ANNUAL
2018
REPORT
GREENSTONE FARM CREDIT SERVICES

"Most importantly, we remain committed to you—our members—and remain optimistic about the future of American agriculture and rural communities."

David B. Armstrong
Chief Executive Officer

OUR JOURNEY TOGETHER ALL STARTS WITH YOU.

MESSAGE FROM THE CEO AND BOARD CHAIR

Reflecting on our past year of service to our members, while building goals and projections for the New Year, it is apparent the path we are on together is much more than a sprint to a finish but rather a journey together through some rocky times. Unlike some financial partners who wade in and out of the agriculture race depending on their ever-changing priorities, we remain committed to our roots and our 24,000 members. As we work with our members through this extended downturn in agricultural commodity markets, we remain impressed with the tenacity, determination and resilience our members continually express through challenging times.

Because our focus is on helping our members reach their own individual goals, we work with members on an individual basis to find the right solutions, sometimes for difficult situations. It is no secret the farm economy has made it difficult for some to turn a profit in the past several years. Our experience in farm lending, coupled with our strong financial standing, gives us the fortitude to design individual solutions for our members.

Offering the best possible service to our members starts with a well-educated staff. Based on our anticipation for a prolonged economic downturn in 2014, we enhanced specific training for our sales and credit teams in 2015 to better equip them with the tools and resources to serve our members. This training included not only tactical financial training, but also training on how to have difficult conversations while being mindful of individual circumstances. We also paired our younger team members with more seasoned professionals to provide a balanced approach to our members. Most importantly, we put even more focus on customer communication to ensure our “no surprise” rule was experienced by all members.

All members are part of a personal communication plan regarding their situations well-before any formal tactics are implemented.

Additionally, we continue to provide informational resources to our members, helping them better understand how financial metrics drive profitability.

To be honest, we cannot wave a magic wand to make all farms profitable and stable enough to weather a "storm" like this. Many times, we work with members to determine the best solution for their specific situation. Because of the proactive nature of these conversations and the willingness for members to make tough decisions, we are seeing an extremely low number of members reaching bankruptcy or foreclosure.

Like many of our members, we too have to look for ways to diversify our portfolio in order to maintain a strong financial position. In recent years, we have extended our involvement in the country living, rural home financing arena as well as participations in agribusiness financing. By strengthening our product lines in these areas, we are able to maintain a strong, balanced portfolio. This past year we realized loan growth reaching 5.62 percent on an average daily balance basis. This loan growth exceeded our business plan goal, primarily driven by new business opportunities in our Capital Market's segment.

Through our diversified product growth, continued vigilance in maintaining cost effective operations and working closely with each member to meet their needs, GreenStone remains in a very favorable financial position that we will share at an even higher percentage with our members than at any time since our patronage program inception in 2006 on March 14, Patronage Day.

This year, we will be returning approximately 45 percent of our earnings, $82 million, to our members in the form of patronage payments. The 2019 payments bring our total patronage allocations to $400 million since 2006. These payments reflect not only our commitment to our members to do what is best for each individual, but to share our successes together.

Most importantly, we remain committed to you our members and remain optimistic about the future of American agriculture and rural communities! The agriculture industry is relatively healthy compared to the depth of downturns over history and GreenStone remains well positioned to support its members. Global demand for food, fuel, and fiber will only continue to increase as the world's population grows and emerging economies mature. U.S farmers are in a good position to fill that demand given their high productivity, technology infrastructure, and access to energy supplies, transportation channels, and processing facilities. In addition, do not overlook the fact that the United States enjoys a more stable legal, regulatory, and political system than many other countries competing with us for agricultural markets.

The future will not be without its uncertainties and setbacks. However, one thing you can count on is that GreenStone and the entire Farm Credit System will remain a dependable and competitive source of credit and financial services for our agricultural industry, for rural communities, and for you - for years to come.

We want to thank you again for placing your trust in us and choosing GreenStone as your financial provider of choice. We wish you the best of success in 2019 and beyond! ■

Edward L. Reed
Chair of the Board

David B. Armstrong
Chief Executive Officer

PREPARED FOR THE FUTURE.

As the recent economic downturn continues to evolve into a new normal, we, along with many others in the industry, remain committed to the long-term viability of American agriculture. A new sense of optimism is rising among those who provide the infrastructure and processing of the raw materials produced on our member-owned farms. In the past 24 months we have seen millions of dollars invested in the processing of hogs, dairy products and timber within our territory. This level of investment indicates the optimism others have for our industry.

GreenStone, too, makes investments back to the industry through our patronage program. This year we have increased our level of patronage we are returning to members by 60 percent to $82 million. Our level of efficiencies and capital allow us to continually return a portion of our earnings to our members. While earnings are never guaranteed, the GreenStone board of directors is committed to returning a significant level of patronage to members every year.

Our continued commitment to our members reflects the optimism we have, about the future of the agriculture industry and rural communities. While we are seeing the personal struggles and tough decisions being made by our members, we are also seeing the determination and grit of individuals.

There are other forces at play in today's economy giving way to an optimistic future for our customers. Most notably the strong non-agricultural economy and low unemployment provide alternatives to on-farm income. People who have been in the agriculture industry for awhile may compare today's economic challenges to one of the worst farm crisis experienced in the 1980s. Comparably, today's farms are more prepared and in a better position to remain viable than we saw nearly 40 years ago. Some of the notable differences between the two are:

- **Better Balance Sheets:** Many farms today are in a much better financial situation thanks in part to record-high commodity prices just a few years prior to the current downturn.
- **Diversified Income Sources:** The relatively low unemployment rate provides opportunities for off-farm income by one or more of a farm's owners. Additionally, the increased level of technology

and information used on today's farms creates a tremendous need for individuals connected to agriculture in high-skilled, professional non-farm positions.

- **Stronger Farm Credit System:** We all learned a great deal during the 1980s in terms of farm financing and the importance of accurate financial information. We have access to tools and reporting mechanisms today that allow us to make data-driven recommendations supported by our personal understanding of the farm operation. These tools and market insight allowed us to begin preparing for this downturn in advance of the market decline. Internal efficiencies and sound credit decisions have positioned GreenStone well, enabling us to be flexible with our members.

While today's forecast may look different for some, we remain confident the agriculture industry in Wisconsin and Michigan will continue to lead each states' economies, driving innovation and technology that will provide a vibrant future for many. At GreenStone, we remain committed to our 24,000 members who feed the world and contribute to our rural communities. ■

Paid in Cash Patronage since 2006

SERVICE ON DEMAND.

At GreenStone, we know your time is valuable and you want to do business with us when it is convenient for you! With this in mind, we continue to enhance our online functions and services so you can access your accounts and information quickly and efficiently.

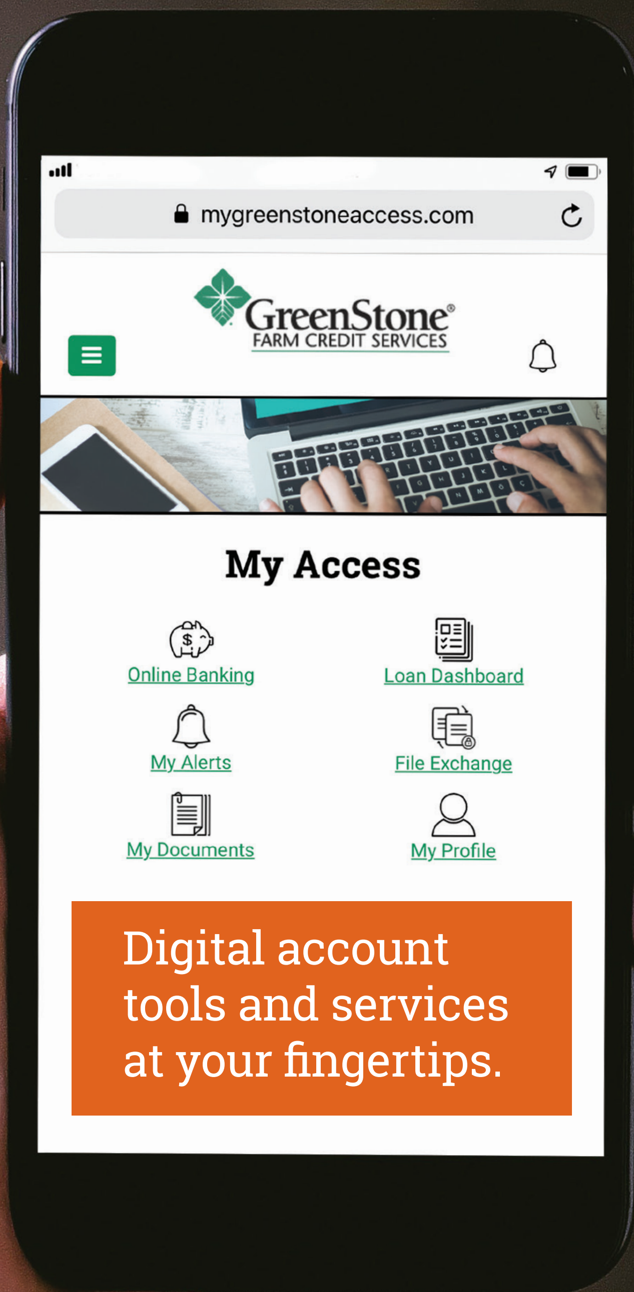
Through our secure My Access online platform, members can perform a number of activities, from their first country living loan request to managing farm finances and transferring documents. Our team of professional developers are continually updating My Access to provide the tools you need. Some of our more popular features include:

- Online banking and account management, including online banking mobile app
- Online loan request and monitoring
- Secure communication and file exchange between you and your GreenStone team
- Access to your customer documents, statements and bills
- Customized email text alerts and notification subscriptions

To take full advantage of all our online tools, we invite you to:

- Enroll in My Access
- Download our mobile online banking app to manage your loan account, and cash checks remotely into your operating loan
- Go paperless and receive your bills and statements electronically through My Access
- Enroll in eConsent to receive important notices and disclosures promptly in your email

Also, be sure to follow us online, including our Open Fields blog and resources on our website, and news and updates on Facebook and Twitter, for the latest market outlooks and current information important to GreenStone members. ■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My Profile
Digital account tools and services at your fingertips.

> "Our experience in farm lending, coupled with our strong financial standing, gives us the fortitude to design individual solutions for our members."

2018 HIGHLIGHTS–

$185.2 Million in Net Income

4.5% Total Loan Growth (owned and managed)

$9.0+ Billion in Total Assets (owned and managed)

In this challenging farm economy, it is essential that we remain financially strong in order to provide flexibility and individual solutions to our members. Being able to share our earnings with our members is a reflection of our commitment to be diligent with our resources, efficient in our operations, and focused on sharing our success with our members.

ADVANCING INNOVATION.

Today's agriculture industry relies on new technology and innovation to keep pace with the demands of creating an abundant, safe and reliable source of food. GreenStone members are at the forefront of many of the new uses of technology in production agriculture and we are proud to work with them to provide the capital needed to use technology to increase efficiencies.

From automatic milking systems on dairy farms to precision application of crop inputs and harvesting of specialty crops, our members have introduced a broad range of new tools and resources to their farming operations.

For the Wagner family, bringing a new generation on to their dairy farm also required bringing in new technology to support the next generation. For Tyler Wagner, the new generation coming to the farm, it was an automatic milking system.

"When I told Dad I wanted to bring in robots, he thought I was crazy," Tyler says. "But we did a lot of research and crunched the numbers and saw it could work."

Today, the Wagners use four Lely robots to milk their herd of 275 cows in Manitowoc, Wisconsin. The transition to robots was the next progression for Tyler

and his dad, Dale. Dale started the farm in the mid-1980s with 30 cows in a tie-stall barn. In 1997, they moved out of the tie stalls into freestall housing with a four-stall flat barn parlor. By 2014, they were facing tough decisions – continue to invest in dairy or sell the cows.

"The parlor was old and tired," Tyler said. "We needed to do something – either sell the cows and just do the crops or invest in the dairy. We couldn't see letting the barn sit empty, so we started looking into our options. Robots seemed to make the most sense because I would rather manage cows than people."

The Wagners work closely with Laurie Schetter, senior financial services officer at GreenStone's Manitowoc branch.

"When we visit with Laurie, we generally present her with three ideas and plans on how they will work," Dale says. "She will take the plans back to the office, meet with her team and then give us an idea of what each would look like. We like to plan conservatively and be surprised when things turn out better than we expected, rather than the other way around. Laurie helps us make those kinds of decisions."

Transitioning to the robots has created other opportunities on the farm and instilled a sense of optimism for the Wagners.

"We are always thinking about where the next robot can go," Tyler says. ■

12%

Gross loan volume growth for beginning farmers in 2018

SERVICES DESIGNED WITH YOU IN MIND.

In recent years, GreenStone has increased its investment in our tax and accounting division and crop insurance team to provide members the highest level of expertise and service in these two crucial areas.

In 2017 we "doubled-down" on our tax and accounting division by restructuring our team and increasing the number of individuals serving members. We also launched a new tax and accounting software service allowing members to use the software platform of their choice. For those using Intuit QuickBooks products, we are able to offer more extensive training and support for the software.

"We are working to provide our customers a one-stop shop, giving them the resources they need to more effectively manage their businesses," says Chad Zagar, GreenStone's Tax and accounting managing director. "As tax codes become more complex and evolve, and financial reporting more sophisticated, our members are turning to us more often to help them meet their accounting needs."

For dairy farmers Chuck and Sue Platte and their son, Paul and his wife, Brooke, having a GreenStone specialist help with their accounting and payroll functions gives them one less thing to worry about.

"Because I don't have the financial background, I would always worry, 'what if I missed something – what if I made a mistake?' I didn't want to make a mistake that could be costly or have penalties. With the way all the tax laws change it was even more stressful," Sue Platte says. "I like to have the experienced people do the work now and have them make sure everything is done right."

The Plattes, who have used GreenStone for financing for several years, first started working with their GreenStone tax accountant in 2015 to prepare the farm taxes. From there, they have continued to work with the team on a number of services, a partnership Paul believes is critical to their business.

"At times like this, when things are so tight, we have to have an open and transparent relationship with our lender," Paul says. "GreenStone is a big part of our business and probably the most important partner we have. Working with them on everything – the accounting, payroll, taxes and financing prevents any surprises and creates transparency I think we need to have. As we move forward and grow, we want them to have a pulse on our business to help us make informed decisions."

"We want to be a bridge for Paul to be able to take on the dairy farm," Chuck says. "This is our way of keeping the family on the farm." ■

"GreenStone is a big part of our business and probably the most important partner we have."

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Consolidated Five-Year Summary of Selected Financial Data

GREENSTONE FARM CREDIT SERVICES, ACA
(Dollars in thousands)

	2018	2017	2016	2015	2014
STATEMENT OF CONDITION DATA					
Loans	$8,619,585	$8,212,256	$7,801,558	$7,292,647	$6,721,782
Allowance for loan losses	84,064	72,640	46,382	34,290	34,106
Net loans	8,535,521	8,139,616	7,755,176	7,258,357	6,687,676
Investment in AgriBank, FCB	196,566	164,805	159,936	111,217	103,368
Investment securities	7,715	12,414	16,749	20,587	25,661
Acquired property	1,766	1,572	1,583	2,440	1,904
Other assets	177,742	164,448	145,785	134,039	127,727
Total assets	$8,919,310	$8,482,855	$8,079,229	$7,526,640	$6,946,336
Obligations with maturities of one year or less	$174,260	$131,112	$6,610,896	$6,157,517	$5,683,362
Obligations with maturities greater than one year	7,072,973	6,783,097	—	—	—
Total liabilities	7,247,233	6,914,209	6,610,896	6,157,517	5,683,362
Protected members' equity	1	1	1	2	2
Capital stock and participation certificates	22,400	22,141	21,693	21,436	21,105
Unallocated surplus	1,651,528	1,548,350	1,446,639	1,347,685	1,241,867
Accumulated other comprehensive loss	(1,852)	(1,846)	—	—	—
Total members' equity	1,672,077	1,568,646	1,468,333	1,369,123	1,262,974
Total liabilities and members' equity	$8,919,310	$8,482,855	$8,079,229	$7,526,640	$6,946,336
STATEMENT OF INCOME DATA					
Net interest income	$222,009	$209,387	$194,499	$181,169	$173,768
(Provision for) reversal of credit losses	(17,324)	(22,120)	(20,161)	(3,273)	2,689
Patronage income	45,423	41,391	23,550	23,433	27,964
Financially related services income	9,812	10,263	9,479	9,514	8,745
Fee income	14,949	14,682	15,444	13,572	12,998
Other income, net	6,181	1,232	1,377	1,021	4,035
Operating expenses	(94,741)	(94,188)	(90,452)	(85,570)	(79,524)
(Provision for) benefit from income taxes	(1,148)	(8,952)	(1,819)	1,221	(7,918)
Net income	$185,161	$151,695	$131,917	$141,087	$142,757
KEY FINANCIAL RATIOS					
For the Year					
Return on average assets	2.1%	1.8%	1.7%	2.0%	2.2%
Return on average members' equity	11.3%	9.9%	9.3%	10.7%	11.7%
Net interest income as a percentage of average earning assets	2.6%	2.6%	2.6%	2.7%	2.8%
Net charge-offs as a percentage of average loans	—	—	0.1%	—	—
At Year End					
Members' equity as a percentage of total assets	18.7%	18.5%	18.2%	18.2%	18.2%
Allowance for loan losses as a percentage of loans	1.0%	0.9%	0.6%	0.5%	0.5%
Capital ratios effective beginning January 1, 2017:					
Common equity tier 1 ratio	16.4%	16.4%	N/A	N/A	N/A
Tier 1 capital ratio	16.4%	16.4%	N/A	N/A	N/A
Total regulatory capital ratio	17.3%	17.0%	N/A	N/A	N/A
Permanent capital ratio	16.6%	16.5%	N/A	N/A	N/A
Tier 1 leverage ratio	17.6%	17.5%	N/A	N/A	N/A
Capital ratios effective prior to 2017					
Permanent capital ratio	N/A	N/A	16.1%	16.0%	16.2%
Total surplus ratio	N/A	N/A	15.8%	15.8%	15.9%
Core surplus ratio	N/A	N/A	15.8%	15.8%	15.9%
OTHER					
Patronage distribution payable to members	$82,000	$50,000	$32,979	$35,272	$36,200

The patronage distribution to members accrued for the year ended December 31, 2018, will be distributed in cash during the first quarter of 2019. The patronage distributions accrued for the years ended December 31, 2017, 2016, 2015, and 2014 were distributed in cash during the first quarter of each subsequent year. No income was distributed to members in the form of dividends, stock, or allocated surplus during these periods.

Management's Discussion and Analysis

GREENSTONE FARM CREDIT SERVICES, ACA

The following commentary reviews the consolidated financial condition and consolidated results of operations of GreenStone Farm Credit Services, ACA (the Association) and its subsidiaries, GreenStone Farm Credit Services, FLCA and GreenStone Farm Credit Services, PCA and provides additional specific information. The accompanying Consolidated Financial Statements and Notes to the Consolidated Financial Statements also contain important information about our financial condition and results of operations.

The Farm Credit System (System) is a nationwide system of cooperatively owned banks and associations established by Congress to meet the credit needs of American agriculture. As of January 1, 2019, the System consisted of three Farm Credit Banks, one Agricultural Credit Bank, and 69 customer-owned cooperative lending institutions (associations). The System serves all 50 states, Washington D.C., and Puerto Rico. This network of financial cooperatives is owned and governed by the rural customers the System serves.

AgriBank, FCB (AgriBank), a System Farm Credit Bank, and its District associations are collectively referred to as the AgriBank Farm Credit District (AgriBank District or the District). We are an association in the District.

The Farm Credit Administration (FCA) is authorized by Congress to regulate the System. The Farm Credit System Insurance Corporation (FCSIC) ensures the timely payment of principal and interest on Systemwide debt obligations and the retirement of protected borrower capital at par or stated value.

Due to the nature of our financial relationship with AgriBank, the financial condition and results of operations of AgriBank materially impact our members' investment. To request free copies of AgriBank financial reports, contact us at:

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Our Annual Report is available on our website no later than 75 days after the end of the calendar year and members are provided a copy of such report no later than 90 days after the end of the calendar year. The Quarterly Reports are available on our website no later than 40 days after the end of each calendar quarter. To request free copies of our Annual or Quarterly Reports, contact us as stated above.

Forward-Looking Information

This Annual Report includes forward-looking statements. These statements are not guarantees of future performance and involve certain risks, uncertainties, and assumptions that are difficult to predict. Words such as "anticipate", "believe", "estimate", "may", "expect", "intend", "outlook", "could", "should", "will" and similar expressions are used to identify such forward-looking statements. These statements reflect our current views with respect to future events. However, actual results may differ materially from our expectations due to a number of risks and uncertainties which may be beyond our control. These risks and uncertainties include, but are not limited to:

- Political, legal, regulatory, financial markets, international, and economic conditions and developments in the United States (U.S.) and abroad
- Economic fluctuations in the agricultural and farm-related business sectors
- Unfavorable weather, disease, and other adverse climatic or biological conditions that periodically occur and impact agricultural productivity and income
- Changes in U.S. government support of the agricultural industry and the System as a government-sponsored enterprise, as well as investor and rating agency actions relating to events involving the U.S. government, other government-sponsored enterprises, and other financial institutions
- Actions taken by the Federal Reserve System in implementing monetary policy
- Credit, interest rate, and liquidity risks inherent in our lending activities
- Changes in our assumptions for determining the allowance for loan losses, other-than-temporary impairment, and fair value measurements

Agricultural and Economic Conditions

Despite many uncertainties with trade negotiations, tariffs, and financial markets, the key macroeconomic indicators remain relatively neutral as we enter 2019. The U.S. Department of Commerce reported real Gross Domestic Product (GDP) at an annual rate of 3.4% in the third quarter of 2018. This deceleration in real GDP growth primarily reflected a downturn in exports and decelerations in non-residential fixed investment and in personal consumption expenditures. Imports increased in the third quarter after decreasing in the second quarter. These movements were partly offset by an upturn in private inventory investment.

