

The U.S. Land-Grant University System: Overview and Role in Agricultural Research

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The U.S. Land-Grant University System: Overview and Role in Agricultural Research

With the passage of the first Morrill Act in 1862, the United States began a novel policy of providing federal support for post-secondary education, focused on agriculture and the mechanical arts. The national system of land-grant colleges and universities that has developed since then is recognized for its breadth, reach, and excellence in teaching, research, and extension. Land-grant institutions are located in every U.S. state, the District of Columbia, and the insular areas—including U.S. territories and freely associated states. These institutions educate the next generation of farmers, ranchers, and citizens, and form the backbone of a national network of agricultural extension and experiment stations.

The land-grant university system has continued to evolve through federal legislation. The federal government provides funds, often with nonfederal matching requirements, to execute the system's three-fold mission of agricultural teaching, research, and extension. The U.S. Department of Agriculture (USDA) National Institute of Food and Agriculture (NIFA) distributes these funds to the states as capacity grants, on a formula basis as determined by statute, or to participating institutions on a competitive basis. The Morrill Acts of 1862 (12 Stat. 503) and 1890 (26 Stat. 417), and the Equity in Educational Land-Grant Status Act of 1994 (P.L. 103-382, §§531-535) established the three institutional categories of the land-grant system, now known as the 1862, 1890, and 1994 Institutions. The 1862 Institutions are the first land-grant institutions; 1890 Institutions are historically Black colleges and universities (HBCUs); and 1994 Institutions are tribal colleges and universities (TCUs). Later legislation also recognized additional institutional categories, including non-land-grant colleges of agriculture (NLGCAs) and Hispanic-serving agricultural colleges and universities (HSACUs), for specific programs.

The Hatch Act of 1887 (24 Stat. 440), Evans-Allen Act of 1977 (P.L. 95-113, §1445), and provisions of the Agricultural Research, Extension, and Education Reform Act of 1998 (AREERA, P.L. 105-185) provide the framework for funding research at land-grant institutions. State Agricultural Experiment Stations (SAESs) associated with 1862 Institutions receive federal research capacity funds with a one-to-one nonfederal matching requirement. The 1890 Institutions also receive federal research capacity funds with this matching requirement, yet USDA can waive up to 50% of the required match. The 1994 Institutions can receive federal research funds through competitive grants programs. They may also use interest distributions from the Native American Institutions Endowment Fund, allocated on a formula basis, at their discretion.

The land-grant university system operates the U.S. Cooperative Extension Service (CES) in partnership with federal, state, and local governments. The CES provides nonformal education to agricultural producers and communities through its network of offices located in most of the more than 3,000 U.S. counties and the insular areas. The Smith-Lever Act of 1914 (38 Stat. 372), National Agricultural Research, Education, and Teaching Policy Act of 1977 (NARETPA, P.L. 95-113, §§1444-1445), and AREERA extension provisions guide agricultural extension funding in the land-grant university system. The 1862 and 1890 Institutions receive federal capacity funds, according to separate formulas with nonfederal matching requirements. USDA may waive up to 50% of the matching requirement for 1890 Institutions. The 1994 Institutions may receive federal extension funding through competitive grants.

Looking forward, public investment in agricultural research; disparities in state matching funds among the different classes of land-grant institutions; and the funding of 1994 Institutions may invite congressional engagement.

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Introduction

With the passage of the first Morrill Act (12 Stat. 503; 7 U.S.C. §301 et seq.) on July 2, 1862, the United States began a then-novel policy of providing federal support for postsecondary education, specifically for agriculture and the mechanical arts. The national system of land-grant colleges and universities that has developed since then is recognized for its breadth, reach, and excellence in teaching, research, and extension. Located in every state, the District of Columbia, and the insular areas, these institutions educate the next generation of farmers, ranchers, and citizens, and form the backbone of a national network of agricultural extension and experiment stations.¹

Later federal legislation expanded the scope and reach of the 1862 Morrill Act. Beyond providing initial resources to establish land-grant institutions, the federal government contributes funds annually through a variety of capacity and competitive grants administered by the U.S. Department of Agriculture (USDA) National Institute of Food and Agriculture (NIFA). Capacity grants, also known as formula funds, are allocated to states based on statutory formulas. Competitive grants are awarded to specific projects selected through a USDA peer-review process. In many cases, states and governments of the insular areas complement federal appropriations with matching funds. Federal legislation has also expanded the land-grant university system to include historically Black colleges and universities (HBCUs) and tribal colleges and universities (TCUs). Additional institutional categories are recognized for specific programs. These categories include non-land-grant colleges of agriculture (NLGCAs), Hispanic-serving agricultural colleges and universities (HSACUs), and cooperating forestry schools.

Looking forward, public investment in agricultural research; disparities in state matching funds among the different classes of land-grant institutions; and the funding of 1994 Institutions may invite congressional engagement.

While state and local governments have roles in the U.S. land-grant university system, this report focuses on federal laws, appropriations, and other matters.

Overview: History, Institutions, and Mission

History

Postsecondary education in the American colonies was available to a limited segment of society and focused on a few subject areas. Colonial colleges established in association with Christian denominations enrolled predominantly white men in classical and professional disciplines.² New colleges created following independence of the United States from Great Britain broadened enrollment and fields of study. However, lack of reliable funding meant that many closed.

In the early- to mid-19th century, demand grew for postsecondary education in agricultural and technical disciplines, as did interest in educating the populace more broadly. Johnathan Baldwin Turner, a professor at Illinois College, championed a more accessible “industrial education.” His

¹ *Insular area* is defined at 7 U.S.C. §3103(12) to include the Commonwealth of Puerto Rico, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, the Federated States of Micronesia, the Republic of the Marshall Islands, the Republic of Palau, and the U.S. Virgin Islands.

² For further information, see John R. Thelin, Jason R. Edwards, and Eric Moyen, et al., “Higher Education in the United States,” StateUniversity.com Education Encyclopedia, <https://education.stateuniversity.com/pages/2044/Higher-Education-in-United-States.html>.

“Plan for a State University for the Industrial Classes,” presented at an academic conference in 1850, contained many elements of the yet-to-be established land-grant university system.³

In 1857, Representative Justin Smith Morrill of Vermont introduced a bill to establish colleges of agriculture through grants of land to the states.⁴ The bill proposed giving federal land, or rights to such land, to the states for the purpose of establishing these colleges. The federal government was already giving land to states to encourage the development of railroads, for example through the Land Grant Act of 1850 (9 Stat. 466). However, granting land to states to establish institutions of higher education was a novel prospect. Congress passed Morrill’s bill in 1859 by a slim margin, largely along a North-South divide, and it could not overcome a veto by President James Buchanan. Morrill, who had never attended college himself, presented the bill once again in 1862. The political landscape had changed by then, with the onset of the Civil War and accompanying absence of Members of Congress from the southern states. Further, the second introduction of the bill expanded proposed areas of study at the colleges to include military strategy in addition to agricultural and mechanical arts. This bill passed overwhelmingly, and President Abraham Lincoln signed it on July 2, 1862. This first Morrill Act, described in greater detail below, marked the beginning of the U.S. land-grant university system. Notably, Lincoln signed the Morrill Act just seven weeks after signing legislation to establish USDA (12 Stat. 387, enacted May 15, 1862).

Federal Lands Designated for Land-Grant Universities

In total, the Morrill Act of 1862 resulted in the distribution of over 11 million acres of federal lands to benefit land-grant universities. Total acreage was determined by the size of each state’s congressional delegation. As such, less-populous states in the West received rights to fewer acres than more-populous states in the East. States in the West generally received public lands within their borders, while states in the East—where limited public lands existed—received land scrip, or a certificate of the right to acquire public lands located in the West. For example, Idaho received 90,000 acres of land within Idaho, and New York received 990,000 acres of land scrip. Idaho used a portion of its allotment as the location of the University of Idaho, and it sold some of the land to fund construction, operation, and endowment of that university. New York sold its land scrip to fund the establishment, maintenance, and endowment of Cornell University.

Where did these millions of acres of public lands come from? Recent scholarship has explored the relationship between the public lands provided for the land-grant university system and the forced removal of Native people from their lands. Several land-grant universities have recognized this history in land acknowledgement statements that acknowledge displaced tribes as traditional stewards of the land.

For more information, see Margaret A. Nash, “Entangled Pasts: Land-Grant Colleges and American Indian Dispossession,” *History of Education Quarterly*, vol. 59, no. 4, November 2019; and Kalen Goodluck, Tristan Ahtone, and Robert Lee, “The Land-Grant Universities Still Profiting off Indigenous Homelands,” *High Country News*, August 18, 2020.

Between 1872 and 1890, then-Senator Morrill introduced 12 bills focused on strengthening the early land-grant university system. Congress passed the last of those bills, and President Benjamin Harrison signed into law the Morrill Act of 1890 (26 Stat. 417). This second Morrill Act provided funding for the land-grant university system and prohibited racial discrimination in admissions policies. It led to the establishment of a group of HBCUs known as the 1890 Institutions.

³ For further information on Turner’s role in development of the land-grant university concept, see Allan Nevins, “Chapter 1: Turner and the Founding of the University,” in *American College and University Series: Illinois*, ed. George Phillip Krapp (New York [etc.]: Oxford University Press, 1917).

