

2016 Explanatory Notes
Economic Research Service

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ECONOMIC RESEARCH SERVICE

Purpose Statement

The Economic Research Service (ERS) was established in 1961 from components of the former Bureau of Agricultural Economics principally under the authority of the Agricultural Marketing Act of 1946 (7 U.S.C. 1621-1627). The mission of ERS is to inform and enhance public and private decision making on economic and policy issues related to agriculture, food, the environment, and rural development.

Activities to support this mission and the following goals involve research and development of economic and statistical indicators on a broad range of topics, including but not limited to global agricultural market conditions, trade restrictions, agribusiness concentration, farm business and household income, farm and retail food prices, food borne illnesses, food labeling, nutrition, food assistance programs, agrichemical usage, livestock waste management, conservation, genetic diversity, technology transfer, and rural employment. Research results and economic indicators on such important agricultural, food, natural resource, and rural issues are fully disseminated to public and private decision makers through reports and articles; special staff analyses, briefings, presentations, and papers; databases; and individual contacts. More information on ERS' program is contained on the ERS Web site at: www.ers.usda.gov.

The ERS headquarters is in Washington, D.C. ERS does not have any field offices. As of September 30, 2014, there were 332 permanent full-time employees.

During FY 2014, ERS conducted an internal review of its Market Outlook Program, with external input being provided by the Farm Foundation through focus-group sessions with stakeholders. The review was completed in June 2014. The intent of the review was to obtain an objective, rigorous assessment of the demand for market outlook data and analysis across key stakeholder groups. Eleven focus-group sessions were convened to formally solicit feedback on ERS data and commodity newsletters. This information, along with data on web usage of ERS outlook products and additional input from departmental stakeholders, is being used in the formulation of a new strategic action plan to improve the timeliness, relevance, and quality of program outputs. ERS conducted a priority planning process that included an extensive period of meeting with stakeholders to assess what they value in ERS' Resource and Rural Economics Division's program of work and its priorities for going forward. Interviews were held with dozens of stakeholders as well as key contacts from the Congressional Research Service, HHS, and academic and non-profit policy informers. The priority planning process was completed in September 2014. Based on feedback from external stakeholders in USDA, other Federal agencies, and other research and policy organizations, a set of 17 priority projects were developed, which will form the core of the Division's research program over the next two years.

During 2014, ERS conducted an external review of the agency's USDA Agricultural Productivity Accounts. The accounts, covering the years 1948 to 2011, consist of annual indexes of farm output and ten components of output, farm input, and 12 components of total input, and total factor productivity, measured as the difference between output and input growth. The five-person external review committee of academic and government experts reviewed ERS methods, data sources, research, and reporting with regard to current best practices in each topic. The final report from the external review of the USDA Agricultural Productivity Accounts was completed in August. The review team is also preparing a series of articles in a special issue of *Applied Economic Perspectives and Policy*, including an ERS response, to improve the transparency and dissemination of the results.

The ERS LAN/WAN System and its constituent system-level components underwent an annual security assessment to determine the risk to agency operations, agency assets, or individuals resulting from the operation of the information system in accordance with NIST 800-53 and FISMA security requirements. This review is mandated and was performed in accordance with USDA's Risk Management Framework. All testing was performed by a third party contractor and results were input into the USDA Cyber Security Assessment & Management (CSAM) tool.

ERS contracted with ProWorks and Mindly to conduct an external, third-party review of our implementation of the Umbraco web content management system (CMS). The review assessed and identified areas for improvement in ERS's Umbraco CMS design and implementation; advised on the site architecture/structure and features/controls in order to improve performance/reliability, usability, and architecture and to make full use of Umbraco's features; and

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determined how to make ERS's production process more efficient. To create the most optimized website solution possible both for end users as well as for the staff responsible for populating and maintaining the site, the contractors recommended a rebuild, and the adoption of a document management system. They provided a roadmap—and started down the path, with our team, to create a working example of an optimized Umbraco solution that demonstrates the desired performance and usability gains.

ERS contracted with Forum One Communications from July 2013 through April 2014 to review, update, and extend the personas it uses to guide its overall communication efforts to ensure they reflect the needs and interests of the agency's key audiences for information about economics and agriculture. ERS wanted to know more about its user base to improve its communications strategy and resulting products and/or services. ERS also wanted to identify the gaps between what products its audiences are most interested in, what ERS thinks its audiences are most interested in, and what ERS is actually providing. The final report included persona descriptions for each ERS target audience group as well as a strategic process matrix on how to use the personas; recommended primary information products and services that ERS should provide to its primary audiences; and recommended formats that ERS should use to publish research products.

ERS did not have any direct Office of Inspector General (OIG) or Government Accountability Office (GAO) audits or evaluations conducted during 2014.

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Available Funds and Staff Years (SYs)
(Dollars in thousands)

| Item | 2013 Actual | | 2014 Actual | | 2015 Enacted | | 2016 Estimate | |
|---|-------------|-----|-------------|-----|--------------|-----|---------------|-----|
| | Amount | SYs | Amount | SYs | Amount | SYs | Amount | SYs |
| Salaries and Expenses: | | | | | | | | |
| Discretionary Appropriations..... | \$77,397 | 348 | \$78,058 | 340 | \$85,373 | 364 | \$86,023 | 364 |
| Rescission..... | -2,096 | - | - | - | - | - | - | - |
| Sequestration..... | -3,910 | | | | | | | |
| Adjusted Appropriation..... | 71,391 | 348 | 78,058 | 340 | 85,373 | 364 | 86,023 | 364 |
| Lapsing Balances..... | -378 | - | -507 | - | - | - | - | - |
| Obligations..... | 71,013 | 348 | 77,551 | 340 | 85,373 | 364 | 86,023 | 364 |
| Obligations under other USDA appropriations: | | | | | | | | |
| Foreign Agricultural Service..... | 240 | 1 | 232 | 1 | 350 | 1 | 350 | 1 |
| Food and Nutrition Service..... | 2,994 | - | 4,577 | - | 500 | - | 2000 | - |
| Agricultural Research Service..... | 337 | - | 380 | - | 0 | - | 0 | - |
| Nat'l Inst. of Food and Agriculture..... | 1 | - | 1 | - | 0 | - | 0 | - |
| Center for Nutrition Policy & Promotion.. | 0 | - | 550 | - | 0 | - | 0 | - |
| Nat'l Agricultural Statistics Service..... | 51 | - | 50 | - | 50 | - | 50 | - |
| Risk Management Agency..... | 1 | - | 5 | - | 0 | - | 0 | - |
| Total, Other USDA Appropriation..... | 3,624 | 1 | 5,795 | 1 | 900 | 1 | 2,400 | 1 |
| Total, Economic Research Service..... | 74,637 | 349 | 83,346 | 341 | 86,273 | 365 | 88,423 | 365 |

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Permanent Positions by Grade and Staff Year Summary

| Grade | 2013 Actual Washington DC | 2014 Actual Washington DC | 2015 Enacted Washington DC | 2016 Estimate Washington DC |
|--|---------------------------------|---------------------------------|----------------------------------|-----------------------------------|
| Senior Executive Service..... | 6 | 6 | 6 | 6 |
| GS-15..... | 71 | 71 | 70 | 70 |
| GS-14..... | 78 | 78 | 77 | 77 |
| GS-13..... | 89 | 89 | 87 | 87 |
| GS-12..... | 52 | 52 | 51 | 51 |
| GS-11..... | 34 | 34 | 34 | 34 |
| GS-10..... | 1 | 1 | 1 | 1 |
| GS-9..... | 15 | 15 | 15 | 15 |
| GS-8..... | 5 | 4 | 4 | 4 |
| GS-7..... | 4 | 3 | 3 | 3 |
| GS-6..... | 3 | 3 | 3 | 3 |
| GS-5..... | 4 | 4 | 4 | 4 |
| GS-4..... | 7 | 4 | 4 | 4 |
| GS-3..... | 4 | 4 | 4 | 4 |
| GS-2..... | 2 | 2 | 2 | 2 |
| Total Permanent Positions..... | 375 | 370 | 365 | 365 |
| Unfilled Positions, EOY..... | -48 | -38 | 0 | 0 |
| Total Permanent, Full-Time Employment, EOY..... | 327 | 332 | 365 | 365 |
| Staff-Year Estimate..... | 349 | 341 | 365 | 365 |

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The estimates include appropriation language for this item as follows (new language underscored; deleted matter enclosed in brackets).

For necessary expenses of the Economic Research Service, [~~\$85,373,000~~] \$86,023,000.

Lead-Off Tabular Statement

| | |
|------------------------------|-------------------|
| Budget Estimate, 2016..... | \$86,023,000 |
| 2015 Enacted..... | <u>85,373,000</u> |
| Change in Appropriation..... | <u>+650,000</u> |

Summary of Increases and Decreases
(Dollars in thousands)

| Discretionary Appropriations: | 2013 <u>Actual</u> | 2014 <u>Change</u> | 2015 <u>Change</u> | 2016 <u>Change</u> | 2016 <u>Estimate</u> |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------|
| Research Innovation for Improving Policy Effectiveness..... | - | +\$2,500 | +\$1,000 | - | \$3,500 |
| Increasing Drought Resilience..... | - | +465 | +23 | +1,000 | 1,488 |
| Beginning Farmers and Ranchers..... | \$96 | +7 | +27 | +1,000 | 1,130 |
| Food Assistance and Nutrition Research Program..... | 3,108 | +300 | - | - | 3,408 |
| Commodity Outlook Programs..... | 5,217 | +500 | - | - | 5,717 |
| IT equipment..... | 1,000 | - | - | - | 1,000 |
| Macroeconomic analysis..... | 90 | +110 | - | - | 200 |
| Intramural research on the economics of invasive species.... | 500 | +335 | - | - | 835 |
| Situation and outlook reporting for fertilizer use and trade... | 450 | - | -450 | - | - |
| Cooperative Agreements and Collaborations..... | 2,711 | +1,783 | - | -1,000 | 3,494 |
| Interagency Agreements..... | 5,090 | +919 | - | - | 6,009 |
| Environmental Services..... | 700 | +405 | -500 | - | 605 |
| Consumer Data Information Program..... | 5,466 | +500 | - | - | 5,966 |
| Agricultural Resource Management Survey (ARMS)..... | 6,650 | - | - | - | 6,650 |
| Homeland Security..... | 857 | +77 | - | - | 934 |
| Decentralized GSA rent and DHS security payments..... | - | - | +6032 | - | 6,032 |
| Pay costs..... | - | +448 | +504 | +564 | 1,516 |
| Other Ongoing Research..... | 39,456 | -1,682 | +679 | -914 | 37,539 |
| Total Discretionary Appropriations..... | <u>71,391</u> | <u>+6,667</u> | <u>+7,315</u> | <u>+650</u> | <u>86,023</u> |

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Project Statement
Adjusted Appropriations Detail and Staff Years (SYs)
(Dollars in thousands)

| Program | 2013 Actual | | 2014 Actual | | 2015 Enacted | | Inc. or Dec. | | 2016 Estimate | |
|------------------------------------|-------------|-----|-------------|-----|--------------|-----|--------------|-----|---------------|-----|
| | Amount | SYs | Amount | SYs | Amount | SYs | Amount | SYs | Amount | SYs |
| Discretionary Appropriations: | | | | | | | | | | |
| Economic Analysis & Research..... | \$70,534 | 342 | \$77,124 | 334 | \$84,439 | 358 | +650 | - | \$85,089 | 358 |
| Homeland Security..... | 857 | 6 | 934 | 6 | 934 | 6 | - | - | 934 | 6 |
| Total Adjusted Appropriations..... | 71,391 | 348 | 78,058 | 340 | 85,373 | 364 | +650 | - | 86,023 | 364 |
| Rescission..... | +2,096 | - | - | - | - | - | - | - | - | - |
| Sequestration..... | +3,910 | - | - | - | - | - | - | - | - | - |
| Total Appropriation..... | 77,397 | 348 | 78,058 | 340 | 85,373 | 364 | +650 | - | 86,023 | 364 |
| Rescission..... | -2,096 | - | - | - | - | - | - | - | - | - |
| Sequestration..... | -3,910 | - | - | - | - | - | - | - | - | - |
| Total Available..... | 71,391 | 348 | 78,058 | 340 | 85,373 | 364 | +650 | - | 86,023 | 364 |
| Lapsing Balances..... | -378 | - | -507 | - | - | - | - | - | - | - |
| Total Obligations..... | 71,013 | 348 | 77,551 | 340 | 85,373 | 364 | +650 | - | 86,023 | 364 |

Project Statement
Obligations Detail and Staff Years (SYs)
(Dollars in thousands)

| Program | 2013 Actual | | 2014 Actual | | 2015 Enacted | | Inc. or Dec. | | 2016 Estimate | |
|-----------------------------------|-------------|-----|-------------|-----|--------------|-----|--------------|-----|---------------|-----|
| | Amount | SYs | Amount | SYs | Amount | SYs | Amount | SYs | Amount | SYs |
| Discretionary Obligations: | | | | | | | | | | |
| Economic Analysis & Research..... | \$70,156 | 342 | \$76,617 | 334 | \$84,439 | 358 | +650 | - | \$85,089 | 358 |
| Homeland Security..... | 857 | 6 | 934 | 6 | 934 | 6 | - | - | 934 | 6 |
| Total Obligations..... | 71,013 | 348 | 77,551 | 340 | 85,373 | 364 | +650 | - | 86,023 | 364 |
| Lapsing Balances..... | +378 | - | +507 | - | - | - | - | - | - | - |
| Total Available..... | 71,391 | 348 | 78,058 | 340 | 85,373 | 364 | +650 | - | 86,023 | 364 |
| Rescission..... | +2,096 | - | - | - | - | - | - | - | - | - |
| Sequestration..... | +3,910 | - | - | - | - | - | - | - | - | - |
| Total Appropriation..... | 77,397 | 348 | 78,058 | 340 | 85,373 | 364 | +650 | - | 86,023 | 364 |

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Justification of Increases and Decreases

Base funds continue ERS' highest priority core programs of research, data analysis, and market outlook; and redirect funds to two new initiatives: one that will analyze barriers to entry for beginning farmers and ranchers, and in addition, one that will analyze economic and policy drivers in increasing drought resilience. Both initiatives are directly related to mission area goals and reflect key Administration priorities. In addition to the activities and functions specifically described in the budget request, current year and budget year base funds will be used to carry out activities and functions consistent with the full range of authorities and activities delegated to the agency.

- (1) A net increase of \$650,000 for economic research (\$85,373,000 and 364 staff years available in 2015).

Funding changes are requested for the following items:

- (a) An increase of \$1,000,000 to *Support Research on Barriers to Entry for new Farmers and Ranchers* (\$130,000 available in FY 2015).

ERS proposes an initiative to strengthen its ability to conduct analyses of barriers to entry for new farmers and ranchers, and the extent to which USDA programs and other government policies may help address them. The initiative will support new analysis to characterize beginning farmers and ranchers by farm type; analyze barriers to entry; analyze strategies that successful beginning farmers and ranchers use to build their businesses and overcome potential barriers; and examine the potential effectiveness of options for USDA programs and other government policies to reduce those barriers.

With the average age of U.S. farmers increasing – principal operators are 58 years old, on average, according to the 2012 census -- new farmers will be needed to enhance food security, community development and sustainability. Beginning farmers and ranchers will be entering a sector undergoing rapid changes, including increased concentration and a shrinking middle, a changing climate placing land and water resources under stress, increasingly volatile prices, a suite of new technologies for farm management, a complex portfolio of risk management tools, and an agricultural sector increasingly linked to the energy sector, and to the global economy. At the same time, the new generation of farmers is likely to be more diverse, more computer-savvy, and more likely to participate in local foods markets than established farms. Improved understanding of the nature of beginning farmers, barrier to entry and challenges faced by beginning farmers, characteristics that increase the likelihood of entry and the likelihood of success, and of policy options for increasing those likelihoods will help inform policies to attract and retain successful, sustainable beginning farmers and ranchers.

Characterizing beginning farmers and ranchers by farm type. ERS proposes to conduct research and analysis on typologies for beginning farmers, including such characteristics as how they enter their farm businesses, specialization, production and marketing systems (e.g., organic, local), size, career paths (and the role of off-farm income), use of technology, and participation in government programs. The role of women and minorities, as well as those following non-traditional entry paths, including immigrants, veterans and others from non-farm backgrounds will also be explored.

