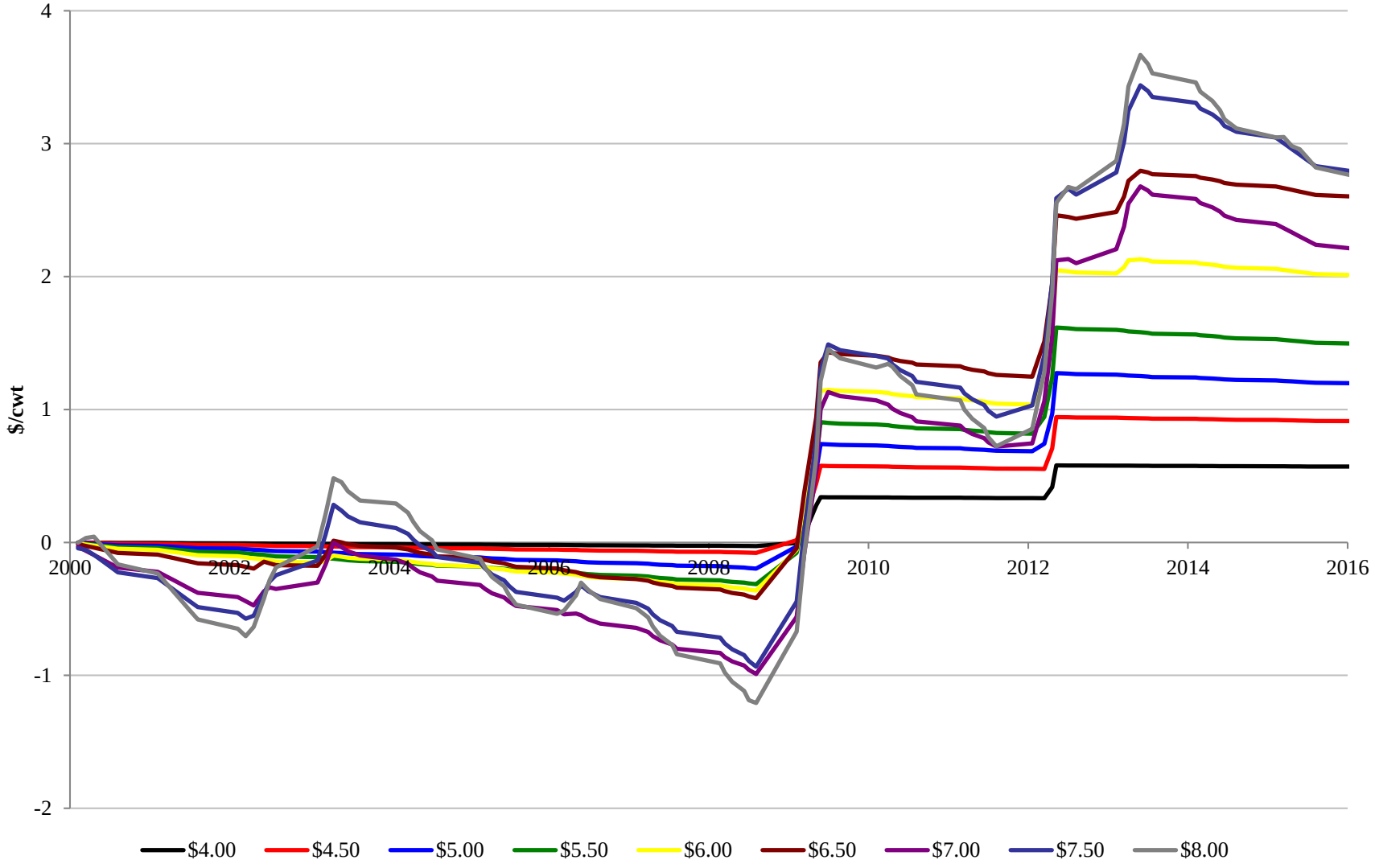
# Bi-Monthly Net Returns TXN3800



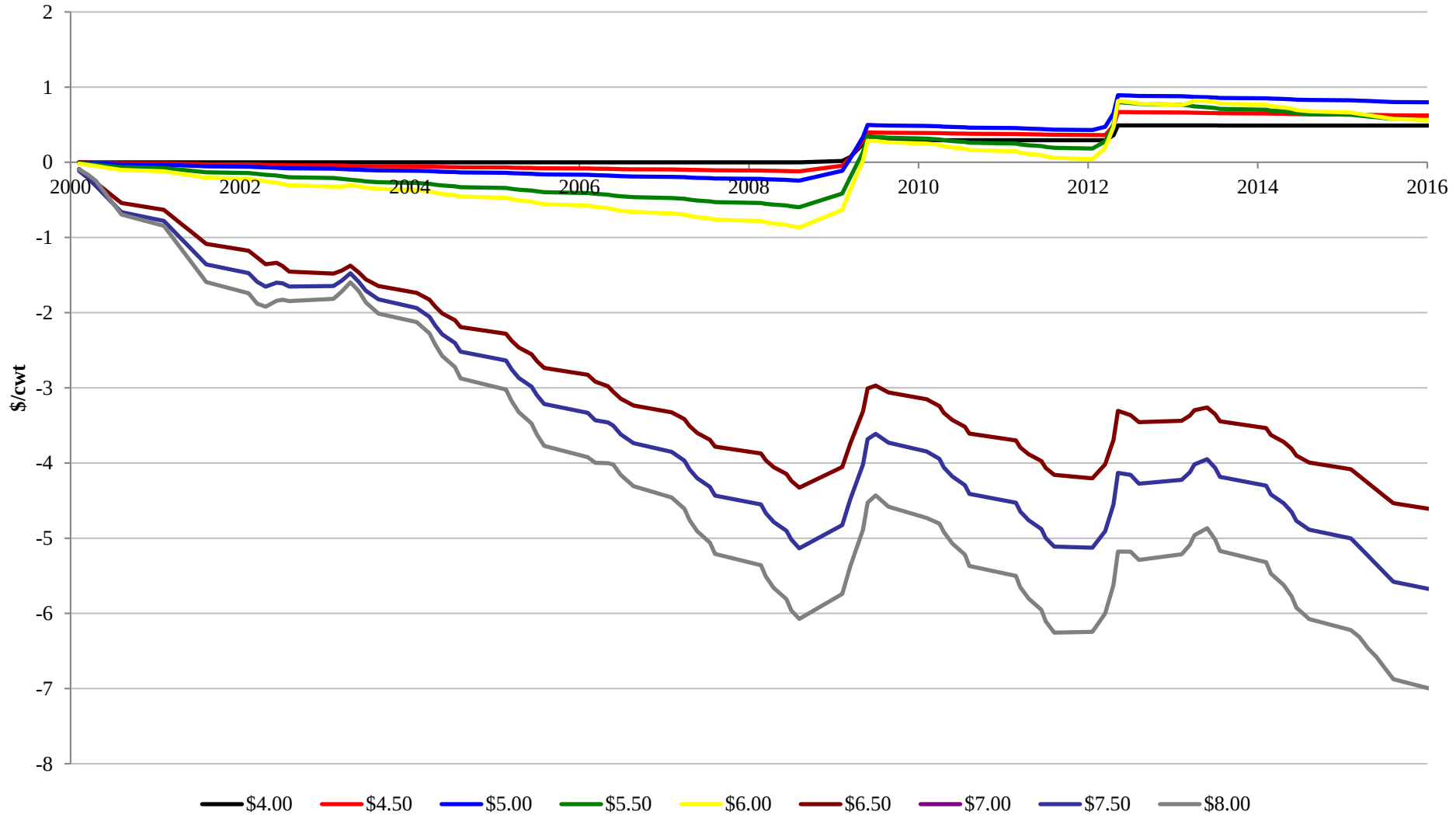