⁴ For more of the political history of the bill, see John Y. Simon, “The Politics of the Morrill Act,” *Agricultural History*, vol. 37, no. 2 (1963), pp. 103-111.

The land-grant university system further expanded in 1994 with the addition of a group of TCUs known as the 1994 Institutions. Senator Jeff Bingaman of New Mexico introduced the Equity in Educational Land-Grant Status Act in 1993. This act became Sections 531-535 of the Elementary and Secondary Education Act reauthorization (P.L. 103-382), which President William J. Clinton signed into law on October 20, 1994.

What Is a Land-Grant College or University?

Land-grant institutions are colleges and universities designated to receive benefits of the Morrill Acts of 1862 and 1890.⁵ These acts promoted establishment of institutions of higher learning focused on the agricultural and mechanical arts, without excluding other scientific and classical studies. Land-grant institutions now address many academic fields in addition to those of their foundational colleges of agriculture. There is at least one land-grant institution in each U.S. state, the District of Columbia, and the insular areas (see **Figure 1** for a map).⁶ In 2020, 2.0 million students were enrolled across 111 land-grant colleges and universities, with a portion of those enrolled in those institutions' colleges of agriculture.⁷ The federal government provides annual appropriations to U.S. states and the insular areas, often with matching requirements, for use in the land-grant university system.

Types of Land-Grant Institutions

There are three categories of land-grant institution, named for the year in which legislation established them: 1862, 1890, and 1994. The “Foundational Legislation” section of this report discusses relevant establishment legislation for these institutions in detail. Most generally, **1862 Institutions** are the original land-grant colleges and universities established through the Morrill Act of 1862, as amended. There are fifty-seven 1862 Institutions, located in each state, the District of Columbia, and the insular areas.⁸ The **1890 Institutions** are HBCUs established as land-grant institutions as a result of the Morrill Act of 1890, as amended. There are nineteen 1890 Institutions, primarily in the southeastern states.⁹ The **1994 Institutions** are TCUs recognized through the Equity in Educational Land-Grant Status Act of 1994, as amended.¹⁰ Congress has defined thirty-six 1994 Institutions in statute.¹¹

⁵ The 1994 Institutions were established in accordance with the provisions of the Morrill Act of 1862.

⁶ See footnote 1.

⁷ The 2.0 million students include full- and part-time students enrolled in all programs at all levels of post-secondary education in all 111 land-grant colleges and universities in the fall semester of 2020. The 111 institutions include the 1862 Institutions, 1890 Institutions (including Tuskegee University and Central State University), and 1994 Institutions (excluding D-Q University), as described in the next report section. U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), custom report, <https://nces.ed.gov/ipeds/datacenter>.

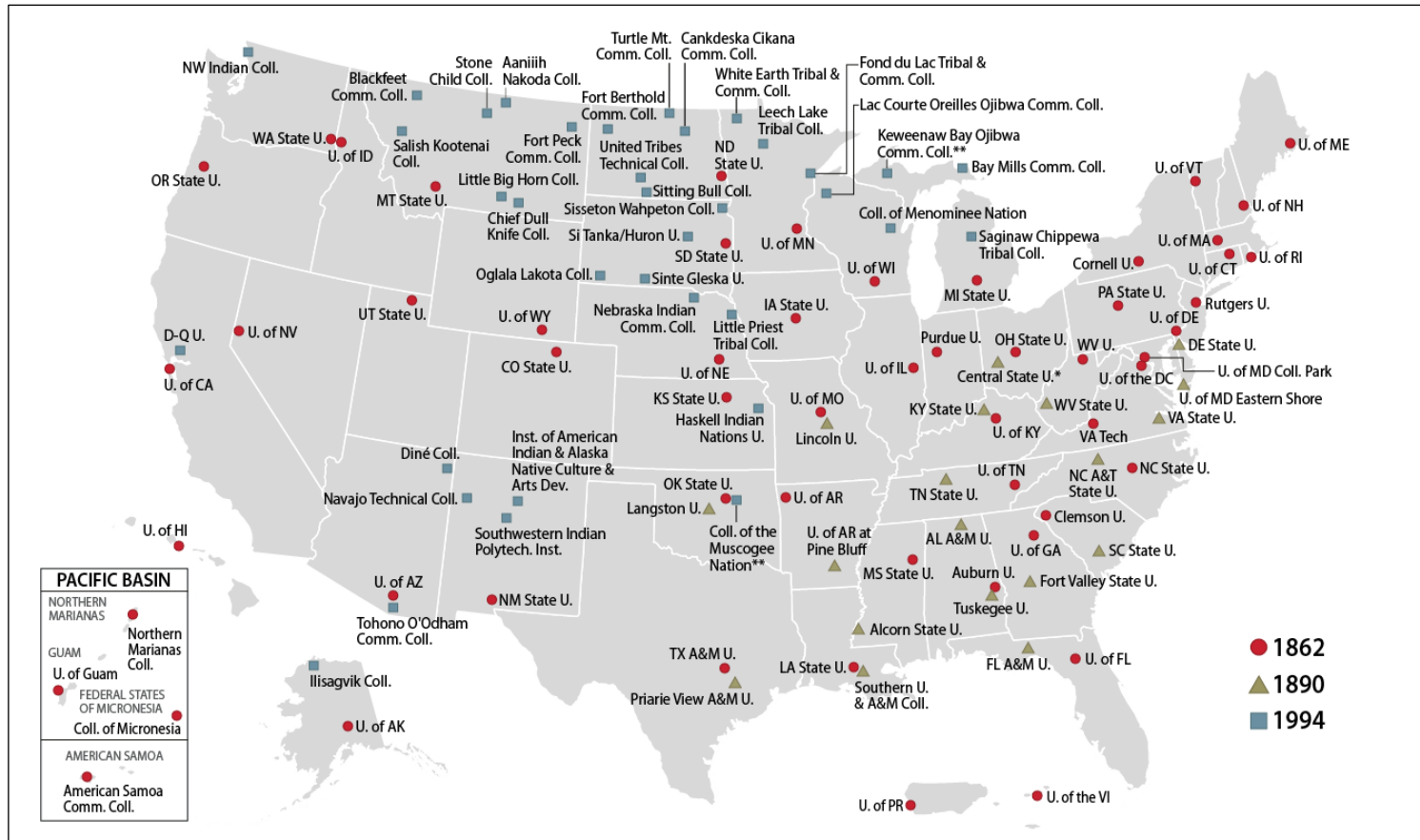
⁸ A 58th institution, Massachusetts Institute of Technology (MIT), is an 1862 land-grant university but is not included in this count. While USDA has confirmed that MIT, which focuses on the mechanical arts, is eligible to apply for grants that are available only to land-grant institutions, the State of Massachusetts chooses to allocate its federal capacity appropriations to the University of Massachusetts, Amherst, which focuses on the agricultural arts. See 2016 letter from USDA to MIT, at <https://ras.mit.edu/document/land-grant-institution-confirmation-status-letter-april-2016>.

⁹ For more information on 1890 Institutions, see CRS In Focus IF11847, *1890 Land-Grant Universities: Background and Selected Issues*.

¹⁰ For more information on 1994 Institutions, see CRS In Focus IF12009, *1994 Land-Grant Universities: Background and Selected Issues*.

¹¹ One of these institutions, D-Q University, lost its accreditation in 2005 and is no longer considered a 1994 Institution.

Figure 1. Map of U.S. Land-Grant Institutions



Source: CRS from data available at USDA, NIFA, “College Partners Directory,” <https://www.nifa.usda.gov/land-grant-colleges-and-universities-partner-website-directory>.

Notes: See the **Appendix** for a list of land-grant institutions by state. While identified in statute as a 1994 Institution (7 U.S.C. §301 note), D-Q University (CA) is not accredited at present.

The federal government recognizes additional categories of institutions that are not land-grant institutions, and yet support the mission of the land-grant university system (as discussed below). Cooperating forestry schools, HSACUs, and NLGCAs are eligible for federal funding through specific programs.

Three Pillars: Teaching, Research, and Extension

Federal legislation has given rise to the three functional pillars of land-grant institutions. First among them is the teaching function established through the Morrill Acts of 1862 and 1890. Later legislation added research and extension, establishing the roles of land-grant institutions in producing original agricultural research and in bringing that research to the nonuniversity public through agricultural extension.

Foundational Legislation

The U.S. land-grant university system has evolved in the more than 150 years since its establishment. Multiple pieces of legislation have added to its original mission, expanded its reach, and adjusted its funding structure. This section identifies enacted laws that are among the most significant for land-grant universities (see **Table 1** for a summary of select statutes). Details regarding federal funding and state matching requirements are discussed in the section following this legislative overview (“Funding”). Funding discussed in this report is discretionary unless stated otherwise.

Teaching

The **Morrill Act of 1862** was officially titled, “An Act Donating Public Lands to the Several States and Territories which may provide Colleges for the Benefit of Agriculture and the Mechanic Arts” (see legislative excerpt in the text box below). It designated that each state would receive 30,000 acres of federal land for each Member of the Senate and House of Representatives it had in Congress at the time.¹² In cases in which insufficient public land was available, states would instead receive *land scrip*, or certificates of entitlement to such public lands. Money from the sale of this land or land scrip was to be used to support at least one college with the primary purpose of teaching agriculture and the mechanical arts, to “promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.” The act prohibited states from using the funds for constructing or maintaining buildings.