Analyzing barriers to entry. Farming is an expensive proposition, and access to land and capital are often thought to be significant barriers to entry. A major contribution of the proposed research effort will be to explain capital's role in farm transitions. This analysis will provide estimates of the capital needed to finance the turnover of farmers and land ownership over the next decade.

Beginning farmers and ranchers may gain access to land by inheriting it, purchasing it, and/or leasing it. A new ERS/NASS survey of landowners in 2015, the Tenure, Ownership and Transition of Agricultural Lands (TOTAL) survey, will be leveraged under this initiative to examine plans to sell or lease out farmland by retiring farmers and the prevalence and means of purchasing or leasing farmland by beginning operators. Related areas of inquiry include the growth and contraction of farm businesses based on the farmers' lifecycle stages, and the proportion of farmland that is expected to turnover and the

value for this farmland. The role of multi-generational farm transfers and succession planning will be explored in this context.

Analyzing strategies successful beginning farmers and ranchers use to overcome potential barriers.

To accomplish the goals of USDA’s beginning farmer and rancher initiatives, new farmers must succeed and become established farmers. Success may depend on how beginning farmers enter agriculture, as well as on how they manage their operations. Key variables may include how they accumulate capital and approaches used to grow their operations. ERS will examine the wide variety of strategies that exist for acquiring and managing capital, including access to private and federal loans and alternative approaches to obtaining capital (e.g., leasing). The research will examine differences across types of farms where specialty crops may require different capital strategies than field crops. New entrants bring new ideas and techniques. They may more readily adopt new approaches to meeting changing consumer needs. Barriers to innovation in agriculture, and government policies that support innovation are thus an important factor that will be considered.

Examining the potential effectiveness of options for USDA programs and other government policies to reduce those barriers.

USDA manages a broad array of programs supporting beginning farmers and ranchers. The Agricultural Act of 2014 provided increased funding for beginning farmer development and loan programs, provisions for facilitating farmland transition to the next generation of farmers, higher incentives for participating in conservation programs, and improved outreach and communication to military veterans about farming and ranching opportunities. This initiative would allow ERS to examine beginning farmers’ use of these programs and to consider design options that could improve uptake or farmer performance. The broader policy and economic environment will provide important context for this analysis; tax policy, intellectual property, energy policy and land use policies all effect agriculture.

An increase of \$650 thousand and redirection of \$350 thousand will support data acquisition extramural agreements to extend ERS capabilities to analyze beginning farmer and research issues. This initiative will leverage previous investments by USDA in Censuses of Agriculture, Agricultural Resource Management Survey (ARMS) and 2015’s TOTAL survey. These data sources will all provide critical input to this project. However, the relatively small population size for beginning farms, the complexity and interrelatedness of decision variables and characteristics, and new and emerging questions all point to the need for expanded samples and survey instruments. Application of innovative research methods, including leveraging behavioral experiments and linking survey and administrative data will all be critical for achieving the initiative objectives.

- (b) An increase of \$1,000,000 for *Increasing Drought Resilience: Economic and Policy Drivers* (\$488,000 available in FY 2015).

This initiative will comprehensively analyze linkages between shifting water supplies, farming practices, and food production using enhanced agricultural-environmental models for more detailed and precise measures of key relationships and integrated data from survey and administrative sources. The initiative’s goal is to build a strong evidence base on public and private drivers of farm-level water use, responses to drought risk, and how drought resilience affects productivity growth and food prices. This initiative will provide adaptation response information in support of the USDA regional climate hubs, and complement Departmental soil health goals, and REE drought, water use and associated farm practice initiatives.

The initiative will provide funding to obtain information on conservation practices and drought mitigation by American farmers and ranchers. Farmers who face high drought risk are more likely to enroll land in the Conservation Reserve Program and may also be more likely to use conservation funding for the adoption of practices such as efficient irrigation technology and conservation tillage, or other practices that are known to conserve moisture and reduce drought impacts on production. Farmers’ decisions about participation and practice adoption are made as part of a broader portfolio of risk management strategies, including the use of crop insurance. Data from the Agricultural Resources

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Management Survey (ARMS) shows that some of these practices, particularly conservation tillage, are often adopted without conservation payments. A deeper understanding of the role of drought risk and alternative risk management strategies in conservation practice adoption—with or without payments—would provide information on how to best utilize conservation program funds and a better understanding of policy options for improving agricultural resilience.

The \$1 million in funding will increase the number of farmers contacted to respond to ARMS in drought-prone areas. The larger number of farmers contacted will allow ERS to understand the range of risk management and adaptive decisions in these susceptible areas as well as the farmers' central tendencies. The initiative will include analysis of how farmers would respond to an extreme weather event, i.e., a circumstance that currently has a low probability of occurring. Therefore, to more fully grasp how farmers adapt to the uncertainty and risk faced during a drought, a larger sample designed to explicitly elicit this information is needed. This information will deepen the examination of irrigation decisions, pest management, tillage options, erosion control, and carbon sequestration to enable more specific and spatially based behavioral analysis.

- (c) An increase of \$609,000 for pay costs (\$124,000 for annualization of the 2015 pay increase and \$485,000 for the 2016 pay increase).

This increase will enable ERS to maintain staffing levels, which are critical to conducting research within ERS' highest priority programs.

- (d) A decrease of \$1,000,000 (\$4,494,000 available in 2015) for Cooperative Agreements and Collaborations.

ERS will reduce its number and scope of Cooperative Agreements and Collaborations by \$1,000,000 to fund acquisition of new data to support USDA's priority for climate change. As a result, ERS will focus more on national effects of programs and policies, and devote fewer resources to analysis of regional effects through partnerships with Land Grant Universities, and in areas such as rural communities and food markets.

- (e) A decrease of \$914,000 (\$38,008,000 available in 2015) for Other Ongoing Research .

The increased funding for the pay costs and a portion of the Beginning Farmers and Ranchers initiative will be offset by eliminating lower priority data products under "foundational data and models." The specific products will be selected based on the ERS Data Management Strategy, which ranks all data by criteria related to the Agency's role as a Principal Federal Statistical Agency: <http://www.ers.usda.gov/about-ers/ers-data-product-quality.aspx>. Following these criteria, no reductions would be made to the highest value, unique data (e.g., ARMS, U.S. food security statistics). Characteristics of data to be eliminated include availability in a different format or availability of a close substitute.

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Geographic Breakdown of Obligations and Staff Years
(Dollars in thousands and Staff Years (SYs))

| | 2013 Actual | | 2014 Actual | | 2015 Enacted | | 2016 Estimate | |
|---------------------------|-------------|-----|-------------|-----|--------------|-----|---------------|-----|
| | Amount | SYs | Amount | SYs | Amount | SYs | Amount | SYs |
| Alabama..... | \$20 | - | \$1 | - | - | - | - | - |
| Alaska..... | - | - | 25 | - | - | - | - | - |
| Arizona..... | - | - | 3 | - | - | - | - | - |
| California..... | 60 | - | 239 | - | - | - | - | - |
| Colorado..... | 43 | - | 68 | - | - | - | - | - |
| Connecticut..... | - | - | 30 | - | - | - | - | - |
| Delaware..... | - | - | 752 | - | - | - | - | - |
| District of Columbia..... | 65,105 | 348 | 67,012 | 340 | \$85,373 | 364 | \$86,023 | 364 |
| Florida..... | - | - | 13 | - | - | - | - | - |
| Georgia..... | - | - | 86 | - | - | - | - | - |
| Illinois..... | 1,033 | - | 1,648 | - | - | - | - | - |
| Indiana..... | 130 | - | 52 | - | - | - | - | - |
| Iowa..... | 54 | - | - | - | - | - | - | - |
| Kansas..... | 15 | - | 15 | - | - | - | - | - |
| Kentucky..... | 250 | - | 27 | - | - | - | - | - |
| Louisiana..... | 22 | - | 41 | - | - | - | - | - |
| Maryland..... | 923 | - | 1,738 | - | - | - | - | - |
| Massachusetts..... | 59 | - | 88 | - | - | - | - | - |
| Michigan..... | 77 | - | 154 | - | - | - | - | - |
| Minnesota..... | 91 | - | 51 | - | - | - | - | - |
| Mississippi..... | 250 | - | 250 | - | - | - | - | - |
| Missouri..... | 137 | - | 110 | - | - | - | - | - |
| Montana..... | - | - | 101 | - | - | - | - | - |
| Nebraska..... | - | - | 6 | - | - | - | - | - |
| Nevada..... | - | - | 1 | - | - | - | - | - |
| New Hampshire..... | - | - | 1 | - | - | - | - | - |
| New Jersey..... | 249 | - | 138 | - | - | - | - | - |
| New Mexico..... | 13 | - | 249 | - | - | - | - | - |
| New York..... | 554 | - | 671 | - | - | - | - | - |
| North Carolina..... | 415 | - | 921 | - | - | - | - | - |
| North Dakota..... | 100 | - | - | - | - | - | - | - |
| Ohio..... | 20 | - | 64 | - | - | - | - | - |
| Oklahoma..... | 30 | - | 30 | - | - | - | - | - |
| Oregon..... | 81 | - | 456 | - | - | - | - | - |
| Pennsylvania..... | 67 | - | 104 | - | - | - | - | - |
| Rhode Island..... | - | - | 3 | - | - | - | - | - |
| South Dakota..... | 45 | - | - | - | - | - | - | - |
| Tennessee..... | 4 | - | 2 | - | - | - | - | - |
| Texas..... | 199 | - | 173 | - | - | - | - | - |
| Virginia..... | 564 | - | 1,815 | - | - | - | - | - |
| Washington..... | 35 | - | 37 | - | - | - | - | - |
| West Virginia..... | - | - | 1 | - | - | - | - | - |
| Wisconsin..... | 319 | - | 345 | - | - | - | - | - |
| Argentina..... | 25 | - | - | - | - | - | - | - |
| Australia..... | 20 | - | - | - | - | - | - | - |
| Canada..... | - | - | 1 | - | - | - | - | - |
| Denmark..... | - | - | 5 | - | - | - | - | - |
| Germany..... | - | - | 2 | - | - | - | - | - |
| United Kingdom..... | 4 | - | 22 | - | - | - | - | - |
| Obligations..... | 71,013 | 348 | 77,551 | 340 | 85,373 | 364 | 86,023 | 364 |
| Lapsing balances..... | 378 | - | 507 | - | - | - | - | - |
| Total Available..... | 71,391 | 348 | 78,058 | 340 | 85,373 | 364 | 86,023 | 364 |

Note: The distribution of 2015 and 2016 funds by State has not been determined at this time.

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Classification by Objects
(Dollars in thousands)

| | 2013 <u>Actual</u> | 2014 <u>Actual</u> | 2015 <u>Estimate</u> | 2016 <u>Estimate</u> | |
|--------------------------------|---|-----------------------|-------------------------|-------------------------|---------------|
| Personnel Compensation: | | | | | |
| Washington, D.C. | | | | | |
| 11 | Total personnel compensation..... | \$36,543 | \$36,320 | \$38,926 | \$39,369 |
| 12 | Personnel benefits..... | 10,018 | 10,174 | 10,661 | 10,782 |
| | Total personnel comp.and benefits..... | <u>46,561</u> | <u>46,494</u> | <u>49,587</u> | <u>50,151</u> |
| Other Objects: | | | | | |
| 21.0 | Travel and transportation of persons..... | 281 | 389 | 478 | 478 |
| 22.0 | Transportation of things..... | 12 | 55 | 19 | 19 |
| 23.1 | Decentralized GSA payments..... | 0 | 0 | 5,312 | 5,312 |
| 23.3 | Communications, utilities, & misc. charges... | 544 | 1,006 | 632 | 632 |
| 24.0 | Printing and reproduction..... | 65 | 159 | 54 | 54 |
| 25.1 | Interagency Agreements..... | 5,090 | 7,675 | 6,009 | 6,009 |
| 25.2 | Other Services..... | 1,510 | 1,752 | 1,700 | 1,700 |
| 25.3 | DHS payments..... | 0 | 0 | 720 | 720 |
| 25.4 | Contracts..... | 3,436 | 4,732 | 4,700 | 4,700 |
| 25.5 | Cooperative Agreements..... | 2,711 | 2,547 | 4,494 | 4,494 |
| 25.7 | Data acquisition..... | 8,319 | 9,137 | 8,918 | 9,004 |
| 26.0 | Supplies and materials..... | 264 | 454 | 500 | 500 |
| 26.3 | ADP Software/Material/Supplies..... | 1,262 | 792 | 1,000 | 1,000 |
| 31.0 | Equipment..... | 408 | 234 | 450 | 450 |
| 41.0 | Grants..... | 550 | 2,125 | 800 | 800 |
| | Total, Other Objects..... | <u>24,452</u> | <u>31,057</u> | <u>35,786</u> | <u>35,872</u> |
| 99.9 | Total, new obligations..... | <u>71,013</u> | <u>77,551</u> | <u>85,373</u> | <u>86,023</u> |
| Position Data: | | | | | |
| | Average Salary (dollars), ES positions..... | \$170,984 | \$172,694 | \$174,421 | \$176,514 |
| | Average Salary (dollars), GS positions..... | \$110,819 | \$111,706 | \$112,600 | \$113,388 |
| | Average Grade, GS positions..... | 12.5 | 12.5 | 12.5 | 12.5 |

ECONOMIC RESEARCH SERVICE

Shared Funding Projects

(Dollars in thousands)

| | 2013 Actual | 2014 Actual | 2015 Enacted | 2016 Estimate |
|--|-------------|-------------|--------------|---------------|
| Working Capital Fund: | | | | |
| Administration: | | | | |
| Material Management Service Center..... | \$46 | \$40 | \$44 | \$45 |
| Mail and Reproduction Management..... | 95 | 84 | 124 | 125 |
| Integrated Procurement Systems..... | 28 | 28 | 35 | 35 |
| Procurement Operations..... | 1 | 1 | 0 | 0 |
| Subtotal..... | 170 | 153 | 203 | 205 |
| Communications: | | | | |
| Creative Media & Broadcast Center..... | 65 | 124 | 116 | 117 |
| Finance and Management: | | | | |
| National Finance Center..... | 85 | 97 | 94 | 95 |
| Controller Operations..... | 222 | 43 | 38 | 40 |
| Financial Systems..... | 60 | 55 | 56 | 37 |
| Subtotal..... | 368 | 196 | 188 | 171 |
| Information Technology: | | | | |
| NITC/USDA..... | 283 | 191 | 81 | 85 |
| International Technology Services..... | 5 | 0 | 0 | 0 |
| Telecommunications Services..... | 397 | 426 | 533 | 575 |
| Subtotal..... | 685 | 617 | 614 | 660 |
| Correspondence Management..... | 9 | 8 | 7 | 7 |
| Total, Working Capital Fund..... | 1,298 | 1,098 | 1,129 | 1,160 |
| Departmental Shared Cost Programs: | | | | |
| 1890's USDA Initiatives..... | 11 | 11 | 11 | 11 |
| Advisory Committee Liason Services..... | 2 | 1 | 2 | 2 |
| Classified National Security Information..... | 0 | 0 | 4 | 4 |
| Continuity of Operations Planning..... | 7 | 7 | 8 | 8 |
| Emergency Operations Center..... | 8 | 8 | 8 | 8 |
| Facility and Infrastructure Review and Assessment..... | 2 | 2 | 2 | 2 |
| Faith-Based Initiatives and Neighborhood Partnerships..... | 1 | 1 | 1 | 1 |
| Federal Biobased Products Preferred Procurement Program..... | 1 | 1 | 0 | 0 |
| Hispanic-Serving Institutions National Program..... | 7 | 7 | 7 | 7 |
| Human Resources Transformation..... | 6 | 6 | 6 | 6 |
| Identity and Access Management (HSPD-12)..... | 24 | 25 | 24 | 24 |
| Medical Services..... | 13 | 14 | 34 | 35 |
| People's Garden..... | 2 | 2 | 3 | 2 |
| Personnel Security Branch..... | 10 | 11 | 10 | 10 |
| Pre-authorizing Funding..... | 12 | 13 | 13 | 13 |
| Retirement Processor/Web Application..... | 2 | 2 | 2 | 2 |
| Sign Language Interpreter Services..... | 35 | 19 | 0 | 0 |
| TARGET Center..... | 3 | 3 | 5 | 5 |
| USDA 1994 Program..... | 3 | 3 | 3 | 3 |
| Virtual University..... | 7 | 7 | 7 | 7 |
| Visitor Information Center..... | 1 | 1 | 0 | 0 |
| Total, Departmental Shared Cost Programs..... | 159 | 145 | 150 | 151 |
| E-Gov: | | | | |
| Enterprise Human Resources Integration..... | 9 | 8 | 8 | 8 |

ECONOMIC RESEARCH SERVICE

Shared Funding Projects

(Dollars in thousands)

| | 2013 Actual | 2014 Actual | 2015 Enacted | 2016 Estimate |
|--|-------------|-------------|--------------|---------------|
| E-Rulemaking..... | 0 | 4 | 3 | 2 |
| E-Training..... | 8 | 10 | 10 | 10 |
| Financial Management Line of Business..... | 1 | 0 | 1 | 1 |
| Geospatial Line of Business..... | 0 | 0 | 0 | 1 |
| Grants.gov..... | 3 | 2 | 2 | 2 |
| Human Resources Line of Business..... | 1 | 1 | 1 | 1 |
| Integrated Acquisition Environment - Loans and Grants..... | 5 | 7 | 7 | 7 |
| Integrated Acquisition Environment..... | 2 | 2 | 2 | 2 |
| Total, E-Gov..... | 29 | 35 | 34 | 34 |
| Agency Total..... | 1,486 | 1,279 | 1,313 | 1,345 |

ECONOMIC RESEARCH SERVICE

Status of Programs

Economic Research and Analysis Program

Goal 1: Assist rural communities to create prosperity so they are self-sustaining, repopulating, and economically thriving.