# Bi-Monthly Net Returns for FLN550



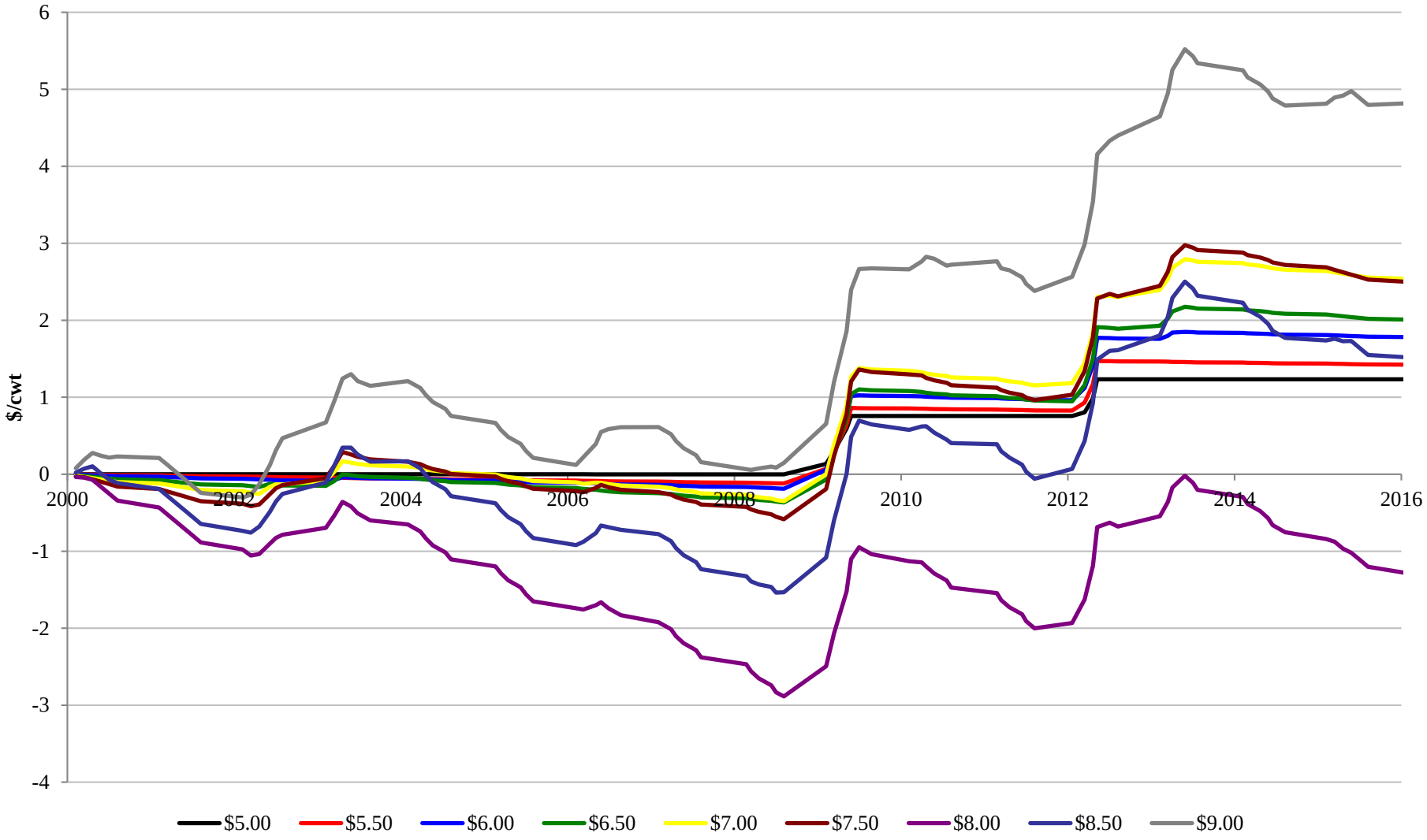
# Bi-Monthly Net