Excerpt from the Morrill Act of 1862 (12 Stat. 503)

SECTION 4: “And be it further enacted, That all moneys derived from the sale of the lands aforesaid by the States to which the lands are apportioned, and from the sales of land scrip hereinbefore provided for, shall be invested in stocks of the United States, or of the States, or some other safe stocks, yielding not less than five per centum upon the par value of said stocks; and that the moneys so invested shall constitute a perpetual fund, the capital of which shall remain forever undiminished, (except so far as may be provided in section fifth of this act,) and the interest of which shall be inviolably appropriated, by each State which may take and claim the benefit of this act, to the endowment, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.”

¹² For example, New York received 990,000 acres of land scrip, as it had 33 Members of Congress at the time of apportionment.

The **Morrill Act of 1890** (26 Stat. 417; 7 U.S.C. §321 et seq.) responded to the need to finance the institutions established through the first Morrill Act. Today, the second Morrill Act is most recognized for its role in the establishment of HBCU land-grant institutions. It provided each state and territory with annual appropriations for the endowment and maintenance of the land-grant colleges.¹³ This money was to be used for instruction in specific academic disciplines, and for facilities for such instruction. The second Morrill Act prohibited racial discrimination in admission policies of institutions receiving these funds (7 U.S.C. §323). However, it permitted states and territories to meet this requirement by establishing separate institutions “of like character” for white and nonwhite students. In such cases, annual appropriations would be divided “equitably” between the two institutions in a manner proposed by the state or territory and reported to the Secretary of Agriculture. This condition ultimately resulted in the establishment of nineteen 1890 Institutions, primarily in the southeastern states.¹⁴

Just over 100 years after the Morrill Act of 1890 facilitated the addition of HBCUs, the **Equity in Educational Land-Grant Status Act of 1994** (P.L. 103-382, §§531-535; 7 U.S.C. §301 note) added TCUs to the land-grant university system.¹⁵ This act originally designated twenty-nine 1994 Institutions, considered to be land-grant institutions established in accordance with the Morrill Act of 1862 except for the manner in which they would be funded. This number has increased to 36, although one is no longer recognized as a 1994 Institution.¹⁶ In lieu of land or land scrip, P.L. 103-382 provided for annual appropriations to endow and maintain these institutions. Section 533 established the Native American Institutions Endowment Fund in the U.S. Treasury, with endowment interest payments to be distributed annually on a formula basis. Institutions may use these endowment payments at their discretion. In addition, Section 534 authorized annual appropriations to support education capacity at 1994 Institutions, to be distributed equally among the institutions. NIFA administers the Tribal College Endowment Program and the Tribal Equity Grants Program.¹⁷

Research

Agricultural research in the land-grant university system impacts daily life. Among diverse areas of investigation, researchers at land-grant institutions explore best practices for livestock, fish, and plant breeding; analyze agricultural value chains; examine interactions among soil health, agricultural productivity, and water quality; and look for new and safer pesticides to protect crop production, human health, and the environment. Discoveries achieved through this research at land-grant institutions have improved the lives of producers and consumers in diverse ways.

¹³ Appropriations under the second Morrill Act are no longer in effect. Section 724 of the FY1995 Agriculture Appropriations Act (P.L. 103-330) ended these appropriations.

¹⁴ Alabama has two 1890 Institutions, Alabama Agricultural and Mechanical University—a public institution—and Tuskegee University—a private institution. For funding purposes, relevant legislation treats the two as though they were in separate states (i.e., both have funding opportunities equal to those of the other 1890 Institutions).

¹⁵ The Equity in Educational Land-Grant Status Act of 1994 is Part C of Title V of the Improving America’s Schools Act of 1994 (P.L. 103-382).

¹⁶ D-Q University lost its accreditation in 2005.

¹⁷ By interagency agreement, the Secretary of the Treasury delegated the authority to “compute and distribute” the interest to the 1994 Institutions to NIFA. See NIFA, *1994 Institutions Endowment Fund - 2020 Interest Distribution*, <https://www.nifa.usda.gov/sites/default/files/program/2021%20Tribal%20Endowment%20Distribution%20letter2.pdf>. For more details, see NIFA, “Tribal College Endowment Program,” <https://www.nifa.usda.gov/grants/programs/tribal-college-endowment-program>; and NIFA, “Tribal Equity Grants Program,” <https://www.nifa.usda.gov/grants/programs/tribal-equity-grants-program>.

The **Hatch Act of 1887** (24 Stat. 440; 7 U.S.C. §361a et seq.) instituted the research function of land-grant universities. It provided for establishment of “a department to be known and designated as an ‘agricultural experiment station....’” under the direction of each land-grant institution established under the first Morrill Act. They would aid “in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture and to promote scientific investigation and experiment respecting the principles and applications of agricultural science....” The Hatch Act provided for appropriations to support original agricultural research at these stations, distributed to the states based on a formula in the law.¹⁸ Federal funds distributed in this manner are referred to as *capacity grants* or formula funds. The Hatch Act ultimately led to development of State Agricultural Experiment Stations (SAES) in each U.S. state, the District of Columbia, and the insular areas.¹⁹ In the modern day, not all of these stations are physical places, and may be represented instead through individual or groups of researchers at 1862 Institutions, or at associated agricultural or research sites within the state.²⁰

The 1890 Institutions are not eligible for Hatch Act appropriations. In 1977, the **Evans-Allen Act** (P.L. 95-113, §1445; 7 U.S.C. §3222) gave 1890 Institutions access to agricultural research capacity grants. The Evans-Allen Act is Section 1445 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (NARETPA; P.L. 95-113, §§1440-1445).²¹ Evans-Allen funds are appropriated and then distributed according to a statutory formula, in a manner similar to Hatch Act appropriations.

The 1994 Institutions are not eligible for research capacity grants under the Hatch or Evans-Allen Acts. However, Section 251 of the **Agricultural Research, Extension, and Education Reform Act of 1998** (AREERA; P.L. 105-185) gave these institutions access to separate competitive agricultural research funding. AREERA amended the Equity in Educational Land-Grant Status Act of 1994 to authorize USDA to award research grants to 1994 Institutions on a competitive basis. This provision requires that the 1994 Institution applying for these funds certify that the proposed research will be conducted in partnership with the USDA Agricultural Research Service (ARS), an 1862 or 1890 Institution, or a cooperating forestry school. Congress has provided appropriations for this competitive grants program. However, lack of predictable annual research funding on a formula basis has raised concerns that 1994 Institutions cannot build their institutional capabilities for agricultural research, as 1862 and 1890 Institutions have done. For further discussion, see “Funding of 1994 Institutions.”

By the mid-20th century, forestry science capacity was increasingly seen as falling behind national needs.²² The **McIntire-Stennis Cooperative Forestry Act of 1962** (P.L. 87-788; 16 U.S.C. §582a-1 et seq.) authorized forestry research capacity grants. This act encourages coordination of forestry research efforts among state colleges and universities and the federal government. These

¹⁸ Later legislation strengthened the Hatch Act research mission. The Adams Act of 1906 (34 Stat. 63), Purnell Act of 1925 (43 Stat. 970), and Bankhead Jones Act of 1935 (49 Stat. 436) authorized additional appropriations for research at 1862 Institutions and related research facilities. The Purnell Act expanded research to include the social sciences, paving the way for studies of agricultural economics and sociology.

¹⁹ *State agricultural experiment station* is defined at 7 U.S.C. §3103(17). See footnote 1 for *insular area* definition.

²⁰ For an introduction to agricultural research and the land-grant university system, see Donald A. Holt, “Agricultural Research Management in US Land-Grant Universities,” in *Agricultural Research Management*, ed. G. Loebenstein and G. Thottappilly (Dordrecht, The Netherlands: Springer, 2007), pp. 231-258.

²¹ NARETPA is itself Title XIV of the 1977 farm bill (P.L. 95-113; Food and Agriculture Act of 1977).

²² For additional background on the McIntire-Stennis Act, see Steven H. Bullard, Perry J. Brown, and Catalino A. Blanche, et al., “A “Driving Force” in Developing the Nation’s Forests: The McIntire-Stennis Cooperative Forestry Research Program,” *Journal of Forestry*, April/May 2011, pp. 141-148.

funds are apportioned to the states in amounts determined by the Secretary of Agriculture in consultation with an advisory council. These apportionments were originally available only to 1862 Institutions, their affiliated SAESs, and public colleges or universities offering graduate training in forestry. The 1890 Institutions were made eligible in Section 7412 of the 2008 farm bill (P.L. 110-246; Food, Conservation, and Energy Act of 2008). The 1994 Institutions were made eligible in Section 7604 of the 2018 farm bill (P.L. 115-334; Agriculture Improvement Act of 2018).²³

Additional federal legislation has authorized a variety of competitive research grants, and is addressed in “Funding.”