Current Activities:

ERS research explores how investments in rural people, business, and communities affect the capacity of rural economies to prosper in the new and changing global marketplace. The agency analyzes how demographic trends, employment opportunities, Federal policies, and public investment in infrastructure and technology enhance economic opportunity and quality of life for rural Americans. Equally important is ERS's commitment to help enhance the quality of life for the Nation's small farmers who increasingly depend on these rural economies for employment and economic support, as well as to analyze new developments in the linkages between these farmers, consumers, and local economies.

ERS continues to monitor changing economic and demographic trends in rural America, particularly the implications of these changes for the employment, education, income, and housing patterns of low-income rural populations. The rural development process is complex and sensitive to a wide range of factors that, to a large extent, are unique to each rural community. Nonetheless, ERS assesses general approaches to development to determine when, where, and under what circumstances rural development strategies will be most successful.

ERS research and analysis provide insight into market conditions facing U.S. agriculture, avenues for innovation, and market expansion to help farmers and ranchers manage risk. ERS produces USDA's estimates of farm income. In addition, the ERS program identifies and analyzes market structure and technological developments that affect efficiency and profitability, and examines developments in the linkages.

Selected Examples of Recent Progress:

ERS research on the farm and rural economy found the following:

- *Rural employment loss and recovery during and after the Great Recession varied widely across rural counties.* Since December 2007, 82 percent of U.S. counties experienced job losses, but some places were hit much harder than others, and some have recovered more rapidly. ERS research found that counties' ability to weather the downturn depended in part on differences in the mix of industries that support the local economy, in population growth trends, and in the demographics of the local workforce. While rural America as a whole had a favorable industry mix relative to urban areas—more farming, mining, and other extractive industries that did relatively well, for instance—it also has an older and less-educated workforce that was a drag on employment growth. The most rural counties experienced the smallest job loss. The report was used soon after publication to brief senior USDA officials on labor market participation.
- *While production more than doubled from 2000 to 2010 in three emerging energy industries—shale gas, wind power, and corn-based ethanol—employment effects in the local and regional economies varied, with the greatest impact from gas production.* ERS researchers found that counties experiencing the shale gas boom had an average of 12 percent more rapid growth in employment and 21 percent more rapid growth in wage and salary income from 1999 to 2007 than comparable non-boom counties. The growth in employment from natural gas development in the boom counties accounted for more than 55 percent of total employment growth in these counties during this period. The employment and income impacts of wind energy development were smaller but still substantial. Employment effects from ethanol are positive, though concentrated in sectors closely related to its production. Findings were published in an ERS report and several scholarly journals.

- *While farm business debt rose from 1992 to 2011, the average farm debt-to-asset ratio declined over the period, as did the share of highly leverage farm businesses.* The potential for future rising interest rates and lower farm income have prompted concerns about current trends in the use of debt by farm businesses. ERS research found that farm business debt rose by nearly 40 percent since the early 1990s, but has been relatively stable relative to asset values. Higher debt use is most closely associated with large-scale family farms, specialization in dairy and poultry production, and younger operators. Operators age 34 or younger were the only group not to experience a decline in financial leverage during 1992-2011. Farmland purchases and ownership may play an important role in these trends. The research results were widely cited in the press and provided a timely assessment of the recent increase in farm debt and the potential vulnerability of farm businesses to a drop in farm income and higher interest rates.
- *ERS farm income indicators and forecasts measure the financial performance of the U.S. farm sector.* ERS has a prominent role in monitoring the financial health of the farm sector including the performance of farm businesses and well-being of farm households. Published three times a year, these core statistical indicators provide guidance to policy makers, lenders, commodity organizations, farmers, and others interested in the financial status of the farm economy. ERS's farm income statistics also inform the computation of agriculture's contribution to the gross domestic product for the U.S. economy.
- *Rural wealth creation offers a way to achieve sustainable economic growth through a variety of development strategies based on community and regional assets.* The wealth, or assets, of rural communities and regions come in many forms of capital—physical, financial, human, natural, social, and others. ERS researchers co-edited and coauthored the first major book on rural wealth creation, which considers how multiple forms of wealth provide opportunities for rural development, and how development strategies affect the dynamics of wealth. Case studies demonstrate how wealth can be measured and how wealth-based strategies can effect rural community growth. Copies of the book were widely distributed at the White House Rural Council Conference on Rural Opportunities Investment and a briefing given to senior policy officials.

ERS research and analysis of U.S. agricultural markets found the following:

- *ERS published multiple products providing highlights and economic implications of the new programs and provisions of the Agricultural Act of 2014 (2014 Farm Bill).* Within a month of the passage of the 2014 Farm Bill ERS published on its website “Agricultural act of 2014: Highlights and Implications.” The webpage provided an overview of the major provisions of the 2014 Farm Bill, along with ERS research findings and data that illustrated some of the potential economic implications of these provisions. ERS also published several articles in the Agency's magazine *Amber Waves* that provide an economic perspective on conservation, nutrition, and crop commodity aspects of the 2014 Farm Bill. Since the webpage was posted in February 2014 it has generated over 38,000 page views, was featured in a link from the USDA Farm Bill web page, and received numerous citations from the media.
- *About half of total cropland is now planted to genetically engineered (GE) corn, cotton, and soybeans. The adoption of insecticide-resistant (Bt) seeds has led to higher yields and net returns, while outcomes for adoption of herbicide-tolerant (HT) varieties are more mixed.* GE varieties with pest management traits first became commercially available in 1996, and now comprise the majority of corn, soybean, and cotton plantings. An ERS report finds that Bt crop adoption increases yields by mitigating losses from insects, is associated with higher net returns when pest pressure is high, and reduces the use of insecticide. HT crop adoption is also likely to increase yields in some circumstances, but has also contributed to an overreliance on glyphosate and increased resistance. Consumer acceptance of foods with GE ingredients varies with product characteristics, geography, and the information that consumers are exposed to. After release of this report, in February, 2014, the authors gave three briefings to USDA policymakers. Over 6,000 copies of the report were downloaded.
- *Discrepancies or “non-convergence” between futures and cash prices in wheat, corn, and soybean markets in the mid-to-late 2000s were primarily associated with contract design and market conditions rather than financial speculation.* Convergence between futures and cash prices is important for risk management, price

discovery, and inventory allocation, so market participants and policymakers grew concerned when in 2005, futures contracts for wheat, corn, and soybeans began exhibiting growing non-convergence between expiring futures and cash prices. ERS research found that modifications made by the Chicago Board of Trade (CBOT) and Kansas City Board of Trade (KCBT) between 2008 and 2011 contributed to an improved convergence between expiring futures and cash prices. ERS research also found that wheat price volatility from 1991-2011 was mainly due to fundamental supply and demand factors rather than financial speculators. ERS estimated that the peak wheat price in February 2008 would have been only 1 percent lower in the absence of market shocks attributable to speculators like commodity index traders (CITs), and even at its maximum price impact between 2006 and 2011, financial speculation increased wheat prices by only 5 – 8 percent at the same time that per-bushel wheat prices increased by 300 percent on the Minneapolis Grain Exchange. The findings contributed to a briefing of senior officials and helped inform the debate on the Dodd-Frank Wall Street Reform and Consumer Protection Act.

- *ERS provided new information on pollinator markets.* ERS provided a report to Congress that responded to a request to examine pollinator markets and the economic importance of pollinators. An ERS commodity outlook report provided economic insights on the U.S. pollinator services market and included an updated pollinator route map. To identify research gaps and lay the foundation for future economic research on pollinators, ERS, the Environmental Protection Agency (EPA), and the University of Illinois jointly held a workshop on the economics of pollinator health as a side event to the annual meeting of agricultural economists. Approximately 50 participants, including members of the bee industry, discussed current research and needs for additional data and research. The published research and workshop provided input for both the USDA/EPA Honey Bee Health Action Plan and the Federal Pollinator Research Action Plan.
- *Data from the 2010 Agricultural Management Resource Survey (ARMS) show considerable variation in corn yields, cropping practices, costs, and returns.* Corn is a major U.S. crop, accounting for about 40 percent of the world's corn production and 50 percent of the world's corn exports in the 2010/11 marketing year. A significant rise in corn prices boosted corn returns and created an incentive to increase corn acres by 12.5 million between 2001 and 2010. The increase in returns and planted acres may have changed the pattern of the returns among different groups of corn producers, potentially impacting competitiveness. ERS research found that the Heartland continues to be the major corn production region with the lowest operating and ownership costs per bushel, due mainly to the region's high corn yields. The operating and ownership costs per bushel did not vary significantly by the number of planted corn acres per farm. This ERS study also examined returns to organic corn production. Production value less operating and ownership costs per acre from organic corn production was higher than that from conventional corn production because higher organic corn prices more than offset their lower yields.
- *Risk management programs that lock in a fixed margin between dairy prices and feed costs show the potential to reduce downside risks for dairy producers.* ERS research finds that Livestock Gross Margin - Dairy (LGM-Dairy) insurance, established in 2008, had the potential to reduce economic risk faced by dairy producers in 12 States and regions by 28 to 39 percent, had the program been in effect throughout the 2002-2010 period. The research also established that while the program reduced risks for dairy producers, its existence would have had relatively limited impacts on actual margins. Based on reduced risk alone, the program was estimated to have the potential to encourage increased milk production in the range of 0 to 3 percent. Because the similarity of some provisions of LGM-Dairy to the dairy Margin Protection Program established in the 2014 Farm Bill, the findings of this research were presented in briefings for senior USDA officials.
- *ERS provided a new breakout of dairy industry commercial sales.* For the first time, ERS has published new data on domestic commercial sales and commercial export sales for U.S. dairy products on a "milk-equivalent basis." Historically, U.S. dairy product exports have been relatively insignificant and the U.S. was a net importer of dairy products. Since 2004, however, U.S. dairy product exports have increased in value from \$1.4 billion to \$6.7 billion in 2013, and the U.S. is a significant net exporter. In response to these changes, ERS developed a new data series reporting both domestic commercial and commercial export sales, which had previously been combined as one category. With the release of the new data, ERS now has a historically consistent estimate of monthly U.S. commercial export sales on a milk-equivalent basis going

back to 1995. The data show that exports account for 18.7 percent of total commercial disappearance (sales), up from 3.4 percent in 1995. The release of the improved dairy data was well received by USDA decisionmakers, the industry, and academic researchers.

- *ERS analysis on the costs incurred by farmers prior to planting helps the USDA Risk Management Agency (RMA) establish prevented planting insurance premiums and indemnities.* ERS research on the costs of preparing fields for crop production prior to the planting period was made available to the Risk Management Agency for their evaluation of the premium and indemnity structure of their prevented planting insurance programs. ERS researchers used data from the jointly administered ERS/NASS Agricultural Resource Management Survey (ARMS) to estimate preplanting costs for major row crops. By creating special tabulations of the ARMS data and providing additional analysis, ERS was able to inform RMA decisions on future prevented planting insurance provisions for commodities accounting for roughly 60% of all such indemnities. Crop insurance is now the leading source of government support to farmers and decisions on the level and structure of insurance premiums and indemnities has substantial budgetary implications.
- *ERS conducted a comprehensive study on the scope of, and trends in, local and regional foods.* The congressionally-mandated study examined the development of the local and regional foods subsector, including the economics of production and its implications for economic development.

Review of ERS' Market and Trade Economics Division's Outlook Program:

An external review of the Market Outlook Program, commissioned by ERS in partnership with the Farm Foundation, was completed in June 2014. The objective of the review was to obtain an objective, rigorous assessment of the demand for market outlook data and analysis across key stakeholder groups. Eleven focus-group sessions were convened to formally solicit feedback on ERS data and commodity newsletters. This information, along with data on web usage of ERS outlook products and additional input from departmental stakeholders, is being used in the formulation of a new strategic action plan to improve the timeliness, relevance, and quality of program outputs.

Goal 2: Ensure our national forests and private working lands are conserved, restored, and made more resilient to climate change, while enhancing our water resources.

Current Activities:

The ERS climate change research program develops models and other analytical techniques to predict responses of farmers to greenhouse gas mitigation options, analyze the impact of mitigation options on domestic and global agricultural markets and land and water use, and evaluate adaptation by farmers to a new climate regime through use of alternative technologies. The ERS climate change research program builds on extensive expertise on the economics of land use and land management, technology adoption, conservation program design, economics of biofuels, and value and dissemination of public investment in research and development.

In addition, ERS is continuing to contribute to USDA's efforts to improve the science behind Federal environmental, water and air quality regulations and programs. As part of its analysis of environmental regulations and conservation incentive policies, ERS research continues to provide insight into developing policies for controlling nonpoint source pollution. More generally, ERS research analyzes the economic efficiency, environmental effectiveness, and distributional implications of alternative designs of resource, conservation, environmental, and commodity programs and their linkages.

Selected Examples of Recent Progress:

ERS research on climate change found the following:

- *Consumer and producer welfare will be reduced over the next several decades if temperatures rise as suggested by several climate change scenarios.* In many parts of the United States, climate change is likely to result in higher average temperatures, hotter daily maximums, and more frequent heat waves, which could

increase heat stress for livestock that lowers reproduction rates and milk production. Mitigation strategies are likely to increase production and capital costs. An ERS report that is the first to try to quantify these costs for the U.S. dairy industry finds that under a reasonable range of climate change scenarios, nearly all U.S. dairies will see some production loss, and States will experience production losses ranging up to more than four percent, with losses concentrated in the South. Both consumers and producer welfare will fall as a result of higher milk prices and production costs. In addition to the report, the research was published in the *American Journal of Agricultural Economics*, which led to a request to provide a May presentation to dairy extension and policy specialists at the 21st annual National Workshop for Dairy Economists and Policy Analysts. The findings have also been widely reported in the industry press.

- *Climate disruptions to agricultural production have increased in the past 40 years and by several possible climate change scenarios suggest increasingly negative impacts on most crop and livestock production in the U.S. by mid-century.* ERS was a lead contributor to the Third National Climate Assessment Report, released in May 2014, to provide reliable scientific information about current and future changes, impacts, and effective response options under climate change. ERS researchers served as lead authors on the Agriculture and Rural Communities chapters and as expert contributors and reviewers on other chapters. Findings in the report suggest that the impact of climate change on production will have consequences for food security, both in the U.S. and globally, through changes in crop yields and food prices and effects on food processing, storage, transportation, and retailing. The report also highlights factors that require additional focus in the literature, including extreme events and temperature thresholds in production, as well as the potential for loss and degradation of critical agricultural soil and water assets due to increasing extremes in precipitation. The Report received widespread attention in national and international media.