The labor market showed some bright spots closing out 2018. Total nonfarm payroll increased by 312,000 in December and the unemployment rate was at 3.9% compared to 4.1% a year earlier. The increase in jobs came across many sectors, including health care, food services and drinking places, construction, manufacturing, and retail trade. Another important metric to consider is wages. Wage growth was reported above many analysts' expectations, with hourly earnings rising 3.2% over the past year. The improvement in the employment report and wage report bodes well for household income and spending.

Total housing starts rebounded in November increasing by 3.2%, driven by a surge in multi-family housing projects, but construction of single-family homes fell to a 1.5-year low. Single-family starts continued to fall, while multi-family starts increased 22.4%. Building permits, a leading indicator of future housing starts, were up 5.0% for the month.

The Institute of Supply Management (ISM) index softened from a year ago as December registered at 54.1%. A reading above 50% indicates that the manufacturing economy is generally expanding. While the December index marks the 28th consecutive month of growth in the manufacturing sector, it is the softest reading for factory activity in more than two years and suggests a moderation in the pace of growth.

The Federal Open Market Committee (FOMC) raised the federal funds rate to a target range of 2.25% to 2.50% in December 2018. Over the past three years, the Fed has increased rates by 2.25%, of which 1.0% occurred in 2018. Moreover, the FOMC projects two additional rate hikes in 2019, but noted that the committee will be watching the economy closely for indications that the stance of policy is appropriate to sustain the expansion with a strong labor market and inflation near 2.0%. Recent tightening of financial conditions, coupled with the volatile financial markets, may lead to a slower plan than what the FOMC's "dot plot" projection suggests.

Brent crude spot prices are estimated at about $73 average per barrel in 2018 and forecasted to average about $72 per barrel in 2019, according to the U.S. Energy Information Administration (EIA). Prices are expected

to stabilize as U.S. crude oil production continues to rise, with the EIA forecasting U.S. output at a record 12.1 million barrels per day in 2019, and as world inventories are expected to increase slightly.

On the trade front, the United States-Mexico-Canada (USMCA) trade agreement was signed in November by all three presidents at the G20 Summit in Argentina. From there, each country will need to pass the new deal in their respective legislatures to formally ratify it. Once approved, USMCA will eventually replace what was known as the North American Free Trade Agreement (NAFTA). For the dairy industry, market access gains in the form of new tariff rate quotas will be provided by Canada and they will dismantle their newly constructed Class 6 and Class 7 milk price system. While the increase in access to the Canadian dairy market is important, Canada only constitutes about 6.0% of U.S. dairy exports on a milk equivalent basis, ranking fourth overall behind the Philippines, China and Mexico. The short to mid-term gains in access to the Canadian market could eventually be offset by the natural increase in cow productivity.

Overall, U.S. economic indicators are mixed. As consumers are enjoying post-recession highs in wage growth, rising interest rates and the fading effects of the 2018 income tax cuts may temper consumption in 2019. Business investment activity may soften due to the rise in interest rates. The trade policy uncertainty and weaker global demand could also impact business confidence levels.

On a positive note, President Trump signed the 2018 Farm Bill into law in December after it passed Congress with strong bipartisan support. Passage of the 2018 Farm Bill reauthorizes and strengthens the Agriculture Risk Coverage (ARC) and Price Loss Coverage (PLC) options through 2023, improves the dairy safety net, continues standing disaster programs, and includes other improvements to U.S farm policy.

Consistent with recent years, 2018 marked another challenging year for the U.S. agricultural industry at large. The U.S. Department of Agriculture (USDA) is forecasting net cash farm income to decrease 8.4% to $93.4 billion in 2018. Net farm income, a broader measure of profits, is forecast to decrease 12.1% to $66.3 billion in 2018, after increasing 22.5% in 2017. If realized, inflation-adjusted net farm income would be 3.3% above its level in 2016, which was its lowest level since 2002.

Total farm cash receipts are expected to increase to $374.8 billion in 2018, or 0.7% above a year earlier. The increase in cash receipts is driven mostly by corn (higher prices), soybeans (larger quantities sold), and poultry and eggs (higher prices and larger quantities sold for broilers and eggs). On the other hand, milk and protein cash receipts are forecast down due to lower commodity prices, and vegetable and melon cash receipts are forecast down due to both lower quantities sold and lower prices.

Government payments are projected up nearly 18% from 2017 at $13.6 billion – the highest total since 2006 and due largely to market facilitation payments by the USDA of approximately $4.6 billion in response to the U.S. – China trade dispute. Ad hoc disaster assistance and crop insurance indemnity payments were also larger in 2018.

The increase in total cash receipts is completely offset by the increase in farm expenses. Total production expenses are forecast to increase 4.2% in 2018 to $369.1 billion, with most categories of expenses projected to increase. Fuel and oil expense is expected to increase 18.7% on top of a 5.9% increase in 2017 due to the forecast of higher diesel prices. Interest expense is expected to increase for the fifth consecutive year, rising 18.1%. This increase is the result of rising interest rates and higher forecast debt levels. Feed expense is forecast to increase 5.6%, which will be the first increase in feed expense since 2014. Wage rate increases are putting pressure on hired labor costs, which are forecast to increase in 2018 by 5.7%.

The dairy industry turned in another strained year. The All-Milk price dropped to an average of $16.15-$16.25 per hundred weight (cwt.) in 2018 compared to $17.65 in 2017. The Agricultural Marketing Service reported average mailbox milk price at $16.25 per cwt. for September of 2018. To make matters worse in Michigan, processing capacity constraints continue to place additional pressure on producers with severely challenged basis. The reported average price received in Michigan was $14.61 per cwt. for September 2018 which was $2.59 per cwt. lower than prices seen in Wisconsin. The USDA is forecasting a slight rise in All-Milk price in 2019 to $16.40-$17.20 per cwt., with higher expected dry whey prices more than offsetting lower projected cheese prices. The national price of corn, alfalfa hay, and soybean meal declined in the second half of 2018, helping dairy margins and other industries. Overall feed costs will likely be static in 2019 and any increase in feed costs will put greater pressure on milk margins.

U.S. pork production was headed toward record-high levels in the fourth quarter of 2018. Hog prices will likely reflect large supplies of hogs, with year-over-year lower prices expected through the first half of 2019. A major factor in large pork production is the recently expanded pork processing capacity in the Midwest. Hog prices are forecasted at $41-$44 per cwt. for 2019 compared to $45.86 per cwt. in 2018. Pork shipments in 2018 were lower to Mexico and to China. Both these countries have imposed retaliatory tariffs on U.S. pork products, making U.S. pork more costly than pork imported from other pork-exporting countries. However, demand has been stronger in a number of other markets. Export forecasts for 2019 increased on expectations of strong demand from a number of key importers where U.S. pork remains price competitive.

The U.S. broiler industry reported increasing rates of year-over-year growth of weekly chick placements during much of the first half of 2018, before turning negative in September. The continued year-over-year decreases of egg sets and chick placements in October and November suggest that the trend of decreased slaughter is likely to continue into early 2019. At the same time, year-over-year growth in average live weights also appears to be slowing as processors are scaling back on large-bird slaughter. The USDA is forecasting that national composite broiler price of 92–99 cents per pound in 2019 compared to an average of 97.5 cents per pound in 2018.

Wholesale whole-hen frozen turkey prices were stable throughout 2018 after a nearly two-year fall to prices last seen in 2010. While prices still remain significantly lower than previous years, prices in December were reported above their year-earlier price. This was the first time weekly wholesale prices have exceeded a year earlier price since August 2016. In 2019, the USDA expects turkey prices to average 81-88 cents per pound compared to an average of 80.2 cents per pound for 2018.

The U.S. egg industry was the silver lining in the poultry industry in 2018. Prices averaged 137.6 cents per dozen in 2018, a 36.4% increase from the average 2017 price. The industry reported a year-over-year increase in the table-egg layer inventory, and the USDA forecasts production to increase 1.7% in 2019 to 8.0 billion dozen. Prices are forecast to decline in 2019 to an average of 119–128 cents per dozen.

With net farm income down, farmers have taken on more debt to continue operating. Farm real estate debt in 2018 is expected to reach a historic high of $250.9 billion, a 5.4% increase in nominal terms. The increase in real estate mortgage loans reflects continued expected demand for cropland combined with relatively low interest rates. Another contributing factor is the use of real estate as collateral to secure non-real estate borrowings. Farm non-real estate debt, which includes short-term production and intermediate-term loans for machinery and equipment, is expected to decline 1.9% for 2018.

In spite of the lower farm income outlook, farm wealth is projected to increase 1.4% from 2017 to $3.0 trillion. Farm asset values reflect farm investors' expectations about long-term profitability of farm sector investments. Farmland values are projected to increase 1.9% in 2018. Because they comprise such a significant portion of the U.S. farm sector's asset base, change in farmland values is a critical barometer of the farm sector's financial performance. On a regional front, USDA reported decreased Michigan cropland real estate values to average $4,350 per acre for 2018, down 2.2% from 2017. The average Wisconsin cropland real estate value decreased to $5,150 per acre, down 1.0% from 2017.

Overall, the outlook for lower net farm income and relatively weak prices for most major agricultural commodities signals the likelihood of a continuation of relatively lean financial times. All things equal, the agriculture industry will remain dependent on continued growth in domestic and foreign demand to sustain prices at current modest levels. In addition to commodity prices, the financial picture for the agricultural sector in 2019 will hinge on both domestic and international macro-economic factors, including interest rates, economic growth, and favorable trade negotiations. Many of our customers are facing another financially challenging year. We anticipate a more difficult loan underwriting and servicing environment in 2019. As such, we continue to focus our staff on a proactive communication process to facilitate the decision making process with our customers.

Loan Portfolio

LOAN PORTFOLIO

Total loans were $8.6 billion at December 31, 2018, an increase of $407.3 million from December 31, 2017.

Components of Loans
(in thousands)

As of December 31	2018	2017	2016
Accrual loans:			
Real estate mortgage	$5,212,450	$4,890,254	$4,590,963
Production and intermediate term	2,004,278	2,079,463	2,017,184
Agribusiness	895,747	851,382	842,667
Other	409,226	345,153	304,222
Nonaccrual loans	97,884	46,004	46,522
Total loans	$8,619,585	$8,212,256	$7,801,558

The other category is primarily comprised of rural residential real estate and rural infrastructure related loans as well as loans originated under the mission related investment authority.

As part of the AgriBank Asset Pool program (managed loans), we have sold participation interests in real estate loans to AgriBank. Our total participation interests in this program were $152.4 million, $179.6 million, and $212.9 million at December 31, 2018, 2017, and 2016, respectively.

On December 1, 2018, we sold to AgriBank our participation interest in production and intermediate-term loans associated with the ProPartners Financial (ProPartners) alliance totaling $189.0 million. At which time, we invested capital of $24.0 million in the ProPartners pool to retain a relatively equal ownership interest of 15.7%. We had $154.2 million and $156.9 million of ProPartners loan volume at December 31, 2017 and 2016, respectively.

Our growth in owned and managed loans for 2018 was 4.5%. The level of growth was reduced by ProPartners Financial loans sold and is slightly lower than the 4.7% growth rate experienced in 2017. Growth in all of our market segments was positively impacted by continued historically low interest rates in both 2018 and 2017. Owned and managed mortgage volume increased 4.6% over December 2017. The year-end commercial loan volume increased by 4.2% when compared to December 2017. We experienced loan growth in all market segments as our three major segments each showed positive growth. Our Traditional Farm segment, including our large commercial loans, grew 3.0% in 2018 compared to 5.6% in 2017. Our Capital Markets segment experienced an 18.9% growth rate in 2018 compared to a 2.7% growth rate in 2017. Our Country Living segment growth rate was 5.7% in 2018 compared to 6.0% in 2017. This growth is partially reflective of the improving economic conditions in our marketplace where more lenders are expanding their lending.

The outlook for overall portfolio growth for 2019 will have similar challenges to our experience in 2018. Increased competitive pressure is expected to create challenges to our growth in the Capital Markets segment. New entrants into the agricultural lending market will continue to put pressure on our growth level and returns in this segment. We expect low to moderate demand for expansion capital in dairy and some animal protein sectors during 2019. The level of this demand will depend on the expected profit margins in these segments, which look challenged today due to lower market prices. We are also seeing a slight decline in land values in our regions. Combined with low cash crop prices, growth in our Traditional Farm segment, including our large commercial loans, will also be challenged. The general non-farm economy that has been in place in our territory for the last several years continues to improve. This should provide further opportunities in the Country Living segment, which is experiencing high levels of competition with regard to pricing and new competitors continuing to reach the rural segment. Overall, we expect all market segment to show positive growth in 2019, with the Capital Market segments providing the highest growth rate. However, we also expect to see continuing loan pricing pressure within all market segments.

We offer variable, fixed, capped, indexed, and adjustable interest rate loan programs and fixed interest rate lease programs to our borrowers. We determine interest margins charged on each lending program based on cost of funds, market conditions, and the need to generate sufficient earnings.

PORTFOLIO DISTRIBUTION

We are chartered to operate throughout Michigan and in certain counties in Wisconsin. Our portfolio volume is fairly evenly distributed among the territory with no material concentrations in any one county. This is evidenced by there being no individual county representing greater than 5.0% of our total loan volume at December 31, 2018.

Agricultural Concentrations

As of December 31	2018	2017	2016
Dairy	24.5%	24.6%	24.2%
Cash crops	20.4	20.9	21.3
Country home living	16.7	16.9	16.5
Agribusiness	4.9	4.5	4.5
Timber	4.5	4.3	4.5
Fruit	3.3	3.2	3.0
Livestock	3.0	2.9	2.8
Hogs	2.7	3.1	3.3
Poultry	2.6	2.7	2.4
Potatoes	1.8	1.9	1.9
Vegetables	1.8	1.5	1.6
Sugar beets	1.7	1.7	1.7
Landlords	1.7	1.8	1.4
Grain and field beans	1.4	1.1	0.7
Greenhouse and nursery	1.3	1.6	1.8
Broilers	0.9	1.0	1.1
Government guarantee	0.3	0.3	0.4
Food products and distribution	—	—	0.3
Other	6.5	6.0	6.6
Total	100.0%	100.0%	100.0%

Commodities are based on the borrower's primary intended commodity at the time of loan origination and may change due to borrower business decisions as a result of changes in weather, prices, input costs, and other circumstances.

Our level of portfolio diversification has not changed materially over the last year and continues to be one of our portfolio strengths. Due mainly to our diversity in commodities and the varied operating cycles that those commodities experience, our commercial volume levels do not show significant levels of seasonality.

PORTFOLIO CREDIT QUALITY

The credit quality of our loan portfolio decreased throughout 2018. Adversely classified owned assets increased from 3.3% of the portfolio at December 31, 2017, to 3.5% of the portfolio at December 31, 2018. Adversely classified assets are assets that we identified as showing some credit weakness outside normal credit standards. The credit quality of our core market of traditional production farm loans remained at satisfactory levels. Weaker borrowers in our dairy and cash crop portfolios continued to be challenged financially during 2018. We have considered portfolio credit quality in assessing the reasonableness of our allowance for loan losses.

The resulting level of credit quality, when combined with our earnings and addition to capital surplus, resulted in an adverse asset to risk funds ratio of 19.5% at December 31, 2018. This ratio has increased 0.9% since December 31, 2017, but remains below our goal of maintaining this ratio at or below 25.0%. This ratio is a good measure of our risk-bearing ability.

In certain circumstances, Federal Agricultural Mortgage Corporation (Farmer Mac) and government agency guarantee programs are used to reduce the risk of loss. At December 31, 2018, $308.4 million of our loans were, to some level, guaranteed under these programs. The guaranteed loan volume increased from $291.6 million at December 31, 2017.

RISK ASSETS

Components of Risk Assets
(dollars in thousands)

As of December 31	2018	2017	2016
Loans:			
Nonaccrual	$97,884	$46,004	$46,522
Accruing restructured	3,331	3,566	3,374
Accruing loans 90 days or more past due	79	262	65
Total risk loans	101,294	49,832	49,961
Acquired property	1,766	1,572	1,583
Total risk assets	$103,060	$51,404	$51,544
Total risk loans as a percentage of total loans	1.2%	0.6%	0.6%
Nonaccrual loans as a percentage of total loans	1.1%	0.6%	0.6%
Current nonaccrual loans as a percentage of total nonaccrual loans	91.2%	83.6%	76.5%
Total delinquencies as a percentage of total loans	0.3%	0.3%	0.4%

Note: Accruing loans include accrued interest receivable.

Our risk assets remained at acceptable levels during 2018. Total risk loans as a percentage of total loans remains well within our established risk management guidelines.

The $51.9 million increase in nonaccrual volume from December 31, 2017, was primarily due to four large commercial dairy relationships and one large capital markets relationship that were downgraded during 2018, which increased nonaccrual volume by $52.1 million and $11.3 million, respectively. This was partially offset by a large nonaccrual dairy relationship that was sold in March of 2018, which decreased nonaccrual volume by $10.2 million. As of December 31, 2018, 63.6% of the nonaccrual loan portfolio was comprised of dairy loans and 11.4% was comprised of food processing cooperative loans. Nonaccrual loans remained at an acceptable level at December 31, 2018, 2017, and 2016.

Accruing restructured loans decreased slightly during 2018 from $3.6 million as of December 31, 2017, to $3.3 million as of December 31, 2018. At December 31, 2018, 93.7% of our accruing restructured loans were current in their payment status.

Our accounting policy requires accruing loans past due 90 days to be transferred into nonaccrual status unless adequately secured and in the process of collections. Based on our analysis, all loans 90 days or more past due and still accruing interest were eligible to remain in accruing status.

Acquired property inventory increased $194 thousand from December 31, 2017, and was $1.8 million at December 31, 2018. In 2018, there were $1.8 million of properties sold and $156 thousand of charge-offs, which were offset by $2.2 million of loans transferred in.

ALLOWANCE FOR LOAN LOSSES

The allowance for loan losses is an estimate of losses on loans inherent in our portfolio as of the financial statement date. We determine the appropriate level of allowance for loan losses based on the periodic evaluation of factors such as loan loss history, estimated probability of default, estimated loss severity, portfolio quality, and current economic and environmental conditions.

Allowance Coverage Ratios

As of December 31	2018	2017	2016
Allowance as a percentage of:			
Loans	1.0%	0.9%	0.6%
Nonaccrual loans	85.9%	157.9%	99.7%
Total risk loans	83.0%	145.8%	92.8%
Net charge-offs as a percentage of average loans	—	—	0.1%
Adverse assets to risk funds	19.5%	18.6%	10.8%

Note: Risk funds includes permanent capital and allowance for loan losses.

The allowance for loan losses increased $11.4 million from December 31, 2017 to December 31, 2018 to a total of $84.1 million. This was mostly due to a provision for loan losses of $13.7 million recorded in 2018. Included in our allowance is additional general industry reserves for our dairy and cash grain portfolios due to low commodity prices in the near future, primarily the milk price. The additional general industry reserve for the dairy portfolio increased $132 thousand from December 31, 2017 to December 31, 2018 to a total of $31.5 million. The additional general industry reserve for the cash crop portfolio increased $2.4 million from December 31, 2017 to a total of $9.5 million. In our opinion, the allowance for loan losses was reasonable in relation to the risk in our loan portfolio at December 31, 2018.

Additional loan information is included in Notes 3, 11, 12, and 13 to the accompanying Consolidated Financial Statements.

Investment Securities

In addition to loans, we held investment securities. Investment securities totaled $7.7 million, $12.4 million, and $16.7 million at December 31, 2018, 2017, and 2016, respectively. Our investment securities consisted of securities backed by pools of loans guaranteed by the Small Business Administration. The securities have been classified as held-to-maturity.

The investment portfolio is evaluated for other-than-temporary impairment. For the years ended December 31, 2018, 2017, and 2016, we have not recognized any impairment on our investment portfolio.

Additional investment securities information is included in Note 5 to the accompanying Consolidated Financial Statements.

Results of Operations

Profitability Information

(dollars in thousands)

For the year ended December 31	2018	2017	2016
Net income	$185,161	$151,695	$131,917
Return on average assets	2.1%	1.8%	1.7%
Return on average members' equity	11.3%	9.9%	9.3%

Changes in the chart above relate directly to:

- Changes in income discussed below
- Changes in assets discussed in the Loan Portfolio and Investment Securities sections
- Changes in capital discussed in the Capital Adequacy section

Changes in Significant Components of Net Income

(in thousands)

For the year ended December 31	2018	2017	2016
Net interest income	$222,009	$209,387	$194,499
Provision for credit losses	(17,324)	(22,120)	(20,161)
Patronage income	45,423	41,391	23,550
Financially related services income	9,812	10,263	9,479
Fee income	14,949	14,682	15,444
Allocated insurance reserve accounts distribution	4,779	—	—
Acquired property income, net	692	276	161
Miscellaneous income, net	710	956	1,216
Operating expenses	(94,741)	(94,188)	(90,452)
Provision for income taxes	(1,148)	(8,952)	(1,819)
Net income	$185,161	$151,695	$131,917

Changes in Significant Components of Net Income

(in thousands)

Increase (decrease) in net income	2018 vs 2017	2017 vs. 2016
Net interest income	$12,622	$14,888
Provision for credit losses	4,796	(1,959)
Patronage income	4,032	17,841
Financially related services income	(451)	784
Fee income	267	(762)
Allocated insurance reserve accounts distribution	4,779	—
Acquired property income, net	416	115
Miscellaneous income, net	(246)	(260)
Operating expenses	(553)	(3,736)
Provision for income taxes	7,804	(7,133)
Net income	$33,466	$19,778

NET INTEREST INCOME

Changes in Net Interest Income

(in thousands)

	2018 vs. 2017	2017 vs. 2016
Changes in volume	$12,977	$12,315
Changes in interest rates	2,184	(468)
Changes in nonaccrual income and other	(2,539)	3,041
Net change	$12,622	$14,888

Net interest income included income on nonaccrual loans that totaled $1.6 million, $4.1 million, and $1.0 million in 2018, 2017, and 2016, respectively. Nonaccrual income is recognized when received in cash, collection of the recorded investment is fully expected, and prior charge-offs have been recovered.