Extension

Agricultural extension brings agricultural research findings to the people who can put them into practice. Since passage of the Smith-Lever Act in 1914 (38 Stat. 372; 7 U.S.C. §341 et seq.), the United States has developed an expansive Cooperative Extension System operated through the land-grant university system in partnership with federal, state, and local governments.²⁴ Partners include NIFA, state cooperative extension services at land-grant colleges and universities, and cooperative extension service offices located in nearly each of the country’s approximately 3,000 counties and the insular areas. Extension agents based at field offices and land-grant institutions work with local agricultural producers and community members to demonstrate or put into practice knowledge gained through agricultural research. Agriculture faculty at land-grant institutions may have appointments that are fully teaching, research, or extension, or some combination of the three. The extension function adds nonformal education to the land-grant university mission. In statute, extension includes sharing knowledge about agriculture, home economics, rural energy, and “subjects relating thereto” (7 U.S.C. §342). In recent decades, extension has addressed not only the core topics identified in statute but also such topics as youth development, business skills, and health education.²⁵

The **Smith-Lever Act of 1914** responded to interest in ensuring that agricultural research findings would make their way to producers and improve agricultural practices. This act provided for capacity funds—annual appropriations, distributed to the states on a formula basis—for cooperative extension. It led to establishment of the cooperative extension service associated with 1862 Institutions. The Smith-Lever Act, as amended, also contains competitive funding provisions.

Smith-Lever capacity funds are not available to 1890 Institutions. The 1890 Institutions gained access to extension appropriations, distributed on a formula basis, in 1977 through the **Section 1444 of NARETPA** (7 U.S.C. §3221). Thus NARETPA provided 1890 Institutions access to appropriations for both agricultural research (via Section 1445, or the Evans-Allen Act) and extension (via Section 1444).

The 1994 Institutions gained access to federal extension funding in 1998. **Section 201 of AREERA** (7 U.S.C. §343(b)(3)) amended the Smith-Lever Act to authorize appropriations for USDA to distribute to 1994 Institutions on a competitive basis, with such funds to be

²³ See “Cooperating Forestry Schools” for more detail on eligible institutions.

²⁴ For additional information, see NIFA, “Cooperative Extension System,” <https://nifa.usda.gov/cooperative-extension-system>.

²⁵ For more information, see Government Accountability Office (GAO), *Cooperative Extension Service’s Mission and Federal Role Need Congressional Clarification*, CED-81-119, August 21, 1981; and Marsha Mercer, “Cooperative Extension Reinvents Itself for the 21st Century,” *Stateline*, September 9, 2014.

administered in cooperation with an 1862 or 1890 Institution. Thus, AREERA provided 1994 Institutions access to both competitive research (Section 251) and extension (Section 201) appropriations.

Table I. Selected Statutes Concerning Capacity Grants for Land-Grant Institutions

Legislation	U.S. Code	Eligible Institution(s)	Key Elements and Results
Hatch Act of 1887 (24 Stat. 440)	7 U.S.C. §361a et seq.	1862	Research. Authorized annual agricultural research appropriations. Led to establishment of system of State Agricultural Experiment Stations (SAESs) associated with 1862 Institutions.
Smith-Lever Act of 1914 (38 Stat. 372)	7 U.S.C. §341	1862	Extension. Authorized annual cooperative extension appropriations. Led to establishment of cooperative extension services associated with 1862 Institutions.
McIntire-Stennis Cooperative Forestry Act of 1962 (P.L. 87-788)	16 U.S.C. §582a-1 et seq.	1862, 1890, 1994, cooperating forestry schools	Research. Authorized annual forestry research appropriations.
Evans-Allen Act of 1977 (P.L. 95-113, §1445)	7 U.S.C. §3222	1890	Research. Authorized annual appropriations for agricultural research at 1890 Institutions in a manner similar to Hatch Act appropriations for 1862 Institutions.
Section 1444 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (NARETPA; P.L. 95-113, §1444)	7 U.S.C. §3221	1890	Extension. Authorized annual appropriations for agricultural extension at 1890 Institutions in a manner similar to Smith-Lever appropriations for 1862 Institutions.
Educational Equity in Land-Grant Status of 1994 (P.L. 103-382, §§531-535)	7 U.S.C. §301 note	1994	Teaching, research, or extension. Recognized new class of 1994 land-grant institutions; created and funded endowment in the U.S. Treasury; and authorized annual payments to be used at the discretion of the recipient institution.

Source: Compiled by CRS.

Notes: The Morrill Act of 1890 originally provided funding for teaching and facilities maintenance at land-grant institutions. However, its funding provisions were discontinued beginning in FY1995.

Land-Grant Institutions in the District of Columbia and Insular Areas

In addition to expanding the mission of the land-grant system, legislation also increased its geographical expanse. Beginning in 1908, modern U.S. territories began to participate in the land-

grant system.²⁶ Today, land-grant institutions are located in the District of Columbia and the insular areas of American Samoa, Guam, the Federated States of Micronesia, the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands.

Whereas at the time of the Morrill Act in 1862, the United States had vast tracts of federal lands available for sale to endow new colleges and universities (see also text box, “Federal Lands Designated for Land-Grant Universities,” p. 2), this was not the case in the 20th century. Land-grant institutions newly recognized in this time period were appropriated funds for their endowment and maintenance, in lieu of land or land scrip. Although classified as 1862 Institutions, their funding details vary according to specific legislation.

The University of Puerto Rico, Mayaguez was established as a land-grant institution in 1908 after the benefits of the first and second Morrill Acts were extended to Puerto Rico. The University of the District of Columbia, at the time known as Federal City College, received land-grant status in 1968 through amendment (P.L. 90-354) of Title I of the District of Columbia Public Education Act of 1966 (P.L. 89-791). Colleges in the U.S. Virgin Islands and Guam became land-grant institutions through Section 506 of the Educational Amendments of 1972 (P.L. 92-318). Institutions in American Samoa and what are now the Federated States of Micronesia received similar recognition through the Educational Amendments of 1980 (P.L. 96-374, §1361). A college in the Northern Mariana Islands was added in 1986 (P.L. 99-396, §9).

Designation of New Land-Grant Institutions

Section 7111 of the 2018 farm bill prohibits designation of any new land-grant institution that would be eligible to receive capacity grants for agricultural research, extension, and related programs (e.g., Hatch Act, Smith-Lever Act, and McIntire-Stennis Act). This change does not affect the eligibility of 1994 Institutions certified in the future to receive McIntire-Stennis funds. Congress made this change with the primary intention of avoiding the duplication of administrative costs that would accompany any division of an existing land-grant institution into more than one entity.²⁷

Other Institutions

Certain public colleges and universities that are not 1862, 1890, or 1994 Institutions can participate in elements of the land-grant university system through specific grant programs administered by USDA.

Non-Land-Grant Colleges of Agriculture

The classification of non-land-grant college of agriculture (NLGCA) was defined in the 2008 farm bill (7 U.S.C. §3103(14)), and this definition was revised in Section 7102 of the 2018 farm bill. Public colleges and universities are eligible to apply to USDA for NLGCA certification if they are not 1862, 1890, or 1994 Institutions and if they offer bachelors, masters, or doctoral degrees in food, agriculture, or natural resources in specified academic disciplines relevant to agriculture. As of this writing, more than 75 certified NLGCAs are located in 28 states.²⁸ The

²⁶ In this sense, territories refer to the District of Columbia and the insular areas, not those early U.S. territories that later became states.

²⁷ U.S. Congress, Conference Committee, *Agricultural Improvement Act of 2018*, conference report to accompany H.R. 2, 115th Cong., 2nd sess., H.Rept. 115-1072 (Washington, DC: GPO: 2018), pp. 300-301.

²⁸ For a list of certified NLGCAs, see NIFA, “NIFA-21-003 Non-Land-Grant Colleges of Agriculture (NLGCA) List,” <https://nifa.usda.gov/resource/nlgca-list>.

NLGCAAs meet eligibility requirements for the Capacity Building Grants for Non-Land-Grant Colleges of Agriculture program administered by NIFA. This competitively funded program for NLGCAs was first authorized by the 2014 farm bill (P.L. 113-79; Agricultural Act of 2014) and was reauthorized in the 2018 farm bill. Private colleges and universities remain ineligible.

Hispanic-Serving Agricultural Colleges and Universities

Section 7101 of the 2008 farm bill (7 U.S.C. §3103(10)) defined a group of Hispanic-serving agricultural colleges and universities (HSACUs) which could benefit from integrated research, education, and extension competitive grants offered through USDA. Certified HSACU institutions must demonstrate that 25% of full-time enrollment is Hispanic, that the institution offers accredited agriculture-related degree programs, and that Hispanic students received at least 15% of degrees awarded in agricultural programs over the most recent two-year period. The definition further clarifies that an HSACU cannot also be an 1862 Institution. Originally, an institution could not be certified as both an HSACU and an NLGCA. Section 7102 of the 2018 farm bill removed this restriction. As of FY2021, USDA had certified 238 HSACUs.²⁹

Section 7129 of the 2008 farm bill called for establishment of an HSACUs Fund in the U.S. Treasury (7 U.S.C. §3243(b)). It authorized annual appropriations for FY2008 and each fiscal year thereafter, and distribution of income from the fund to HSACUs on a formula basis. As of this writing, Congress has not appropriated funds for the HSACUs Fund since its establishment, thus distributions have not been made. Section 7129 also authorized appropriations for annual payments to HSACU institutions (7 U.S.C. §3243(c) as distinct from appropriations for the HSACUs Fund); competitively distributed institutional capacity-building grants (7 U.S.C. §3243(d)); and competitive research and extension grants programs (7 U.S.C. §3243(e)) specific to HSACUs. Congress has not provided appropriations for these programs.