ERS research on conservation, water, and environmental issues found the following:

- *Conservation payments can encourage farming practices that improve environmental quality, but their efficacy varies by type of practice and program design.* When voluntary conservation payments cause a change in farming practice and improved environmental quality, these changes are “additional.” An ERS study measured additionality for a number of common conservation practices and found that additionality depends largely on the characteristics of the practices support by conservation payments. Practices that are expensive to install or provide only limited onfarm benefits (such as structural and vegetative practices) are unlikely to be adopted without payments, unlike more profitable conservation management practices. While complete additionality cannot be ensured, it may be possible to design programs to increase it by putting higher priority on practices that are less likely to be undertaken without payment support. If those practices are also more costly or produce less environmental benefit (when they are additional), greater additionality may not be cost effective. This research was included in a briefing to policy officials.
- *The cost of achieving water quality goals under EPA’s 2010 Total Maximum Daily Load limits for the Chesapeake Bay depends heavily on which policy choices are selected and how they are implemented.* ERS research assessed four different types of policy instruments for reducing nutrient emissions from agriculture and achieving the target limits. Performance-based policies, such as setting emissions limits, emerge as the lowest cost policy optimal, but depend on information that is difficult to obtain. Design-based policies that either require nutrient management practices or encourage them through financial incentives may be easier to implement, but also tend to be more costly than performance-based policies. The impact of animal agriculture on nutrient loadings in the Bay could be reduced by increasing the use of manure as fertilizer by crop producers or by using manure as an energy source. The latter would have a net negative cost effect on agriculture relative to using manure as a source of crop nutrients, but would provide a local source of energy production. Findings from the report were presented through briefings to EPA, the Chesapeake Bay Program Scientific and Technical Advisory Committee, USDA’s Natural Resources Conservation Service (NRCS), NRCS State Conservationists, and the Office of the Chief Economist.
- *Implementation of the Evidence and Innovation Agenda is moving forward as interagency research teams cooperate to develop experiments to test existing and new approaches to program delivery.* These research projects address concerns and priorities identified by USDA program managers by fostering strong partnerships and joint research development. In addition to collaborations with USDA’s Farm Service

Agency (FSA) and NRCS, ERS has funded a new Center to conduct behavioral and experimental economics research related to agro-environmental issues. The projects originating from this Center will help USDA improve existing programs and assist in the design of new programs to improve outcomes, cost-efficiency and social welfare. The Center also includes a dissemination focus to ensure research results will be delivered to a diverse stakeholder audience, including USDA and other Federal program agencies, other researchers and the general public.

- *Pesticide use—including the use of herbicides, insecticides, and fungicides—tripled from 1960 to 1981, but has since trended downward to 516 million pounds in 2008.* Pesticides contribute increased yields and improved product quality while reducing the need for various production inputs. Their toxic properties, however, have raised concerns about their impact on human health and the environment. An ERS report showed that increased pesticide use from 1960 to the early 1980s was driven primarily by greater herbicide use due to their falling relative price, as well as greater total planted acreage. Pesticide use since then has fluctuated along with total acres in the 21 crops studied. Insecticide use during the 1960-2008 period dropped from 58 percent to 6 percent of all pesticide use, while fungicide use fell slightly from 13 to 7 percent. Corn has been the top pesticide-using crop in the U.S. since 1972, accounting for about 39 percent of total use in 2008. The report generated more than 2,000 page views after its May release, and the authors provided a briefing to USDA's Office of Pest Management Policy.

Goal 3: Help America promote agricultural production and biotechnology exports as America works to increase food security.

Current Activities:

ERS conducts research on technological innovation in agriculture, the economic performance, structure and viability of the farm sector and of different types of farms, and the state of global food security. ERS effectively communicates research findings to policy makers, program managers, and those shaping the public debate. The research program identifies key economic issues and uses sound analytical techniques to understand the immediate and broader economic and social consequences of alternative policies and programs related to the sustainability and use of biotechnology in U.S. agriculture, including policies to promote trade of U.S. products.

ERS has a broad program of work examining the production and marketing characteristics of the U.S. organic sector. Ongoing activities include research on the adoption of certified organic farming systems across the U.S., analysis of consumer demand and prices in specific markets, and several nationwide surveys of organic producers and markets.

The ERS research program includes an ongoing assessment of global food security. ERS provides research, analysis, and information on food security, including factors affecting food production and ability to import food, in Africa, Asia, Latin America and the Caribbean, and the Commonwealth of Independent States to decision makers in the United States and throughout the world. An annual report provides an up-to-date assessment of global food security.

Selected Examples of Recent Progress:

ERS research on technological innovation and investment found the following:

- *World population and income increases will drive future demand for agriculture, but impacts on prices and land use depend largely on the rate of agricultural productivity growth.* Recent volatility in agricultural commodity prices, coupled with projections of world population and income growth, raise concerns about the ability of global agricultural production to meet future demand. Meanwhile the prospects for continued robust agricultural productivity growth to meet this demand are uncertain, especially in light of climate change. ERS research examined the economic and agricultural effects of potential changes in agricultural productivity, population, and per capita income by 2050. Expected moderate growth in population and income will cause consumption to rise, but increased prices, along with input and land use, would be

moderated substantially if current productivity growth continues. Under a scenario of reduced productivity growth, however, prices and resource use rise notably faster.

ERS research on the organic sector found the following:

- *Although ERS analysis finds that the net returns for organic crops may exceed those from conventionally grown crops such as corn, organic production has not kept pace with demand.* The growth in U.S. organic sales has outpaced organic domestic production since the early 2000's. Nonetheless growth slowed in 2008 and has not recovered to earlier levels. Organic imports for some crops have grown to fill the gap between sales and production. The adoption of organic systems varies by commodity sector, with more acres in grains and oilseeds and a higher percent of acres in high-value specialty crops. This suggests challenges beside profitability may influence growers' decision to transition to an organic production system. Briefings have been given to the National Agricultural Research, Extension, Education, and Economics (NAREEE) Advisory Board as well as invited talks at interdisciplinary conferences. The organic webpages on the ERS website had over 56,000 page views with over 150 follow-up requests from investment bankers, government agencies, the Organic Trade Association, Iowa Public TV, academic researchers, and journalists.

ERS research on global food security found the following:

- *Food security is projected to improve for most developing countries.* ERS publishes the International Food Security Assessment to inform U.S. policymakers as well as international donor organizations of the food security situation in 76 low- and middle-income countries. The report provides projections of food availability and access—including food gaps and the number of food-insecure people. The findings indicate that food security is projected to improve in the Latin American and Caribbean region while the North African and Asian regions are forecast to be relatively food secure. With the exception of a few countries, Sub-Saharan Africa is projected to continue on the recent path of improving food security or maintaining relatively high levels of food security. Additional analysis found that increasing adoption of modern crop varieties in Sub-Saharan Africa could cut the number of food-insecure people by 40 percent. The findings informed decisions on funding for U.S. assistance programs by USDA and the U.S. Agency for International Development.
- *ERS finds that new policies in India improved domestic food security but did not shelter poor residents from all market shocks in the late 2000s.* India is a rapidly growing developing country, but at the same time, has a larger food-insecure population than all of sub-Saharan Africa. In response to the prevalence of chronic malnutrition, the country recently expanded its domestic food assistance program—the Public Distribution System (PDS)—which sells rice, wheat, sugar, and kerosene to poor households at highly subsidized rates. The PDS has been criticized as being highly inefficient, but some states have shown dramatic improvements in the distribution of PDS commodities. ERS analyzed one state identified as a model of PDS reform (Chhattisgarh) to assess the differential impacts of its reforms during a period of sudden economic duress in the late 2000s when commodity prices spiked, and found no difference in the degree of food security across states. The research findings suggest the need for further improvements in the PDS at both the national and State levels.

ERS research on global agricultural markets found the following:

- *USDA Agricultural Projections to 2023 suggest long run increases in global consumption, world trade, and agricultural commodity prices.* Each year ERS coordinates the Department's Baseline projections for U.S. and world agriculture for the coming decade. The 2014 projections indicate that global agricultural production of most major crops remains high in the near term as producers around the world respond to the high farm commodity prices seen in recent years. Following those near-term adjustments, longrun developments for global agriculture reflect steady world economic growth and continued global demand for biofuels. Implications for the U.S. agricultural sector show that following near-term reductions, farm cash receipts and the value of U.S. agricultural exports grow beyond 2016 and net farm income remains historically high. The projections in this report helped shape the FY 2015 Budget, and supported the Farm

Service Agency's estimation of budget costs for farm program commodities. They also provide the reference point for assessing effects of the Agricultural Act of 2014 on farmers, ranchers, and the farm sector. In addition to its importance for USDA's policymakers, the annual Baseline projections report and related data products are essential references for public and private decision makers, receiving over 100,000 page views annually on the ERS website.

- *A proposed Trans-Pacific Partnership (TPP) could spur growth in U.S. agricultural exports in Asia-Pacific markets, including a diverse array of US agricultural exports to Japan and Vietnam.* ERS analysis assesses the potential impacts of eliminating all border restrictions on agricultural and nonagricultural goods in a hypothetical agreement among all 12 member countries, and estimates that by 2025 the value of intraregional agricultural trade would increase by 6 percent, or by about \$8.5 billion per year (in 2007 U.S. dollars). The United States and Japan would account for the largest shares of the increases in intraregional exports and imports, respectively. The percentage increases in the value of intraregional trade due to eliminating tariffs and other border restrictions among all TPP members will be largest for rice, sugar, and "other meat" (which includes animal fats and oils and offals). ERS projects that Japan, with its vast import market, could import more rice, beef, and dairy products from the United States and other TPP countries under an agreement without significantly reducing their domestic production. Although Vietnam is a smaller market than Japan, ERS finds that it has strong growth potential, with projected gains for U.S. exports of meats, dairy products, fruits, and high-valued consumer food products rather than bulk commodities where trade barriers are already low. These findings were reported in briefings to senior officials in the Office of the Chief Economist and Foreign Agricultural Service, and reported in USDA radio news.
- *China's average corn yield is roughly 40 percent less than the U.S. average.* Chinese yields are rising, but not closing the gap with U.S. yields. China's dramatic expansion of domestic corn output came mainly by expanding acreage, a strategy that is not sustainable as corn competes for land with urbanization and production of other crops. Thus, China's consumption of corn is likely to outpace production if it is limited to yield growth of 1-to-2 percent annually. The findings were used to improve USDA baseline projections, and were presented to the U.S. Grains Council and other industry groups to help assess future growth in China's demand for corn imports.

Goal 4: Ensure that all of America's children have access to safe, nutritious, and balanced meals.

Current Activities:

ERS studies the relationship among the many factors that influence food choices and health outcomes. At the household level, research focuses on food price trends, income, and individual characteristics such as age, race and ethnicity, household structure, knowledge of diet and health, and nutrition education. At the industry level, research focuses on the interaction among firms, consumers, and government programs and policies. Children's food access, food security, and child and adult obesity continue to be important foci of the ERS research program. ERS research related to adult and child obesity includes approaches taken from behavioral economics to investigate how psychological mechanisms related to food choices might contribute to poor dietary quality and obesity.

Through its food assistance and nutrition research and by working closely with USDA's Food and Nutrition Service, ERS studies and analyzes the Nation's nutrition assistance programs. These programs receive substantial Federal funding and affect the daily lives of millions of America's children. Long-term research themes include dietary and nutritional outcomes, food program targeting and delivery, and program dynamics and administration. ERS research is designed to meet the critical information needs of USDA, Congress, program managers, policy officials, the research community, and the public at large.

ERS food safety research focuses on enhancing methodologies for valuing societal benefits associated with reducing food safety risks, understanding consumer response to food safety incidents, assessing industry incentives to enhance food safety through new technologies and supply chain linkages, and evaluating regulatory options and change. ERS research also investigates the safety of food imports and the efficacy of international food safety policies and practices.

Selected Examples of Recent Progress:

ERS research on food choices and health outcomes showed the following:

- *An estimated 85.7 percent of American households were food secure throughout the entire year in 2013, meaning that they had access at all times to enough food for an active, healthy life for all household members.* The remaining households (14.3 percent) were food insecure at least some time during the year, including 5.6 percent with very low food security—meaning that the food intake of one or more household members was reduced and their eating patterns were disrupted at times during the year—because the household lacked money and other resources for food. Additional research focused specifically on children shows that an estimated 90.1 percent of households with children were food secure throughout the year in 2011, meaning that all the household members had consistent access to adequate food for active, healthy lives. The ERS food security statistics are widely recognized as the benchmark for measuring food security in the U.S., and support decision making on USDA food assistance and nutrition programs.
- *An estimated 1,249 Calories per capita per day are lost from the food supply.* ERS published the latest estimates on the amount and value of food loss in the United States. These estimates are for more than 200 individual foods using ERS’s Loss-Adjusted Food Availability data. In 2010, an estimated 31 percent, or 133 billion pounds, of the 430 billion pounds of food produced was not available for human consumption at the retail and consumer levels. This amount of loss totaled an estimated \$161.6 billion, as purchased at retail prices. For the first time, ERS estimates of the calories associated with food loss are presented in this report. The top three food groups in terms of the share of the total value of food loss at the retail and consumer levels are meat, poultry, and fish (30 percent), vegetables (19 percent), and dairy products (17 percent). Food loss data from ERS is used to support USDA’s Food Waste Challenge initiative and also provides a model for other countries efforts to estimate food loss.
- *Consumption of food-away-from-home (FAFH) in terms of total daily calories, share of daily calories, and the number of restaurant meals declined during the 2007-09 recession.* ERS research explored how food intake evolved between 2005 and 2010. ERS compared a number of measures of food intake and diet quality over a pre-recession period (2005-06), a “recession” period (2007-08) and a “post-recession” period (2009-10) for working-age adults. Correspondingly, diet quality improved slightly, with a lower share of calories coming from fat and saturated fat, less cholesterol consumed, and more fiber. The decline in FAFH consumption explains less than 20 percent of the diet quality improvements. Increases in consumer preferences for nutrition and use of nutrition information when food shopping also likely lead to improvements in diet quality over this period. Research results from this report were presented at multiple briefings to senior USDA officials and results were also picked up by major media outlets.
- *Menu labeling allows consumers to make finer adjustments in their food choices and behavior.* Restaurant foods are typically higher in calories than meals consumed at home. A goal of the Patient Protection and Affordable Health Care Act of 2010 is to encourage healthier food choices at restaurants by informing consumers about the calorie content of menu items. However, some consumers may already be making at least partially informed decisions. For example, as a rule of thumb, a consumer may be aware that deep fried foods are higher in calories. He or she may also know to avoid side dishes like French fries and onion rings. Indeed, it has been argued that some consumers can already identify which foods best satisfy their needs and wants, and gain little new information from menu labeling. ERS analyzed whether rules of thumb predict the calorie content of meals sold by fast food restaurants and full-service restaurants. Results show that some simple rules of thumb are fairly reliable predictors of actual calorie content. They and other information available at the point of sale also explain about half of the total variation in calories in restaurant foods. Nonetheless, menu labeling still imparts substantial new information. Research results from this report were presented at multiple briefings to senior USDA officials.

ERS research on USDA's food and nutrition assistance programs found the following:

- *Inflation and higher food prices kept food insecurity rates relatively high after the 2007-09 recession.* ERS examined the extent to which year-to-year changes in the prevalence of U.S. household food insecurity can be explained by changes in the national unemployment rate, inflation, and the price of food relative to other goods and services. Data are from the 2001-12 used in this analysis shed light on why food security has remained essentially unchanged since the 2007-09 recession. Falling unemployment from early post-recession (2009-10) to 2012, absent any other changes, would suggest a modest decline in the prevalence of food insecurity. However, that potential improvement was almost exactly offset by the effects of higher inflation and the higher relative price of food in 2012.
- *SNAP households must balance multiple priorities to achieve a healthful diet.* To track how dietary awareness differs across various population subgroups and how those differences correlate with diet quality, ERS partnered with the National Center for Health Statistics (NCHS) to gather and track information on changing food habits, attitudes, and dietary behaviors of U.S. consumers through a consumer behavior module--the Flexible Consumer Behavior Survey (FCBS)--in the National Health and Nutrition Examination Survey (NHANES). Findings from the ERS-sponsored module shed light on diet-health connections, especially in relation to nutrition assistance and education programs, and obesity prevention. While most Americans choose a diet that is far from ideal, ERS analysis show that, compared to both income eligible non-participants and higher income shoppers, SNAP participants eat significantly less whole fruit, fewer whole grains, fewer vegetables(especially those that are dark green), and also eat more empty calories.