Net interest margin (net interest income as a percentage of average earning assets) was 2.6% in 2018, 2017, and 2016. We expect margins to remain fairly consistent in the future if interest rates rise but competition remains strong.

PROVISION FOR CREDIT LOSSES

During 2018, a provision for loan losses of $13.7 million was recorded. In addition, a $3.6 million provision for credit losses was recorded on unfunded loan commitments. This resulted in a total provision of $17.3 million for 2018, which was primarily due to added risk in our dairy portfolio.

Additional discussion is included in Note 3 to the accompanying Consolidated Financial Statements.

PATRONAGE INCOME

We may receive patronage from AgriBank and other Farm Credit Institutions. Patronage distributions from AgriBank and other Farm Credit Institutions are declared solely at the discretion of each institution's Board of Directors.

Patronage Income

(in thousands)

For the year ended December 31	2018	2017	2016
Wholesale patronage	$37,514	$34,210	$15,790
Pool program patronage	5,193	4,849	5,342
AgDirect partnership distribution	2,634	2,253	2,349
Other Farm Credit Institutions	82	79	69
Total patronage income	$45,423	$41,391	$23,550

Wholesale patronage income is based on the average balance of our note payable to AgriBank. The patronage rates were 54.1 basis points, 52.1 basis points, and 25.6 basis points in 2018, 2017, and 2016, respectively. The increase in the patronage rate in 2017 was primarily due to a change in AgriBank's capital plan effective July 1, 2017. The capital plan was modified to pay out 100% of net earnings beginning in 2017. Previously, 50% of net earnings was paid. See the Relationship with AgriBank section for further discussion on patronage income.

We have participated in pool programs in which we sell participation interests in certain loans to AgriBank. As part of these programs, we received patronage income in an amount that approximated the net earnings of the loans. Net earnings represents the net interest income associated with these loans adjusted for certain fees and costs specific to the related loans as well as adjustments deemed appropriate by AgriBank related to the credit performance of the loans, as applicable. The patronage recorded in 2018 included $141 thousand of our share of distributions from the Allocated Insurance Reserve Accounts (AIRA) related to the participations sold to AgriBank.

We also received a partnership distribution resulting from our participation in the AgDirect trade credit financing program. The AgDirect trade credit financing program is facilitated by another AgriBank District association through a limited liability partnership (AgDirect, LLP), in which we are a partial owner. AgriBank purchases a 100% participation interest in the program loans from AgDirect, LLP. Patronage distributions are paid to AgDirect, LLP, which in turn pays partnership distributions to the participating associations. We received a partnership distribution in an amount that approximated our share of the net earnings of the loans in the program, adjusted for required return on capital and servicing and origination fees.

ALLOCATED INSURANCE RESERVE ACCOUNTS

The increase in AIRA was due to our share of distributions from AIRA of $4.8 million in 2018. The AIRA was established by the FCSIC when premiums collected increased the level of the Insurance Fund beyond the required secured base amount of 2.0% of insured debt. There were no AIRA distributions in 2017 or 2016.

OPERATING EXPENSES

Components of Operating Expenses

(dollars in thousands)

For the year ended December 31	2018	2017	2016
Salaries and employee benefits	$63,445	$59,382	$56,675
Purchased and vendor services	4,081	4,614	3,658
Communications	1,601	1,569	1,402
Occupancy and equipment	9,593	8,902	8,599
Advertising and promotion	2,959	2,719	2,604
FCA examination	2,067	1,989	1,795
Farm Credit System insurance	6,354	9,963	10,669
Other	4,641	5,050	5,050
Total operating expenses	$94,741	$94,188	$90,452
Operating rate	1.1%	1.2%	1.2%

The increase in operating expenses from 2017 to 2018 was primarily related to increases in employee compensation, which was partially offset by a decrease in the rate for FCSIC premiums. FCSIC insurance expense decreased in 2018, primarily due to a decrease in the premium rate charged on accrual loans by FCSIC from 15 basis points in 2017 to 9 basis points in 2018.

PROVISION FOR INCOME TAXES

The variance in provision for income taxes was primarily due to the prior year income tax adjustment for deductible patronage being higher than estimated along with the decrease in federal statutory rates to 21% from 35% which became effective January 1, 2018, due to the Tax Cuts and Jobs Act. Patronage distributions to members reduced our tax liability in 2018, 2017, and 2016.

Additional discussion is included in Note 9 to the accompanying Consolidated Financial Statements.

Funding and Liquidity

We borrow from AgriBank, under a note payable, in the form of a line of credit, as described in Note 7 to the accompanying Consolidated Financial Statements. This line of credit is our primary source of liquidity and is used to fund operations and meet current obligations. At December 31, 2018, we had $894.8 million available under our line of credit. We generally apply excess cash to this line of credit.

Note Payable Information

(dollars in thousands)

For the year ended December 31	2018	2017	2016
Average balance	$6,940,346	$6,574,556	$6,168,075
Average interest rate	2.5%	2.0%	1.7%

The repricing attributes of our line of credit generally correspond to the repricing attributes of our loan portfolio, which significantly reduces our market interest rate risk. Due to the cooperative structure of the Farm Credit System and as we are a stockholder of AgriBank, we expect this borrowing relationship to continue into the foreseeable future. Our other source of lendable funds is from unallocated surplus.

We have entered into a Standby Commitment to Purchase Agreement with Farmer Mac, a System institution, to help manage credit risk. If a loan covered by the agreement goes into default, subject to certain conditions, we have the right to sell the loan to Farmer Mac. This agreement remains in place until the loan is paid in full. The guaranteed volume of loans subject to the purchase agreement was $6.4 million, $7.5 million, and $8.4 million at December 31, 2018, 2017, and 2016, respectively. We paid Farmer Mac commitment fees totaling $35 thousand, $41 thousand, and $42 thousand in 2018, 2017, and 2016, respectively. These amounts are included in "Other operating expenses" in the Consolidated Statements of Comprehensive Income. As of December 31, 2018, no loans have been sold to Farmer Mac under this agreement.

Capital Adequacy

Total members' equity was $1.7 billion, $1.6 billion, and $1.5 billion at December 31, 2018, 2017, and 2016, respectively. Total members' equity increased $103.4 million from December 31, 2017, primarily due to net income for the year partially offset by patronage distribution accruals. Accumulated other comprehensive loss is the impact of prior service cost and unamortized actuarial gain/loss related to the Pension Restoration Plan. Additional Pension Restoration Plan information is included in Note 10 to the accompanying Consolidated Financial Statements.

Effective January 1, 2017, the FCA Regulations require us to maintain minimums for our common equity tier 1, tier 1 capital, total regulatory capital, and permanent capital risk-based capital ratios. In addition, the FCA requires us to maintain minimums for our non-risk-adjusted ratios of tier 1 leverage and unallocated retained earnings and equivalents leverage.

Regulatory Capital Requirements and Ratios

As of December 31	2018	2017	Regulatory Minimums	Capital Conservation Buffer	Total
Risk-adjusted:					
Common equity tier 1 ratio	16.4%	16.4%	4.5%	2.5%*	7.0%
Tier 1 capital ratio	16.4%	16.4%	6.0%	2.5%*	8.5%
Total regulatory capital ratio	17.3%	17.0%	8.0%	2.5%*	10.5%
Permanent capital ratio	16.6%	16.5%	7.0%	N/A	7.0%
Non-risk-adjusted:					
Tier 1 leverage ratio	17.6%	17.5%	4.0%	1.0%	5.0%
Unallocated retained earnings and equivalents leverage ratio	18.6%	18.4%	1.5%	N/A	1.5%

*The 2.5% capital conservation buffer over risk-adjusted ratio minimums will be phased in over three years under the FCA capital requirements. The phase in period ends on December 31, 2019.

Our capital plan is designed to maintain an adequate amount of surplus and allowance for loan losses which represents our reserve for adversity prior to impairment of stock. We manage our capital to allow us to meet member needs and protect member interests, both now and in the future.

Additional discussion of these regulatory ratios along with additional members' equity information is included in Note 8 to the accompanying Consolidated Financial Statements.

Capital ratios are directly impacted by changes in capital, assets, and off-balance sheet commitments. Refer to the Loan Portfolio and the Investment Securities sections for further discussion of the changes in assets. Refer to Note 8 in our Annual Report for the year ended December 31, 2016, for a more complete description of the ratios effective as of December 31, 2016. We were in compliance with the minimum required capital ratios as of December 31, 2016.

In addition to these regulatory requirements, we establish an optimum total regulatory capital target range. This target allows us to maintain a capital base adequate for future growth and investment in new products and services. The target is subject to revision as circumstances change. Our optimum total regulatory capital target range was 13.5% to 18.5% as of December 31, 2018.

If the capital ratios fall below the total requirements, including the buffer amounts, capital distributions (equity redemptions, dividends, and patronage) and discretionary senior executive bonuses are restricted or prohibited without prior FCA approval. We do not foresee any events that would result in this prohibition in 2019.

Relationship with AgriBank

BORROWING

We borrow from AgriBank to fund our lending operations in accordance with the Farm Credit Act. Approval from AgriBank is required for us to borrow elsewhere. A General Financing Agreement (GFA), as discussed in Note 7 to the accompanying Consolidated Financial Statements, governs this lending relationship.

The components of cost of funds under the GFA include:

- A marginal cost of debt component
- A spread component, which includes cost of servicing, cost of liquidity, and bank profit
- A risk premium component, if applicable

In the periods presented, we were not subject to the risk premium component. Certain factors may impact our cost of funds, which primarily include market interest rate changes impacting marginal cost of debt as well as changes to pricing methodologies impacting the spread components described above.

The marginal cost of debt approach simulates matching the cost of underlying debt with similar terms as the anticipated terms of our loans to borrowers. This approach substantially protects us from market interest rate risk. We may occasionally engage in funding strategies that result in limited interest rate risk with approval by AgriBank's Asset/Liability Committee.

INVESTMENT

We are required to invest in AgriBank capital stock as a condition of borrowing. This investment may be in the form of purchased stock or stock representing distributed AgriBank surplus. As of December 31, 2018, we were required by AgriBank to maintain an investment equal to 2.25% of the average quarterly balance of our note payable, with an additional amount required on association growth in excess of a targeted growth rate, if the District is also growing above a targeted growth rate.

We are also required to hold additional investment in AgriBank based on contractual agreements under pool programs.

As an AgDirect, LLP partnering association, we are required to purchase stock in AgDirect, which purchases an equivalent amount of stock in AgriBank. Specifically, the AgDirect trade credit financing program is required to own stock in AgriBank in the amount of 6.0% of the AgDirect program's outstanding participation loan balance at quarter end plus 6.0% of the expected balance to be originated during the following quarter.

PATRONAGE

AgriBank's 2018 capital plan is intended to provide for adequate capital at AgriBank under capital regulations as well as to create a path to long-term capital optimization within the AgriBank District. The plan optimizes capital at AgriBank; distributing available AgriBank earnings in the form of patronage, either cash or stock. The plan is designed to maintain capital adequacy such that sufficient earnings will be retained in the form of unallocated retained earnings and allocated stock to meet the leverage ratio target and other regulatory or policy constraints prior to any cash patronage distributions.

We receive the following types of discretionary patronage from AgriBank:

- Wholesale patronage which includes patronage on the annual average daily balance of our note payable with AgriBank
- Pool program patronage based on the net earnings of loan participation interests sold to AgriBank
- Distributions based on our share of the net earnings of the loans in the AgDirect trade credit financing program, adjusted for required return on capital and servicing and origination fees

Beginning in 2017, wholesale patronage income earned may be paid in cash and AgriBank stock. Wholesale patronage income for 2018, 2017, and 2016 was paid in cash. All pool program patronage and AgDirect distributions were paid in cash.

PURCHASED SERVICES

We purchase various services from AgriBank, including SunStream Business Services, a division of AgriBank. The services include certain financial and retail systems, financial reporting services, tax reporting services, technology services, and insurance services.

The total cost of services we purchased from AgriBank was $1.9 million, $1.9 million, and $1.8 million in 2018, 2017, and 2016, respectively.

IMPACT ON MEMBERS' INVESTMENT

Due to the nature of our financial relationship with AgriBank, the financial condition and results of operations of AgriBank materially impact our members' investment.

Other Relationships and Programs

RELATIONSHIPS WITH OTHER FARM CREDIT INSTITUTIONS

ProPartners Financial: We participate in ProPartners with certain other associations in the Farm Credit System to provide producer financing through agribusinesses that sell crop inputs. ProPartners is directed by representatives from participating associations. Through November 30, 2018, the income, expense, and credit risks were allocated based on each association's participation interest of the ProPartners volume. Each association's allocation was established based on mutual agreement of the owners. We had $154.2 million and $156.9 million of ProPartners volume at December 31, 2017, and 2016, respectively. On December 1, 2018, we sold to AgriBank our entire interest in the loans associated with ProPartners. As part of this program we receive discretionary patronage income from AgriBank that approximates the net earnings of the loans. AgriBank immediately purchases a 100% participation interest in all new ProPartners loans.

Federal Agricultural Mortgage Corporation: We have entered into a Standby Commitment to Purchase Agreement with Farmer Mac. This agreement allows us to sell loans identified under the agreement to Farmer Mac. Refer to the Funding and Liquidity section for further discussion of this agreement.

CentRic Technology Collaboration: We participate in CentRic Technology Collaboration (CTC) with certain other AgriBank District associations. The CTC facilitates the development and maintenance of certain retail technology systems essential to providing credit and other services to our members. The CTC operations are governed by representatives of each participating association. The expenses of CTC are allocated to each of the participating associations based on an agreed upon formula. The systems developed are owned by each of the participating associations.

As the facilitating association for CTC, we are compensated to provide various support functions. This includes support for technology, human resources, accounting, payroll, reporting, and other finance functions.

Farm Credit Leasing Services Corporation: We have an agreement with Farm Credit Leasing Services Corporation (FCL), a System service corporation, which specializes in leasing products and provides industry expertise. Leases are originated and serviced by FCL and we purchase a participation interest in the cash flows of some of the transactions. This arrangement provides our members with a broad selection of product offerings and enhanced lease expertise.

CoBank, ACB: We have a relationship with CoBank, ACB (CoBank), a System bank, which involves purchasing and selling participation interests in loans. As part of this relationship, our equity investment in CoBank was $227 thousand, $171 thousand, and $119 thousand at December 31, 2018, 2017, and 2016, respectively.

Farm Credit Foundations: We have a relationship with Farm Credit Foundations (Foundations), a System service corporation, which involves purchasing human resource information systems, and benefit, payroll, and workforce management services. As of December 31, 2018, 2017, and 2016, our investment in Foundations was $59 thousand. The total cost of services we purchased from Foundations was $344 thousand, $322 thousand, and $302 thousand in 2018, 2017, and 2016, respectively.

UNINCORPORATED BUSINESS ENTITIES (UBES)

In certain circumstances we may establish separate entities to acquire and manage complex collateral, primarily for legal liability purposes.

AgDirect, LLP: We participate in the AgDirect trade credit financing program, which includes origination and refinancing of agriculture equipment loans through independent equipment dealers. The program is facilitated by another AgriBank District association through a limited liability partnership in which we are a partial owner. Our investment in AgDirect, LLP, was $16.4 million, $16.6 million, and $15.9 million at December 31, 2018, 2017, and 2016, respectively.

PROGRAMS

We are involved in a number of programs designed to improve our credit delivery, related services, and marketplace presence.

AgDirect, LLP: We participate in the AgDirect trade credit financing program. Refer to the UBEs section for further discussion on this program.

AgriSolutions: We have an alliance with AgriSolutions, a farm software and consulting company, to provide farm records, income tax planning and preparation services, farm business consulting, and producer education seminars.

Farm Cash Management: We offer Farm Cash Management to our members. Farm Cash Management links members' revolving lines of credit with an AgriBank investment bond to optimize members' use of funds.

REGULATORY MATTERS

INVESTMENT SECURITIES ELIGIBILITY

In May 2018, the FCA Board approved a final rule to revise the requirements governing the eligibility of investment securities for System banks and associations. The new regulation revises the eligibility purpose, type, and amount of investments that a System association may hold. The regulation was effective January 1, 2019. We have updated our policies, procedures, and other documentation to ensure compliance with the new regulation. The impact of the regulation has not been material to our financial statements.

Report of Management

GREENSTONE FARM CREDIT SERVICES, ACA

We prepare the Consolidated Financial Statements of GreenStone Farm Credit Services, ACA (the Association) and are responsible for their integrity and objectivity, including amounts that must necessarily be based on judgments and estimates. The Consolidated Financial Statements have been prepared in conformity with accounting principles generally accepted in the United States of America. The Consolidated Financial Statements, in our opinion, fairly present the financial condition of the Association. Other financial information included in the Annual Report is consistent with that in the Consolidated Financial Statements.

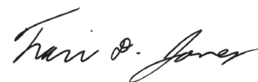
To meet our responsibility for reliable financial information, we depend on accounting and internal control systems designed to provide reasonable, but not absolute assurance that assets are safeguarded and transactions are properly authorized and recorded. Costs must be reasonable in relation to the benefits derived when designing accounting and internal control systems. Financial operations audits are performed to monitor compliance. PricewaterhouseCoopers LLP, our independent auditors, audit the Consolidated Financial Statements. They also consider internal controls to the extent necessary to design audit procedures that comply with auditing standards generally accepted in the United States of America. The Farm Credit Administration also performs examinations for safety and soundness as well as compliance with applicable laws and regulations.

The Board of Directors has overall responsibility for our system of internal control and financial reporting. The Board of Directors and its Audit Committee consults regularly with us and meets periodically with the independent auditors and other auditors to review the scope and results of their work. The independent auditors have direct access to the Board of Directors, which is composed solely of directors who are not officers or employees of the Association.

The undersigned certify we have reviewed the Association's Annual Report, which has been prepared in accordance with all applicable statutory or regulatory requirements. The information contained herein is true, accurate, and complete to the best of our knowledge and belief.

Edward L. Reed
Chair of the Board
GreenStone Farm Credit Services, ACA

David B. Armstrong
Chief Executive Officer
GreenStone Farm Credit Services, ACA



Travis D. Jones
Executive Vice President – Chief Financial Officer
GreenStone Farm Credit Services, ACA

March 11, 2019

Report on Internal Control Over Financial Reporting

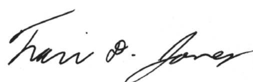
GREENSTONE FARM CREDIT SERVICES, ACA

The GreenStone Farm Credit Services, ACA (the Association) principal executives and principal financial officers, or persons performing similar functions, are responsible for establishing and maintaining adequate internal control over financial reporting for the Association's Consolidated Financial Statements. For purposes of this report, "internal control over financial reporting" is defined as a process designed by, or under the supervision of the Association's principal executives and principal financial officers, or persons performing similar functions, and effected by its Board of Directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting information and the preparation of the Consolidated Financial Statements for external purposes in accordance with accounting principles generally accepted in the United States of America and includes those policies and procedures that: (1) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the Association, (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial information in accordance with accounting principles generally accepted in the United States of America, and that receipts and expenditures are being made only in accordance with authorizations of management and directors of the Association, and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Association's assets that could have a material effect on its Consolidated Financial Statements.

The Association's management has completed an assessment of the effectiveness of internal control over financial reporting as of December 31, 2018. In making the assessment, management used the 2013 framework in Internal Control — Integrated Framework, promulgated by the Committee of Sponsoring Organizations of the Treadway Commission, commonly referred to as the "COSO" criteria.

Based on the assessment performed, the Association concluded that as of December 31, 2018, the internal control over financial reporting was effective based upon the COSO criteria. Additionally, based on this assessment, the Association determined that there were no material weaknesses in the internal control over financial reporting as of December 31, 2018.

David B. Armstrong
Chief Executive Officer
GreenStone Farm Credit Services, ACA



Travis D. Jones
Executive Vice President – Chief Financial Officer
GreenStone Farm Credit Services, ACA

March 11, 2019

Report of Audit Committee

GREENSTONE FARM CREDIT SERVICES, ACA

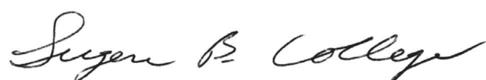
The Consolidated Financial Statements were prepared under the oversight of the Audit Committee. The Audit Committee is composed of a subset of the Board of Directors of GreenStone Farm Credit Services, ACA (the Association). The Audit Committee oversees the scope of the Association's internal audit program, the approval, and independence of PricewaterhouseCoopers LLP (PwC) as independent auditors, the adequacy of the Association's system of internal controls and procedures, and the adequacy of management's actions with respect to recommendations arising from those auditing activities. The Audit Committee's responsibilities are described more fully in the Internal Control Policy and the Audit Committee Charter.