Cooperating Forestry Schools

Cooperating forestry schools (defined at 7 U.S.C. §3103(5)) are those institutions that are eligible to receive funds under the McIntire-Stennis Act.³⁰ These include 1862, 1890, and 1994 Institutions in addition to non-land-grant “State-supported colleges and universities offering graduate training in the sciences basic to forestry and having a forestry school.”³¹ States must certify the institutions that are eligible for assistance, and determine the proportionate amounts of assistance to be extended to them if there is more than one cooperating forestry school within a state. As of this writing, more than 80 forestry schools are eligible for McIntire-Stennis capacity funding. Originally, an institution could not be certified as both a cooperating forestry school and an NLGCA. Section 7102 of the 2018 farm bill removed this restriction.

²⁹ USDA, “Hispanic-Serving Agricultural Colleges and Universities (HSACU) Certification Process,” 87 *Federal Register* 18605, March 31, 2022. Updated information may become available at NIFA, “NIFA-5-7a Official List of Hispanic-Serving Agricultural Colleges and Universities,” <https://nifa.usda.gov/resource/official-list-hispanic-serving-agricultural-colleges-and-universities-hsacu>.

³⁰ For a list of eligible institutions that year, see NIFA, *McIntire-Stennis Cooperative Forestry Research Program: Fiscal Year (FY) 2022 Request for Applications*, <https://www.nifa.usda.gov/sites/default/files/resources/FY2022-McIntire-Stennis-Cooperative%20Forestry-Research-RFA-508.pdf>.

³¹ 16 U.S.C. §582a-1.

Funding

USDA's National Institute of Food and Agriculture (NIFA) administers federal capacity and competitive grants to partner institutions for research, education, and extension activities (see **Table 2** for NIFA discretionary appropriation details).³²

- **Capacity grants** are recurring federal appropriations allocated to states based on legislative formulas. States are generally required to contribute matching funds. Specific project decisions are made locally.
- **Competitive grants** are awarded to specific projects selected through peer-review processes, without consideration of the state of the sponsoring institution. Researchers and institutions must apply for these funds. Competitive grant decisions are made by review panels coordinated by NIFA.

Capacity Grants, Also Known as Formula Funds

Federal legislation, as discussed earlier, provides capacity grants to land-grant institutions for research, education, and extension (see **Table 1**). NIFA administers these grants in collaboration with states, colleges, and universities. Land-grant colleges, universities, and associated state institutions use these funds to conduct research and extension in support of state agriculture, food, and forestry systems, as well as issues of socioeconomic welfare in communities and families in rural and urban areas.³³ The Hatch Act, Smith-Lever Act, Evans-Allen Act, and McIntire-Stennis Act are the largest sources of capacity funds.

Hatch Act: Research Funding for 1862 Institutions

Funding for agricultural research under the Hatch Act of 1887 as amended is allocated to the SAEs and associated agriculture colleges of the 50 states, the District of Columbia, and the insular areas. Eligible state institutions must submit a Plan of Work to NIFA for approval before these funds are distributed. The Hatch Act identifies the distribution of federal payments to states for FY1955 as a fixed base, and any sums appropriated in excess of the 1955 level are to be distributed in the following manner:

- 3% to USDA for administration of the Hatch Act;
- 20% equally to each state;
- 26% to each state in amounts proportionate to the relative rural population of each state to the total rural population of all states;
- 26% to each state in amounts proportionate to the relative farm population of each state to the total farm population of all states; and
- 25% to the Hatch Multistate Research Fund for multidisciplinary, multi-institutional research activities to solve problems concerning more than one state.

Federal funds provided under the Hatch Act to state institutions must be matched with nonfederal funding on a dollar-for-dollar basis. Section 7213 of the 2002 farm bill (P.L. 107-171; Farm Security and Rural Investment Act of 2002) and Section 7404 of the 2008 farm bill amended the

³² While *teaching* in the post-secondary classroom is the first pillar of the land-grant university system, as established through the first Morrill Act, *education* more broadly may include conveying knowledge through teaching or other activities, such as research.

³³ Associated state institutions include SAEs and cooperative extension service units.

Hatch Act such that the insular areas and the District of Columbia, respectively, are required to provide matching funds of an amount equal to not less than 50% of the Hatch Act funds they receive. These amendments also provided that the Secretary of Agriculture may waive the matching requirement of an insular area or the District of Columbia for any fiscal year if the Secretary determines that its government is unlikely to meet the matching requirement for that fiscal year.

Other provisions of interest within the Hatch Act include

- **Multistate research.** In accordance with provisions of AREERA, and as indicated in the Hatch Act distribution formula, at least 25% of available Hatch Act funds must be used to support multistate research.
- **Integrated activities.** States must also expend 25% or twice the level spent in FY1997 (whichever is less) on activities that integrate cooperative research and extension.³⁴
- **Carryover.** Section 7(c) permits SAESs to carry over unexpended funds for use during the following fiscal year. If those funds that have been carried over are not spent by the end of the second year, they are deducted from the following year's allotment.

Evans-Allen Act: Research Funding for 1890 Institutions

The Evans-Allen Act, as amended, provides capacity funding for food and agricultural research at 1890 Institutions in a manner similar to the distribution of Hatch Act funds to 1862 Institutions. As with Hatch Act fund recipients, Evans-Allen recipients are required to submit a Plan of Work to NIFA for approval before the funds are distributed. Section 1445(a)(2) of NARETPA (7 U.S.C. §3222(a)(2)), as amended by Section 7122 of the 2008 farm bill, requires that Evans-Allen appropriations shall not be less than 30% of the annual Hatch Act appropriations. Evans-Allen Act appropriations met and exceeded this threshold for the first time in FY2022 (see **Table 2**).

Three percent of Evans-Allen funds are reserved for NIFA administrative, technical, and other services. The balance of the funds is distributed as follows:

- 20% equally to each state;³⁵
- 40% in an amount proportionate to the rural population of the state in which the eligible institution is located to the total rural population of all states in which eligible institutions are located;
- 40% in an amount proportionate to the farm population of the state in which the eligible institution is located to the total farm population of all the states in which eligible institutions are located.

Section 1449(c) of NARETPA as amended (7 U.S.C. §3222d) requires that federal funds for research and for extension at 1890 Institutions be matched by the state from nonfederal sources on a dollar-for-dollar basis.³⁶ The Secretary may waive the matching funds requirement above the 50% level for an eligible institution if the Secretary determines that the state will be unlikely to satisfy the matching requirement for a given fiscal year. This waiver, while allowing institutions

³⁴ A complementary provision in the Smith-Lever Act, which as discussed later funds cooperative extension work, requires that 25% of those funds also are spent on integrated research and extension activities.

³⁵ Allotments to Tuskegee College and Alabama A&M are determined as if each institution were in a separate state.

³⁶ Congress amended NARETPA in 1998 through AREERA, adding §1449, which instituted a matching requirement. This matching requirement increased from 30% in FY2000 to 100% from FY2007 onward.

to receive their full allocation of federal funding, has raised questions about overall funding equities. For additional details see “State Matching Funds.”

McIntire-Stennis Act: Forestry Research Funding

The McIntire-Stennis Cooperative Forestry Act of 1962 as amended authorizes research appropriations for certified cooperating forestry schools, including 1862 Institutions. The 1890 Institutions became eligible for McIntire-Stennis funding through Section 7412 of the 2008 farm bill. The 1994 Institutions that offer associate or baccalaureate degrees in forestry became eligible in Section 7604 of the 2018 farm bill.

Unlike the statutorily designated formulas under the Hatch Act and Smith-Lever Act, funding apportionments under the McIntire-Stennis Act are made by USDA in consultation with a 16-member council (fulfilled through the Forestry Research Advisory Council of the USDA Forest Service), which includes representatives of relevant forestry research institutions. Three statutorily defined factors are considered in making apportionments (16 U.S.C. §582a-4):

1. total nonfederal expenditures for forestry research by state-certified institutions;
2. total state acreage in nonfederal commercial forest land; and
3. volume of timber from growing stock cut annually in the state.

The federal apportionment also requires a dollar-for-dollar match of nonfederal funds that, unlike Hatch Act and Evans-Allen Act matching funds, cannot be waived.³⁷

Smith-Lever Act 3(b) and 3(c): Extension Funding for 1862 Institutions

The Smith-Lever Act of 1914 (38 Stat. 372) as amended authorizes the Cooperative Extension System and provides capacity grants to 1862 Institutions for their agricultural extension activities. Capacity grants are distributed according to Smith-Lever Act Sections 3(b) and 3(c) (7 U.S.C. §343(b) and 7 U.S.C. §343(c)). Smith-Lever Act 3(b) and 3(c) capacity grants provide about 58% of total federal funding for extension activities. Competitive funding provisions within the Smith-Lever Act, including Section 3(d) (7 U.S.C. §343(d)) and specific provisions within Section 3(b), are addressed in the “Competitive Smith-Lever Provisions for Extension at 1862, 1890, and 1994 Institutions” section of this report.³⁸

States can use Smith-Lever 3(b) and 3(c) capacity grants for locally determined projects as well as for high-priority regional and national concerns. Eligible state institutions must submit a Plan of Work to NIFA for approval before these funds are distributed. Smith-Lever 3(b) capacity funds are distributed based on the FY1962 distribution of cooperative extension funds. For Smith-Lever 3(c) funds, 4% are reserved for NIFA administrative, technical, and other services, and the balance is distributed to the states in the following proportions:

- 20% equally to each state;
- 40% in amounts proportionate to the relative rural population of each state to the total rural population of all states; and
- 40% in amounts proportionate to the relative farm population of each state to the total farm population of all states.