ERS research on the safety of the nation's food supply found the following:

- *Cost estimates of foodborne illnesses data provide Federal agencies with consistent, peer-reviewed estimates of the costs of foodborne illness that can be used in analyzing the impact of Federal regulations.* ERS's updated data product, produced in collaboration with the Food Safety and Inspection Service, provides detailed data about the costs of major foodborne illnesses in the United States including identification of specific disease outcomes for foodborne infections caused by 15 major pathogens in the United States, associated outpatient and inpatient expenditures on medical care, associated lost wages, and estimates of individuals' willingness to pay to reduce mortality resulting from these foodborne illnesses. It also provides stakeholders and the general public with a means of understanding the relative impact of different foodborne infections in the United States. Cost estimates of foodborne illnesses have been used in the past to help inform food-safety policy discussions, and these updated cost estimates will provide a foundation for economic analysis of food safety policy.
- *Establishments that bid on contracts to supply the USDA's National School Lunch Program had relatively higher levels of food safety performance, as measured by fewer samples of meat testing positive for Salmonella, than other establishments supplying ground beef to the commercial market.* ERS examined the food safety performance of suppliers of ground beef to the National School Lunch Program (NSLP) and found evidence of strategic behavior in which managers use information about their establishment's past food safety performance to decide whether to bid on contracts to supply the NSLP. Research results from this report were presented at multiple briefings to senior USDA officials.

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**Summary of Budget and Performance
Statement of Department Goals and Objectives**

The Economic Research Service (ERS) was established in 1961 from components of the former Bureau of Agricultural Economics principally under the authority of the Agricultural Marketing Act of 1946 (7 U.S.C. 1621-1627). The mission of ERS is to inform and enhance public and private decision making on economic and policy issues related to agriculture, food, the environment, and rural development.

ERS has four strategic goals that correspond to the four programmatic USDA strategic goals. To achieve these goals, ERS provides research, data, and analysis to enhance the understanding of policy makers, regulators, program managers, and those shaping debate on economic and policy issues.

Goals and Programs Crosswalk

| USDA Strategic Goal | Agency Strategic Goal | Agency Strategic Objectives | Programs that contribute | Key Outcome |
|--|--|---|---------------------------------|---|
| USDA Strategic Goal 1: Assist rural communities to create prosperity so they are self-sustaining, repopulating, and economically thriving. | USDA Strategic Goal 1: Assist rural communities to create prosperity so they are self-sustaining, repopulating, and economically thriving. | Objective 1.1: Enhance Rural Prosperity Objective 1.2: Create Thriving Communities Objective 1.3: Support a Sustainable and Competitive Agricultural System | Economic Research and Analysis | Enhanced understanding by policy makers, regulators, program managers, and those shaping public debate of economic issues affecting rural development, rural well-being, farm business and household income, and rural communities. |
| USDA Strategic Goal 2: Ensure our national forests and private working lands are conserved, restored, and made more resilient to climate change, while enhancing our water resources. | USDA Strategic Goal 2: Ensure our national forests and private working lands are conserved, restored, and made more resilient to climate change, while enhancing our water resources. | Objective 2.1: Restore and Conserve the Nation’s Forests, Farms, Ranches, and Grasslands Objective 2.2: Lead Efforts to Mitigate and Adapt to Climate Change Objective 2.3 Protect and Enhance America’s Water Resources | Economic Research and Analysis | Enhanced understanding by policy makers, regulators, program managers, and those shaping public debate of economic issues related to developing Federal farm, natural resource, and rural policies and programs that respond to the challenges of climate change and the need to protect and maintain the environment while improving agricultural competitiveness and economic growth. |

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| USDA Strategic Goal | Agency Strategic Goal | Agency Strategic Objectives | Programs that contribute | Key Outcome |
|---|--|--|---------------------------------------|--|
| <p>USDA Strategic Goal 3: Help America promote agricultural production and biotechnology exports as America works to increase food security.</p> | <p>USDA Strategic Goal 3: Help America promote agricultural production and biotechnology exports, as America works to increase food security.</p> | <p>Objective 3.2: Ensure U.S. Agricultural Resources Contribute to Enhanced Global Food Security</p> <p>Objective 3.2: Enhance America’s Ability to Develop and Trade Agricultural Products Derived from New Technologies</p> <p>Objective 3.3: Support Sustainable Agriculture Production in Food-Insecure Nations</p> | <p>Economic Research and Analysis</p> | <p>Enhanced understanding by policy makers, regulators, program managers, and organizations shaping public debate of economic issues related to adoption of economically and environmentally sustainable technologies to support enhanced food security, factors affecting trade of U.S. agricultural products (including products produced using biotechnology), strategies to reduce trade barriers and increase markets for U.S. products(including biotechnical exports)</p> |
| <p>USDA Strategic Goal 4: Ensure that all of America’s children have access to safe, nutritious, and balanced meals.</p> | <p>USDA Strategic Goal 4: Ensure that all of America’s children have access to safe, nutritious, and balanced meals.</p> | <p>Objective 4.1: Increase Access to Nutritious Food</p> <p>Objective 4.2: Promote Healthy Diet</p> <p>Objective 4.3: Protect Public Health by Ensuring Food is Safe</p> | <p>Economic Research and Analysis</p> | <p>Enhanced understanding by policy makers, regulators, program managers, and those shaping public debate of economic issues related to improving the efficiency, efficacy, and equity of public policies and programs relating to domestic food prices and availability at home, consumer food choices, nutrition and health outcomes, nutrition assistance programs, and protecting consumers from unsafe food.</p> |

Selected Accomplishments Expected at the FY 2016 Proposed Resource Level:

Key Outcome 1: Enhanced understanding by policy makers, regulators, program managers, and those shaping public debate of economic issues affecting rural development, rural well-being, farm business and household income, and rural communities.

ERS will identify key economic issues related to rural economic development, farm viability, rural household prosperity and well-being, and competitiveness. ERS will use sound analytical techniques to understand the immediate and broader economic and social consequences of how alternative policies and programs and changing market conditions affect rural and farm economies and households. ERS will effectively communicate research results to policy makers, program managers, and those shaping the public debate on rural economic conditions and performance of all sizes and types of farms. Examples of these activities include the following:

- Developing a comprehensive, integrated base of information on rural economic and social conditions that can be used by Federal policy makers for strategic planning, policy development, and program assessment.
- Analyzing how investment, technology, Federal policies, demographic trends, increased foreign competition in low-wage industries, and growing demand for highly skilled labor affect rural America’s capacity to prosper in the global marketplace.

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- Conducting research to better understand the role and effectiveness of investments in infrastructure, housing, and business assistance for sustaining rural communities, particularly in areas with rapid population growth or long-term population decline.
- Providing timely, accurate agricultural economic analysis and data on the impacts of decisions in risky situations to help farmers, ranchers, and policymakers make more informed production and marketing decisions.
- Researching and disseminating economic intelligence about the structure of, performance in, information systems of, new technology in, and foreign direct investment in the U.S. food manufacturing, processing, wholesale, retail, and food service industries.

Selected Past Accomplishments toward Achievement of the Key Outcome:

Future research and analysis will build on the successes of past performance to deepen understanding of issues explored, highlight new policy concerns revealed by prior analysis, and anticipate needs of policy makers and decisionmakers. Examples of recent progress are listed in the section on Status of Program. Past accomplishments toward achievement of the key outcome include: analysis of rural employment loss and recovery during and after the Great Recession; analysis of strategies to promote rural jobs and population growth through the development of local and regional sources of wealth; analysis of trends and outcomes of the adoption of genetically engineered crops; analysis of margin insurance to reduce the economic risk faced by dairy producers; analysis of the economic implications of the new programs and provisions of the Agricultural Act of 2014; and a comprehensive study on the scope of, and trends in, local and regional foods.

Selected Accomplishments Expected at the FY 2016 Proposed Resource Level:

ERS will conduct the following research on the farm and rural economy:

Forecast of Farm Income, Assets and Debt. Annually, estimates of farm income, assets and debt (balance sheet) are developed and published for public use through the ERS web site. In addition, three times each year, ERS provides updated income and balance sheet forecasts that reflect the most recent information available on production, prices and quantities of crops, livestock, products, and other outputs and services generated from farms. The Bureau of Economic Analysis' (BEA) National Income Staff use this information in developing their estimates of gross domestic product (GDP) and National Income Accounts and estimates of Personal Income and Outlays, and Corporate profits. Forecast data are also provided to the Council of Economic Advisors, and the estimates are also used by BEA's Regional Economic Measurement Division in developing a system of regional economic indicators that help form the basis for dissemination of Federal Revenue Sharing funds.

Rural Communities' Role in Rural Business Innovation. Innovation is increasingly regarded as the key to national and local economic prosperity. Preliminary results from the 2014 Rural Establishment Innovation Survey (REIS) confirm that substantive innovators are found in both urban and rural environments, dispelling conventional wisdom that innovation is a predominantly urban phenomenon. The next phase of the research will examine establishment and community characteristics associated with substantive innovation such as human, social, and financial capital and the availability and quality of broadband. Efforts to link the REIS to secondary and administrative data on capital availability and broadband availability will inform the efficacy of programs and policies for creating jobs, developing new markets, and increasing competitiveness for rural businesses and communities.

Characteristics Associated with Rural Manufacturing Resilience. Manufacturing jobs have generally been good jobs in rural areas—paying well and providing full-time year-round employment. Other things being equal, higher proportions of manufacturing jobs are generally associated with lower county poverty rates. However, rural manufacturing has been hard hit by globalization and recession, and much production has shifted off-shore. ERS research will examine the causes of, and barriers to, manufacturing plant survival and growth in rural communities since the 1990s by tracking outcomes associated with establishments included in the 1996 ERS Manufacturing Survey. In addition to a conventional focus on plant characteristics, the study will also explore the contribution of local community and regional attributes on survival and growth.

Rural Community Health and Economic Development. Access to primary health care is a critical need and health care services are among the largest and most rapidly growing employers in many rural areas, affecting not only the

health of rural people, but also their economic opportunities. Although substantial research has investigated how various factors influence the decision of physicians to work in rural areas, little research has sought to understand what rural communities themselves can do to attract and retain primary health care providers, or how attracting health care providers affects the economic prospects of rural communities. ERS will address these issues based on a survey of health care providers and interviews with rural community leaders. The information will inform government efforts to improve access to primary health care and promote economic development in rural areas by identifying successful approaches that some rural communities are using to address these needs which could be adopted or adapted elsewhere.

The Role of SNAP in the Rural Economy. ERS research will compare the rural impacts of the Supplemental Food Assistance Program (SNAP) to those in urban areas and to impacts of other Federal programs targeted to rural areas, such as agricultural commodity and rural development programs. Although SNAP is the largest USDA program, little research has investigated the economic effects of SNAP in rural areas. The project will examine how SNAP affects household labor, savings, and consumption decisions, as well as employment, earnings, and other sources of income in rural communities. The results of this will inform policy makers and the research community about the economic impacts of SNAP in rural America.

Rural Child Poverty. Over one in four rural children are in households incomes below the poverty line, up from one in five in 2001. Rural child poverty rose before the recession and has not fallen since the recession. This study will identify the sources of this increase in rural child poverty and the extent that the increase has affected minority groups and particular types of rural counties. A particular focus in the county analysis will be counties with high concentrations of people with low education and their rising propensity for high child poverty

Implications of Changing Land Values for Financial Stress and Land Ownership. ERS research will examine the potential vulnerability of the farm sector to changes in agricultural land values, interest rates, and commodity prices. Farm real estate values reached record highs in 2013, but forecasts indicate a slowing rate of appreciation, or possibly even a decline in land values caused, in part, by lower commodity prices and rising interest rates. These changes, affected by determinants such as income and interest rates, will have implications for both rented and owner-operated lands. In addition, the distribution of changes in real estate wealth across both farms and non-farms is likely to have important implications for individual farms and the farm sector as a whole. The research program will take advantage of new data from USDA's 2014 Tenure, Ownership, and Transition of Agricultural Land Survey, a comprehensive study of landlords of agricultural land.

New Farm Entrants: Demographics, Financial Performance, and the Future of Agriculture. ERS will analyze the financial performance and capital use of beginning farmers and ranchers. The challenge for designing effective new farmer policies is identifying their capital needs to enter agriculture, particularly in light of the diversity of ages and of reasons for entering farming. The analysis will examine the role of physical and financial capital on farm entry and transition, as well as the variation in capital use by demographic and farm-level characteristics.

ERS will conduct the following research on U.S. agricultural markets:

Market Analysis and Outlook. ERS, working closely with the World Agricultural Outlook Board, the Foreign Agricultural Service, and other USDA agencies, conducts market analysis and provides short- and long-term projections of U.S. and world agricultural production, consumption, and trade. The market and outlook program enhances the quality, transparency, and accessibility of data and analytical information.

Regional Employment Effects of Increased Trade. ERS will conduct research on the question of how increased participation in international trade affects labor markets at the regional level in agriculture and in related sectors such as food processing. Scenario analysis will be conducted to quantify gains and losses in economic activity and employment across sectors and geographical units resulting from specified increases in U.S. agricultural exports under different assumptions about adjustments in wage rates, exchange rates, and other economic variables. The analysis will inform decisions around trade promotion.

Supply, Use and Price Relationships for Ethanol Feed Co-Products. ERS will conduct research on industry trends with regard to the production and use of ethanol co-products, price relationships, and market opportunities. Growth in fuel ethanol production has surged in recent years, with important consequences for supply, use and price

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relationships across all major feedgrains. Ethanol production is now one of the largest markets for U.S. corn, resulting in the simultaneous rise in production of co-products such as distillers grains, corn gluten feed and corn gluten meal. These co-products are used almost exclusively in for livestock feed, and their price relationships with competing or complementary commodities (such as corn, soybean meal, and other feed ingredients) are not well understood or documented.

Trade Policy and U.S. Dairy Product Imports. This research will examine the empirical relationships between U.S. dairy import policies, imports of dairy products, and the U.S. dairy market. Most U.S. dairy imports are subject to tariff rate quotas (TRQs), which allow limited imports at lower in-quota tariff rates and unlimited imports at higher over-quota tariff rates. Data indicate that TRQs constrain dairy imports in varying degrees. Also, some dairy products have relatively high volumes imported under free trade agreements while others do not. The study will provide policy makers and stakeholders with an understanding of the economic implications of current policies as the U.S. seeks to enter into new bilateral or multi-lateral trade agreements.

Regional Economic Impact of Local Foods. In FY 2104 ERS conducted a congressionally-mandated study of local food systems in the U.S. ERS will continue research on the economic impacts of local and regional food systems. The focus will extend to analysis of the effects of local foods marketing both on input expenditures and on the economic linkages of farms to local and regional economies, including labor markets. Other analysis will focus on the measurement and policy context of consumption of local foods by low-income populations.

ERS will conduct the following research on farm and commodity policy:

Impacts of Risk Management Programs. ERS will conduct research on policies and programs designed to assist farmers with managing commodity revenue risk under the Agricultural Act of 2014, with the goal of providing analysis based on traditional and behavioral economics approaches that can inform the development of the next Farm Bill. The research will focus on “shallow” loss programs -- Agriculture Risk Coverage, Supplemental Coverage Option, Stacked Income Protection Plan, price-based support (e.g., Price Loss Coverage), and their interactions with federal crop insurance. Key issues to be examined include: (1) the impacts of these supports on farm revenue; (2) the sensitivity of the farmer’s downside risk protection to changes in program parameters; and (3) how crop insurance programs interact with shallow loss programs in affecting government costs and farmers’ revenue given that farmers have multiple instruments to address risk. Research will draw on Agricultural Resource Management Survey (ARMS) and Risk Management Agency (RMA) administrative data to assess how demand for risk management support interacts with premium subsidy rates and farmers’ production decisions.

Dairy Structure, Price Risks, and Policy. ERS researchers will evaluate the linkages among the changing structure of dairy production, changes in the financial risks facing dairy farms, and federal risk management policies in dairy. In 2014, Congress undertook a major reorganization of dairy policy by creating a new program, the Dairy Margin Protection Program (MPP-Dairy), that would provide farmers who elected to participate in the program with financial protection against adverse movements in milk and feed prices, while eliminating the Dairy Product Price Support Program, and phasing out the Milk Income Loss Contract programs. The reorganization was carried out against a backdrop of increased price risks facing dairy farmers, and ongoing structural changes of milk production toward larger operations. The research will describe and explain structural change, and evaluate the sources and impacts of increased price risks, with a particular focus on the industry’s 2009 financial crisis. Finally, ERS and external research will identify the likely effects on MPP-Dairy on production, prices, structure, and financial performance in the industry.

Farm Household Income Variability and Agricultural Risk Management Programs. ERS research will examine farm household income variability, and seek to understand the role of Federal agricultural programs (direct payments, crop insurance, and disaster assistance) in mitigating income volatility. Farm income is highly variable, and this variability can affect household welfare, agricultural production, and environmental quality. The Agricultural Act of 2014 has focused attention on risk reduction by creating new programs tied to annual or multi-year fluctuations in prices, yields, or revenues. Despite this emphasis on reducing income risks to farmers, more could be learned about the role that Federal programs play in mitigating income fluctuations. A fuller understanding of the current sources of farm household income variability could help improve policies by allowing for better targeting of vulnerable producers or regions, and findings could provide insight into the efficacy of Federal programs in mitigating farm household income risk.