Management is responsible for internal controls and the preparation of the Consolidated Financial Statements in accordance with accounting principles generally accepted in the United States of America. PwC is responsible for performing an independent audit of the Consolidated Financial Statements in accordance with auditing standards generally accepted in the United States of America and to issue their report based on their audit. The Audit Committee's responsibilities include monitoring and overseeing these processes.

In this context, the Audit Committee reviewed and discussed the audited Consolidated Financial Statements for the year ended December 31, 2018, with management. The Audit Committee also reviewed with PwC the matters required to be discussed by Statement on Auditing Standards AU-C 260, The Auditor's Communication with Those Charged with Governance, and both PwC and the internal auditors directly provided reports on any significant matters to the Audit Committee.

The Audit Committee had discussions with and received written disclosures from PwC confirming its independence. The Audit Committee also reviewed the non-audit services provided by PwC, if any, and concluded these services were not incompatible with maintaining PwC's independence. The Audit Committee discussed with management and PwC any other matters and received any assurances from them as the Audit Committee deemed appropriate.

Based on the foregoing review and discussions, and relying thereon, the Audit Committee recommended that the Board of Directors include the audited Consolidated Financial Statements in the Annual Report for the year ended December 31, 2018.



Eugene B. College
Chair of the Audit Committee
GreenStone Farm Credit Services, ACA

Thomas R. Durand, Peter C. Maxwell, and Dale L. Wagner
Members of the Audit Committee

March 11, 2019

Report of Independent Auditors

To the Board of Directors of GreenStone Farm Credit Services, ACA,

We have audited the accompanying Consolidated Financial Statements of GreenStone Farm Credit Services, ACA and its subsidiaries (the Association), which comprise the consolidated statements of condition as of December 31, 2018, 2017, and 2016, and the related consolidated statements of comprehensive income, changes in members' equity and cash flows for the years then ended.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the Consolidated Financial Statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of Consolidated Financial Statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on the Consolidated Financial Statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the Consolidated Financial Statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the Consolidated Financial Statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the Consolidated Financial Statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the Association's preparation and fair presentation of the Consolidated Financial Statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Association's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the Consolidated Financial Statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the Consolidated Financial Statements referred to above present fairly, in all material respects, the financial position of GreenStone Farm Credit Services, ACA and its subsidiaries as of December 31, 2018, 2017, and 2016, and the results of its operations and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

PricewaterhouseCoopers LLP

March 11, 2019

PricewaterhouseCoopers LLP, 45 South Seventh Street, Suite 3400, Minneapolis, MN 55402
T: (612) 596 6000, www.pwc.com/us

Consolidated Statements of Condition

GREENSTONE FARM CREDIT SERVICES, ACA
(In thousands)

As of December 31	2018	2017	2016
ASSETS			
Loans	$8,619,585	$8,212,256	$7,801,558
Allowance for loan losses	84,064	72,640	46,382
Net loans	8,535,521	8,139,616	7,755,176
Investment in AgriBank, FCB	196,566	164,805	159,936
Investment securities	7,715	12,414	16,749
Accrued interest receivable	65,449	61,306	54,054
Premises and equipment, net	46,579	45,760	41,740
Acquired property	1,766	1,572	1,583
Deferred tax assets, net	4,809	2,547	5,279
Other assets	60,905	54,835	44,712
Total assets	$8,919,310	$8,482,855	$8,079,229
LIABILITIES			
Note payable to AgriBank, FCB	$7,072,973	$6,783,097	$6,506,325
Accrued interest payable	48,402	35,730	27,164
Patronage distribution payable	82,000	50,000	32,979
Other liabilities	43,858	45,382	44,428
Total liabilities	7,247,233	6,914,209	6,610,896
Contingencies and commitments (Note 12)			
MEMBERS' EQUITY			
Protected members' equity	1	1	1
Capital stock and participation certificates	22,400	22,141	21,693
Unallocated surplus	1,651,528	1,548,350	1,446,639
Accumulated other comprehensive loss	(1,852)	(1,846)	—
Total members' equity	1,672,077	1,568,646	1,468,333
Total liabilities and members' equity	$8,919,310	$8,482,855	$8,079,229

The accompanying notes are an integral part of these Consolidated Financial Statements.

Consolidated Statements of Income

GREENSTONE FARM CREDIT SERVICES, ACA
(In thousands)

For the year ended December 31	2018	2017	2016
Interest income	$397,306	$343,425	$302,346
Interest expense	175,297	134,038	107,847
NET INTEREST INCOME	222,009	209,387	194,499
Provision for credit losses	17,324	22,120	20,161
NET INTEREST INCOME AFTER PROVISION FOR CREDIT LOSSES	204,685	187,267	174,338
Non-interest income			
Patronage income	45,423	41,391	23,550
Financially related services income	9,812	10,263	9,479
Fee income	14,949	14,682	15,444
Allocated Insurance Reserve Accounts distribution	4,779	—	—
Acquired property income, net	692	276	161
Miscellaneous income, net	710	956	1,216
TOTAL NON-INTEREST INCOME	76,365	67,568	49,850
Operating expenses			
Salaries and employee benefits	63,445	59,382	56,675
Other operating expenses	31,296	34,806	33,777
TOTAL OPERATING EXPENSES	94,741	94,188	90,452
INCOME BEFORE INCOME TAXES	186,309	160,647	133,736
Provision for income taxes	1,148	8,952	1,819
NET INCOME	$185,161	$151,695	$131,917
Other comprehensive loss			
Employee benefit plans activity	$ (6)	$ —	$ —
Total other comprehensive loss	(6)	—	—
Comprehensive income	$185,155	$151,695	$131,917

The accompanying notes are an integral part of these Consolidated Financial Statements.

Consolidated Statements of Changes In Members' Equity

GREENSTONE FARM CREDIT SERVICES, ACA
(In thousands)

	Protected Members' Equity	Capital Stock and Participation Certificates	Unallocated Surplus	Accumulated Other Comprehensive Loss	Total Members' Equity
Balance as of December 31, 2015	$2	$21,436	$1,347,685	$—	$1,369,123
Net income	—	—	131,917	—	131,917
Unallocated surplus designated for patronage distributions	—	—	(32,963)	—	(32,963)
Capital stock and participation certificates issued	—	1,925	—	—	1,925
Capital stock and participation certificates retired	(1)	(1,668)	—	—	(1,669)
Balance as of December 31, 2016	1	21,693	1,446,639	—	1,468,333
Net income	—	—	151,695	—	151,695
Other comprehensive loss and other	—	—	—	(1,846)	(1,846)
Unallocated surplus designated for patronage distributions	—	—	(49,984)	—	(49,984)
Capital stock and participation certificates issued	—	2,136	—	—	2,136
Capital stock and participation certificates retired	—	(1,688)	—	—	(1,688)
Balance as of December 31, 2017	1	22,141	1,548,350	(1,846)	1,568,646
Net income	—	—	185,161	—	185,161
Other comprehensive loss	—	—	—	(6)	(6)
Unallocated surplus designated for patronage distributions	—	—	(81,983)	—	(81,983)
Capital stock and participation certificates issued	—	2,013	—	—	2,013
Capital stock and participation certificates retired	—	(1,754)	—	—	(1,754)
Balance as of December 31, 2018	$1	$22,400	$1,651,528	$(1,852)	$1,672,077

The accompanying notes are an integral part of these Consolidated Financial Statements.

Consolidated Statements of Cash Flows

GREENSTONE FARM CREDIT SERVICES, ACA
(In thousands)

For the year ended December 31	2018	2017	2016
CASH FLOWS FROM OPERATING ACTIVITIES			
Net income	$185,161	$151,695	$131,917
Depreciation on premises and equipment	3,240	2,980	2,795
Gain on sale of premises and equipment, net	(757)	(205)	(514)
Amortization of premiums on loans and investment securities, net	200	240	590
Provision for credit losses	17,324	22,120	20,161
Stock patronage received from Farm Credit Institutions	(56)	(52)	(39)
Write-down on acquired property	156	135	197
Loss (gain) on acquired property, net	704	(119)	(149)
Changes in operating assets and liabilities:			
Increase in accrued interest receivable	(16,502)	(18,115)	(13,397)
Increase in other assets	(8,477)	(6,686)	(6,897)
Increase in accrued interest payable	12,672	8,566	3,188
(Decrease) increase in other liabilities	(1,530)	(892)	6,432
Net cash provided by operating activities	192,135	159,667	144,284
CASH FLOWS FROM INVESTING ACTIVITIES			
Increase in loans, net	(400,449)	(396,371)	(507,649)
Purchases of investment in AgriBank, FCB, net	(31,761)	(4,869)	(48,719)
Redemptions (purchases) of investment in other Farm Credit Institutions, net	201	(653)	822
Decrease in investment securities, net	4,642	4,150	3,385
Decrease in acquired property, net	928	1,380	1,668
Purchases of premises and equipment, net	(5,264)	(6,795)	(4,268)
Net cash used in investing activities	(431,703)	(403,158)	(554,761)
CASH FLOWS FROM FINANCING ACTIVITIES			
Increase in note payable to AgriBank, FCB, net	289,876	276,772	446,052
Patronage distributions paid	(49,983)	(32,963)	(35,256)
Capital stock and participation certificates retired, net	(325)	(318)	(319)
Net cash provided by financing activities	239,568	243,491	410,477
Net change in cash	—	—	—
Cash at beginning of year	7	7	7
Cash at end of year	$7	$7	$7
SUPPLEMENTAL SCHEDULE OF NON-CASH ACTIVITIES			
Stock financed by loan activities	$1,921	$2,067	$1,874
Stock applied against loan principal	1,329	1,296	1,297
Stock applied against interest	8	5	2
Interest transferred to loans	12,351	10,858	9,750
Loans transferred to acquired property	2,196	1,598	882
Qualified cash patronage distributions payable to members	82,000	50,000	32,979
Financed sales of acquired property	214	213	23
Financed sales of premises and equipment	1,962	—	—
Decrease in members' equity from employee benefits	(6)	(1,846)	—
SUPPLEMENTAL INFORMATION			
Interest paid	$162,625	$125,472	$104,659
Taxes paid, net	2,795	3,488	3,105

The accompanying notes are an integral part of these Consolidated Financial Statements.

Notes to Consolidated Financial Statements

GREENSTONE FARM CREDIT SERVICES, ACA

NOTE 1: ORGANIZATION AND OPERATIONS

FARM CREDIT SYSTEM AND DISTRICT

The Farm Credit System (System) is a nationwide system of cooperatively owned banks and associations established by Congress to meet the credit needs of American agriculture. As of January 1, 2019, the System consisted of three Farm Credit Banks, one Agricultural Credit Bank, and 69 customer-owned cooperative lending institutions (associations). AgriBank, FCB (AgriBank), a System Farm Credit Bank, and its District associations are collectively referred to as the AgriBank Farm Credit District (AgriBank District or the District). At January 1, 2019, the District consisted of 14 Agricultural Credit Associations (ACA) that each have wholly-owned Federal Land Credit Association (FLCA) and Production Credit Association (PCA) subsidiaries.

FLCAs are authorized to originate long-term real estate mortgage loans. PCAs are authorized to originate short-term and intermediate-term loans. ACAs are authorized to originate long-term real estate mortgage loans and short-term and intermediate-term loans either directly or through their subsidiaries. Associations are authorized to provide lease financing options for agricultural purposes and are also authorized to purchase and hold certain types of investments. AgriBank provides funding to all associations chartered within the District.

Associations are authorized to provide, either directly or in participation with other lenders, credit and related services to eligible borrowers. Eligible borrowers may include farmers, ranchers, producers or harvesters of aquatic products, rural residents, and farm-related service businesses. In addition, associations can participate with other lenders in loans to similar entities. Similar entities are parties that are not eligible for a loan from a System lending institution, but have operations that are functionally similar to the activities of eligible borrowers.

The Farm Credit Administration (FCA) is authorized by Congress to regulate the System banks and associations. We are examined by the FCA and certain association actions are subject to the prior approval of the FCA and/or AgriBank.

The Farm Credit Act established the Farm Credit System Insurance Corporation (FCSIC) to administer the Farm Credit Insurance Fund (Insurance Fund). The Insurance Fund is used to ensure the timely payment of principal and interest on Farm Credit Systemwide debt obligations, to ensure the retirement of protected borrower capital at par or stated value, and for other specified purposes.

At the discretion of the FCSIC, the Insurance Fund is also available to provide assistance to certain troubled System institutions and for the operating expenses of the FCSIC. Each System bank is required to pay premiums into the Insurance Fund until the assets in the Insurance Fund equal 2.0% of the aggregated insured obligations adjusted to reflect the reduced risk on loans or investments guaranteed by federal or state governments. This percentage of aggregate obligations can be changed by the FCSIC, at its sole discretion, to a percentage it determines to be actuarially sound. The basis for assessing premiums is debt outstanding with adjustments made for nonaccrual loans and impaired investment securities which are assessed a surcharge while guaranteed loans and investment securities are deductions from the premium base. AgriBank, in turn, assesses premiums to District associations each year based on similar factors.

ASSOCIATION

GreenStone Farm Credit Services, ACA (the Association) and its subsidiaries, GreenStone Farm Credit Services, FLCA and GreenStone Farm Credit Services, PCA (subsidiaries) are lending institutions of the System. We are a customer-owned cooperative providing credit and credit related services to, or for the benefit of, eligible members for qualified agricultural purposes in the state of Michigan and the counties of Brown, Door, Florence, Kewaunee, Manitowac, Marinette, Menominee, Oconto, Outagamie, Shawano, and Waupaca in the state of Wisconsin.

We borrow from AgriBank and provide financing and related services to our members. Our ACA holds all the stock of the FLCA and PCA subsidiaries. The FLCA makes secured long-term agricultural real estate and rural home mortgage loans and provides lease financing options. The ACA and PCA make short-term and intermediate-term loans and provide lease financing options for agricultural production or operating purposes. At this time, the ACA holds all short-term and intermediate-term loans and the PCA has no assets.

We offer credit life, term life, credit disability, crop hail, and multi-peril crop insurance to borrowers and those eligible to borrow. We also offer farm records, fee appraisals, and income tax planning and preparation services to our members.

NOTE 2: SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

ACCOUNTING PRINCIPLES AND REPORTING POLICIES

Our accounting and reporting policies conform to accounting principles generally accepted in the United States of America (GAAP) and the prevailing practices within the financial services industry. Preparing financial statements in conformity with GAAP requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the Consolidated Financial Statements and the reported amounts of revenues and expenses during the period. Actual results could differ from those estimates.

PRINCIPLES OF CONSOLIDATION

The Consolidated Financial Statements present the consolidated financial results of GreenStone Farm Credit Services, ACA and its subsidiaries. All material intercompany transactions and balances have been eliminated in consolidation.

SIGNIFICANT ACCOUNTING POLICIES

Loans: Loans are carried at their principal amount outstanding net of any unearned income, cumulative charge-offs, unamortized deferred fees and costs on originated loans, and unamortized premiums or discounts on purchased loans. Loan interest is accrued and credited to interest income based upon the daily principal amount outstanding. Material loan fees, net of related costs, are deferred and recognized over the life of the loan as an adjustment to net interest income. The net amount of loan fees and related origination costs are not material to the Consolidated Financial Statements taken as a whole.

Generally we place loans in nonaccrual status when principal or interest is delinquent for 90 days or more (unless the loan is well secured and in the process of collection) or circumstances indicate that full collection is not expected.

When a loan is placed in nonaccrual status, we reverse current year accrued interest to the extent principal plus accrued interest before the transfer exceeds the net realizable value of the collateral. Any unpaid interest accrued in a prior year is capitalized to the recorded investment of the loan, unless the net realizable value is less than the recorded

investment in the loan, then it is charged-off against the allowance for loan losses. Any cash received on nonaccrual loans is applied to reduce the recorded investment in the loan, except in those cases where the collection of the recorded investment is fully expected and the loan does not have any unrecovered prior charge-offs. In these circumstances interest is credited to income when cash is received. Loans are charged-off at the time they are determined to be uncollectible. Nonaccrual loans may be returned to accrual status when principal and interest are current, prior charge-offs have been recovered, the ability of the borrower to fulfill the contractual repayment terms is fully expected, the borrower has demonstrated payment performance, and the loan is not classified as doubtful or loss.

In situations where, for economic or legal reasons related to the borrower's financial difficulties, we grant a concession for other than an insignificant period of time to the borrower that we would not otherwise consider, the related loan is classified as a troubled debt restructuring, also known as a formally restructured loan for regulatory purposes. A concession is generally granted in order to minimize economic loss and avoid foreclosure. Concessions vary by program and borrower and may include interest rate reductions, term extensions, payment deferrals, or an acceptance of additional collateral in lieu of payments. In limited circumstances, principal may be forgiven. Loans classified as troubled debt restructurings are considered risk loans (as defined below).

Loans that are sold as participations are transferred as entire financial assets, groups of entire financial assets, or participating interests in the loans. The transfers of such assets or participating interests are structured such that control over the transferred assets, or participating interests have been surrendered and that all of the conditions have been met to be accounted for as a sale.

Allowance for Loan Losses: The allowance for loan losses is our best estimate of the amount of losses on loans inherent in our portfolio as of the date of the financial statements. We determine the appropriate level of allowance for loan losses based on periodic evaluation of factors such as loan loss history, estimated probability of default, estimated loss severity, portfolio quality, and current economic and environmental conditions.

Loans in our portfolio that are considered impaired are analyzed individually to establish a specific allowance. A loan is impaired when it is probable that all amounts due will not be collected according to the contractual terms of the loan agreement. We generally measure impairment based on the net realizable value of the collateral. Risk loans include nonaccrual loans, accruing restructured loans, and accruing loans 90 days or more past due. All risk loans are considered to be impaired loans.

We record a specific allowance to reduce the carrying amount of the risk loan by the amount the recorded investment exceeds the net realizable value of collateral. When we deem a loan to be uncollectible, we charge the loan principal and prior year(s) accrued interest against the allowance for loan losses. Subsequent recoveries, if any, are added to the allowance for loan losses.

An allowance is recorded for probable and estimable credit losses as of the financial statement date for loans that are not individually assessed as impaired. We use a two-dimensional loan risk rating model that incorporates a 14-point rating scale to identify and track the probability of borrower default and a separate 6-point scale addressing the loss severity. The combination of estimated default probability and loss severity is the primary basis for recognition and measurement of loan collectability of these pools of loans. These estimated losses may be adjusted for relevant current environmental factors.

Changes in the allowance for loan losses consist of provision activity, recorded in "Provision for credit losses" in the Consolidated Statements of Comprehensive Income, and recoveries and charge-offs.

Investment in AgriBank: Our stock investment in AgriBank is on a cost plus allocated equities basis.

Investment Securities: We are authorized to purchase and hold certain types of investments. If we have the positive intent and ability to hold these investments to maturity, they have been classified as held-to-maturity and are carried at cost adjusted for the amortization of premiums and accretion of discounts. If an investment is determined to be other-than-temporarily impaired, the carrying value of the security is written down to fair value. The impairment loss is separated into credit related and non-credit related components. The credit related component is expensed through "Miscellaneous income, net" in the Consolidated Statements of Comprehensive Income in the period of impairment. The non-credit related component is recognized in other comprehensive income. Purchased premiums and discounts are amortized or accreted using the straight-line method, which approximates the interest method, over the terms of the respective securities. Realized gains and losses are determined using specific identification method and are recognized in current operations.

Acquired Property: Acquired property, consisting of real and personal property acquired through foreclosure or deed in lieu of foreclosure, is recorded at the fair value less estimated selling costs upon acquisition. Any initial reduction in the carrying amount of a loan to the fair value of the collateral received is charged to the allowance for loan losses. Revised estimates to the fair value less costs to sell are reported as adjustments to the carrying amount of the asset, provided that such adjusted value is not in excess of the carrying amount at acquisition. Related income, expenses, and gains or losses from operations and carrying value adjustments are included in "Acquired property income, net" in the Consolidated Statements of Comprehensive Income.

Premises and Equipment: The carrying amount of premises and equipment is at cost, less accumulated depreciation. Calculation of depreciation is generally on the straight line method over the estimated useful lives of the assets. Gains or losses on disposition are included in "Miscellaneous income, net" in the Consolidated Statements of Comprehensive Income. Depreciation, maintenance, and repairs are included in "Other operating expenses" in the Consolidated Statements of Comprehensive Income, and improvements are capitalized.

Post-Employment Benefit Plans: The District has various post-employment benefit plans in which our employees participate. Expenses related to these plans, except for the AgriBank District Pension Restoration Plan, are included in "Salaries and employee benefits" in the Consolidated Statements of Comprehensive Income.

The defined contribution plan allows eligible employees to save for their retirement either pre-tax, post-tax, or both, with an employer match on a percentage of the employee's contributions. We provide benefits under this plan for those employees that do not participate in the AgriBank District Retirement Plan in the form of a fixed percentage of salary contribution in addition to the employer match. Employer contributions are expensed when incurred. All employees hired after December 31, 2006, only participate in this plan.

Certain employees also participate in the Nonqualified Deferred Compensation Plan. Eligible participants must meet one of the following criteria: certain salary thresholds as determined by the Internal Revenue Service (IRS), are either a Chief Executive Officer or President of a participating employer, or have previously elected pre-tax deferrals in 2006 under predecessor nonqualified deferred compensation plans. Under this plan the employee may defer a portion of his/her salary, bonus, and other compensation. Additionally, the plan provides for supplemental employer matching contributions related to any compensation deferred by the employee that would have been eligible for a matching contribution under the retirement savings plan if it were not for certain IRS limitations.