³⁷ The U.S. Virgin Islands and Guam are exempted from the matching requirement.

³⁸ Section 3(d) funds were originally distributed via formula. This changed through §7403 of the 2008 farm bill.

Federal funds provided under the Smith-Lever Act to state institutions must be matched with nonfederal funds on a dollar-for-dollar basis. Matching requirements for the District of Columbia and the insular areas are subject to matching requirements of at least 50% of the Smith-Lever Act funds they receive. Further, the Secretary of Agriculture may waive the matching requirement for the District of Columbia or an insular area for any fiscal year if the Secretary determines that it is unlikely to meet the matching requirement for that fiscal year.

The Smith-Lever Act requires states to expend 25% of federal Smith-Lever 3(b) and 3(c) capacity grants, or twice the level spent in FY1997 (whichever is less), on cooperative extension activities in which two or more states cooperate to address issues facing more than one state. They must expend the same percentage or amount on activities that integrate cooperative research and extension. Institutions receiving Smith-Lever capacity grants can carry over unexpended funds from one fiscal year to the next.

Smith-Lever Act 3(d): Expanded Food and Nutrition Education Program

Section 1425 of NARETPA established the Expanded Food and Nutrition Education Program (EFNEP, 7 U.S.C. §3175) as an extension capacity grant program under Section 3(d) of the Smith-Lever Act.³⁹ 1862 and 1890 Institutions receive EFNEP capacity grants to provide nutrition education to low-income individuals and families.⁴⁰ Funds are distributed in the following proportions:

- 4% to USDA for administrative expenses;
- a base amount to 1862 Institutions, equal to their FY1981 allocation;
- \$100,000 to each 1862 and 1890 Institution;
- 15% of those funds appropriated in excess of FY2007 appropriations to the 1890 Institutions distributed among them according to the ratio of the population living at or below 125% of the federal income poverty guidelines (the “poverty threshold population”) in the state in which the 1890 Institution is located to the total poverty threshold population in all states in which 1890 Institutions are located; and
- the remainder to each state, distributed among them according to the ratio of the poverty threshold population in that state to the total poverty threshold population in all states.

NARETPA Section 1444: Extension Funding for 1890 Institutions

Section 1444 of NARETPA (7 U.S.C. §§321-329) provides capacity grants for extension education programs at 1890 Institutions in a manner similar to Smith-Lever Act funding for 1862 Institutions. Section 7121 of the 2008 farm bill amended Section 1444(a)(2) of NARETPA so that an amount equal to at least 20% of the total annual appropriation under the Smith-Lever Act Sections 3(b) and 3(c) shall be allocated to 1890 Institutions for their extension activities. In FY2022, 1890 Institution extension appropriations met and exceeded this threshold for the first time (see **Table 2**).

³⁹ The other Smith-Lever Act 3(d) programs are competitively awarded. For more information, see “Competitive Smith-Lever Provisions for Extension at 1862, 1890, and 1994 Institutions”.

⁴⁰ For more information on the Expanded Food and Nutrition Education Program (EFNEP), see USDA, NIFA, “About EFNEP,” <https://www.nifa.usda.gov/grants/programs/about-efnep>.

Funds are distributed according to the same formula used for Evans-Allen 1890 Institution research funds, except that 4%, rather than 3%, of total funds are reserved to NIFA for administrative, technical, and other services. State matching requirements for 1890 Institution extension funds are the same as described for 1890 Institution research funds (see “Evans-Allen Act: Research Funding for 1890 Institutions” and “State Matching Funds” for additional details).

Before the 2018 farm bill, 1890 Institutions could carry over no more than 20% of their extension appropriations from one fiscal year into the next. The 1862 Institutions have no such limitation. Section 7114 of the 2018 farm bill (7 U.S.C. §3221(a)) allows 1890 Institutions to carry over up to 100% of their extension appropriations. This change may allow 1890 Institutions greater flexibility to plan long-term projects.

Native American Institutions Endowment Fund and Tribal College Educational Equity Grants: Capacity Funding for 1994 Institutions

Section 533(c) of the Equity in Educational Land-Grant Status Act of 1994 (7 U.S.C. §301 note) requires annual distributions of interest on the Native American Institutions Endowment Fund. The 1994 Institutions receive payments, based on formula established in statute, from the interest earned on the endowment corpus. No withdrawals are made from the corpus. There is no matching requirement, and endowment funds do not expire. The institutional recipients may use funds at their discretion, for the support and maintenance of the colleges for the benefit of the agricultural and mechanical arts. In FY2020, the endowment fund produced about \$5.0 million in interest.⁴¹

Four percent of the available funds are reserved to NIFA for administrative services. The balance of the interest income is distributed to the 1994 Institutions according to the following formula:

- 40% in equal shares to the 1994 Institutions; and
- 60% to be distributed among the 1994 institutions based on the *Indian student count* for each institution for the fiscal year.⁴²

Section 534 of the Equity in Educational Land-Grant Status Act authorizes annual appropriations to the Department of the Treasury to support education capacity at 1994 Institutions. These appropriations are distributed equally among the 1994 Institutions. NIFA administers this Tribal College Educational Equity Grant Program.⁴³

Hispanic-Serving Agricultural Colleges and Universities Fund: Research, Education, and Extension Funding for HSACUs

Section 1455 of NARETPA as amended requires annual distributions of interest on the HSACU Fund. No interest has accrued to date, as Congress has not provided appropriations for the HSACU Fund. Four percent of available funds are to be reserved to NIFA for administrative services. The balance of the interest income is to be distributed to the HSACUs according to the following formula (7 U.S.C. §3243(b)(5)):

⁴¹ See NIFA, “1994 Institutions Endowment Fund - 2020 Interest Distribution,” at <https://www.nifa.usda.gov/sites/default/files/program/2021%20Tribal%20Endowment%20Distribution%20letter2.pdf>.

⁴² 25 U.S.C. §1801(a)(8) defines the *Indian student count* as “a number equal to the total number of Indian students enrolled in each tribally controlled college or university, determined in a manner consistent with subsection (b) of this section on the basis of the quotient of the sum of the credit hours of all Indian students so enrolled, divided by 12.”

⁴³ For more details, see NIFA, “Tribal Colleges Education Equity Grants Program,” <https://www.nifa.usda.gov/grants/funding-opportunities/tribal-colleges-education-equity-grants-tceg-program>.

- 40% in equal shares to the HSACUs; and
- 60% to be distributed among the HSACUs on a pro rata basis based on the Hispanic enrollment count of each institution.

Competitive Grants

Many provisions in various laws authorize competitive grants for agriculture and forestry research, education, and extension. The following highlights some major provisions relevant to the land-grant university system, as well as two new programs authorized in the 2018 farm bill.

Agriculture and Food Research Initiative

The Agriculture and Food Research Initiative (AFRI, 7 U.S.C. §3157) is USDA's largest competitive grants program for agricultural science research. The 2008 farm bill established AFRI, and subsequent farm bills reauthorized it. AFRI is authorized to be appropriated \$700 million annually, from FY2008 to FY2023. Its appropriation has grown from \$202 million in FY2009 (P.L. 111-8) to \$445 million for FY2022 (P.L. 117-103). See **Table 2** for appropriations in recent years.

AFRI funds are not reserved specifically for land-grant institutions. Eligible recipients of AFRI awards include SAESs; colleges and universities; university research foundations; other research institutions and organizations; federal agencies; national laboratories; private organizations or corporations; individuals; or any combination of the aforementioned entities.

AFRI grants support research, education, and extension activities in six priority areas identified in the statute:

- plant health and production and plant products (20% of the Administration's requested FY2023 AFRI funds);
- animal health and production and animal products (20%);
- food safety, nutrition, and health (15%);
- bioenergy, natural resources, and environment (18%);
- agriculture systems and technology (16%); and
- agriculture economics and rural communities (11%).⁴⁴

Competitive Smith-Lever Provisions for Extension at 1862, 1890, and 1994 Institutions

Section 201 of AREERA amended the Smith-Lever Act to authorize agricultural extension appropriations for 1994 Institutions, awarded on a competitive basis. This is included as a separate competitive funding provision within Smith-Lever Section 3(b) (7 U.S.C. §343(c)). A 1994 Institution may administer such funds in cooperation with an 1862 or 1890 Institution. NIFA awards these funds through the Tribal Colleges Extension Program.⁴⁵

⁴⁴ USDA, *2023 USDA Budget Explanatory Notes for Committee on Appropriations – National Institute of Food and Agriculture*, 2022, p. 79. Percentage allocation amounts are consistent with allocations among the priority areas in prior years.

⁴⁵ For more information, see NIFA, "Tribal Extension Grant Program," <https://nifa.usda.gov/program/tribal-extension-grant-program>.

In addition, Smith-Lever 3(d) funds, originally distributed via formula and reserved for 1862 Institutions, address special programs or concerns of regional or national importance. Competitively awarded Smith-Lever 3(d) funds support the (1) Farm Safety and Youth Safety Education Program, (2) Children, Youth, and Families at Risk, (3) Federally-Recognized Tribes Extension Program, and (4) New Technology for Agricultural Extension Program. Section 7403 of the 2008 farm bill expanded eligibility for Smith-Lever 3(d) funds to 1890 Institutions and required that all 3(d) funding be awarded on a competitive basis except for EFNEP, which is awarded on a formula basis (see “Smith-Lever Act 3(d): Expanded Food and Nutrition Education Program”). Section 7609 of the 2018 farm bill authorized 1994 Institutions to compete for and receive funds for two of the four competitive 3(d) programs: Children, Youth, and Families at Risk, and the Federally-Recognized Tribes Extension Program.