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ERS will conduct the following activities related to homeland security:

Analysis of Animal Disease Outbreaks. ERS researchers will collaborate with Federal and academic researchers to examine how economic variables and factors affect animal and crop disease outbreak assessments. This work will examine how economic analysis can help to develop clearer views of actual and hypothetical outbreaks, and to more fully identify what factors are significant in measuring the success of a mitigation or prevention efforts. This research focuses on efforts to introduce economic components into epidemiological analysis that will allow analysts and decision makers to include social (e.g., impacts on rural communities) considerations and expand the number of criteria that may be used to determine effective outbreak responses. ERS will continue to invest in the data and analytical capacity needed to provide the current market context and data need to support USDA Homeland Security event assessments. In addition, ERS is contributing expertise as subject matter experts to the Department of Homeland Security, Science and Technology Directorate, for the Agro-terrorism Risk Assessment.

Key Outcome 2: Enhanced understanding by policy makers, regulators, program managers, and those shaping public debate of economic issues related to developing Federal farm, natural resource, and rural policies and programs that respond to the challenges of climate change and the need to protect and maintain the environment while improving agricultural competitiveness and economic growth.

ERS will identify key economic issues related to interactions among natural resources, environmental quality, and the agriculture production system. ERS also will use sound analytical techniques to understand the immediate and broader economic and social consequences of alternative policies and programs to protect and enhance environmental quality associated with agriculture. ERS research analyzes the economic effects and cost effectiveness of resource, conservation, environmental, and commodity programs and their linkages. Topics include USDA's conservation programs and environmental policies addressing water and air quality and climate change associated with agricultural production. ERS will effectively communicate research results to policy makers, program managers, and those shaping public debate on agricultural resource use and environmental quality.

Examples of these activities include the following:

- Characterizing implications of conservation and environmental policy design. Conservation policy design is generally limited to defining the subset of producers eligible to participate in a program, constructing the incentive structure (how much will be paid for which activities), and selecting program participants from among willing bidders. ERS research examines options for using market forces to improve the economic, environmental and distributional performance of programs. Design features examined include the baseline level of performance necessary to receive payments or participate in markets, options for targeting specific producer types (e.g., socially disadvantaged farmers), regions, or environmental attributes, the use of auctions for soliciting high benefit or lower cost offers, and procedures for selecting participants from among all program applicants.
- Characterizing policy drivers for land management and land use change. Farm and environmental policies, including farm programs, biofuel policies, conservation programs and climate policies, may encourage farmers to modify cropping patterns, to change their crop management practices, to expand cropland and/or to retire cropland. ERS research examines whether and to what extent changes in land management and land use would occur under alternative policy specifications.

Selected Past Accomplishments toward Achievement of the Key Outcome:

Future research and analysis will build on the successes of past performance to deepen understanding of issues explored, highlight new policy concerns revealed by prior analysis, and anticipate upcoming needs of policy makers and decision makers. Examples of recent progress are listed in the section on Status of Program. Past accomplishments toward achievement of the key outcome include: analysis of the possible impacts on producers and consumers associated with several climate change scenarios in the Third National Climate Assessment report; analysis showing conservation payments can encourage farming practices that improve environmental quality; and an analysis of trends in pesticide use in U.S. agriculture.

Selected Accomplishments Expected at the FY 2016 Proposed Resource Level:

ERS will conduct the following research on climate change:

Environmental Impacts of Climate Change and Producer Adaptation. By changing local growing conditions, climate change will alter farmers' incentives regarding patterns and methods of production and shift existing biophysical relationships between production and environmental impact. Research suggests that adaptation to climate change may involve regional intensification and extensification of agricultural production in the U.S., possibly exacerbating critical environmental issues associated with agricultural production, such as nutrient runoff, erosion, and greenhouse gas emissions. Such adjustments to agricultural production may influence future patterns and magnitude of demand for conservation programs, as well as the relative regional conservation benefits of different conservation practices and production methods. ERS research will identify the regional implications of climate change for several environmental indicators under several climate projections, exploring the importance of both the biophysical dynamic and the adaptation response.

Research, Productivity and Adaptation to Climate Change in Global Agriculture. While there is ample evidence that research and development (R&D) spending is closely associated with raising agricultural productivity, there is very limited information on how much R&D spending may be required to maintain or accelerate total factor productivity (TFP) growth in agriculture, especially in the face of changing climate conditions. ERS researchers will aim to provide a quantitative assessment of the future R&D spending required for adaptation to climate change on a global scale. An important consideration is the role of R&D spillovers, both across geographic boundaries and across sectors. The researchers will use estimates of the relationship between changes in R&D and TFP growth drawn from the existing professional literature, and will apply them in a simulation model of agricultural and energy systems in the future global economy under different productivity and climate change assumptions.

ERS will conduct the following research on conservation, water, and environmental issues:

The Economics of Antibiotic Use in Livestock. Antimicrobial resistance has been an area of focus during the past two decades as USDA plays a dual role in protecting animal agriculture and public health. ERS research will support this effort by examining the uses of antibiotics in livestock agriculture. Analysis from the farm-level Agricultural Resources and Management Survey will explore the extent of use by livestock species, stage of production, and purpose, as well as the impact of use on growth and recent policy issues.

Policy Options for Improving USDA Conservation Programs. ERS is collaborating with USDA conservation program managers to provide evidence on cost-effective approaches to designing and implementing voluntary conservation programs. In particular, ERS is partnering with USDA's Farm Service Agency (FSA) and Natural Resources Conservation Service (NRCS) to implement randomized experiments to test which outreach strategies are the most effective at enrolling non-participant farmers, underserved farmers, and participant farmers that have expiring contracts. Research findings will address conservation activities aimed at improving water quality in the Chesapeake Bay watershed, examine options for increasing the effectiveness of technical service providers, and increasing uptake of micro-loans. In addition, ERS has funded a new Center for Behavioral and Experimental Agri-Environmental Policy Research to conduct behavioral and experimental economics research related to agri-environmental issues. The Center will help USDA improve existing programs and assist in the design of new programs to improve outcomes, cost-efficiency and social welfare. The Center also includes a dissemination focus to ensure research results will be delivered to a diverse stakeholder audience, including USDA and other Federal program agencies, other researchers and the general public.

Conservation Compliance. To maintain eligibility for most agriculture-related federal programs, Conservation Compliance requires farmers to implement approved conservation systems on highly erodible cropland and refrain from draining wetlands. The Agricultural Act of 2014 eliminated Direct Payments and Countercyclical Payments—which previously accounted for a large proportion of compliance incentives—but also created “shallow loss” programs and linked crop insurance premium subsidies to Conservation Compliance requirements. ERS research will investigate the effectiveness of conservation compliance, the change in the incentive due to the Agricultural Act of 2014, and the potential effectiveness of these incentives in protecting highly erodible cropland and wetlands.

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Economics of Reducing Nutrient Losses from Agriculture in the Mississippi Atchafalaya River Basin. This study will examine the economic consequences of reducing nutrient losses from agriculture to the Gulf of Mexico and its implications for improving environmental quality. Every summer, a large hypoxic zone forms in the Gulf of Mexico. Low dissolved oxygen in the Gulf is a serious environmental concern that can impact valuable fisheries and disrupt sensitive ecosystems. Agriculture is a major source of nutrients. Reducing nutrient losses has been a major conservation goal for USDA and many Mississippi Basin states. However, despite years of investment in conservation measures, most cropland does not meet criteria for good nutrient management.

Livestock Producer Responses to Environmental Regulations. ERS will study the efficacy of Concentrated Animal Feeding Operation (CAFO) environmental regulations mandated in 2003 by examining how livestock and crop operations responded to the rules. Specifically, the study will investigate, according to the relative degree of regulation; changes in the land base for manure application; changes in manure nutrient application rates on regulated operations; and changes in manure application on nearby non-regulated operations. Since States also have specific environmental regulations, the research will also utilize a compendium of State-level CAFO regulations, previously developed at ERS, to separately identify the separate impacts of Federal and State regulations.

Key Outcome 3: Enhanced understanding by policy makers, regulators, program managers, and organizations shaping public debate of economic issues related to adoption of economically and environmentally sustainable technologies and factors affecting trade of U.S. agricultural products (including products produced using biotechnology).

ERS will identify key economic issues related to the competitiveness and sustainability of rural and farm economies, including economic factors guiding the development and adoption of new technologies and production systems to support food security and trade. These activities include the following:

- ERS supports the USDA Biotechnology Coordinating Council and interdepartmental efforts with the Food and Drug Administration and the Environmental Protection Agency through research that addresses impacts for farmer and industry behavior. Research and related data collection efforts are designed to capture the broad effects of this technology.
- ERS provides important information on changes in production technology of food production and adoption of new agricultural inputs and practices that have significant implications for the way in which the Nation's food supply is produced.
- ERS develops and disseminates research and analysis on the U.S. food and agriculture sector's performance in the context of increasingly globalized markets. Key emphasis areas include regional free trade agreements, domestic policy reforms, and the principal drivers of structural changes in global supply and demand.
- ERS produces an annual assessment of the prevalence and depth of food security in 76 developing and transition countries. ERS will expand public access to the data and model used to conduct this analysis by making the full database and several country models available on its website. In addition, ERS is developing new model capabilities, including the ability to assess the impact of changes in food prices, which will make the model capable of addressing all four dimensions of food security—availability, access, utilization and stability.

Selected Past Accomplishments toward Achievement of the Key Outcome:

Future research and analysis will build on the successes of past performance to deepen understanding of issues explored, highlight new policy concerns revealed by prior analysis, and anticipate needs of policy makers and decision makers. Examples of recent progress are listed in the section on Status of Program. Past accomplishments toward achievement of the key outcome include: analyses that indicate how regional trade agreements create trade in agricultural and food products; research showing that global food security remained virtually unchanged between 2012 and 2013; research on structural changes in the organic farm sector; and research on factors affecting exports of U.S. corn and other feedgrains to China.

Selected Accomplishments Expected at the FY 2016 Proposed Resource Level:

ERS will conduct the following research on the organic sector and production technologies:

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The U.S. Organic Sector: Emerging Issues and Policy Dimensions. The federal organic regulatory program includes a “USDA organic” label that has bolstered consumer assurance and helped drive a rapid expansion in sales. Domestic supply now trails demand for many products. Ongoing ERS research describes changes in the character of the U.S. organic sector in response to this growth, and highlights some emerging issues and concerns, including analysis of recent structural changes in the organic farm sector and examination of organic price premiums for top processed products and fresh foods. ERS expects to publish a report in FY 2016 that examines the costs, risks and other economic issues involved in maintaining coexistence between organic and genetically-engineered crops in the U.S.

Findings from USDA Economic Surveys of Certified Organic Field Crop Producers. ERS will examine the structure and profitability of organic grain production using national producer surveys, each including a targeted sample of organic growers. Interest in organic field crop production is evident by growth in U.S. crop acres under certified organic systems during the past decade. Despite numerous experimental field trials, little information is available about the relative costs and returns of organic grain (corn, wheat, soybeans) production. This research will identify similarities and differences in the characteristics and production costs of commercial organic and conventional field crop producers, and will shed light on whether certified organic production offers alternatives to generate higher returns for commodity producers with a limited resource base, who otherwise might exit.

Research on the Economics of Pollinator Health. Pollinators are critical members of agroecosystems and provide services that are essential for the production of numerous U.S. crops. USDA’s efforts to better understand and address pollinator health challenges are coordinated with other Federal agencies and documented in the Federal Pollinator Research Action Plan. ERS will collaborate with partner agencies on priority research areas, identified in the Plan, including an expanded investigation of the impacts of both environmental factors and agricultural practices on pollinator health and colony survivability and a review of risk management tools available to beekeepers. ERS will also conclude research projects related to measuring the impacts of forage enhancement programs on pollinator health and the implications of variable pollinator availability on consumer food prices and social welfare. The results of these two studies will be presented alongside contemporary research related to the economics of pollinator health at an ERS-sponsored workshop.

ERS will conduct the following research on global agricultural markets and food security:

International Food Security Assessment. ERS produces an annual assessment of the prevalence and depth of food security in 76 low-and middle-income countries. ERS makes available the full historical database used for the model projections on its website. In addition, ERS is developing new model capabilities, including the ability to assess the impact of changes in food prices and income on demand which will make the model capable of addressing all four dimensions of food security—availability, access, utilization and stability. ERS complements its annual food security assessment with household level research on food security in selected countries, which provides more detail on food access. ERS will perform micro-assessments of food security using survey data from Bangladesh to analyze how food consumption is distributed within households. Estimates at the individual and household levels will be compared to better understand the degree to which changes in intra-household allocation of food mask the effects of economic shock on food and nutrition security.

Global Food Security and Nutrition. ERS research on how economic factors affect food choices in developing countries, as well as in vulnerable populations in developed countries, will focus on the effects of food prices and income on dietary habits globally, from least developed to highly industrialized countries, and will also assess how food choices within gender and age subgroups respond differently across countries. The global financial crisis and subsequent rise in world food prices have brought attention to the importance of these factors to global diets and health, particularly in developing countries where a significant percent of income is spent on food. When developing countries were mostly characterized by malnutrition and hunger, it was sensible to conduct research on developed and developing countries separately. Now that many developing, middle income, and developed countries have similar problems related to food choice, including diabetes, hypertension and obesity, it is important to take a more global perspective when examining options for improving diets.

Opportunities for U.S. Exports of Livestock Products to China. China’s ability to expand domestic livestock output to meet growing demand is vitally important to U.S. exporters. Many trade policy issues and market promotion activities are related to trade in feeds, meats and dairy. ERS research will examine China’s livestock modernization

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strategy which facilitated productivity growth and large increases in animal protein production in earlier decades with surprisingly little impact on agricultural trade. ERS will also review the evolution of China's livestock modernization strategy and explain why past productivity gains cannot be extrapolated into the future, and why China's imports of feed, meat, dairy, and inputs have risen in recent years.

The Economic Effects of Reducing Non-Tariff Barriers to Trade in Regional Trade Agreements and Global Commodity Markets. ERS will further extend its analysis of Non-Tariff Measures (NTMs) to other major participants in global markets, including China, India, and Russia, to establish a basis for more comprehensive assessments of NTMs, including interaction effects with other trade barriers, in selected commodity markets.

Opportunities for U.S. Producers in Global Dairy Markets. The removal of government support prices, production shortfalls in other dairy exporting countries, and rising international demand are some of the reasons that the United States became a significant dairy exporter over the past 10 years. ERS will explore how trends in global supply and demand will affect future growth in U.S. dairy trade, especially in rapidly growing Asian economies. The research will examine potential changes in the levels and composition of dairy product trade given growing demand for branded cheese and yogurt in countries like India, where consumption is expected to nearly double over the next decade.

ERS will conduct the following activities related to homeland security:

Analysis of Animal Disease and Risk Assessments. ERS will be actively working through interagency activities with USDA APHIS and researchers associated with the DHS Science and Technology Directorate's Foreign Animal Disease and the Economic Consequences Working Group. ERS analysts will continue to serve on the Department of Homeland Security Interagency Bioterrorism Risk Assessment Working Group for the National Biodefense Analysis Countermeasures and Biological Threat Characterization Centers, and will continue to serve on review committees for the Bioterrorism Risk Assessments (BTRA). The collaborative efforts of ERS researchers provide BTRA stakeholders with credible and impartial analytic support to inform biodefense investments. These efforts directly support the USDA goal to help America promote agricultural production and biotechnology exports, as America works to increase food security.

Key Outcome 4: Enhanced understanding by policy makers, regulators, program managers, and those shaping public debate of economic issues related to improving the efficiency, efficacy, and equity of public policies and programs relating to domestic and global food prices and availability, consumer food choices, nutrition and health outcomes, nutrition assistance programs, and protecting consumers from unsafe food.