Returns WI145



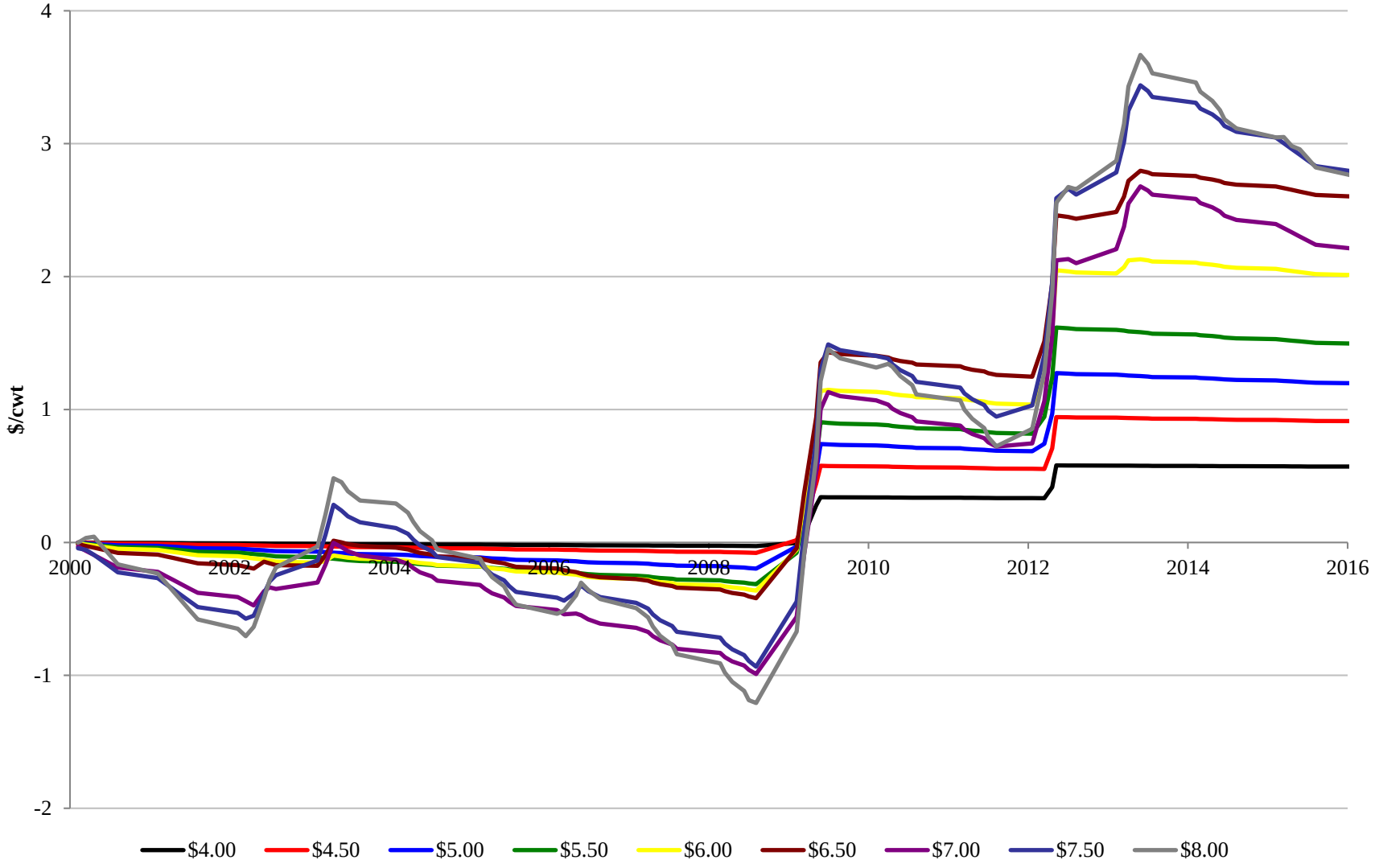
# Bi-Monthly Net Returns TXN3800 $4-8