Competitive Research and Education Grants for 1994 Institutions

In 1998 Congress, through passage of AREERA, amended the Equity in Educational Land-Grant Status Act of 1994 to authorize a competitive research grants program for 1994 Institutions, and to authorize appropriations for the program. Later farm bills amended some of the original provisions. As amended, the program allows scientists at 1994 Institutions to participate in agricultural research activities that address tribal, national, and multistate priorities. The 1994 Institutions may conduct this work in cooperation with the Agricultural Research Service, an 1862 or 1890 Institution, an NLGCA, or a cooperating forestry school. NIFA administers the Tribal Colleges Research Grants Program.⁴⁶

Competitive Grants for 1890 Institutions Established in the 2018 Farm Bill

Section 7117 of the 2018 farm bill authorized education grants for students enrolled in 1890 Institutions who intend to pursue careers in the food and agricultural sciences (7 U.S.C. §3222a). It made \$40 million of mandatory funding from the Commodity Credit Corporation available until expended. In addition, it authorized \$10 million in annual discretionary funding from FY2020 through FY2023. Congress provided \$5 million in discretionary appropriations in FY2020 and \$10 million in FY2021 and FY2022.

Section 7213 called for USDA to recognize at least three centers of excellence for research, extension, and education activities at 1890 Institutions (7 U.S.C. §5926d). Each center of excellence should focus on at least one of six specified areas: student success and workforce development; nutrition, health, wellness, and quality of life; farming systems, rural prosperity, and economic sustainability; global food security and defense; natural resources, energy and the environment; and emerging technologies. It authorized annual appropriations of \$10 million from FY2019 through FY2023. Congress provided \$5 million in discretionary appropriations for FY2019, \$6 million for FY2020, and \$10 million for FY2021 and for FY2022.⁴⁷

⁴⁶ For more details, see NIFA, “Tribal Colleges Research Grants Program,” <https://nifa.usda.gov/funding-opportunity/tribal-colleges-research-grants-program-tcrgp>.

⁴⁷ Funding for the Centers of Excellence at 1890 Institutions has been included in the General Provisions of recent agriculture appropriations acts.

Table 2. NIFA Discretionary Appropriations

(in \$millions)

Program	FY2018	FY2019	FY2020	FY2021	FY2022
Research and Education					
Agriculture and Food Research Initiative (AFRI) [†]	400.0	415.0	425.0	435.0	445.0
Hatch Act*	243.7	259.0	259.0	259.0	260.0
Evans-Allen Act*	54.2	58.0	67.0	73.0	80.0
McIntire-Stennis Cooperative Forestry Act*	34.0	36.0	36.0	36.0	36.0
Payments to the 1994 Institutions ^{† a}	3.4	3.4	4.0	4.5	5.5
Research Grants for 1994 Institutions [†]	3.8	3.8	3.8	4.0	4.5
Other Research and Education ^b	148.1	152.4	168.1	181.1	215.2
Total Research and Education	887.2	927.6	962.9	992.6	1,046.2
Extension					
Smith-Lever Section 3(b) and 3(c)*	300.0	315.0	315.0	315.0	320.0
Smith-Lever Section 3(d) [†]	85.6	86.6	87.8	90.1	90.4
Extension Services at 1890 Institutions*	45.6	48.6	57.0	62.0	65.0
Extension Services at 1994 Institutions [†]	6.4	6.4	8.0	8.5	9.5
Other extension ^c	46.0	49.1	58.8	62.8	65.7
Total Extension	483.6	505.7	526.6	538.4	550.6
Integrated Activities^d					
Total Integrated Activities	37.0	38.0	38.0	39.0	40.0
Total NIFA Appropriations	1,407.8	1,471.3	1,527.4	1,570.0	1,636.8

Source: Compiled by CRS, using appropriations acts and conference reports.

Notes: Named capacity (formula) programs are marked with an asterisk (*), and competitive programs are marked with a cross (†).

- Annual appropriations for “Payments to the 1994 Institutions” fund the tribal college educational equity grants authorized in Section 534 of P.L. 103-182. Not presented in this table, Congress also provides annual appropriations for the Tribal College Endowment Fund authorized in Section 533 (\$11.9 million annually in FY2018-FY2022). 1994 Institutions receive annual interest distributions from the endowment fund.
- Example programs include Scholarships for Students at 1890 Institutions, Education Grants for Hispanic-Serving Institutions, and Sustainable Agriculture Research and Education. A complete listing of research and education appropriations (FY2022) is available in Consolidated Appropriations Act, 2022 (P.L. 117-103), FY2022 Explanatory Statement, Division A, pp. 9-10.
- Example programs include Facility Improvements at 1890 Institutions, Rural Health and Safety Education Programs, and Farm and Ranch Stress Assistance Network. A complete listing of extension appropriations (FY2022) is available in P.L. 117-103, FY2022 Explanatory Statement, Division A, pp. 10-11.
- Integrated activities are those grant programs that combine research, extension, and education.

Issues for Congress

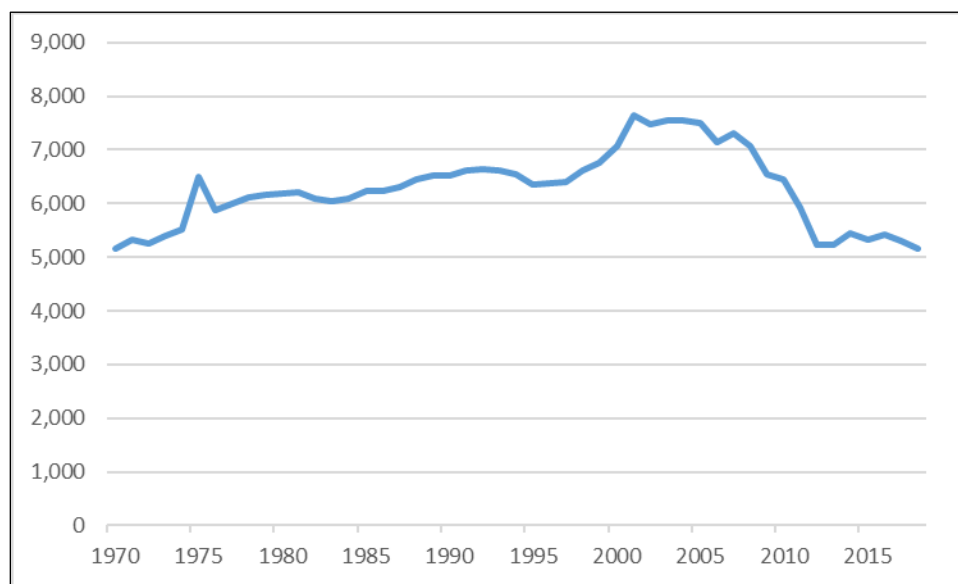
Since establishing the land-grant university system in 1862, Congress has continued to shape and support the central role of land-grant institutions in U.S. agricultural research, extension, and

education. As Congress considers future oversight, amendments, or appropriations, the following potential issues may be of interest.

Declining Public Research Funding

In recent years, public financial support (federal and state appropriations) for agricultural research and development (R&D) has declined in terms of both the proportion of all agricultural R&D funding that it represents and total inflation-adjusted public dollars spent.

Figure 2. Total Public Agricultural Research & Development Funding (1970-2019)
(2019 inflation-adjusted U.S. dollars in millions)



Source: CRS from Keith Fuglie and Kelly P. Nelson, “Agricultural and Food Research and Development Expenditures in the United States,” ERS (updated May 17, 2022), <https://www.ers.usda.gov/data-products/agricultural-and-food-research-and-development-expenditures-in-the-united-states>.

Note: Data are adjusted for inflation using the Biomedical Research and Development Price Index from the National Institutes of Health.