Certain employees participate in the AgriBank District Retirement Plan. The plan is comprised of two benefit formulas. At their option, employees hired prior to October 1, 2001, are on the cash balance formula or on the final average pay formula. Benefits eligible employees hired between October 1, 2001, and December 31, 2006, are on the cash balance formula. Effective January 1, 2007, the AgriBank District Retirement Plan was closed to new employees. The AgriBank District Retirement Plan utilizes the "Projected Unit Credit" actuarial method for financial reporting and funding purposes.

Certain employees also participate in the AgriBank District Pension Restoration Plan. This plan restores retirement benefits to certain highly compensated eligible employees that would have been provided under the qualified plan if such benefits were not above certain Internal Revenue Code limits. Beginning in 2017, the pension liability attributable to the Pension Restoration Plan at the Association and the related accumulated other comprehensive loss are included in the Consolidated Statements of Condition. The components of net periodic cost other than the service cost component, are included in the line item "Other operating expenses" on the Consolidated Statements of Comprehensive Income. Service costs are included in the line item "Salaries and employee benefits" on the Consolidated Statements of Comprehensive Income.

We also provide certain health insurance benefits to eligible retired employees according to the terms of those benefit plans. The anticipated cost of these benefits is accrued during the employees' active service period.

Income Taxes: The ACA and PCA accrue federal and state income taxes. Deferred tax assets and liabilities are recognized for future tax consequences of temporary differences between the carrying amounts and tax basis of assets and liabilities. Deferred tax assets are recorded if the deferred tax asset is more likely than not to be realized. If the realization test cannot be met, the deferred tax asset is reduced by a valuation allowance. The expected future tax consequences of uncertain income tax positions are accrued.

The FLCA is exempt from federal and other taxes to the extent provided in the Farm Credit Act.

Patronage Program: We accrue patronage distributions according to a prescribed formula approved by the Board of Directors. Generally, we pay the accrued patronage during the first quarter after year end.

Off-Balance Sheet Credit Exposures: Commitments to extend credit are agreements to lend to customers, generally having fixed expiration dates or other termination clauses. Standby letters of credit are agreements to pay a beneficiary if there is a default on a contractual arrangement. Any reserve for unfunded lending commitments is based on management's best estimate of losses inherent in these instruments, but the commitments have not yet disbursed. Factors such as likelihood of disbursal and likelihood of losses given disbursement are utilized in determining a reserve, if needed. Based on our assessment, any reserve is recorded in "Other liabilities" in the Consolidated Statements of Condition and a corresponding loss is recorded in "Provision for credit losses" in the Consolidated Statements of Comprehensive Income.

Cash: For purposes of reporting cash flow, cash includes cash on hand.

Fair Value Measurement: The accounting guidance describes three levels of inputs that may be used to measure fair value.

Level 1 — Unadjusted quoted prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date.

Level 2 — Observable inputs other than quoted prices included within Level 1 that are observable for the asset or liability either directly or indirectly. Level 2 inputs include:

- Quoted prices for similar assets or liabilities in active markets
- Quoted prices for identical or similar assets or liabilities in markets that are not active so that they are traded less frequently than exchange-traded instruments, quoted prices that are not current, or principal market information that is not released publicly
- Inputs that are observable such as interest rates and yield curves, prepayment speeds, credit risks, and default rates
- Inputs derived principally from or corroborated by observable market data by correlation or other means

Level 3 — Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. These unobservable inputs reflect the reporting entity's own judgments about assumptions that market participants would use in pricing the asset or liability. Level 3 assets and liabilities include financial instruments whose value is determined using pricing models, discounted cash flow methodologies, or similar techniques, as well as instruments for which the determination of fair value requires significant management judgment or estimation.

RECENTLY ISSUED OR ADOPTED ACCOUNTING PRONOUNCEMENTS

We have assessed the potential impact of accounting standards that have been issued by the Financial Accounting Standards Board (FASB) and have determined the following standards to be applicable to our business. While we are a nonpublic entity, our financial results are closely related to the performance of the combined Farm Credit System. Therefore, we typically adopt accounting pronouncements on the public business entities effective date or aligned with other System institutions, whichever is earlier.

Standard and effective date

In May 2014, the FASB issued Accounting Standards Update (ASU) 2014-09 "Revenue from Contracts with Customers." This guidance was effective for public business entities on January 1, 2018.

Description

The guidance governs revenue recognition from contracts with customers and requires an entity to recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. Financial instruments and other contractual rights within the scope of other guidance issued by the FASB are excluded from the scope of this guidance. The guidance sets forth the requirement for new and enhanced disclosures.

Adoption status and financial statement impact

We adopted this guidance on January 1, 2018, using the modified retrospective approach, as the majority of our revenues are not subject to the new guidance. The adoption of the guidance did not have a material impact on the financial condition, results of operations, or cash flows.

Standard and effective date

In March 2017, the FASB issued ASU 2017-07 "Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Cost." This guidance was effective for public business entities on January 1, 2018.

Description

This guidance requires that an employer disaggregate the service cost component from the other components of net benefit cost. Specifically, the guidance requires non-service cost components of net benefit cost to be recognized in a non-operating income line item of the income statement and allow only the service cost component of net benefit cost to be eligible for capitalization.

Adoption status and financial statement impact

We adopted this guidance on January 1, 2018. The adoption of the guidance did not impact our financial condition or cash flows, but did result in an immaterial change to the classification of certain items in the results of operations. The components of net periodic benefit cost other than the service cost component are included in other operating expenses line item on the Consolidated Statements of Comprehensive Income. As the change in classification was immaterial, there were no retroactive adjustments to the Consolidated Statements of Comprehensive Income. There were no material changes to the financial statement disclosures.

Standard and effective date

In January 2016, the FASB issued ASU 2016-01 "Recognition and Measurement of Financial Assets and Financial Liabilities." This guidance was effective for public business entities on January 1, 2018.

Description

The guidance is intended to enhance the reporting model for financial instruments to provide users of financial statements with more decision-useful information. The amendments address certain aspects of recognition, measurement, presentation, and disclosure of financial statements.

Adoption status and financial statement impact

We adopted this guidance on January 1, 2018. The adoption of this guidance did not impact our financial condition, results of operations, or cash flows, but did impact our fair value disclosures.

Standard and effective date

In February 2016, the FASB issued ASU 2016-02 "Leases." In July 2018, the FASB issued ASU 2018-11 "Leases (Topic 842): Targeted Improvements." The guidance is effective for public business entities in its first quarter of 2019 and early adoption is permitted.

Description

The guidance modifies the recognition and accounting for lessees and lessors and requires expanded disclosures regarding assumptions used to recognize revenue and expenses related to leases. When this guidance is adopted, a liability for lease obligations and a corresponding right-of-use asset will be recognized on the Consolidated Statements of Condition for all lease arrangements spanning more than 12 months and within the scope of this guidance. An optional transition method is included where an entity is permitted to apply the guidance as of the adoption date and recognize a cumulative-effect adjustment to the opening balance of retained earnings.

Adoption status and financial statement impact

We adopted this guidance on January 1, 2019. The adoption of this guidance did not have a material impact on our financial condition, results of operations, and financial statement disclosures, and had no impact on cash flows.

Standard and effective date

In August 2018, the FASB issued ASU 2018-15 "Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement that is a Service Contract." The guidance is effective for our first quarter of 2020 and early adoption is permitted.

Description

The guidance clarifies that implementation costs incurred in a hosting arrangement that is a service contract should be accounted for in the same manner as implementation costs incurred to develop or obtain internal-use software.

Adoption status and financial statement impact

We are in the process of reviewing the accounting standard. Based on our preliminary review and analysis, this new guidance is not expected to have a material impact on our financial condition, results of operations, cash flows, and financial statement disclosures.

Standard and effective date

In June 2016, the FASB issued ASU 2016-13 "Financial Instruments – Credit Losses." This guidance is effective for public business entities for non-U.S. Securities Exchange Commission filers for the first quarter of 2021 and early adoption is permitted.

Description

The guidance replaces the current incurred loss impairment methodology with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. Credit losses relating to available-for-sale securities would also be recorded through an allowance for credit losses.

Adoption status and financial statement impact

We have no plans to early adopt this guidance. We are in the process of reviewing the standard. Significant implementation matters yet to be addressed include system selection, drafting of accounting policies and disclosures, and designing processes and controls. We are currently unable to estimate the impact on the financial statements.

NOTE 3: LOANS AND ALLOWANCE FOR LOAN LOSSES

Loans by Type
(dollars in thousands)

	2018		2017		2016	
As of December 31	Amount	Percentage	Amount	Percentage	Amount	Percentage
Real estate mortgage	$5,265,017	61.1%	$4,912,667	59.8%	$4,612,265	59.1%
Production and intermediate-term	2,035,886	23.6	2,099,435	25.6	2,039,670	26.1
Agribusiness	907,425	10.5	852,151	10.4	842,667	10.8
Other	411,257	4.8	348,003	4.2	306,956	4.0
Total	$8,619,585	100.0%	$8,212,256	100.0%	$7,801,558	100.0%

The other category is primarily comprised of rural residential real estate and rural infrastructure related loans as well as loans originated under the mission related investment authority.

PORTFOLIO CONCENTRATIONS

Concentrations exist when there are amounts loaned to multiple borrowers engaged in similar activities, which could cause them to be similarly impacted by economic conditions. We lend primarily within agricultural industries.

As of December 31, 2018, volume plus commitments to our ten largest borrowers totaled an amount equal to 4.8% of total loans and commitments.

Total loans plus any unfunded commitments represent the maximum potential credit risk. However, the vast majority of our lending activities are collateralized. Accordingly, the credit risk associated with lending activities is less than the recorded loan principal. The amount of collateral obtained, if deemed necessary upon extension of credit, is based on management's credit evaluation of the borrower. Collateral held varies, but typically includes farmland and income-producing property, such as crops and livestock. Long-term real estate loans are secured by the first liens on the underlying real property.

PARTICIPATIONS

We may purchase or sell participation interests with other parties in order to diversify risk, manage loan volume, or comply with the limitations of the FCA Regulations or General Financing Agreement (GFA) with AgriBank.

Participations Purchased and Sold
(in thousands)

	AgriBank Participations		Other Farm Credit Institutions Participations		Non-Farm Credit Institutions Participations		Total Participations	
As of December 31, 2018	Purchased	Sold	Purchased	Sold	Purchased	Sold	Purchased	Sold
Real estate mortgage	$ —	$(190,387)	$240,934	$(169,947)	$197,044	$ —	$437,978	$(360,334)
Production and intermediate-term	—	(210,794)	236,109	(102,656)	7,954	—	244,063	(313,450)
Agribusiness	—	(10,139)	418,283	(24,049)	43,184	—	461,467	(34,188)
Other	—	(5,806)	202,549	—	—	—	202,549	(5,806)
Total	$ —	$(417,126)	$1,097,875	$(296,652)	$248,182	$ —	$1,346,057	$(713,778)
As of December 31, 2017								
Real estate mortgage	$ —	$(225,820)	$198,137	$(135,586)	$142,313	$ —	$340,450	$(361,406)
Production and intermediate-term	—	(47,841)	216,379	(88,265)	8,772	—	225,151	(136,106)
Agribusiness	—	(7,860)	440,519	(19,794)	7,143	—	447,662	(27,654)
Other	—	(6,942)	142,382	—	—	—	142,382	(6,942)
Total	$ —	$(288,463)	$997,417	$(243,645)	$158,228	$ —	$1,155,645	$ (532,108)
As of December 31, 2016								
Real estate mortgage	$ —	$(262,238)	$208,772	$(100,946)	$136,182	$ —	$344,954	$(363,184)
Production and intermediate-term	—	(37,810)	224,706	(57,722)	9,303	(2)	234,009	(95,534)
Agribusiness	—	(6,208)	469,377	(23,182)	18,571	—	487,948	(29,390)
Other	—	(8,103)	106,402	—	—	—	106,402	(8,103)
Total	$ —	$(314,359)	$1,009,257	$(181,850)	$164,056	$(2)	$1,173,313	$(496,211)

Information in the preceding chart excludes loans entered into under our mission related investment authority.

CREDIT QUALITY AND DELINQUENCY

We utilize the FCA Uniform Classification System to categorize loans into five credit quality categories. The categories are:

- Acceptable – loans are non-criticized loans representing the highest quality. They are expected to be fully collectible. This category is further differentiated into various probabilities of default.
- Other assets especially mentioned (Special Mention) – loans are currently collectible but exhibit some potential weakness. These loans involve increased credit risk, but not to the point of justifying a substandard classification.
- Substandard – loans exhibit some serious weakness in repayment capacity, equity, and/or collateral pledged on the loan.
- Doubtful – loans exhibit similar weaknesses as substandard loans. Doubtful loans have additional weaknesses in existing factors, conditions, and values that make collection in full highly questionable.
- Loss – loans are considered uncollectible.

We had no loans categorized as loss at December 31, 2018, 2017, or 2016.

Credit Quality of Loans
(dollars in thousands)

	Acceptable		Special Mention		Substandard/ Doubtful		Total
As of December 31, 2018	Amount	Percentage	Amount	Percentage	Amount	Percentage	Amount
Real estate mortgage	$4,886,814	92.1%	$237,390	4.5%	$181,486	3.4%	$5,305,690
Production and intermediate-term	1,840,192	89.5	111,926	5.4	104,239	5.1	2,056,357
Agribusiness	880,559	96.7	17,041	1.9	13,030	1.4	910,630
Other	400,293	97.1	7,321	1.8	4,377	1.1	411,991
Total	$8,007,858	92.2%	$373,678	4.3%	$303,132	3.5%	$ 8,684,668
As of December 31, 2017							
Real estate mortgage	$4,647,432	93.9%	$131,848	2.7%	$ 170,166	3.4%	$4,949,446
Production and intermediate-term	1,968,773	92.9	72,474	3.4	78,988	3.7	2,120,235
Agribusiness	831,126	97.2	4,939	0.6	18,613	2.2	854,678
Other	340,314	97.5	3,035	0.9	5,490	1.6	348,839
Total	$7,787,645	94.1%	$212,296	2.6%	$273,257	3.3%	$ 8,273,198
As of December 31, 2016							
Real estate mortgage	$4,440,901	95.6%	$129,709	2.8%	$72,690	1.6%	$4,643,300
Production and intermediate-term	1,940,047	94.2	67,588	3.3	51,683	2.5	2,059,318
Agribusiness	815,213	96.5	18,408	2.2	11,380	1.3	845,001
Other	298,493	97.0	2,520	0.8	6,621	2.2	307,634
Total	$7,494,654	95.4%	$218,225	2.8%	$142,374	1.8%	$7,855,253

Note: Accruing loans include accrued interest receivable.

Aging Analysis of Loans
(in thousands)

As of December 31, 2018	30-89 Days Past Due	90 Days or More Past Due	Total Past Due	Not Past Due or Less than 30 Days Past Due	Total	90 Days Past Due and Accruing
Real estate mortgage	$15,678	$2,992	$18,670	$5,287,020	$5,305,690	$79
Production and intermediate-term	4,381	2,351	6,732	2,049,625	2,056,357	—
Agribusiness	—	332	332	910,298	910,630	—
Other	2,649	588	3,237	408,754	411,991	—
Total	$22,708	$6,263	$28,971	$8,655,697	$8,684,668	$79
As of December 31, 2017						
Real estate mortgage	$10,360	$2,483	$12,843	$4,936,603	$4,949,446	$—
Production and intermediate-term	5,030	1,797	6,827	2,113,408	2,120,235	262
Agribusiness	106	233	339	854,339	854,678	—
Other	2,665	808	3,473	345,366	348,839	—
Total	$18,161	$5,321	$23,482	$8,249,716	$8,273,198	$262
As of December 31, 2016						
Real estate mortgage	$14,447	$3,890	$18,337	$4,624,963	$4,643,300	$ —
Production and intermediate-term	5,612	2,374	7,986	2,051,332	2,059,318	65
Agribusiness	—	—	—	845,001	845,001	—
Other	2,518	444	2,962	304,672	307,634	—
Total	$22,577	$6,708	$29,285	$7,825,968	$7,855,253	$65

Note: Accruing loans include accrued interest receivable.

RISK LOANS
Risk loans are loans for which it is probable that all principal and interest will not be collected according to the contractual terms. Interest income recognized and cash payments received on nonaccrual risk loans are applied as described in Note 2.

Risk Loan Information
(in thousands)

As of December 31	2018	2017	2016
Nonaccrual loans:			
Current as to principal and interest	$89,265	$38,447	$35,568
Past due	8,619	7,557	10,954
Total nonaccrual loans	97,884	46,004	46,522
Accruing restructured loans	3,331	3,566	3,374
Accruing loans 90 days or more past due	79	262	65
Total risk loans	$101,294	$49,832	$49,961
Volume with specific allowance	$76,625	$23,088	$25,850
Volume without specific allowance	24,669	26,744	24,111
Total risk loans	$101,294	$49,832	$49,961
Total specific allowance	$25,248	$7,704	$11,355
For the year ended December 31	**2018**	**2017**	**2016**
Income on accrual risk loans	$281	$220	$257
Income on nonaccrual loans	1,575	4,110	1,037
Total income on risk loans	$1,856	$4,330	$1,294
Average risk loans	$71,162	$50,813	$49,487

Note: Accruing loans include accrued interest receivable.

Nonaccrual Loans by Loan Type
(in thousands)

As of December 31	2018	2017	2016
Real estate mortgage	$52,567	$22,413	$21,301
Production and intermediate-term	31,608	19,972	22,486
Agribusiness	11,678	769	—
Other	2,031	2,850	2,735
Total	$97,884	$46,004	$46,522

Additional Impaired Loan Information by Loan Type
(in thousands)

	As of December 31, 2018			For the year ended December 31, 2018	
	Recorded Investment	Unpaid Principal Balance	Related Allowance	Average Impaired Loans	Interest Income Recognized
Impaired loans with a related allowance for loan losses:					
Real estate mortgage	$35,543	$36,804	$10,529	$22,737	$ —
Production and intermediate-term	28,467	31,631	8,925	20,794	—
Agribusiness	11,678	12,326	5,519	9,684	—
Other	937	1,250	275	1,107	—
Total	$76,625	$82,011	$25,248	$54,322	$ —
Impaired loans with no related allowance for loan losses:					
Real estate mortgage	$19,753	$23,520	$ —	$12,636	$1,167
Production and intermediate-term	3,560	9,935	—	2,600	557
Agribusiness	—	—	—	—	—
Other	1,356	3,793	—	1,604	132
Total	$24,669	$37,248	$ —	$16,840	$1,856
Total impaired loans:					
Real estate mortgage	$55,296	$60,324	$10,529	$35,373	$1,167
Production and intermediate-term	32,027	41,566	8,925	23,394	557
Agribusiness	11,678	12,326	5,519	9,684	—
Other	2,293	5,043	275	2,711	132
Total	$101,294	$119,259	$25,248	$71,162	$1,856

	As of December 31, 2017			For the year ended December 31, 2017	
	Recorded Investment	Unpaid Principal Balance	Related Allowance	Average Impaired Loans	Interest Income Recognized
Impaired loans with a related allowance for loan losses:					
Real estate mortgage	$7,744	$8,512	$1,765	$7,455	$ —
Production and intermediate-term	13,650	16,786	5,226	15,430	—
Agribusiness	—	—	—	—	—
Other	1,694	2,027	713	1,674	—
Total	$23,088	$27,325	$7,704	$24,559	$ —
Impaired loans with no related allowance for loan losses:					
Real estate mortgage	$17,491	$21,345	$ —	$16,835	$2,073
Production and intermediate-term	7,063	16,781	—	7,987	1,847
Agribusiness	769	739	—	28	159
Other	1,421	3,886	—	1,404	251
Total	$26,744	$42,751	$ —	$26,254	$4,330
Total impaired loans:					
Real estate mortgage	$25,235	$29,857	$1,765	$24,290	$2,073
Production and intermediate-term	20,713	33,567	5,226	23,417	1,847
Agribusiness	769	739	—	28	159
Other	3,115	5,913	713	3,078	251
Total	$49,832	$70,076	$7,704	$50,813	$4,330

	As of December 31, 2016			For the year ended December 31, 2016	
	Recorded Investment	Unpaid Principal Balance	Related Allowance	Average Impaired Loans	Interest Income Recognized
Impaired loans with a related allowance for loan losses:					
Real estate mortgage	$8,785	$10,861	$2,675	$9,402	$ —
Production and intermediate-term	15,267	19,420	8,078	13,764	—
Agribusiness	—	—	—	—	—
Other	1,798	2,115	602	1,866	—
Total	$25,850	$32,396	$11,355	$25,032	$ —
Impaired loans with no related allowance for loan losses:					
Real estate mortgage	$15,221	$29,085	$ —	$16,290	$577
Production and intermediate-term	7,791	15,753	—	7,024	429
Agribusiness	—	5	—	—	123
Other	1,099	3,935	—	1,141	165
Total	$24,111	$48,778	$ —	$24,455	$1,294
Total impaired loans:					
Real estate mortgage	$24,006	$39,946	$2,675	$25,692	$577
Production and intermediate-term	23,058	35,173	8,078	20,788	429
Agribusiness	—	5	—	—	123
Other	2,897	6,050	602	3,007	165
Total	$49,961	$81,174	$11,355	$49,487	$1,294

The recorded investment in the loan is the unpaid principal amount increased or decreased by applicable accrued interest and unamortized premium, discount, finance charges, and acquisition costs and may also reflect a previous direct charge-off of the investment.

Unpaid principal balance represents the contractual principal balance of the loan.