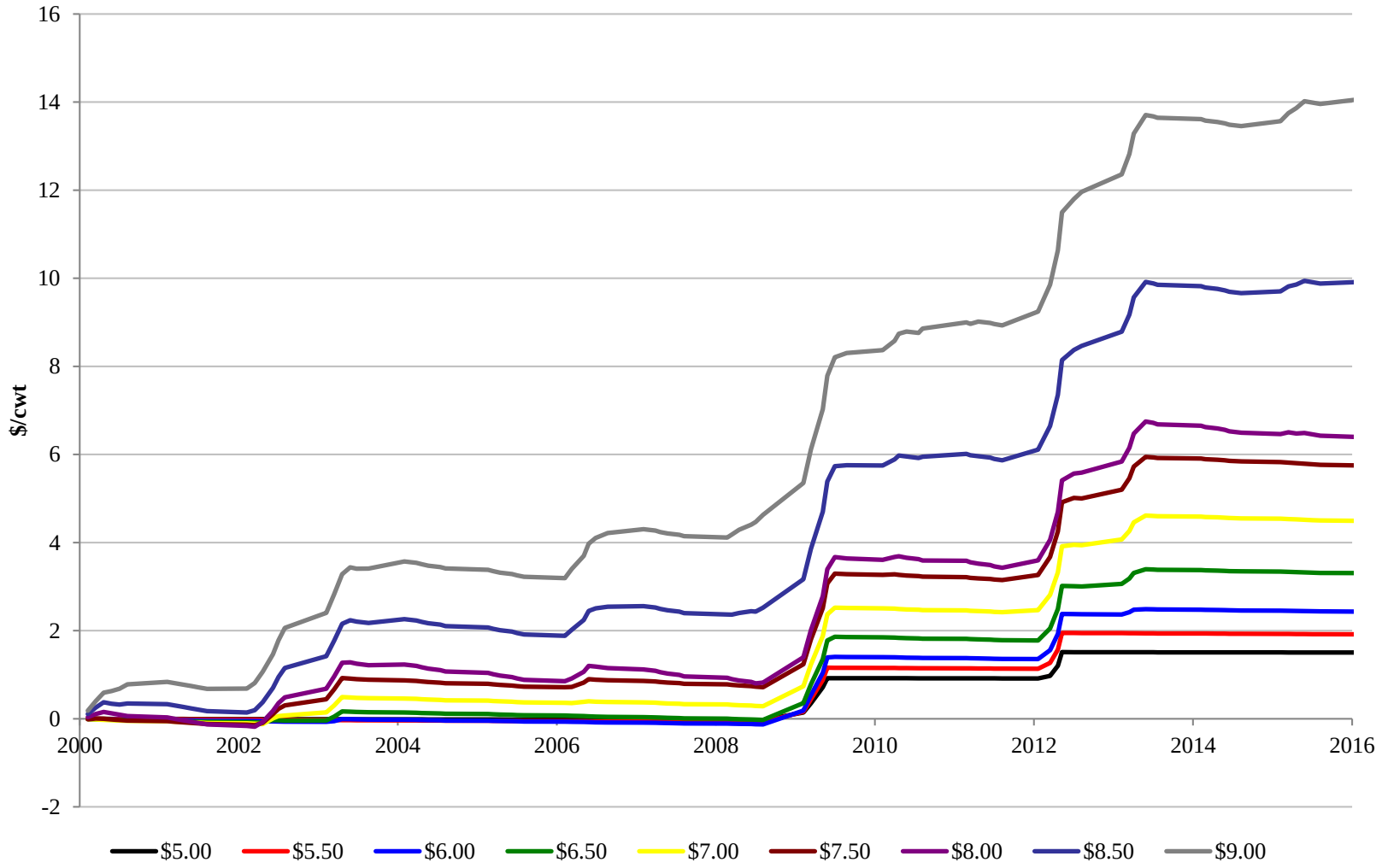
# Bi-Monthly Net Returns TXN3800 $5-9



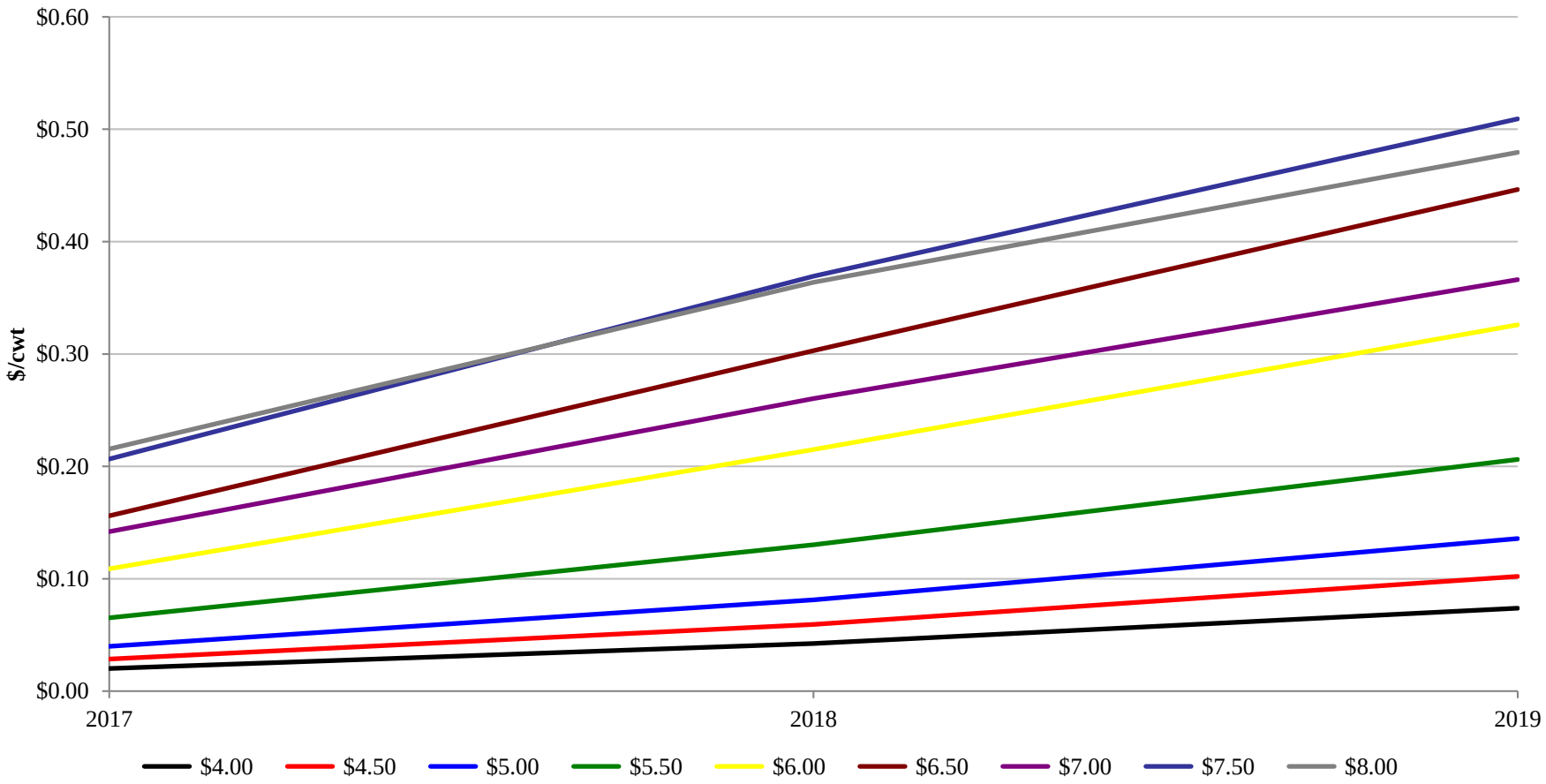