ERS will identify key economic issues affecting food prices, food access and availability, food consumption patterns, and food safety. ERS will use sound analytical techniques to understand the immediate and long-term efficiency, efficacy, and equity consequences of alternative policies and programs aimed at ensuring access by children and adults to safe, nutritious, affordable, and adequate meals. ERS ongoing research will also explore factors that can improve the effectiveness and efficiency of USDA Food and Nutrition Assistance programs. ERS will effectively communicate research results to policy makers, program managers, and those shaping efforts to promote abundant, safe, and healthful food at home and abroad. Examples of these activities include the following:

- Providing economic analysis of the food marketing system to understand factors affecting the availability and affordability of food for American consumers.
- Providing annual estimates of the quantity of food available for human consumption, and measures of disappearance and loss in the food system.
- Providing economic analysis of how people make food choices, including demands for more healthful, nutritious, and safer food, and of the determinants of those choices, including prices, income, education, and socio-economic characteristics.
- Conducting analyses of the benefits and costs of policies to change behavior to improve diet and health, including nutrition education, labeling, advertising, and regulation.
- Conducting economic analyses of the impacts of the Nation's domestic nutrition assistance programs, including the Supplemental Nutrition Assistance Program (SNAP); the Special Supplemental Nutrition Program for Women, Infants, and Children; and the Child Nutrition Programs.

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- Conducting research on food program targeting and delivery to gauge the success of programs aimed at needy and at-risk population groups, and to identify program gaps and overlaps.
- Conducting research on program dynamics and administration, focusing on how program needs change with local labor market conditions, economic growth and recession, and how changing State welfare programs interact with food and nutrition programs.
- Conducting food safety economics research, with the goal of providing a science-based approach to valuing food safety risk reduction, assessing industry costs of food safety practices, and understanding the interrelated roles of government policy and market incentives in enhancing food safety.
- Providing decision makers and the public with food safety information through publications, web materials, and briefings that address the economics of food safety, including consumer knowledge and behavior, industry practices, the relationship between international trade and food safety, and government policies and regulations.
- Working with Federal food safety agency partners to evaluate available food borne illness data related to meat, poultry and egg products, and to develop more accurate measures of the effectiveness of regulatory strategies in reducing preventable food borne illness.
- Building food-price and food-consumption databases to provide a basis for analyzing the impacts of food policy.

Selected Past Accomplishments toward Achievement of the Key Outcome:

Future research and analysis will build on the successes of past performance to deepen understanding of issues explored, highlight new policy concerns revealed by prior analysis, and anticipate upcoming needs of policy makers and decision makers. Examples of recent progress are listed in the section on Status of Program. Past accomplishments toward achievement of the key outcome include: an analysis of the food safety of ground beef served in the National School Lunch Program, a study of how consumers use nutrition information when eating out, a study analyzing the determinants of food insecurity, and research on the impact of vendor peer groups on the Women, Infants, and Children (WIC) program.

Selected Accomplishments Expected at the FY 2016 Proposed Resource Level:

ERS will conduct the following research on food choices, food safety, and health outcomes:

The National Household Food Acquisition and Purchase Survey (FoodAPS). FoodAPS is a nationally representative survey of household food purchases and acquisitions. FoodAPS provides unique and detailed data about household food choices that are not available from any other current government survey. Detailed information was collected about foods purchased for consumption at home and away from home as well as foods acquired through food and nutrition assistance programs (both public and private). Detailed data was made available for researchers beginning in 2014, and descriptive reports of key survey measures will be published in the first half of 2015. An initial research results conference is planned for the early in 2016 and analytical policy-relevant research reports will be published in FY 2016. However, to be fully effective for tracking consumer behavior trends and answering policy-relevant food choice questions, ERS is exploring options to conduct a new round of the FoodAPS survey. In 2016, ERS will assess the experience of the initial FoodAPS collection and develop alternatives for data collection to enable a possible survey collection in 2017.

How Much Do Americans Pay for Fruits and Vegetables? Average prices per pound or pint for over 150 fruit and vegetable products as purchased at retail stores will be estimated using 2013 scanner data. These estimated prices will update the previous 2008 estimates in the ERS Fruit and Vegetable prices Database along with the costs for a cup-equivalent of each of these same fruits and vegetables as consumed. Costs to consume account for weight gained or lost through preparation, such as draining the liquid from a can of corn.

Examining the dietary quality of Americans from 1977 – 2010. Understanding secular trends in diet is important for assessing research needs and formulating dietary policy. ERS research on dietary quality over time has been widely cited in the *Dietary Guidelines for Americans* and by researchers. However, ERS researchers have encountered major data limitations – limited and dated nutrient and food serving’s data available in the 1977-78 Nationwide Food Consumption Survey (NFCS) and 1989-91 Continuing Survey of Food Intakes by Individuals (CSFII). These

data shortcomings will be addressed by utilizing current state of food composition knowledge to conduct a comprehensive analysis of U.S. dietary trends.

Using Behavioral Economics to Help Consumers Buy Healthier Foods in Low-Income Area Grocery Stores. Using data from the Flexible Consumer Behavior Module from the National Health and Nutrition Examination Survey and ERS's Food Atlas, this study will provide descriptive statistics, such as average Healthy Eating Index (HEI) scores, the amount of time spent shopping, the amount of time spent traveling to grocery stores, general knowledge of MyPlate and label use among individuals living in food deserts. These statistics will illustrate some of the hurdles facing low-income consumers to show that, for many, nutrition may not be a top priority. Researchers will then apply key findings from behavioral economic studies to consumer food purchasing behavior to develop a set of possible strategies for increasing healthier food choices in grocery stores. The results will inform decisionmaking about ways to encourage healthier food choices.

Estimating the Economic Burden of Major Foodborne Illnesses. Most cases of foodborne illness for which a pathogen cause is known are caused by 15 specific pathogens. ERS will estimate the cost imposed by the approximately 9 million cases of foodborne illnesses caused by these pathogens in terms of economic burden. The purpose of this project is to provide an overview of recent cost of foodborne illness estimates and educational materials that can be used to explain these estimates to a general audience. The report will include a summary of recent research and two-page overviews for each of 15 pathogens with visuals intended to help a general audience better understand recent cost of illness estimates.

Analyzing How Proximity to Food Stores Impacts Food Demand and Purchase Behavior. In 2010, 9.7 percent of the U.S. population lived in low-income areas more than 1 mile from the nearest supermarket. Their food environment could adversely affect the diet quality of these consumers. Some of these consumers may have limited ability to reach supermarkets and they may have to purchase food from alternative stores that offer less healthy food products. This research will investigate the effect of living in low-income low-access (LILA) areas on demand for 14 major food groups, with the goal to estimate the effect of LILA areas on diet quality.

The Food Safety Modernization Act (FSMA) and the Fresh Produce Industry. The Food Safety Modernization Act (FSMA) is the most extensive food safety legislation since the 1950s for Food and Drug Administration (FDA)-regulated food. It includes on-farm regulation of produce production, extends Hazard Analysis and Critical Control Points (HACCP)-like requirements to food and animal feed facilities, and addresses import safety through a combination of third-party certification and government audits. ERS will examine the effects of FSMA across the fresh produce supply chain, including the guidance issued by FDA as it relates to the development of a risk based food safety system.

Shifting Consumer Behavior and Impacts on Produce Markets. ERS research will examine how changing produce and legume consumption and trade patterns are likely to affect the quantity and mix of produce supplied in the United States and the implications for U.S. agriculture if Americans fully adhere to Dietary Guideline Recommendations. The health benefits from increased consumption of produce and legumes are well known, and many consumers are shifting their food consumption patterns to reflect the latest dietary guidelines. Nevertheless, the average American diet still falls short of the daily recommendations for fruit and vegetables.

ERS will conduct the following research on USDA's food and nutrition assistance programs:

Applying Behavioral Economics to Development of Strategies Encouraging Low-Income Consumers to Buy Healthier Foods in Grocery Stores. This project will examine how behavioral economics-based strategies could encourage healthful food purchase decisions, particularly by SNAP participants and other low-income shoppers. Analysis will focus on factors influencing food purchase decisions by SNAP consumers and the potential for behavioral economics based research to develop strategies to promote healthy food choice.

Sorting Out the Effects of Expanded Categorical Eligibility, Income Volatility, and Other Policy Changes on SNAP Using Administrative Data. In the 2000s, many States expanded the definition of eligibility for SNAP to include individuals who qualified for non-cash assistance from Temporary Assistance for Needy Families (TANF) or related programs. These policies raised the gross income limit and removed the asset limits in many states. Some analysts ascribe the large rise in SNAP caseloads since 2008 to these policies, while others find that changes in

unemployment explain most of the increase. The issue is complicated by the use of household survey data to measure the poverty status of SNAP recipients. Measurement issues explored in previous research show that one should distinguish between monthly and annual measures of eligibility and participation in order to truly understand the poverty level of individuals who benefit from the program. This research will identify the sources of eligibility of SNAP participants using the Survey of Income and Program Participation (SIPP) 2008 panel linked to State level SNAP administrative data. SIPP includes a fuller set of variables that can be used to estimate eligibility than in other household surveys, such as assets and deductible expenses. SNAP administrative data from New York, Texas, and Georgia will be linked to the SIPP in order to show which individuals in the SIPP sample truly participated in SNAP, since under-reporting of SNAP participation is a key source of measurement error.

Characteristics of School Districts Implementing Farm-To-School Programs. This project will identify school district characteristics associated with participation in farm to school activities during 2011-12. Farm to school activities include procurement of local food for school meal programs as well as educational activities such as field trips to farms and edible school gardens. Many school districts have started these activities both to support agricultural producers closer to home and to inspire students' enthusiasm for fresher, healthier foods. USDA supports these activities through grants and technical assistance. The study will provide insights into priorities for assistance, both in terms of geography and problems faced.

Economies of Scale, Meal Balance and the Cost of USDA School Breakfasts and Lunches. Through the USDA's National School Lunch and Breakfast Programs, schools receive financial support to assist them in serving nutritious meals to American children. Meal reimbursements are provided on the basis of a child's financial need, allowing schools to provide healthy meals to low-income students at free or reduced-price. Reimbursement rates are set nationwide yet variation in school location, size, and other factors may influence costs, with implications for the adequacy of reimbursement. Previous ERS research found that school foodservice costs vary by location. This study builds on that research by examining breakfast and lunch costs separately to assess how economies of scale and the balance between the number of breakfasts and lunches served affects their costs.

How State Policies Influence the Antipoverty Effect of SNAP Benefits. ERS will construct a state-level panel of annual data from 1990 to 2010 to examine how state policies influence the extent to which SNAP benefits reduce the state-level rate and severity of poverty. SNAP is one of the largest means-tested transfer programs in the United States, providing benefits to almost 45 million Americans in an average month in 2011. Program expenditures have increased dramatically over the past decade, while the policy environment has shifted to greater emphasis on fiscal austerity. In an era of tightening budgets, it is essential to examine the program's effectiveness as part of the social safety net. An important indicator of SNAP's effectiveness is the extent to which it reduces poverty. ERS will estimate the effect of SNAP on poverty by including SNAP benefits in family income and calculating the percent reduction in state-level poverty measures that portray the rate and severity of poverty. The reduction in state-level measures of poverty due to SNAP will depend on a number of factors, including program structure and macroeconomic conditions.

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Strategic Goal Funding Matrix
(Dollars in thousands)

| Program/Program Items | 2013 Actual | 2014 Actual | 2015 Enacted | Increase or Decrease | 2016 Estimate |
|--|----------------|----------------|-----------------|----------------------------|------------------|
| Department Strategic Goal: Assist rural communities to create prosperity so they are self-sustaining, repopulating, and economically thriving. | | | | | |
| Economic Analysis and Research | \$26,067 | \$28,085 | \$31,009 | +\$917 | \$31,926 |
| Staff Years | 133 | 129 | 137 | - | 137 |
| Homeland Security | 207 | 234 | 234 | - | 234 |
| Staff Years | 2 | 2 | 2 | - | 2 |
| Total Costs, Strategic Goal..... | 26,274 | 28,319 | 31,243 | +917 | 32,160 |
| Total Staff Years, Strategic Goal..... | 135 | 131 | 139 | - | 139 |
| Department Strategic Goal: Ensure our national forests and private working lands are conserved, restored, and made more resilient to climate change, while enhancing our water resources. | | | | | |
| Economic Analysis and Research | 10,138 | 10,865 | 11,731 | +3 | 11,734 |
| Staff Years | 46 | 45 | 47 | - | 47 |
| Homeland Security | - | - | - | - | - |
| Staff Years | - | - | - | - | - |
| Total Costs, Strategic Goal..... | 10,138 | 10,865 | 11,731 | +3 | 11,734 |
| Total Staff Years, Strategic Goal..... | 46 | 45 | 47 | - | 47 |
| Department Strategic Goal: Help America promote agricultural production and biotechnology exports as America works to increase food security. | | | | | |
| Economic Analysis and Research | 17,094 | 18,563 | 20,540 | -74 | 20,466 |
| Staff Years | 84 | 83 | 88 | - | 88 |
| Homeland Security | 650 | 700 | 700 | - | 700 |
| Staff Years | 4 | 4 | 4 | - | 4 |
| Total Costs, Strategic Goal..... | 17,744 | 19,263 | 21,240 | -74 | 21,166 |
| Total Staff Years, Strategic Goal..... | 88 | 87 | 92 | - | 92 |
| Department Strategic Goal: Ensure that all of America's children have access to safe, nutritious, and balanced meals. | | | | | |
| Economic Analysis and Research | 16,857 | 19,104 | 21,159 | -196 | 20,963 |
| Staff Years | 79 | 77 | 86 | - | 86 |
| Homeland Security | - | - | - | - | - |
| Staff Years | - | - | - | - | - |
| Total Costs, Strategic Goal..... | 16,857 | 19,104 | 21,159 | -196 | 20,963 |
| Total Staff Years, Strategic Goal..... | 79 | 77 | 86 | - | 86 |
| Lapsing Balances..... | 378 | 507 | - | - | - |
| Total Costs, All Strategic Goals..... | 71,391 | 78,058 | 85,373 | +650 | 86,023 |
| Total Staff Years, All Strategic Goals... | 348 | 340 | 364 | - | 364 |

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Summary of Budget and Performance
Key Performance Outcomes and Measures

Agency Goal: The long-term performance goal across USDA and agency goal areas is the successful execution of the ERS program of economic research and analysis to provide policy makers, regulators, program managers, and those shaping the public debate on agricultural economic issues with timely, relevant, and high quality economic research, analysis, and data to enhance their understanding of economic issues affecting food and agriculture. A more detailed description of each of our performance measures is presented below.

Key Outcome: The key outcome of the ERS program is improved decision making by policy makers, regulators, program managers, and those shaping the public debate on socioeconomic issues affecting agriculture, food, the environment, and rural development.

Since ERS’s research spans across a number of USDA mission areas and provides the information for improved decision making across USDA, its program supports all of the USDA Strategic Goals: Assist rural communities to create prosperity so they are self-sustaining, repopulating, and economically thriving; Ensure our national forests and private working lands are conserved, restored, and made more resilient to climate change, while enhancing our water resources; Help America promote agricultural production and biotechnology exports as America works to increase food security; and Ensure that all of America’s children have access to safe, nutritious, and balanced meals. Our program is also aligned with the strategic vision put forth by the Research, Education, and Economics Mission Area Action Plan for USDA science.

The following performance measures allow ERS to estimate the impact of its broad research program efforts by tracking uses and users of our research and data products both within government as well as by industry and the general public. The first five items provide impact measures within government, while the last three provide a wider measure of users of our work.

| Performance Measure | FY 2012 Actual | FY 2013 Actual | FY 2014 Actual | FY 2015 Target | FY 2016 Target |
|---|----------------|----------------|----------------|----------------|----------------|
| Inform policy officials and stakeholders on policy issues through briefings on research findings (number of briefings) | 45 | 39 | 48 | 45 | 45 |
| Provide research, data, and analysis on policy relevant issues at the request of key decision makers and policy officials (number of staff analyses produced) | 487 | 518 | 515 | 500 | 500 |
| Federal Register Notice and other Government use (number of notices citing ERS research and/or data) | 44 | 34 | 50 | 40 | 40 |
| Percent of scheduled key statistical indicators released on time** | n/a | n/a | n/a | 98% | 98% |
| Percent of other scheduled statistical indicators, data, or reports released on time** | n/a | n/a | n/a | 95% | 95% |
| Evaluation of selected components of the ERS research program by external peer-review panel** | n/a | n/a | n/a | Excellent | Excellent |
| Visits to ERS Web site (FY 2012); Number of page views (FYs 2013-2015) using Adobe Cloud software | 4,600,000* | 8,000,000* | 7,000,000* | 8,000,000* | 8,000,000* |
| Customer satisfaction with the ERS Website (score on a 0-100 scale from Foresee website satisfaction survey) | 72 | 73 | 75 | 75 | 75 |

*In FY 2012 and prior years, ERS tracked the number of unique visits to the ERS web site using SiteCatalyst software. Beginning in FY 2013 and forward, ERS began tracking the number of page views using Adobe Cloud software.