We had $4.5 million of commitments to lend additional money to borrowers whose loans were at risk at December 31, 2018.

TROUBLED DEBT RESTRUCTURINGS (TDRS)

Included within our loans are TDRs. These loans have been modified by granting a concession in order to maximize the collection of amounts due when a borrower is experiencing financial difficulties. All risk loans, including TDRs, are analyzed within our allowance for loan losses.

TDR Activity
(in thousands)

For the year ended December 31	2018		2017		2016	
	Pre-modification	Post-modification	Pre-modification	Post-modification	Pre-modification	Post-modification
Real estate mortgage	$2,044	$1,877	$831	$827	$335	$337
Production and intermediate-term	1,423	1,424	703	677	64	53
Agribusiness	11,871	11,871	—	—	—	—
Other	73	73	—	—	28	20
Total	$15,411	$15,245	$1,534	$1,504	$427	$410

Pre-modification represents the outstanding recorded investment of the loan just prior to restructuring and post-modification represents the outstanding recorded investment of the loan immediately following the restructuring. The recorded investment in the loan is the unpaid principal amount of the receivable increased or decreased by applicable accrued interest and unamortized premium, discount, finance charges, and acquisition costs and may also reflect a previous direct charge-off of the investment.

The primary types of modification included extension of maturity and deferral of principal.

TDRs that Occurred Within the Previous 12 Months that Subsequently Defaulted
(in thousands)

	2018	2017	2016
Real estate mortgage	$—	$47	$—
Production and intermediate term	14	74	28
Agribusiness	10,722	—	—
Total	$10,736	$121	$28

TDRs Outstanding
(in thousands):

As of December 31	2018	2017	2016
Accrual status:			
Real estate mortgage	$2,650	$2,821	$2,706
Production and intermediate-term	419	480	506
Agribusiness	—	—	—
Other	262	265	162
Total TDRs in accrual status	$3,331	$3,566	$3,374
Nonaccrual status:			
Real estate mortgage	$2,289	$1,629	$972
Production and intermediate-term	1,337	797	252
Agribusiness	10,535	—	—
Other	184	141	263
Total TDRs in nonaccrual status	$14,345	$2,567	$1,487
Total TDRs:			
Real estate mortgage	$4,939	$4,450	$3,678
Production and intermediate-term	1,756	1,277	758
Agribusiness	10,535	—	—
Other	446	406	425
Total TDRs	$17,676	$6,133	$4,861

Additional commitments to lend to borrowers whose loans have been modified in a TDR were $2.8 million at December 31, 2018.

ALLOWANCE FOR LOAN LOSSES

Changes in Allowance for Loan Losses
(in thousands)

For the year ended December 31	2018	2017	2016
Balance at beginning of year	$72,640	$46,382	$34,290
Provision for loan losses	13,686	24,549	19,929
Loan recoveries	1,397	4,656	983
Loan charge-offs	(3,659)	(2,947)	(8,820)
Balance at end of year	$84,064	$72,640	$46,382

The "Provision for credit losses" in the Consolidated Statements of Comprehensive Income includes a provision for loan losses as presented in the previous chart, as well as a provision for (reversal of) credit losses on unfunded commitments as presented in the following chart. The accrued credit losses on unfunded commitments are recorded in "Other liabilities" in the Consolidated Statements of Condition.

Credit Loss Information on Unfunded Commitments
(in thousands)

For the year ended December 31	2018	2017	2016
Provision for (reversal of) credit losses	$3,638	$(2,429)	$232

As of December 31	2018	2017	2016
Accrued credit losses	$4,169	$531	$2,960

Changes in Allowance for Loan Losses and Year End Recorded Investments by Loan Type
(in thousands)

	Real Estate Mortgage	Production and Intermediate-Term	Agribusiness	Other	Total
Allowance for loan losses:					
Balance as of December 31, 2017	$39,347	$23,460	$8,378	$1,455	$72,640
Provision for (reversal of) loan losses	10,346	4,295	(693)	(262)	13,686
Loan recoveries	183	608	467	139	1,397
Loan charge-offs	(686)	(2,687)	(3)	(283)	(3,659)
Balance as of December 31, 2018	$49,190	$25,676	$8,149	$1,049	$84,064
Ending balance: individually evaluated for impairment	$10,529	$8,925	$5,519	$275	$25,248
Ending balance: collectively evaluated for impairment	$38,661	$16,751	$2,630	$774	$58,816
Recorded investments in loans outstanding:					
Ending balance as of December 31, 2018	$5,305,690	$2,056,357	$910,630	$411,991	$8,684,668
Ending balance: individually evaluated for impairment	$55,296	$32,027	$11,678	$2,293	$101,294
Ending balance: collectively evaluated for impairment	$5,250,394	$2,024,330	$898,952	$409,698	$8,583,374

	Real Estate Mortgage	Production and Intermediate-Term	Agribusiness	Other	Total
Allowance for loan losses:					
Balance as of December 31, 2016	$21,210	$17,927	$6,033	$1,212	$46,382
Provision for (reversal of) loan losses	18,074	7,319	(1,157)	313	24,549
Loan recoveries	280	677	3,502	197	4,656
Loan charge-offs	(217)	(2,463)	—	(267)	(2,947)
Balance as of December 31, 2017	$39,347	$23,460	$8,378	$1,455	$72,640
Ending balance: individually evaluated for impairment	$1,765	$5,226	$—	$713	$7,704
Ending balance: collectively evaluated for impairment	$37,582	$18,234	$8,378	$742	$64,936
Recorded investments in loans outstanding:					
Ending balance as of December 31, 2017	$4,949,446	$2,120,235	$854,678	$348,839	$8,273,198
Ending balance: individually evaluated for impairment	$25,235	$20,713	$769	$3,115	$49,832
Ending balance: collectively evaluated for impairment	$4,924,211	$2,099,522	$853,909	$345,724	$8,223,366

	Real Estate Mortgage	Production and Intermediate-Term	Agribusiness	Other	Total
Allowance for loan losses:					
Balance as of December 31, 2015	$13,740	$18,145	$864	$1,541	$34,290
Provision for loan losses	7,361	1,099	11,467	2	19,929
Loan recoveries	449	459	2	73	983
Loan charge-offs	(340)	(1,776)	(6,300)	(404)	(8,820)
Balance as of December 31, 2016	$21,210	$17,927	$6,033	$1,212	$46,382
Ending balance: individually evaluated for impairment	$2,675	$8,078	$ —	$602	$11,355
Ending balance: collectively evaluated for impairment	$18,535	$9,849	$6,033	$610	$35,027
Recorded investments in loans outstanding:					
Ending balance as of December 31, 2016	$4,643,300	$2,059,318	$845,001	$307,634	$7,855,253
Ending balance: individually evaluated for impairment	$24,006	$23,058	$ —	$2,897	$49,961
Ending balance: collectively evaluated for impairment	$4,619,294	$2,036,260	$845,001	$304,737	$7,805,292

The recorded investment in the loan is the unpaid principal amount increased or decreased by applicable accrued interest and unamortized premium, discount, finance charges, and acquisition costs and may also reflect a previous direct charge-off of the investment.

NOTE 4: INVESTMENT IN AGRIBANK

As of December 31, 2018, we were required by AgriBank to maintain an investment equal to 2.25% of the average quarterly balance of our note payable, with an additional amount required on association growth in excess of a targeted growth rate, if the District is also growing above a targeted growth rate.

We are also required to hold AgriBank stock related to our participation in pool programs. Generally, these programs require us to hold 8.0% to 14.0% of the balance of loans in these programs.

The balance of our investment in AgriBank, all required stock, was $196.6 million, $164.8 million, and $159.9 million at December 31, 2018, 2017, and 2016, respectively.

NOTE 5: INVESTMENT SECURITIES

We held investment securities of $7.7 million, $12.4 million, and $16.7 million at December 31, 2018, 2017, and 2016, respectively. Our investment securities consisted of securities backed by pools of loans guaranteed by the Small Business Administration. The securities have been classified as held-to-maturity. The investment portfolio is evaluated for other-than-temporary impairment. For the years ended December 31, 2018, 2017, and 2016, we have not recognized any impairment on our investment portfolio.

Additional Investment Securities Information
(dollars in thousands)

As of December 31	2018	2017	2016
Amortized cost	$7,715	$12,414	$16,749
Unrealized gains	278	531	787
Fair value	$7,993	$12,945	$17,536
Weighted average yield	4.9%	3.5%	1.8%

Investment income is recorded in "Interest income" in the Consolidated Statements of Comprehensive Income and totaled $499 thousand, $526 thousand, and $331 thousand in 2018, 2017, and 2016, respectively.

NOTE 6: PREMISES AND EQUIPMENT, NET

Premises and Equipment
(in thousands)

As of December 31	2018	2017	2016
Land, buildings, and improvements	$55,745	$54,002	$48,995
Furniture and equipment	20,800	21,890	20,217
Subtotal	76,545	75,892	69,212
Less: accumulated depreciation	29,966	30,132	27,472
Premises and equipment, net	$46,579	$45,760	$41,740

NOTE 7: NOTE PAYABLE TO AGRIBANK

Our note payable to AgriBank represents borrowings, in the form of a line of credit, to fund our loan portfolio. The line of credit is governed by a GFA and our assets serve as collateral.

Note Payable Information
(dollars in thousands)

As of December 31	2018	2017	2016
Line of credit	$8,000,000	$8,000,000	$7,000,000
Outstanding principal under the line of credit	7,072,973	6,783,097	6,506,325
Interest rate	2.7%	2.2%	1.8%

In December, we renewed our note payable, which was effective January 1, 2019, for a line of credit of $9.3 billion that matures on December 31, 2021.

The GFA provides for limitations on our ability to borrow funds based on specified factors or formulas relating primarily to outstanding balances, credit quality, and financial condition. Additionally, we have requirements to maintain an effective program of internal controls over financial reporting. At December 31, 2018, and throughout the year, we were not declared in default under any GFA covenants or provisions.

NOTE 8: MEMBERS' EQUITY

CAPITALIZATION REQUIREMENTS

In accordance with the Farm Credit Act, each borrower is required to invest in us as a condition of obtaining a loan. As authorized by the Agricultural Credit Act and our capital bylaws, the Board of Directors has adopted a capital plan that establishes a stock purchase requirement for obtaining a loan of 2.0% of the customer's total loan(s) or one thousand dollars, whichever is less. The purchase of one participation certificate is required of all non-stockholder customers who purchase financial services. The Board of Directors may increase the amount of required investment to the extent authorized in the capital bylaws. The borrower acquires ownership of the capital stock at the time the loan is made. The aggregate par value of the stock is added to the principal amount of the related obligation. We retain a first lien on the stock or participation certificates owned by customers.

PROTECTION MECHANISMS

Under the Farm Credit Act, certain borrower equity is protected. We are required to retire protected borrower equity at par or stated value regardless of its book value. Protected borrower equity includes capital stock and participation certificates that were outstanding as of January 6, 1988, or were issued prior to October 6, 1988 as a requirement for obtaining a loan. If we were to be unable to retire protected borrower equity at par value or stated value, the FCSIC would provide the amounts needed to retire this equity.

REGULATORY CAPITALIZATION REQUIREMENTS

Regulatory Capital Requirements and Ratios

As of December 31	2018	2017	Regulatory Minimums	Capital Conservation Buffer	Total
Risk-adjusted:					
Common equity tier 1 ratio	16.4%	16.4%	4.5%	2.5%*	7.0%
Tier 1 capital ratio	16.4%	16.4%	6.0%	2.5%*	8.5%
Total regulatory capital ratio	17.3%	17.0%	8.0%	2.5%*	10.5%
Permanent capital ratio	16.6%	16.5%	7.0%	N/A	7.0%
Non-risk-adjusted:					
Tier 1 leverage ratio	17.6%	17.5%	4.0%	1.0%	5.0%
Unallocated retained earnings and equivalents leverage ratio	18.6%	18.4%	1.5%	N/A	1.5%

*The 2.5% capital conservation buffer over risk-adjusted ratio minimums will be phased in over three years under the FCA capital requirements. The phase in period ends on December 31, 2019.

Effective January 1, 2017, the regulatory capital requirements for Farm Credit System banks and associations were modified. These regulations replaced existing core surplus and total surplus ratios with common equity tier 1, tier 1 capital, and total regulatory capital risk-based capital ratios. These regulations also added a tier 1 leverage ratio and an unallocated retained earnings and equivalents (UREE) leverage ratio. The permanent capital ratio continues to remain in effect, with some modifications, to align with these regulations.

Risk-adjusted assets have been defined by the FCA Regulations as the Statement of Condition assets and off-balance-sheet commitments adjusted by various percentages, depending on the level of risk inherent in the various types of assets. The primary changes effective January 1, 2017, which generally have the impact of increasing risk-adjusted assets (decreasing risk-based regulatory capital ratios) were as follows:

- Inclusion of off-balance-sheet commitments with terms at origination of less than 14 months
- Increased risk-weighting of most loans 90 days past due or in nonaccrual status

Risk-adjusted assets is calculated differently for the permanent capital ratio (referred herein as PCR risk-adjusted assets) compared to the other risk-based capital ratios. The primary difference is the inclusion of the allowance for loan losses as a deduction to risk-adjusted assets for the permanent capital ratio.

These ratios are based on a three-month average daily balance in accordance with FCA Regulations and are calculated as follows (not all items below may be applicable to our Association):

- Common equity tier 1 ratio is statutory minimum purchased member stock, other required member stock held for a minimum of 7 years, allocated equities held for a minimum of 7 years or not subject to retirement, unallocated retained earnings as regulatorily prescribed, paid-in capital, less certain regulatory required deductions including the amount of allocated investments in other System institutions, and the amount of purchased investments in other System institutions under the corresponding deduction approach, divided by average risk-adjusted assets.
- Tier 1 capital ratio is common equity tier 1 plus non-cumulative perpetual preferred stock, divided by average risk-adjusted assets.
- Total regulatory capital is tier 1 capital plus other required member stock held for a minimum of 5 years, allocated equities held for a minimum of 5 years, subordinated debt, and limited-life preferred stock greater than 5 years to maturity at issuance subject to certain limitations, allowance for loan losses and reserve for credit losses subject to certain limitations, less certain investments in other System institutions under the corresponding deduction approach, divided by average risk-adjusted assets.
- Permanent capital ratio is all at-risk borrower stock, any allocated excess stock, unallocated retained earnings as regulatorily prescribed, paid-in capital, subordinated debt, and preferred stock subject to certain limitations, less certain allocated and purchased investments in other System institutions divided by PCR risk-adjusted assets.
- Tier 1 leverage ratio is tier 1 capital, including regulatory deductions, divided by average assets less regulatory deductions subject to tier 1 capital.
- UREE leverage ratio is unallocated retained earnings as regulatorily prescribed, paid-in capital, allocated surplus not subject to retirement less certain regulatory required deductions including the amount of allocated investments in other System institutions divided by average assets less regulatory deductions subject to tier 1 capital.

If the capital ratios fall below the total requirements, including the buffer amounts, capital distributions (equity redemptions, dividends, and patronage) and discretionary senior executive bonuses are restricted or prohibited without prior FCA approval.

Effective January 1, 2017, the regulatory capital requirements allow for allotment agreements for only the permanent capital ratio and, as such, any stock in excess of our AgriBank required investment was not included in the common equity tier 1, tier 1 capital, total regulatory capital, or leverage ratios. We had no allocated excess stock at December 31, 2018, or 2017.

Refer to Note 8 in our 2016 Annual Report for a more complete description of the ratios effective as of December 31, 2016. We were in compliance with the minimum required capital ratios as of December 31, 2016.

DESCRIPTION OF EQUITIES

The following represents information regarding classes and number of shares of stock and participation certificates outstanding. All shares and participation certificates are stated at a $5.00 par value.

	Number of Shares		
As of December 31	2018	2017	2016
Class A common stock (protected)	1	1	1
Class B common stock (at-risk)	4,012,967	3,954,488	3,865,183
Class E participation certificates (at-risk)	467,218	473,841	473,348
Class F participation certificates (protected)	153	153	153

Under our bylaws, we are also authorized to issue Class C and Class D common stock. Each of these classes of stock is at-risk and nonvoting with a $5.00 par value per share. Currently, no stock of these classes has been issued.

Only holders of Class B common stock have voting rights. Our bylaws do not prohibit us from paying dividends on any classes of stock. However, no dividends have been declared to date.

Our bylaws generally permit stock and participation certificates to be retired at the discretion of our Board of Directors and in accordance with our capitalization plans, provided prescribed capital standards have been met. At December 31, 2018, we exceeded the prescribed standards. We do not anticipate any significant changes in capital that would affect the normal retirement of stock.

In the event of our liquidation or dissolution, according to our bylaws, any assets remaining after payment or retirement of all liabilities shall be distributed pro rata to all holders of stock and participation certificates.

In the event of impairment, losses will be absorbed by concurrent impairment of all classes of stock and participation certificates; however, protected stock will be retired at par value regardless of impairment.

All classes of stock and participation certificates, except Class A common stock and Class F participation certificates, are transferable to other customers who are eligible to hold such class as long as we meet the regulatory minimum capital requirements.

PATRONAGE DISTRIBUTIONS

We accrued patronage distributions of $82.0 million, $50.0 million, and $33.0 million at December 31, 2018, 2017, and 2016, respectively. The patronage distributions are paid in cash during the first quarter after year end. The Board of Directors may authorize a distribution of earnings provided we meet all statutory and regulatory requirements.

The FCA Regulations prohibit patronage distributions to the extent they would reduce our permanent capital ratio below the minimum permanent capital adequacy standards. Additionally, effective January 1, 2017, patronage distributions may be restricted or prohibited without prior FCA approval if capital ratios fall below the total requirements, including the buffer amounts.

NOTE 9: INCOME TAXES

The Tax Cuts and Jobs Act (the Act) was enacted in December of 2017. This Act contained various tax law changes, including a federal statutory tax rate change to 21% from 35%, effective January 1, 2018. Because deferred tax assets and liabilities are expected to be recognized in the Association's tax return in a future year, when the new statutory tax rate would be applicable, the deferred tax assets and liabilities as of December 31, 2017, were valued using a blended federal/state effective tax rate based on the new federal statutory tax rate. The effect of this revaluation was recognized in our provision for income taxes for the year ended December 31, 2017.

Provision for Income Taxes
(dollars in thousands)

For the year ended December 31	2018	2017	2016
Current:			
Federal	$3,065	$5,409	$2,043
State	345	811	138
Total current	3,410	6,220	2,181
Deferred:			
Federal	(2,140)	2,712	(581)
State	(122)	20	219
Total deferred	(2,262)	2,732	(362)
Provision for income taxes	$1,148	$8,952	$1,819
Effective tax rate	0.6%	5.6%	1.4%

Reconciliation of Taxes at Federal Statutory Rate to Provision for Income Taxes
(in thousands)

For the year ended December 31	2018	2017	2016
Federal tax at statutory rates	$39,125	$56,227	$46,808
State tax, net	429	383	310
Patronage distributions	(2,520)	(3,500)	(3,500)
Effect of non-taxable entity	(33,845)	(45,204)	(41,816)
Change in statutory tax rates due to the Tax Cuts and Jobs Act	—	1,656	—
Other	(2,041)	(610)	17
Provision for income taxes	$1,148	$8,952	$1,819

DEFERRED INCOME TAXES

Tax laws require certain items to be included in our tax returns at different times than the items are reflected on our Consolidated Statements of Comprehensive Income. Some of these items are temporary differences that will reverse over time. We record the tax effect of temporary differences as deferred tax assets and liabilities netted on our Consolidated Statements of Condition.

Deferred Tax Assets and Liabilities
(in thousands)

As of December 31	2018	2017	2016
Allowance for loan losses	$6,540	$5,012	$7,951
Postretirement benefit accrual	566	581	934
Accrued incentive	610	589	806
Accrued patronage income not received	—	(884)	(661)
AgriBank 2002 allocated stock	(1,018)	(1,012)	(1,610)
Accrued pension asset	(1,928)	(1,608)	(1,945)
Depreciation	121	(37)	(110)
Other assets	280	238	268
Other liabilities	(362)	(332)	(354)
Deferred tax assets, net	$4,809	$2,547	$5,279
Gross deferred tax assets	$8,117	$6,420	$9,959
Gross deferred tax liabilities	$(3,308)	$(3,873)	$(4,680)

A valuation allowance for the deferred tax assets was not necessary at December 31, 2018, 2017, or 2016.

We have not provided for deferred income taxes on patronage allocations received from AgriBank prior to 1993. Such allocations, distributed in the form of stock, are subject to tax only upon conversion to cash. Our intent is to permanently maintain this investment in AgriBank. Our total permanent investment in AgriBank is $46.0 million. Additionally, we have not provided deferred income taxes on accumulated FLCA earnings of $1.5 billion as it is our intent to permanently maintain this equity in the FLCA or to distribute the earnings to members in a manner that results in no additional tax liability to us.

Our income tax returns are subject to review by various United States taxing authorities. We record accruals for items that we believe may be challenged by these taxing authorities. However, we had no uncertain income tax positions at December 31, 2018. In addition, we believe we are no longer subject to income tax examinations for years prior to 2015.

NOTE 10: EMPLOYEE BENEFIT PLANS

PENSION AND POST-EMPLOYMENT BENEFIT PLANS

Complete financial information for the pension and post-employment benefit plans may be found in the AgriBank 2018 Annual Report.