# Bi-Monthly Net Returns WI145 $4-8



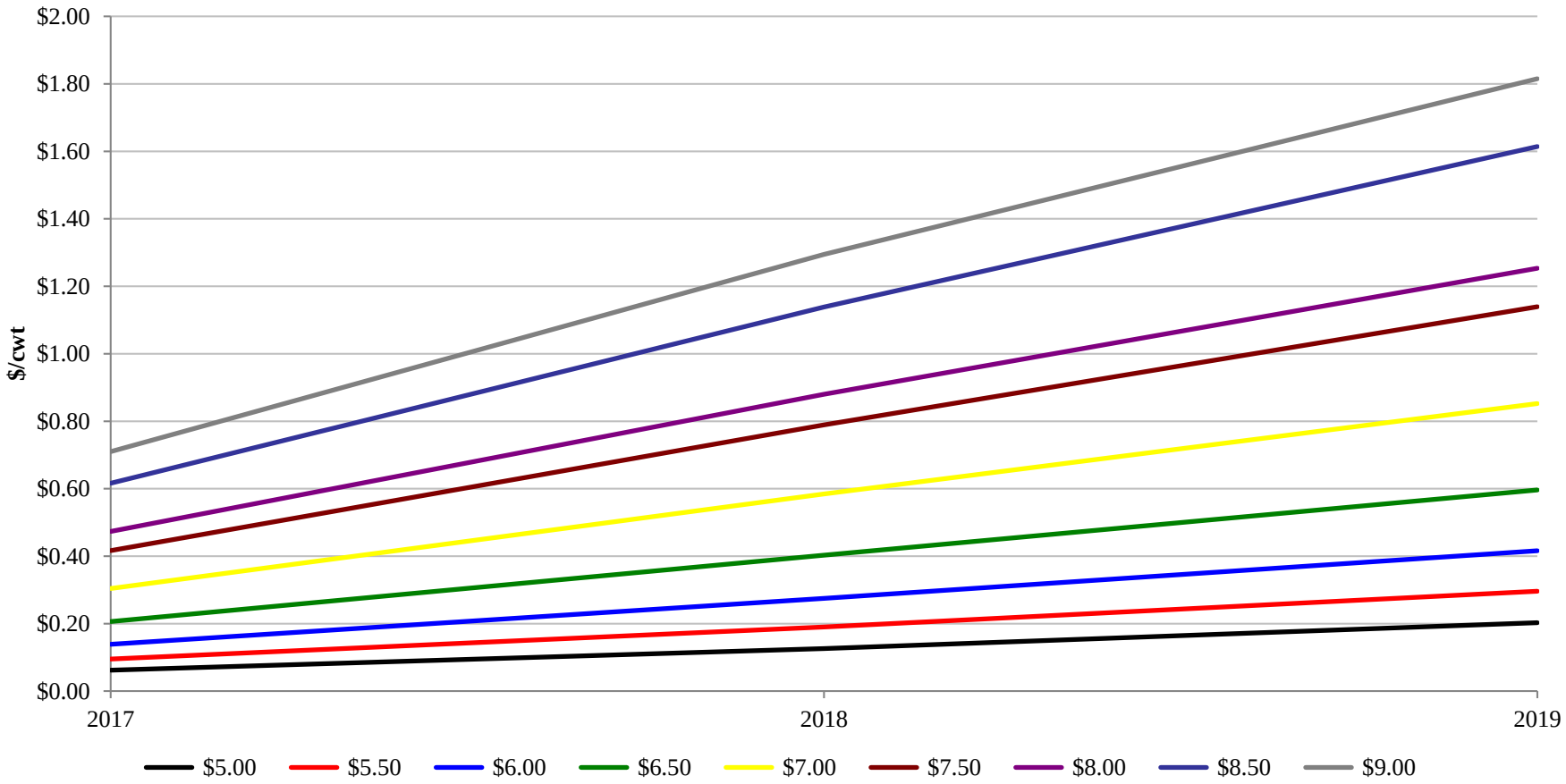
# Bi-Monthly Net