**New measures for FY 2015 and FY 2016.

Inform policy officials and stakeholders on policy issues through briefings on research findings

Central to the mission of the ERS is the delivery of research findings, data, and analysis to key public and private decision makers. Briefings for senior policymakers ensure that the results of the Agency's research program are made available to, and used by, those who make decisions and implement public policy decisions related to agriculture, food, the environment, and rural development. This measure tracks briefings for such officials as the Secretary of Agriculture and senior advisors, USDA Under Secretaries, USDA and other Federal program agency heads, and White House and Congressional staff.

Provide research, data, and analysis on policy relevant issues at the request of key decision makers and policy officials

This measure demonstrates that ERS research, market analysis, and data are used by decision makers. Requests from decision makers for rapid-response answers to key policy issues provided by ERS ("staff analysis") provide evidence that the Agency's research program helps support informed decision making by policy officials, including the Secretary of Agriculture and senior advisors, USDA Under Secretaries, USDA and other Federal program agencies, and White House and Congressional staff.

Federal Register Notice and other Government use

This measure tracks the number of rules published in the Federal Register that cite ERS research findings, data or analysis, plus instances where ERS research is cited in publications by the Government Accountability Office, the Congressional Research Service, the Congressional Budget office, and the Congressional Record. This measure demonstrates that ERS research findings, data, and analysis are used to support decision making and implementation of policies and programs.

Percent of scheduled statistical indicators, data, and reports released on time

These measures track the timeliness of ERS's provision of key statistical indicators and other data pertaining to the farm, food, and rural economy. The importance of data to inform and support sound economic decision making requires ERS to deliver data to decision makers and other data users quickly and reliably. ERS publishes a calendar each year with the scheduled dates for key indicators and periodically recurring reports. The target value for key statistical indicators used in decision making is 98 percent released on time according to the scheduled date. The target value for other recurring reports and data products is 95 percent on time according to the scheduled date. These targets reflect the fact that some product releases depend on data from sources external to ERS which may be subject to unanticipated delays.

Evaluation of the ERS research program by external peer review

A series of independent expert review panels will conduct a cycle of reviews over five years to evaluate the effectiveness of the ERS program of economic research and analysis to enable better informed decisions on food, rural, and agricultural policy issues. These reviews are disciplinary, and include an evaluation on a multi-category scale (excellent, adequate, needs improvement). The panel recommendations will be used in agency strategic planning and priority setting. The first review in FY 2015 will cover the ERS program of research in food choices and nutrition. Subsequent reviews will cover climate, energy, and natural resources; global food supply and security; rural prosperity and a competitive agricultural system, and food safety.

Visits to the ERS website

This measure tracks the number of times information on the ERS website is accessed (FY 2012). In FYs 2013-2016, the criteria for this measure changed to reflect the number of page views on the website. This measure demonstrates that the outputs from the ERS research, market analysis and data program are sought and used to support both public and private decision making on issues related to agriculture, food, the environment, and rural development.

Customer satisfaction with the ERS Web site

ERS uses a Web-centric approach to communicating with customers -- all ERS research, data, and other information disseminated by the agency are available through the ERS Web site. This measure is an indicator of customer satisfaction with the ERS Web site using a survey based on the American Customer Satisfaction Index (ACSI). The measure tracks satisfaction of Web site users and provides a basis for comparison with similar government and private sector Web sites. The target for this measure is at or above the average rating for government Web sites in the Information/News category.

**Economic Research Service
Full Cost By Department Strategic Goal**

Strategic Goal 1: Assist rural communities to create prosperity so they are self-sustaining, repopulating and economically thriving.

| | | Dollars in thousands | | | |
|---------------------------------------|---|-----------------------------|-----------------------|------------------------|-------------------------|
| PROGRAM | PROGRAM ITEMS | FY 2013 Actual | FY 2014 Actual | FY 2015 Enacted | FY 2016 Estimate |
| Economic Research and Analysis | | | | | |
| | Salaries and Benefits | 17,909 | 17,792 | 18,684 | 18,875 |
| | Pay Costs | 0 | 0 | 192 | 215 |
| | Data Acquisition | 3,010 | 3,306 | 3,227 | 3,258 |
| | Extramural Program | 1,072 | 1,536 | 1,740 | 2,412 |
| | Contracts | 874 | 1,203 | 1,195 | 1,195 |
| | Interagency Agreements | 1,739 | 2,622 | 2,053 | 2,053 |
| | Direct Costs | 576 | 668 | 648 | 648 |
| | Indirect Costs | 1,094 | 1,192 | 3,504 | 3,504 |
| | Total Costs | 26,274 | 28,319 | 31,243 | 32,160 |
| | <i>FTEs</i> | 135 | 131 | 139 | 139 |
| Performance | | | | | |
| Measure: Portfolio | Qualitative assessment by external experts of | | | | |
| Review Score | the relevance, quality, and performance of ERS | | | | |
| | research portfolios to enable better informed | | | | |
| | decisions on food and agricultural policy issues. | Excellent | Excellent | Excellent | Excellent |
| Total for Strategic Goal | | | | | |
| | Total Costs (program, direct, indirect) | 26,274 | 28,319 | 31,243 | 32,160 |
| | <i>FTEs</i> | 135 | 131 | 139 | 139 |

Strategic Goal 2: Ensure our national forests and private working lands are conserved, restored and made more resilient to climate change, while enhancing our water resources.

| | | Dollars in thousands | | | |
|---------------------------------------|---|-----------------------------|-----------------------|------------------------|-------------------------|
| PROGRAM | PROGRAM ITEMS | FY 2013 Actual | FY 2014 Actual | FY 2015 Enacted | FY 2016 Estimate |
| Economic Research and Analysis | | | | | |
| | Salaries and Benefits | 6,170 | 6,110 | 6,331 | 6,397 |
| | Pay Costs | 0 | 0 | 65 | 73 |
| | Data Acquisition | 2,339 | 2,569 | 2,508 | 2,532 |
| | Extramural Program | 307 | 440 | 499 | 404 |
| | Contracts | 154 | 212 | 210 | 210 |
| | Interagency Agreements | 594 | 896 | 702 | 702 |
| | Direct Costs | 193 | 223 | 217 | 217 |
| | Indirect Costs | 381 | 415 | 1,199 | 1,199 |
| | Total Costs | 10,138 | 10,865 | 11,731 | 11,734 |
| | <i>FTEs</i> | 46 | 45 | 47 | 47 |
| Performance | | | | | |
| Measure: Portfolio | Qualitative assessment by external experts of | | | | |
| Review Score | the relevance, quality, and performance of ERS | | | | |
| | research portfolios to enable better informed | | | | |
| | decisions on food and agricultural policy issues. | Excellent | Excellent | Excellent | Excellent |
| Total for Strategic Goal | | | | | |
| | Total Costs (program, direct, indirect) | 10,138 | 10,865 | 11,731 | 11,734 |
| | <i>FTEs</i> | 46 | 45 | 47 | 47 |

Strategic Goal 3: Help America promote agricultural production and biotechnology exports as America works to increase food security.

| Dollars in thousands | | | | | |
|---------------------------------|---|----------------|----------------|-----------------|------------------|
| PROGRAM | PROGRAM ITEMS | FY 2013 Actual | FY 2014 Actual | FY 2015 Enacted | FY 2016 Estimate |
| | Salaries and Benefits | 11,884 | 11,839 | 12,471 | 12,599 |
| | Pay Costs | 0 | 0 | 128 | 143 |
| | Data Acquisition | 2,001 | 2,198 | 2,145 | 2,166 |
| | Extramural Program | 778 | 1,114 | 1,262 | 1,024 |
| | Contracts | 742 | 1,022 | 1,015 | 1,015 |
| | Interagency Agreements | 1,230 | 1,855 | 1,452 | 1,452 |
| | Direct Costs | 384 | 446 | 433 | 433 |
| | Indirect Costs | 725 | 789 | 2,334 | 2,334 |
| | Total Costs | 17,744 | 19,263 | 21,240 | 21,166 |
| | <i>FTEs</i> | 88 | 87 | 92 | 92 |
| Performance | | | | | |
| Measure: Portfolio | Qualitative assessment by external experts of | | | | |
| Review Score | the relevance, quality, and performance of ERS | | | | |
| | research portfolios to enable better informed | | | | |
| | decisions on food and agricultural policy issues. | Excellent | Excellent | Excellent | Excellent |
| Total for Strategic Goal | | | | | |
| | Total Costs (program, direct, indirect) | 17,744 | 19,263 | 21,240 | 21,166 |
| | <i>FTEs</i> | 88 | 87 | 92 | 92 |

Strategic Goal 4: Ensure that all of America's children have access to safe, nutritious and balanced meals.

| Dollars in thousands | | | | | |
|---|---|----------------|----------------|-----------------|------------------|
| PROGRAM | PROGRAM ITEMS | FY 2013 Actual | FY 2014 Actual | FY 2015 Enacted | FY 2016 Estimate |
| Economic Research and Analysis | | | | | |
| | Salaries and Benefits | 10,598 | 10,753 | 11,597 | 11,716 |
| | Pay Costs | 0 | 0 | 119 | 133 |
| | Data Acquisition | 969 | 1,064 | 1,038 | 1,048 |
| | Extramural Program | 1,104 | 1,582 | 1,793 | 1,454 |
| | Contracts | 1,666 | 2,295 | 2,280 | 2,280 |
| | Interagency Agreements | 1,527 | 2,302 | 1,802 | 1,802 |
| | Direct Costs | 357 | 415 | 402 | 402 |
| | Indirect Costs | 636 | 693 | 2,128 | 2,128 |
| | Total Costs | 16,857 | 19,104 | 21,159 | 20,963 |
| | <i>FTEs</i> | 79 | 77 | 86 | 86 |
| Performance | USDA policy makers implement new local | | | | |
| Measure: Improve | foods initiatives as a result of new data and | | | | |
| Low Income | information on community, local food market, | | | | |
| Household Access | and food assistance program characteristics, | | | | |
| to Fresh, Local, | and analysis of effective alternatives for | | | | |
| Healthy Food | improving access to fresh, local foods. | | | | |
| | | No | No | No | Yes |
| Performance | | | | | |
| Measure: Portfolio | Qualitative assessment by external experts of | | | | |
| Review Score | the relevance, quality, and performance of ERS | | | | |
| | research portfolios to enable better informed | | | | |
| | decisions on food and agricultural policy issues. | Excellent | Excellent | Excellent | Excellent |
| Total for Strategic Goal | | | | | |
| | Total Costs (program, direct, indirect) | 16,857 | 19,104 | 21,159 | 20,963 |
| | <i>FTEs</i> | 79 | 77 | 86 | 86 |
| Total for Economic Research and Analysis | | | | | |
| | Total Costs, All Strategic Goals | 71,013 | 77,551 | 85,373 | 86,023 |
| | Total FTEs, All Strategic Goals | 348 | 340 | 364 | 364 |

ECONOMIC RESEARCH SERVICE

EVIDENCE AND EVALUATION

In FY 2013 the Economic Research Service (ERS) released and began implementation of a new strategic plan. The plan identifies priorities for the Agency to maintain the objectivity, quality and relevance of our research and statistical programs, strengthen the effectiveness and impact of our program, and improve our internal processes to ensure cost-effective use of ERS staff and financial resources. As part of the planning process, the Agency sought input from key customers and stakeholders. During structured interviews, stakeholders were asked about the ERS products and services they felt were most effective in providing useful information, the strengths and weaknesses of ERS relative to other sources of social science research and information, gaps in data, analysis, or research in food and agriculture issues, and emerging issues that ERS could address in its research program. During FY 2014 ERS used results from the stakeholder outreach to help set research priorities, identify improvements in our suite of products and services, and strengthen delivery of research through internal process improvements and staff efficiencies.

ERS uses data on program outcomes and impacts to make decisions about research priorities and program delivery. ERS systematically tracks external requests for information and analysis, citations of ERS research findings, data, and market analysis in both the general media and academic literature, and evidence showing the use of our information by key public and private decision makers. A suite of quantitative and qualitative measures is used to help us better understand how our work is used, by whom, and the resulting impact of our research. Examples include monitoring of outcomes where Departmental decisions were informed by ERS research, tracking examples where ERS research, data, and analysis are cited in Federal rulemaking and other official actions in support of policy development and implementation, and linking media and scholarly literature citations with specific research projects. This evidence is used to identify components of our research program and ways of communicating results with the greatest impact, and to set priorities for FY 2016 and beyond that will ensure the continued relevance of our Agency's body of work in public and private decision making.

In FY 2014 ERS conducted a comprehensive review of the Agency's current data products and dissemination methods in order to develop a forward-looking vision that provides high-quality, objective, timely, and useful statistics, indicators, and research data. The review included products released to the public, recurring data activities for key USDA clients, and internal data management. One outcome of the review was the establishment of an Agency Data Product Review Council that provides comprehensive evaluations of the Agency's data products to ensure adherence to the highest standards of quality and transparency, and to provide feedback and guidance to data product authors and their managers and identify areas for improvement. The Data Product Review Committee recently completed a pilot round of data reviews, with more reviews planned to for early 2015. The resulting policies and framework for data development resulted in greater consistency of procedures across the Agency.

ERS research, market analysis, and data programs inform and enhance public and private decision making on economic and policy issues related to agriculture, food, the environment, and rural development. ERS has applied two innovative strategies—the use of behavioral economics and the statistical use of administrative data—to address information gaps that hinder policy effectiveness. This research strengthens the agency's ability to conduct research that improves USDA policy effectiveness.

- ERS-supported research by the USDA Behavioral Economics/Child Nutrition Research Initiative using behavioral economics on the USDA school meals programs found that creating a “healthy express” school lunch line significantly increased sales of these items and decreased sales of unhealthy foods, with potential for improving child health and reducing childhood obesity. Programs based on this finding have begun to be implemented across the country.
- ERS research using administrative data explored the connection between the Supplemental Nutrition Assistance Program (SNAP) and Unemployment Insurance, two key pieces of the U.S. safety net, whose importance in helping stabilize the economy were evident during the most recent recession.
- ERS has worked with FSA to identify alternative auction approaches for the Conservation Reserve Program and is testing them in the classroom to identify least-cost approaches and the potential for unintended consequences, and options for avoiding them, prior to taking the auction to the field. Providing

ECONOMIC RESEARCH SERVICE

a “test-bed” for new approaches should increase farmer acceptance, increase environmental benefits and reduce tax-payer costs.

- ERS uses administrative data to improve the assessment of Supplemental Nutrition Assistance Program (SNAP) targeting – a measure of how well the program meets the objective of adjusting program benefits for monthly need. Current ERS research assesses SNAP targeting by using 2008-2012 data to estimate dimensions of program receipt. Data from the American Community Survey (ACS) are linked to SNAP administrative records to compare survey-reported SNAP receipt to receipt from based on administrative data. This analysis will allow ERS to determine how well SNAP is targeted toward poor households. Replacing survey-reported SNAP receipt with administratively-recorded receipt and adjusting the ACS households to more closely reflect the administrative SNAP data may improve estimated program targeting to the poor.

In FY 2014 ERS received funding for an initiative *Research Innovations for Improving Public Effectiveness* to apply behavioral economics to improve USDA policy design and to use administrative data for statistical analysis of USDA programs. In FY 2015 ERS received additional funds under this initiative to expand expertise, support collaboration with USDA program agencies, and form partnerships with extramural agencies. The initiative provides additional evidence and data to support and improve USDA decisionmaking in such areas as nutrition-improving changes to school meals, improving design of environmental markets, designing cost-effective farm programs that align with farmer incentives, and improved coordination and provision of SNAP and other safety net programs. The following actions have been taken under the initiative in the past year:

- ERS has established and funded the USDA Center for Behavioral and Experimental Agri-Environmental Policy Research. This competitive grant program will fund research that will use behavioral and experimental economics on how policies and programs can influence the provision of ecosystem services from agricultural lands.
- ERS and the Food and Nutrition Service (FNS) have established and funded the Duke-UNC-USDA Center for Behavioral Economics and Healthy Food Choice Research. The Center, jointly funded by ERS and FNS, will facilitate innovative research on the application of behavioral economic theory to healthy food-choice behaviors that would enhance the nutrition, food security, and health of American consumers.