The Farm Credit Foundations Plan Sponsor and Trust Committees provide oversight of the benefit plans. These governance committees are comprised of elected or appointed representatives (senior leadership and/or Board of Director members) from the participating organizations. The Plan Sponsor Committee is responsible for employer decisions regarding all benefit plans including retirement benefits. These decisions could include plan design changes, vendor changes, determination of employer subsidies (if any), and termination of specific benefit plans. Any action to change or terminate the retirement plan can only occur at the direction of the AgriBank District participating employers. The Trust Committee is responsible for fiduciary and plan administrative functions.

Pension Plan: Certain employees participate in the AgriBank District Retirement Plan, a District-wide multi-employer defined benefit retirement plan. The Department of Labor has determined the plan to be a governmental plan; therefore, the plan is not subject to the provisions of the Employee Retirement Income Security Act of 1974, as amended (ERISA). As the plan is not subject to ERISA, the plan's benefits are not insured by the Pension Benefit Guaranty Corporation. Accordingly, the amount of accumulated benefits that participants would receive in the event of the plan's termination is contingent on the sufficiency of the plan's net assets to provide benefits at that time. This plan is noncontributory and covers certain eligible District employees. The assets, liabilities, and costs of the plan are not segregated by participating entities. As such, plan assets are available for any of the participating employers' retirees at any point in time. Additionally, if a participating employer stops contributing to the plan, the unfunded obligations of the plan may be borne by the remaining participating employers. Further, if we choose to stop participating in the plan, we may be required to pay an amount based on the underfunded status of the plan. Because of the nature of the plan, any individual employer is not able to unilaterally change the provisions of the plan. If an employee transfers to another employer within the same plan, the employee benefits under the plan transfer. Benefits are based on salary and years of service. There is no collective bargaining agreement in place as part of this plan.

AgriBank District Retirement Plan Information
(in thousands)

As of December 31	2018	2017	2016
Unfunded liability	$274,450	$352,516	$374,305
Projected benefit obligation	1,272,063	1,371,013	1,269,625
Fair value of plan assets	997,613	1,018,497	895,320
Accumulated benefit obligation	1,125,682	1,184,550	1,096,913

For the year ended December 31	2018	2017	2016
Total plan expense	$51,900	$44,730	$53,139
Our allocated share of plan expenses	4,852	4,158	5,010
Contributions by participating employers	90,000	90,000	90,000
Our allocated share of contributions	8,466	8,493	8,555

The unfunded liability reflects the net of the fair value of the plan assets and the projected benefit obligation at the date of these Consolidated Financial Statements. The projected benefit obligation is the actuarial present value of all benefits attributed by the pension benefit formula to employee service rendered prior to the measurement date based on assumed future compensation levels. The accumulated benefit obligation is the actuarial present value of the benefits attributed to employee service rendered before the measurement date and based on current employee service and compensation. The funding status is subject to many variables including performance of plan assets and interest rate levels. Therefore, changes in assumptions could significantly affect these estimates.

Costs are determined for each individual employer based on costs directly related to their current employees as well as an allocation of the remaining costs based proportionately on the estimated projected liability of the employer under this plan. We recognize our proportional share of expense and contribute a proportional share of funding. Our allocated share of plan expenses is included in "Salaries and employee benefits" in the Consolidated Statements of Comprehensive Income.

Benefits paid to participants in the District were $68.6 million in 2018. While the plan is a governmental plan and is not subject to minimum funding requirements, the employers contribute amounts necessary on an actuarial basis to provide the plan with sufficient assets to meet the benefits to be paid to participants. The amount of the total District employer contributions expected to be paid into the pension plan during 2019 is $90.0 million. Our allocated share of these pension contributions is expected to be $8.7 million. The amount ultimately to be contributed and the amount ultimately recognized as expense as well as the timing of those contributions and expenses, are subject to many variables including performance of plan assets and interest rate levels. These variables could result in actual contributions and expenses being greater than or less than the amounts reflected in the District financial statements.

We also participate in the District-wide nonqualified defined benefit Pension Restoration Plan. This plan restores retirement benefits to certain highly compensated eligible employees that would have been provided under the qualified plan if such benefits were not above certain Internal Revenue Code limits.

Pension Restoration Plan Information
(in thousands)

As of December 31	2018	2017	2016
Our unfunded liability	$4,602	$4,021	$1,936
Projected benefit obligation for the Combined District	41,205	37,190	28,514
Accumulated benefit obligation for the Combined District	33,215	29,844	22,778

For the year ended December 31	2018	2017	2016
Total plan expense	$4,899	$8,336	$5,767
Our allocated share of plan expenses	586	508	435
Our cash contributions	11	269	258

The nonqualified plan is funded as the benefits are paid; therefore, there are no assets in the plan and the unfunded liability is equal to the projected benefit obligation. Beginning in 2017, the recognition of the unfunded liability includes the impact of prior service cost and unamortized gain/loss. The increase in the liability was offset against accumulated other comprehensive loss and had no impact to net income. The amount of the pension benefits funding status is subject to many variables including interest rate levels. Therefore, changes in assumptions could significantly affect these estimates.

Costs are determined for each individual employer based on costs directly related to their participants in the plan. Our allocated share of the components of net periodic benefit cost other than the service cost component, are included in "Other operating expenses" in the Consolidated Statements of Comprehensive Income. Service costs related to the plan expenses is included in "Salaries and employee benefits" in the Consolidated Statements of Comprehensive Income. The Pension Restoration Plan is unfunded and we make annual contributions to fund benefits paid to our retirees covered by the plan. Our cash contributions are equal to the benefits paid. There were no benefits paid under the Pension Restoration Plan to our senior officers who were actively employed during the year.

Retiree Medical Plans: District employers also provide certain health insurance benefits to eligible retired employees according to the terms of the benefit plans. The anticipated costs of these benefits are accrued during the period of the employee's active status.

Retiree Medical Plan Information
(in thousands)

For the year ended December 31	2018	2017	2016
Postretirement benefit (income) expense	$(90)	$63	$58
Our cash contributions	156	153	152

The 2018 postretirement benefit income is due to an actuarial gain. Postretirement benefit (income) expense is included in "Salaries and employee benefits" in the Consolidated Statements of Comprehensive Income. Our cash contributions are equal to the benefits paid.

DEFINED CONTRIBUTION PLANS

We participate in a District-wide defined contribution plan. For employees hired before January 1, 2007, employee contributions are matched dollar for dollar up to 2.0% and 50 cents on the dollar on the next 4.0% on both pre-tax and post-tax contributions. The maximum employer match is 4.0%. For employees hired after December 31, 2006, we contribute 3.0% of the employee's compensation and will match employee contributions dollar for dollar up to a maximum of 6.0% on both pre-tax and post-tax contributions. The maximum employer contribution is 9.0%.

We also participate in a District-wide Nonqualified Deferred Compensation Plan. Eligible participants must meet one of the following criteria: certain salary thresholds as determined by the IRS, are either a Chief Executive Officer or President of a participating employer, or have previously elected pre-tax deferrals in 2006 under predecessor nonqualified deferred compensation plans. Under this plan the employee may defer a portion of his/her salary, bonus, and other compensation. Additionally, the plan provides for supplemental employer matching contributions related to any compensation deferred by the employee that would have been eligible for a matching contribution under the defined contribution plan if it were not for certain IRS limitations.

Employer contribution expenses for the defined contribution plan, included in "Salaries and employee benefits" in the Consolidated Statements of Comprehensive Income, were $2.9 million, $2.6 million, and $2.4 million in 2018, 2017, and 2016, respectively. These expenses were equal to our cash contributions for each year.

NOTE 11: RELATED PARTY TRANSACTIONS

In the ordinary course of business, we may enter into loan transactions with our officers, directors, their immediate family members, and other organizations with which such persons may be associated. Such transactions may be subject to special approval requirements contained in the FCA Regulations and are made on the same terms, including interest rates, amortization schedules, and collateral, as those prevailing at the time for comparable transactions with other persons. FCA Regulations also require disclosure of a loan to a senior officer or director, or to any organization affiliated with such person that involves more than the normal risk of collectability. We had two directors that met the criteria of more than the normal risk of collectability in 2018 and 2017.

Matthew L. Berge has loan relationships with GreenStone Farm Credit Services, ACA through an affiliated entity. Subsequent to March 2017, each of the loans under the relationship were classified as substandard as the loans were deemed to involve more than the normal risk of collectability. The largest aggregate amount of indebtedness outstanding at any time was $5.5 million during 2018 and $5.4 million during 2017. The purposes of these loans are operating expenses, hedging transactions, and equipment and real estate purchases. The aggregate principal balances of the loans were $4.9 million on December 31, 2018 and $5.3 million on December 31, 2017. The reason these loans involve more than the normal risk of collectability is due to insufficient earnings which was deemed to create inadequate repayment capacity. The Association Bylaw requirements were met which require the submission of a plan that must be reasonably designed to "substantially improve" the farm business financial position with the overall objective to upgrade the loan classification within a reasonable period of time. The loan payments were current on December 31, 2018 and December 31, 2017, with no amount past due.

Ronald W. Lucas has loan relationships with GreenStone Farm Credit Services, ACA through an affiliated entity. Subsequent to May 2017, each of the loans under the relationship were classified as substandard as the loans were deemed to involve more than the normal risk of collectability. The largest aggregate amount of indebtedness outstanding at any time was $2.6 million during 2018 and $2.6 million during 2017. The purposes of these loans is operating expenses, and equipment and real estate purchases. The aggregate principal balances of the loans were $2.4 million on December 31, 2018 and $2.6 million on December 31, 2017. The reason these loans involve more than the normal risk of collectability is due to insufficient earnings which was deemed to create inadequate repayment capacity. The Association Bylaw requirements were met which require the submission of a plan that must be reasonably designed to "substantially improve" the farm business financial position with the overall objective to upgrade the loan classification within a reasonable period of time. The loan payments were current on December 31, 2018 and December 31, 2017, with no amount past due.

Related Party Loans Information
(in thousands)

As of December 31:	2018	2017	2016
Total related party loans	$42,076	$46,737	$46,446
For the year ended December 31:	**2018**	**2017**	**2016**
Advances to related parties	$23,433	$23,396	$23,571
Repayments by related parties	32,841	31,508	34,928

The related parties can be different each year end primarily due to changes in the composition of the Board of Directors and the mix of organizations with which such persons may be associated. Advances and repayments on loans in the preceding chart are related to those considered related parties at year end.

As discussed in Note 7, we borrow from AgriBank, in the form of a line of credit, to fund our loan portfolio. All interest expense as shown on the Consolidated Statements of Comprehensive Income was paid to AgriBank. Total patronage received from AgriBank was $45.3 million, $41.3 million, and $23.5 million in 2018, 2017, and 2016, respectively. Refer to Note 3 for information on participations sold to AgriBank and Note 4 for stock investment in AgriBank information.

We purchase various services from AgriBank, including SunStream Business Services, a division of AgriBank FCB. The services include certain financial and retail systems, financial reporting services, tax reporting services, technology services, and insurance services. The total cost of services we purchased from AgriBank was $1.9 million, $1.9 million, $1.8 million in 2018, 2017, and 2016, respectively.

We also purchase human resource information systems, and benefit, payroll, and workforce management services from Farm Credit Foundations (Foundations). As of December 31, 2018, 2017, and 2016, our investment in Foundations was $59 thousand. The total cost of services purchased from Foundations was $344 thousand, $322 thousand, and $302 thousand in 2018, 2017, and 2016, respectively.

NOTE 12: CONTINGENCIES AND COMMITMENTS

In the normal course of business, we have various contingent liabilities and commitments outstanding, which may not be reflected in the Consolidated Financial Statements. We do not anticipate any material losses because of these contingencies or commitments.

We may be named as a defendant in certain lawsuits or legal actions in the normal course of business. At the date of these Consolidated Financial Statements, our management team was not aware of any material actions. However, management cannot ensure that such actions or other contingencies will not arise in the future.

We have commitments to extend credit and letters of credit to satisfy the financing needs of our borrowers. These financial instruments involve, to varying degrees, elements of credit risk that may be recognized in the financial statements. Commitments to extend credit are agreements to lend to a borrower as long as there is not a violation of any condition established in the loan contract. Standby letters of credit are agreements to pay a beneficiary if there is a default on a contractual arrangement. At December 31, 2018, we had commitments to extend credit and unexercised commitments related to standby letters of credit of $2.0 billion. Additionally, we had $20.7 million of issued standby letters of credit as of December 31, 2018.

Commitments to extend credit and letters of credit generally have fixed expiration dates or other termination clauses and we may require payment of a fee. If commitments to extend credit and letters of credit remain unfulfilled or have not expired, they may have credit risk not recognized in the financial statements. Many of the commitments to extend credit and letters of credit will expire without being fully drawn upon. Therefore, the total commitments do not necessarily represent future cash requirements. Certain letters of credit may have recourse provisions that would enable us to recover from third parties amounts paid under guarantees, thereby limiting our maximum potential exposure. The credit risk involved in issuing these financial instruments is essentially the same as that involved in extending loans to borrowers and we apply the same credit policies. The amount of collateral obtained, if deemed necessary by us upon extension of credit, is based on management's credit evaluation of the borrower.

NOTE 13: FAIR VALUE MEASUREMENTS

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date in the principal or most advantageous market for the asset or liability. Accounting guidance also establishes a fair value hierarchy, with three input levels that may be used to measure fair value. Refer to Note 2 for a more complete description of the three input levels.

We did not have any assets or liabilities measured at fair value on a recurring basis at December 31, 2018, 2017, or 2016.

NON-RECURRING BASIS

We may be required, from time to time, to measure certain assets at fair value on a non-recurring basis.

Assets Measured at Fair Value on a Non-recurring Basis
(in thousands)

As of December 31, 2018				
	Fair Value Measurement Using			Total Fair
	Level 1	Level 2	Level 3	Value
Impaired loans	$ —	$ —	$53,946	$53,946
Acquired property	—	—	4,891	4,891

As of December 31, 2017				
	Fair Value Measurement Using			Total Fair
	Level 1	Level 2	Level 3	Value
Impaired loans	$ —	$ —	$16,154	$16,154
Acquired property	—	—	4,483	4,483

As of December 31, 2016				
	Fair Value Measurement Using			Total Fair
	Level 1	Level 2	Level 3	Value
Impaired loans	$ —	$6,999	$8,221	$15,220
Acquired property	—	4,360	—	4,360

VALUATION TECHNIQUES

Impaired Loans: Represents the carrying amount and related write-downs of loans which were evaluated for individual impairment based on the appraised value of the underlying collateral. When the value of the collateral, less estimated costs to sell, is less than the principal balance of the loan, a specific reserve is established. Costs to sell represent transaction costs and are not included as a component of the asset's fair value. If the process uses observable market-based information, they are classified as Level 2. If the process requires significant input based on management's knowledge of and judgment about current market conditions, specific issues relating to the collateral and other matters, they are classified as Level 3.

Acquired property: Represents the fair value and related losses of foreclosed assets that were measured at fair value based on the collateral value, which is generally determined using appraisals, or other indications based on sales of similar properties. Costs to sell represent transaction costs and are not included as a component of the asset's fair value. If the process uses observable market-based information, they are classified as Level 2. If the process requires significant input based on management's knowledge of and judgment about current market conditions, specific issues relating to the property and other matters, they are classified as Level 3.

NOTE 14: SUBSEQUENT EVENTS

We have evaluated subsequent events through March 11, 2019, which is the date the Consolidated Financial Statements were available to be issued. There have been no material subsequent events that would require recognition in our 2018 Consolidated Financial Statements or disclosure in the Notes to Consolidated Financial Statements.

Disclosure Information Required By Regulations

GREENSTONE FARM CREDIT SERVICES, ACA
(Unaudited)

DESCRIPTION OF BUSINESS
General information regarding the business is incorporated herein by reference from Note 1 to the Consolidated Financial Statements in this Annual Report.

The description of significant business developments, if any, is incorporated herein by reference from the Management's Discussion and Analysis section of this Annual Report.

DESCRIPTION OF PROPERTY

Property Information

Location	Description	Usage
Adrian, MI	Owned	Branch Office
Allegan, MI	Owned	Branch Office
Alma, MI	Owned	Branch Office
Alpena, MI	Owned	Branch Office
Ann Arbor, MI	Owned	Branch Office
Bad Axe, MI	Owned	Branch Office
Bay City, MI	Owned	Branch Office
Berrien Springs, MI	Owned	Branch Office
Cadillac, MI	Owned	Branch Office
Caro, MI	Owned	Branch Office
Charlotte, MI	Leased	Branch Office
Clintonville, WI	Owned	Branch Office
Coleman, WI	Owned	Branch Office
Concord, MI	Owned	Branch Office
Corunna, MI	Owned	Branch Office
West Rd, East Lansing, MI	Owned	Corporate
Abbey Rd, East Lansing, MI(1)	Owned	Sold
Escanaba, MI	Leased	Branch Office
Grand Rapids, MI	Owned	Branch Office
Hart, MI	Leased	Branch Office
Hastings, MI	Owned	Branch Office
Howell, MI	Leased	Branch Office
Ionia, MI	Owned	Branch Office
Jonesville, MI	Owned	Branch Office
Lakeview, MI	Owned	Branch Office
Lapeer, MI	Owned	Branch Office
Little Chute, WI	Owned	Branch Office
Manitowoc, WI	Leased	Branch Office
Mason, MI	Leased	Branch Office
Monroe, MI	Owned	Branch Office
Mt. Pleasant, MI	Owned	Branch Office
Saginaw, MI	Owned	Branch Office
Sandusky, MI	Owned	Branch Office
Schoolcraft, MI	Owned	Branch Office
St. Johns, MI	Owned	Branch Office
Sturgeon Bay, WI	Leased	Branch Office
Traverse City, MI	Owned	Branch Office

[1]Former corporate office, sold in October of 2018.

LEGAL PROCEEDINGS
Information regarding legal proceedings is discussed in Note 12 to the Consolidated Financial Statements in this Annual Report. We were not subject to any enforcement actions as of December 31, 2018.

ADDITIONAL REGULATORY CAPITAL DISCLOSURE
Regulatory Capital Ratios Pursuant to FCA Regulation 620.5

As of December 31	2013	2012
Permanent capital ratio	14.7%	14.6%
Total surplus ratio	14.3%	14.3%
Core surplus ratio	14.3%	14.3%

Refer to the Consolidated Five-Year Summary of Selected Financial Data at the beginning of this Annual Report for capital ratio calculations for the past five years.

DESCRIPTION OF CAPITAL STRUCTURE
Information regarding our capital structure is discussed in Note 8 to the Consolidated Financial Statements in this Annual Report.

DESCRIPTION OF LIABILITIES
Information regarding liabilities is discussed in Notes 7, 8, 9, 10, and 12 to the Consolidated Financial Statements in this Annual Report. All debt and other liabilities in the financial statements are uninsured.

SELECTED FINANCIAL DATA
The Consolidated Five-Year Summary of Selected Financial Data is presented at the beginning of this Annual Report.

MANAGEMENT'S DISCUSSION AND ANALYSIS
Information regarding any material aspects of our financial condition, changes in financial condition, and results of operations are discussed in the Management's Discussion and Analysis section of this Annual Report.