Returns WI145 $5-9



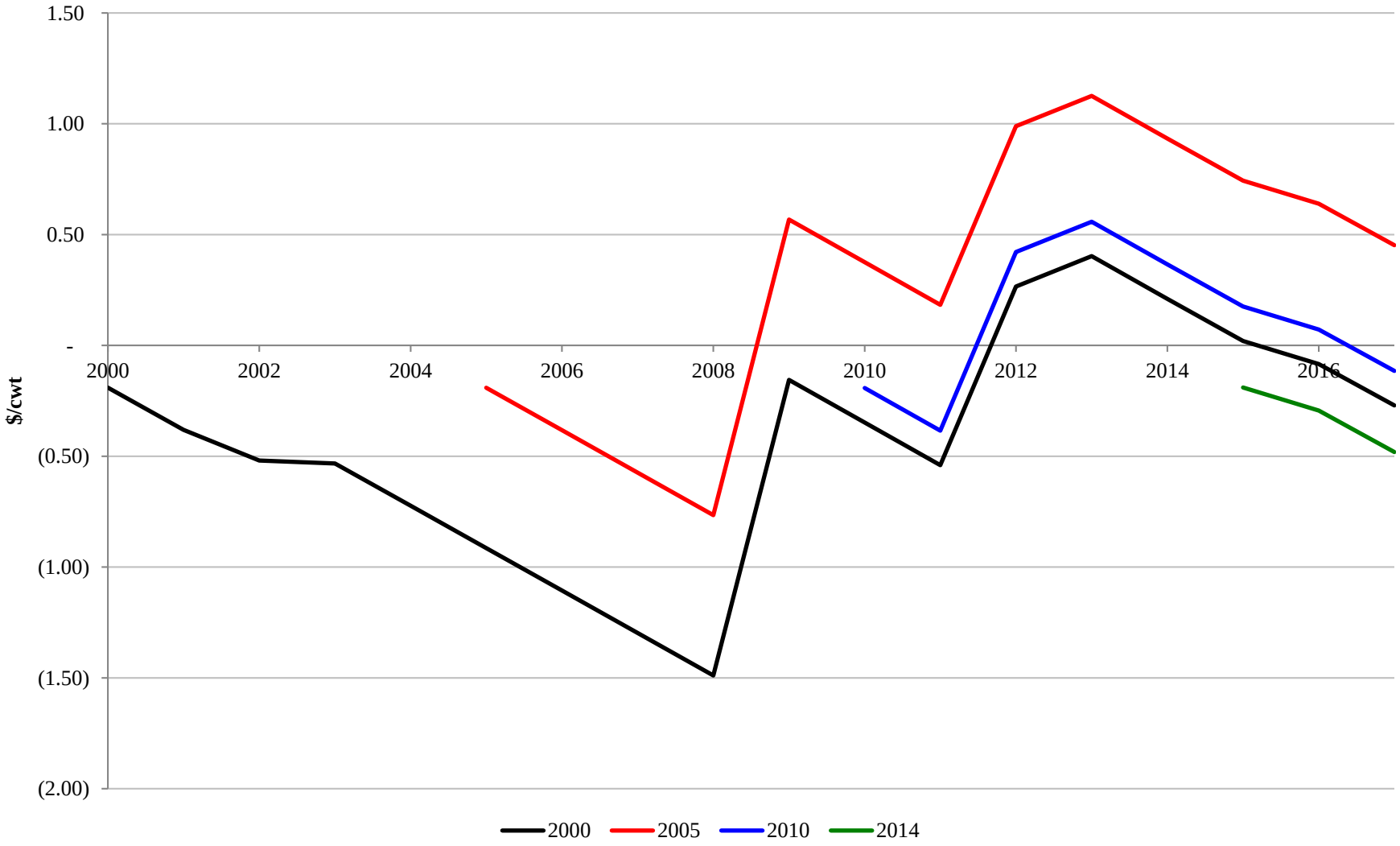
# WI145 SERF Results
# $4-8 Net Returns/cwt



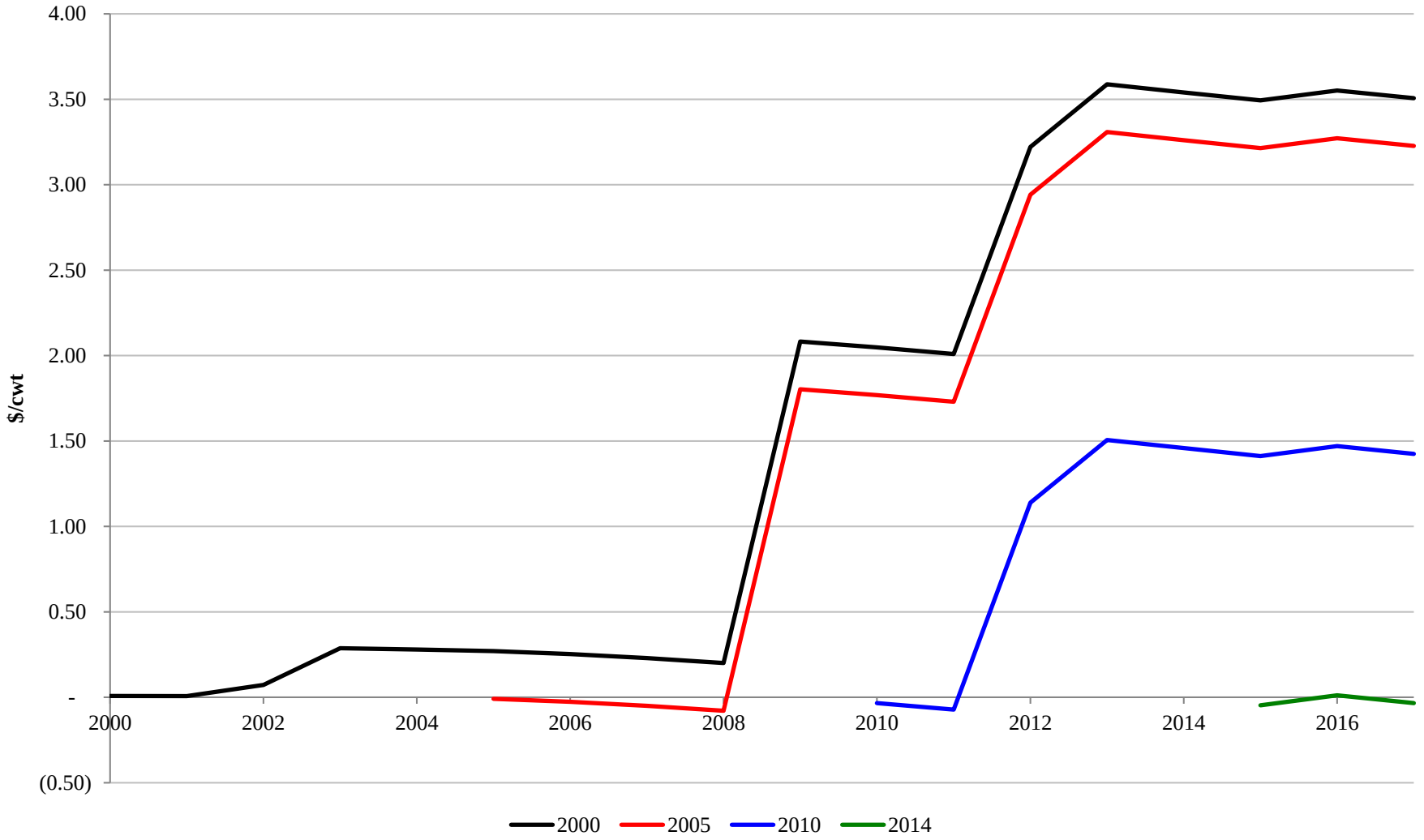
# WI145 SERF Results
# $5-9 Net Returns/cwt



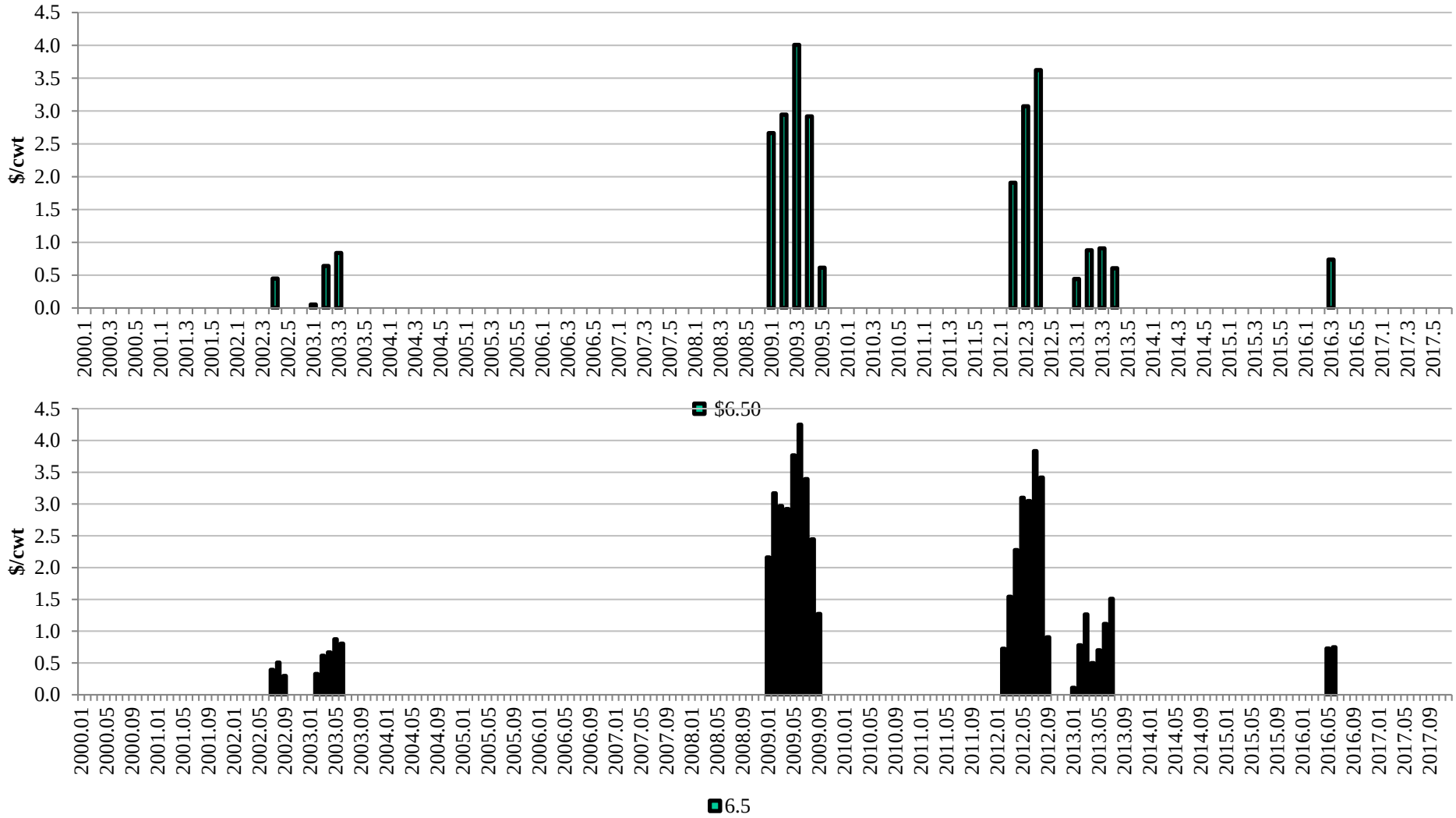
# TXN3800 Net Returns Using Different Start Years