BOARD OF DIRECTORS

Board of Directors as of December 31, 2018, including business experience during the last five years

Name	Term	Principal Occupation and Other Affiliations
Edward L. Reed (Age 56) Board Chair Executive Committee, Chair Compensation Committee, Vice Chair Service Began: 2008	2018-2022	**Principal Occupation:** Self-employed livestock and grain farmer Member-Manager: Reed Family Farms, LLC Member-Manager: Reed Family Properties, LLC **Other Affiliations:** Board Member: Michigan Pork Producers Association Board Chair: Three Rivers Health Foundation
Bruce E. Lewis (Age 53) Board Vice Chair Executive Committee, Vice Chair Compensation Committee, Chair Service Began: 2011	2017-2021	**Principal Occupation:** Self-employed dairy and cash crop farmer **Other Affiliations:** Vice President: Hillsdale-Litchfield Local Michigan Milk Producers Association Advisory Committee and Resolutions Committee
Matthew L. Berge (Age 42) Finance Committee, Chair Service Began: 2013	2015-2019	**Principal Occupation:** Self-employed dairy farmer and heifer raiser Member-Manager: Badger Pride Dairy, LLC Director: The Heifer Authority, LLC
Laura A. Braun (Age 59) Legislative/Public Policy Committee, Chair Service Began: 2012	2015-2019	**Principal Occupation:** Self-employed farmer and small business owner Partner: Golden Maple Farms, LLC Independent Sales Agent: Stine Seeds **Other Affiliations:** Board Member: AgriBank District Farm Credit Council Director: State of Michigan Rural Development Fund Board Committee: Michigan Farm Bureau AgriPAC Director and Third Member: Clinton County Farm Bureau Board of Directors Board Member: Great Lakes Leadership Academy Leadership Development Program
Wm. "Hank" Choate (Age 68) Legislative/Public Policy Committee Service Began: 2014	2017-2021	**Principal Occupation:** Self-employed dairy and cash grain farmer Partner: Choate's Belly Acres Member-Manager: Liberty Centennial, LLC **Other Affiliations:** Board Member: Michigan Milk Producers Association (milk marketing cooperative owned by dairy farmers in Michigan, Indiana, Ohio, and Wisconsin) Board Member: United Dairy of Michigan Planning Committee: Liberty Township Advisory Committee: NorthStar Cooperative (member farmer owned cooperative that enhances producers profitability through integrated services) Advisory Committee: Michigan Farm Bureau Dairy Commodity (considers and makes dairy policy recommendations for approval by its members) Committee: Jackson County Republican
Eugene B. College (Age 73) Appointed Director Audit Committee, Chair Service Began: 2009	2018-2022	**Principal Occupation:** Retired Senior Vice President and Chief Financial Officer of Farm Credit Services of America, ACA
Thomas R. Durand (Age 63) Audit Committee Service Began: 2013	2016-2020	**Principal Occupation:** Self-employed sugar beet, dry beans, and grain farmer President: Durand Farms, Inc. **Other Affiliations:** Director: Corn Marketing Program of Michigan
Terri J. Hawbaker (Age 38) Finance Committee, Vice Chair Service Began: 2015	2015-2019	**Principal Occupation:** Self-employed dairy farmer Owner/Operator: Grazeway Dairy Farms

Name	Term	Principal Occupation and Other Affiliations
Ronald W. Lucas (Age 62) Finance Committee Service Began: 2013	2016-2020	**Principal Occupation:** Self-employed dairy farmer Member-Manager: Lucas Dairy Farms, LLC **Other Affiliations:** Supervisor: Wellington Township Secretary/Treasurer: Hillman Local Michigan Milk Producers Association
Peter C. Maxwell (Age 34) Audit Committee Service Began: 2016	2016-2020	**Principal Occupation:** Self-employed cash crop farmer Independent Sales Agent: ACH Seeds Employee: Maxwell Seed Farms raising cash crops **Other Affiliations:** Chair: Gladwin County Farm Bureau Young Farmer Director: Michigan Sugar Company West District
Dennis C. Muchmore (Age 72) Appointed Director Legislative/Public Policy Committee Service Began: 2002	2017-2021	**Principal Occupation:** GA and Regulatory Advisor: Honigman Miller Schwartz and Cohn, LLP Former Chief of Staff to Governor of the State of Michigan **Other Affiliations:** Partner: TOMDEN Enterprises, LLC (privately held investment firm with limited business interests in aeronautic composites) Board of Trustees: Oakland University Board Member: Iron Belle Trail, LLC (walking and biking trail system in Michigan)
Scott A. Roggenbuck (Age 56) Executive Committee Compensation Committee Service Began: 2007	2016-2020	**Principal Occupation:** Self-employed cash crop farmer President: Cedar Pond Farms Inc. (grain and sugar beet operation) President: Cedar Pond Holdings, LLC (family partnership owning farmland) President: Cedar Pond Ag Services Inc. (custom farming and consulting) **Other Affiliations:** Committee Member: Sugar Beet Advancement Committee and the REACh Committee (both committees provide research and education in the advancement of the production of sugar beets in Michigan and Ontario) Chair: Michigan Sugar Industry Education Institute (creating educational opportunities about the production and processing of sugar to the public)
Aaron "Andy" Snider (Age 56) Executive Committee Compensation Committee Service Began: 2012	2018-2022	**Principal Occupation:** Self-employed turkey, hog, and cash grain farmer Member-Manager: Snider Farms, LLC Member-Manager: Snider RE, LLC Member-Manager: A Z Snider, LLC **Other Affiliations:** Board Member: Michigan Turkey Producers Co-op Executive Council: Land-O-Lakes Co-op Region IV Committee Member: Land-O-Lakes Policy and Resolutions Committee
Michael R. Timmer (Age 50) Finance Committee Service Began: 2018	2018-2022	**Principal Occupation:** Self-employed grain and livestock farmer Member-Manager: Timmer Family Farms, LLC **Other Affiliations:** Treasurer: Agri-Alliance, LLC
Dale L. Wagner (Age 59) Audit Committee, Vice Chair Service Began: 2012	2015-2019	**Principal Occupation:** Self-employed dairy, cash grain farmer, and custom harvester Member-Manager: Twin Elm Family Farm, LLC Member-Manager: Union 151, LLC **Other Affiliations:** Vice Chair: Wisconsin Farm Credit Legislative Committee (GreenStone representative) Board Member: AgriBank District Farm Credit Council
Jed Welder (Age 50) Legislative/Public Policy Committee, Vice Chair Service Began: 2018	2018-2022	**Principal Occupation:** Self-employed grain farmer **Other Affiliations:** Director: Montcalm Conservation District Board Member: Farmer Veteran Coalition Trustee: Sidney Township Board

The Board Chair and Chair of the Audit Committee each received annual retainer fees of $28 thousand in 2018. The Board Vice Chair received $26 thousand, and the remaining board members received $24 thousand. Additionally, all board members received a $600 computer allowance. The retainer fees are paid quarterly. In 2018, the board members did not receive compensation for individual board or regular committee meetings attended. Per diem is paid for attendance at ad hoc committee meetings only and increased in 2018 to a rate of $300 per day compared to $250 in 2017 and 2016. In 2018, there was one board member that received $600 for attendance at two days of ad hoc meetings.

Information regarding compensation paid to each director who served during 2018 follows:

	Number of Days Served		
	Board Meetings	Other Official Activities	Total Compensation Paid in 2018
Matthew L. Berge	4	11	$24,600
Laura A. Braun	4	22	24,600
William "Hank" Choate	4	11	24,600
Eugene B. College	4	17	28,600
Christine M. Crumbaugh[(3)]	1	7	4,333
Thomas R. Durand	3	10	24,600
Darl E. Evers[(2)]	2	11	11,179
Terri J. Hawbaker	4	16	24,600
Bruce E. Lewis	4	10	26,600
Ronald W. Lucas	4	18	24,600
Peter C. Maxwell	4	13	24,600
Dennis C. Muchmore	4	15	24,600
Edward L. Reed	4	14	28,600
Scott A. Roggenbuck	4	13	24,600
Aaron "Andy" Snider	4	18	25,200
Michael R. Timmer[(1)]	2	5	13,421
Dale L. Wagner	4	22	24,600
Jed Welder[(1)]	2	9	13,421
			$397,354

[(1)]Newly elected director
[(2)]Not re-elected
[(3)]Elected to AgriBank Board of Directors on March 6, 2018, and subsequently resigned from GreenStone Board of Directors.

SENIOR OFFICERS
The senior officers include:

David B. Armstrong
Chief Executive Officer

Paul E. Anderson
Executive Vice President – Chief Credit Officer

Bethany L. Barker, SPHR
Executive Vice President – Chief Human Resources Officer

Travis D. Jones, CPA
Executive Vice President – Chief Financial Officer

Stephen A. Junglas
Executive Vice President – Chief Information Officer and Chief Information Security Officer

Peter L. Lemmer
Executive Vice President – Chief Legal Counsel

Melissa A. Stolicker, CPA
Executive Vice President – Chief Internal Auditor

David B. Armstrong was promoted to Chief Executive Officer (CEO) in 2009. Paul E. Anderson was promoted to Chief Credit Officer in 2009. Bethany L. Barker has been in her position since 1998. Travis D. Jones was hired as Chief Financial Officer in 2007. Stephen A. Junglas was promoted to Chief Information Officer in 2012. Peter L. Lemmer was hired as Chief Legal Counsel in 2008. Melissa A. Stolicker has been in her position since 2004.

Other business interests where a senior officer served as a board of director or senior officer include:

David B. Armstrong serves as a director on the executive committee of the Michigan Economic Development Corporation (promotes economic development within the state of Michigan). He serves as a board member and Treasurer for the Michigan Livestock Exhibition (non-profit to generate funding for youth scholarships through annual livestock shows and auctions). He also serves as a board member of the Farm Credit System Association Captive Insurance Company (privately-held insurance association that is owned by the System) and as a board member for Crystal Flash Energy Company (provides fuels and lubes to residential and commercial customers throughout primarily the state of Michigan).

Bethany L. Barker serves as a board member of Great Lakes Leadership Academy (non-profit that promotes positive change, economic vitality, and resource conservation).

Travis D. Jones serves as a board member for Michigan Finance Authority (offers effective low-cost financing to public and private agencies providing essential services to the citizens of Michigan). He also serves as a board member of Michigan FFA Association (dedicated to making a positive difference in the lives of young people by developing their potential for premium leadership, personal growth, and career success through agricultural education).

Stephen A. Junglas serves as a board member for the Capital Area IT Council (committed to identifying, developing, and implementing real solutions for improving the quantity and quality of IT professionals in the region).

Peter L. Lemmer is the Commissioner for Michigan Community Service Commission (Michigan state agency that leads the state in volunteer activities to strengthen Michigan communities).

Melissa A. Stolicker serves as a member of the Board of Trustees and Audit Committee for Oakland University (major public university in Michigan offering bachelor's and graduate degrees). She also serves as a board member of Delta Dental of Michigan (dental insurance plan administrator).

Information related to compensation paid to senior officers is provided in our Annual Meeting Information Statement (AMIS). The AMIS is available for public inspection at our office.

TRANSACTIONS WITH SENIOR OFFICERS AND DIRECTORS
Information regarding related party transactions is discussed in Note 11 to the Consolidated Financial Statements in this Annual Report.

TRAVEL, SUBSISTENCE, AND OTHER RELATED EXPENSES
Directors and senior officers are reimbursed for reasonable travel, subsistence, and other related expenses associated with business functions. A copy of our policy for reimbursing these costs is available by contacting us at:

3515 West Road
East Lansing, MI 48823
(800) 968-0061
www.greenstonefcs.com
Travis.Jones@greenstonefcs.com

The total directors' travel, subsistence, and other related expenses were $170 thousand, $172 thousand, and $145 thousand in 2018, 2017, and 2016, respectively.

INVOLVEMENT IN CERTAIN LEGAL PROCEEDINGS
No events occurred during the past five years that are material to evaluating the ability or integrity of any person who served as a director or senior officer on January 1, 2019, or at any time during 2018.

MEMBER PRIVACY
The FCA Regulations protect members' nonpublic personal financial information. Our directors and employees are restricted from disclosing information about our Association or our members not normally contained in published reports or press releases.

RELATIONSHIP WITH QUALIFIED PUBLIC ACCOUNTANT
There were no changes in independent auditors since the last Annual Report to members and we are in agreement with the opinion expressed by the independent auditors. The total financial statement audit fees paid during 2018 were $67 thousand. Our engagement letter commits to reimbursing the external auditor for reasonable out-of-pocket expenses as incurred for travel. In addition, we incurred $5 thousand for tax services.

FINANCIAL STATEMENTS
The Report of Management, Report on Internal Control Over Financial Reporting, Report of Audit Committee, Report of Independent Auditors, Consolidated Financial Statements, and Notes to Consolidated Financial Statements are presented prior to this portion of the Consolidated Financial Statements in this Annual Report.

YOUNG, BEGINNING, AND SMALL FARMERS AND RANCHERS
Information regarding credit and services to young, beginning, and small farmers and ranchers, and producers or harvesters of aquatic products is discussed in an addendum to this Annual Report.

Young, Beginning, and Small Farmers and Ranchers

GREENSTONE FARM CREDIT SERVICES, ACA
(Unaudited)

We have specific programs in place to serve the credit and related needs of young, beginning, and small (YBS) farmers and ranchers in our territory. The definitions of YBS as developed by the Farm Credit Administration (FCA) follow:

- Young: A farmer, rancher, or producer or harvester of aquatic products who was age 35 or younger as of the loan transaction date.
- Beginning: A farmer, rancher, or producer or harvester of aquatic products who has 10 years or less of experience at farming, ranching, or producing or harvesting aquatic products as of the loan transaction date.
- Small: A farmer, rancher, or producer or harvester of aquatic products who normally generated less than $250,000 in annual gross sales of agricultural or aquatic products.

YOUNG, BEGINNING, AND SMALL FARMER DEMOGRAPHICS
The local service area of the association includes the entire state of Michigan and 11 counties in the northeastern part of the state of Wisconsin. Results from the United States Department of Agriculture's (USDA) 2012 Census of Agriculture became available in May 2014 and were studied to try and determine the numbers of YBS farmers within our territory.

This most recent agricultural census represents the best demographic information available in our territory. Results of this study show the following:

Category	Number	Percent
Number of Farmers 34 and Younger	6,650	10.9%
Number of Farmers on Current Farm Less Than 10 Years	14,291	23.3%
Number of Farmers with Less Than $250,000 Farm Sales	53,987	88.2%
Total Number of YBS Farmers	61,218	

There are several differences in the methods by which the demographic and FCA YBS farmer data is presented:

Young farmers are defined by the FCA as 35 years old or less. The United States Department of Agriculture (USDA) demographic stratification breaks at 34 years. Beginning farmers are defined by the FCA as having 10 years or less farming experience. There is no measurement matching this definition in the USDA Census; however, the census does identify farmers on their current farm less than 10 years. That statistic may include beginning farmers, but may also include experienced farmers who have recently changed farmsteads. The FCA small farmer definition matches closely with the USDA delineation. Even though the statistical results of the census do not match the FCA definitions exactly, they do provide a consistent source of measurement with which to assess Association targets and goals.

DESCRIPTION AND STATUS REPORT ON THE YOUNG, BEGINNING, AND SMALL FARMER PROGRAM

The mission statement of the program is as follows:

"GreenStone Farm Credit Services recognizes the importance of young, beginning, and small farmers to the future of agriculture. The Association shall serve the unique needs of this market segment through special lending programs that extend credit in a safe and sound manner for both the individual member and the Association. GreenStone also believes in the value of education to prepare these producers to successfully compete in a highly competitive global marketplace and shall support educational opportunities for them that balance the cost of delivery with overall stockholder value."

The Association implemented a board approved YBS lending program comprised of separate components for YBS farmers. Relaxed underwriting standards and loan terms have been approved for farm operating loans, farm equipment and intermediate-term loans, and for real estate loans. These standards and terms are customized for young farmers and beginning farmers.

Quantitative targets based upon reasonably reliable demographic data have been established by board policy for YBS farmers. Targets have also been established for the YBS program in an aggregate. The targets are as follows:

Quantitative Targets	Measure	At 12/31/2018
1. Young farmers in portfolio equal to or greater than percentage of young farmers in the census	10.9%	23.7%
2. Young farmer loans at least 50% of the young farmers in census	50.0%	91.9%
3. Young farmers at least 10% total outstanding loan volume	10.0%	15.2%
4. Young farmers at least 10% of all new loans (number)	10.0%	20.0%
5. Beginning farmers at least 10% total number of loans outstanding	10.0%	37.8%
6. Beginning farmers at least 10% of total outstanding loan volume	10.0%	20.3%
7. Beginning farmers at least 10% of all new loans (number)	10.0%	26.8%
8. Small farmers at least 40% of total number of loans outstanding	40.0%	59.1%
9. Small farmers at least 20% of total outstanding loan volume	20.0%	21.2%
10. Small farmers at least 40% of all new loans (number)	40.0%	54.6%
11. Maintain at least 50% of total loan numbers to YBS farmers	50.0%	69.0%
12. Maintain at least 30% of the total outstanding loan volume to YBS farmers	30.0%	33.5%

The Association has also established certain qualitative goals addressing its efforts and to implement effective outreach programs to attract YBS farmers. These goals are as follows:

Qualitative Goals	Measure	At 12/31/2018
1. Related services will be offered to YBS farmers in the territory.		
Goals: Book sales of at least one Association offered related service to at least 5% of YBS farmers in the Association portfolio.	5% Young 5% Beginning 5% Small	5.0% 5.2% 10.4%
2. Credit services and financially related services to YBS farmers will be coordinated with governmental and private sources of credit.		
Goals: Coordinate with the USDA Farm Service Agency (FSA) to enhance credit services to young and beginning farmers by obtaining guarantees on at least 7.5% of loans (by number) and to take advantage of the FSA young farmer financing program utilizing private second mortgage financing or other alternative financing options whenever possible.	7.5% Young 7.5% Beg.	7.2% 3.9%
3. We will implement effective outreach programs to attract YBS farmers.		
Goals: (a) Participate in or sponsor annually at least 10 YBS farmer leadership and educational programs offered in either Michigan or Wisconsin.	10 Programs	25 Programs sponsored
(b) Offer at least five individual scholarships to deserving YBS farmers (or potential YBS farmers) to Michigan and/or Wisconsin Universities or Colleges.	5 Scholarships	21 Scholarships offered

All of the Association's quantitative and qualitative goals were met in 2018 with the following exception: the use of FSA guarantees on young and beginning farmer loans. The strength of the financial position of our YBS borrowers has negated the need for FSA guarantees. We anticipate that the utilization of FSA guarantees will continue to increase over the next several years due to the decline in commodity prices in many of our agricultural industries.

The Association employs the following methods and strategies to ensure that credit and services offered to YBS farmers are provided in a safe and sound manner and within our risk-bearing capacity:

- Board policy includes a specific section discussing program safety and soundness under its operating parameters.
- Board policy includes a maximum level of risk for YBS adverse volume originated under the program.
- The Association's internal audit plan requires periodic auditing of the YBS program, which is done annually in conjunction with the internal credit review. In addition, comprehensive reports are written periodically, the most recent report was as of December 31, 2015.
- The Association's internal audit and loan review plan will annually include a selection of YBS loans within its normal selection criteria and assess individual loan credit administration, coding, and loan quality.

Funds Held Program

GREENSTONE FARM CREDIT SERVICES, ACA
(Unaudited)

The Association offers a Funds Held Program ("Funds Held") that provides funds for customers to make advance payments on designated real estate, operating, and intermediate-term loans, pay insurance premiums, taxes, or any other eligible purpose.

PAYMENT APPLICATION: Loan payments received by the Association before the loan has been billed will normally be placed into Funds Held and applied against the next installment due.

ACCOUNT MAXIMUM: The amount in Funds Held may not exceed the unpaid principal balance of the loan.

INTEREST RATE: Interest will accrue on Funds Held at a simple rate of interest that may be changed by the Association from time to time. The interest rate may never exceed the interest rate charged on the related loan.

Funds Held on real estate loans, operating loans, and intermediate-term loans are paid at a rate of interest equal to 3% (300 basis points) less than the loan rate.

WITHDRAWALS: Money in Funds Held may be withdrawn for the following items: customers with real estate loans, operating loans, and intermediate-term loans may use funds for future installments, insurance premiums, or real estate taxes on collateral for the respective loan. Customers may make withdrawals for other approved purposes in lieu of increasing the loan amount for any eligible loan purpose.

ASSOCIATION OPTIONS: In the event of default on any loan, if Funds Held exceeds the maximum limit as established above or if the Association discontinues their Funds Held program, the Association may apply funds in the account to the unpaid loan balance and other amounts due and shall return any excess funds to the customer.

UNINSURED ACCOUNT: Funds Held is not a depository account and is not insured. In the event of the Association's liquidation, customers having balances in Funds Held shall be notified according to the FCA Regulations.

Office Locations

Corporate Office

East Lansing / 517-318-4100
3515 West Rd., East Lansing, MI 48823

Michigan

Adrian / 517-263-9798
5285 W. US 223, Adrian, MI 49221

Allegan / 269-673-5541
1517 Lincoln Rd., Allegan, MI 49010

Alma / 989-463-3146
2942 W. Monroe Rd., Alma, MI 48801

Alpena / 989-354-4343
2200 M-32 West, Alpena, MI 49707

Ann Arbor / 734-769-2411
7530 Jackson Rd., Ann Arbor, MI 48103

Bad Axe / 989-269-6532
749 S. Van Dyke Rd., Bad Axe, MI 48413

Bay City / 989-686-5100
3949 S. Three Mile Rd., Bay City, MI 48706

Berrien Springs / 269-471-9329
8302 Edgewood Rd.,
Berrien Springs, MI 49103

Cadillac / 231-775-1361
7597 S Mackinaw Trl., Cadillac, MI 49601

Caro / 989-673-6128
1570 Cleaver Rd., Caro, MI 48723

Charlotte / 517-543-1360
722 W. Lawrence Ave., Charlotte, MI 48813

Concord / 517-524-6670
100 Spring St., Concord, MI 49237

Corunna / 989-743-5606
704 W. Corunna Ave., Corunna, MI 48817

Escanaba / 906-786-4487
1801 N. Lincoln Rd., Suite A,
Escanaba, MI 49829

Grand Rapids / 616-647-0030
3225 Walker Ave. NW,
Grand Rapids, MI 49544

Hart / 231-873-7102
3486 W. Polk Rd., Hart, MI 49420

Hastings / 269-945-9415
333 W. State St., Hastings MI, 49058

Howell / 517-546-2840
1040 W. Highland Rd., Howell, MI 48843

Ionia / 616-527-1930
1962 S. State Rd., Ionia, MI 48846

Jonesville / 517-437-3336
500 Olds St., Jonesville, MI 49250

Lakeview / 989-352-7203
8897 W. Tamarack Rd., Lakeview, MI 48850

Lapeer / 810-664-5951
455 Lake Nepessing Rd., Lapeer, MI 48446

Mason / 517-676-1086
525 N. Okemos St., Mason, MI 48854

Monroe / 734-243-6711
15615 S. Telegraph Rd.,
Monroe, MI 48161

Mt. Pleasant / 989-773-5175
1075 N. Mission St., Mt. Pleasant, MI 48858

Saginaw / 989-781-4251
11020 Gratiot Rd., Saginaw, MI 48609

Sandusky / 810-648-2600
100 S. Elk St., Sandusky, MI 48471

Schoolcraft / 269-679-5296
225 W. Lyon St., Schoolcraft, MI 49087

St. Johns / 989-224-9321
1104 S. US 27, St. Johns, MI 48879

Traverse City / 231-946-5710
3491 Hartman Rd., Traverse City, MI 49685

Wisconsin

Clintonville / 715-823-2128
280 S. Main St., Clintonville, WI 54929

Coleman / 920-897-4046
202 Sado Ln., Coleman, WI 54112

Little Chute / 920-687-4450
340 Patriot Dr., Little Chute, WI 54140

Manitowoc / 920-682-5792
4400 Calumet Ave., Suite 102,
Manitowoc, WI 54220

Sturgeon Bay / 920-743-8150
3030 Park Dr., Suite B,
Sturgeon Bay, WI 54235

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Printed in the U.S.A.