# WI145 Net Returns Using Different Start Years



# MPP Payments at $6.50 Buy-up Bi-Monthly vs Monthly



# Payment Differences TXN 3800 Monthly vs Bi-Monthly (Sept 2014 – Dec 2016)

| | Payments | Total MPP $ | Total $/Cow | Payments | Total MPP $ | Total $/Cow | Diff $/Cow |
|---|---|---|---|---|---|---|---|
| $4.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $4.50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $5.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $5.50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $6.00 | 1 | 26,718 | 7 | 2 | 26,718 | 7 | 0 |
| $6.50 | 1 | 83,031 | 22 | 2 | 83,031 | 22 | 0 |
| $7.00 | 1 | 139,343, | 37 | 3 | 148,901 | 39 | 2.52 |
| $7.50 | 2 | 235,223 | 62 | 6 | 239,238 | 63 | 1.06 |
| $8.00 | 6 | 439,067 | 116 | 12 | 494,860 | 130 | 14.68 |
| $8.50 | 8 | 840,639 | 221 | 15 | 883,483 | 232 | 11.27 |
| $9.00 | 10 | 1,300,160 | 342 | 19 | 1,364,714 | 359 | 16.99 |

- At $6.50 protection paying $44.31/cow/year
- At $8.00 protection paying $208.35/cow/year

# Payment Differences TXN3800 Monthly vs Bi-Monthly (2000-2017)

| | Payments | Total MPP $ | Total $/Cow | Payments | Total MPP $ | Total $/Cow | Diff $/Cow |
|---|---|---|---|---|---|---|---|
| $4.00 | 6 | 476,990 | 125 | 10 | 499,244 | 131 | 5.86 |
| $4.50 | 6 | 814,865 | 214 | 13 | 830,441 | 219 | 4.10 |
| $5.00 | 7 | 1,198,837 | 315 | 15 | 1,199,359 | 316 | 0.14 |
| $5.50 | 7 | 1,593,025 | 419 | 18 | 1,658,281 | 436 | 17.17 |
| $6.00 | 14 | 2,181,779 | 574 | 29 | 2,308,408 | 607 | 33.32 |
| $6.50 | 17 | 3,076,723 | 809 | 34 | 3,216,356 | 846 | 36.75 |
| $7.00 | 23 | 4,215,278 | 1,109 | 46 | 4,318,244 | 1,136 | 27.10 |
| $7.50 | 29 | 5,665,231 | 1,490 | 63 | 5,834,641 | 1,535 | 44.58 |
| $8.00 | 42 | 7,662,261 | 2,016 | 90 | 7,927,333 | 2,086 | 69.76 |
| $8.50 | 58 | 10,513,780 | 2,766 | 110 | 10,744,656 | 2,827 | 60.76 |
| $9.00 | 64 | 13,904,798 | 3,659 | 130 | 14,156,347 | 3,725 | 66.20 |

# Summary

- The number of dairies signing up for the Margin Protection Program are decreasing and buying a lower protection levels each year
- Starting the program in September of 2014 was detrimental to its success
- Using a $5-9 range would have paid more often and the diaries likely would have continued to buy at a higher level

# Next Steps

- Future Research
  - Analyze all portions of the potential changes using whole farm simulation model on the representative dairies
  - Analyze additional alternatives to the current policy
    - Impact of 5 million pounds at the lower rate over 4 million pounds
  - Analyze the lower new price forecast expected out this spring