Considering all public and private agricultural R&D funding, the public funding share decreased from about 50% from 1970 to 2008 to less than 30% in 2014.⁴⁸ Factors influencing this change include declining state appropriations for agricultural research since the 1990s; laws and legal decisions since the 1970s that paved the way for intellectual property rights for biological innovations and commercial products spurring private investment; technical advances in

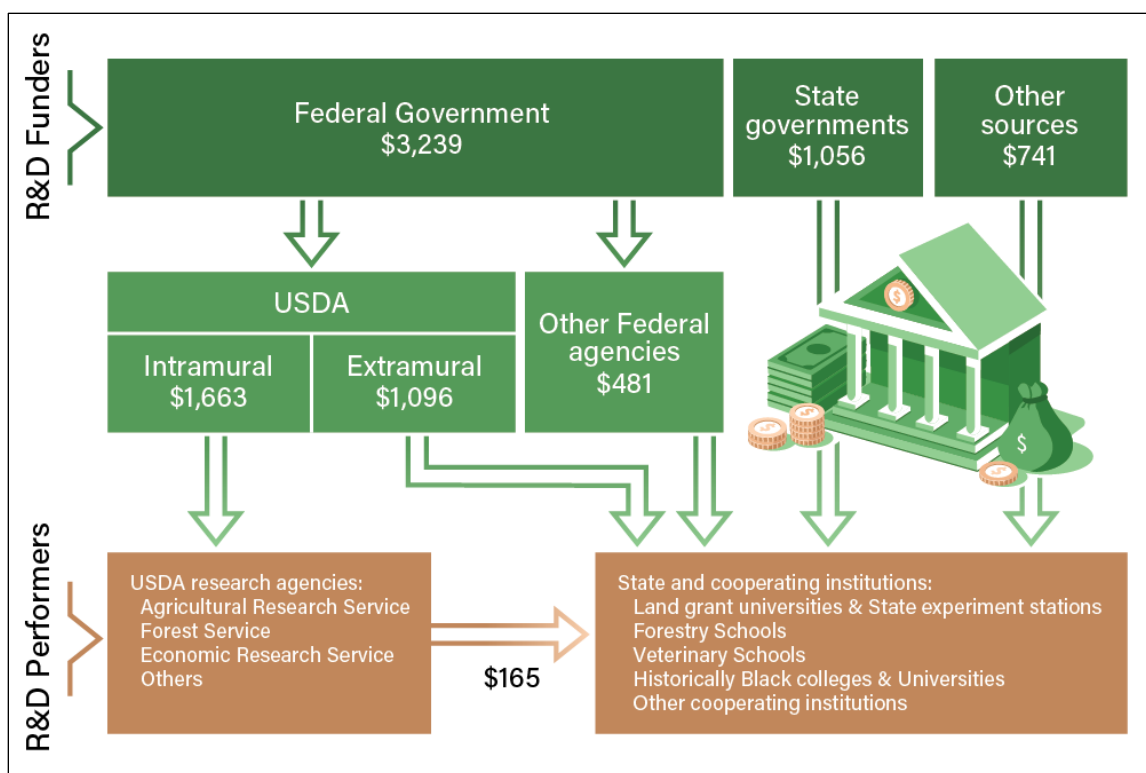
⁴⁸ Data on private sector agricultural research and development funding are available from ERS through 2014. For details, see Matthew Clancy, Keith Fuglie, and Paul Heisey, “U.S. Agricultural R&D in an Era of Falling Public Funding,” *Amber Waves*, November 10, 2016, <https://www.ers.usda.gov/amber-waves/2016/november/u-s-agricultural-r-d-in-an-era-of-falling-public-funding> (hereinafter Clancy, Fuglie, and Heisey, 2016). See also Keith O. Fuglie and Andrew A. Toole, “The Evolving Institutional Structure of Public and Private Agricultural Research,” *American Journal of Agricultural Economics*, vol. 96, no. 3 (2014), pp. 862-883. Also, Philip G. Pardey, Julian M. Alston, and Connie Chan-Kang, *Public Food and Agricultural Research in the United States: The Rise and Decline of Public Investments, and Policies for Renewal*, AGree, 2013.

biotechnology that have increased the potential profitability of agricultural research to private enterprise; and the expansion of markets and increasing globalization of trade.⁴⁹

With respect to public funding, total federal and state agricultural research appropriations have declined in inflation-adjusted dollars in recent years, following decades of increases. USDA Economic Research Service (ERS) analyses show that public funding peaked in 2002, at \$7.6 billion (2019 constant dollars), and declined to \$5.2 billion in 2019—about equivalent to the amount provided in 1970 (Figure 2).⁵⁰

Figure 3. Funders and Performers of U.S. Public Agricultural Research (2019)

(U.S. dollars in millions)



Source: Kelly P. Nelson and Keith Fuglie, “Investment in U.S. Public Agricultural Research and Development Has Fallen by a Third Over Past Two Decades, Lags Major Trade Competitors,” *Amber Waves*, June 6, 2022.

Note: Total funds allocated to agricultural research and development (R&D) in 2019 were \$5.04 billion, while total reported expenditures by R&D performing institutions that year was \$5.16 billion because of differences in budget procedures and timing of expenditures.

⁴⁹ For information on state funding, see Clancy, Fuglie, and Heisey, 2016. Legislation relating to intellectual property rights includes the Plant Variety Protection Act of 1970 (P.L. 91-577); Bayh-Dole Act of 1980 (P.L. 96-517); Federal Technology Transfer Act of 1986 (P.L. 99-502); and National Technology Transfer and Advancement Act of 1995 (P.L. 104-113). Legal decisions relating to intellectual property rights include *Diamond v. Chakrabarty* (447 U.S. 303) in 1980 and *J.E.M. Ag Supply, Inc v. Pioneer Hi-Bred, Inc.* (534 U.S. 124) in 2001. For information on agricultural biotechnology and new gene editing technologies, see CRS Report R46737, *Agricultural Biotechnology: Overview, Regulation, and Selected Policy Issues*.

⁵⁰ Kelly P. Nelson and Keith Fuglie, “Investment in U.S. Public Agricultural Research and Development Has Fallen by a Third Over Past Two Decades, Lags Major Trade Competitors,” *Amber Waves*, June 6, 2022.

Within *public agricultural R&D* (i.e., any agricultural R&D activity conducted at universities or federal laboratories regardless of funding source), about two-thirds of the funding (64%) comes from federal appropriations, and more than two-thirds of the research (about 70%) is carried out by academic and other nonfederal institutions (**Figure 3**).

Various stakeholder groups have called for increases in public agricultural R&D funding. The Supporters of Agricultural Research Foundation (SoAR) is a nonprofit organization established in 2014 with the goal of increasing public research funding for agriculture.⁵¹ SoAR leads a coalition of partners representing the farming, scientific, and academic interests. SoAR argues that increased agricultural research funding will strengthen the U.S. economy, protect public health, and improve environmental quality. Two SoAR partner organizations, the Association of Public and Land-Grant Universities and the Charles Valentine Riley Memorial Foundation, called for increased public funding of agricultural research in 2019, in part to ensure that the United States remains globally competitive in agricultural technology and productivity.⁵² The Farm Journal Foundation and the American Farm Bureau Federation commissioned a report, released in 2021, which called for increased public investment in agricultural research and focused on six priority areas that the report suggests private investments may not address adequately.⁵³

Many of these stakeholder groups argue that public funding for agricultural research is necessary to address issues of importance to agricultural producers and consumers that private enterprise may not pursue. Whereas public funding pursues public goods, with the exception of some private foundations, private funding is typically oriented to generating profit. Thus the shift from predominantly public funding of agricultural research to more private funding has the potential to shape agricultural research toward crops, livestock, and technologies with the greatest profit potential and away from smaller crops or less profitable technologies. Increasing federal appropriations for agricultural research or requiring increases in state matching funds may bolster research and development of agricultural products and activities that are important to some agricultural constituencies, yet currently have limited economic incentives.

State Matching Funds for 1890 Institutions

Federal research and extension capacity grants to the land-grant university system generally require one-to-one nonfederal matching funds. All states meet the matching requirements for their 1862 Institutions. In contrast, in FY2020, 53% (10 of 19) 1890 Institutions received full nonfederal matching funds for both research and extension capacity grants. Those 1890 Institutions that do not meet the 100% matching funds requirement must either apply to USDA and receive a waiver for up to 50% of the nonfederal matching funds requirement or forfeit their federal capacity funding.⁵⁴

⁵¹ Supporters of Agricultural Research Foundation, “About SoAR,” <https://supportagresearch.org/about/about-soar>.

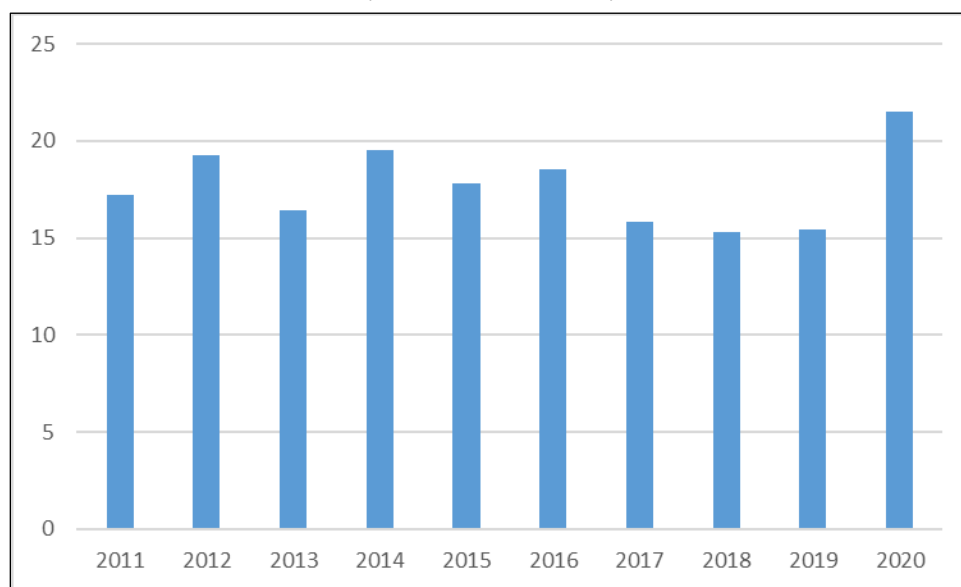
⁵² Association of Public and Land-grant Universities and Charles Valentine Riley Foundation, *Joint Position Statement*, May 2019, https://www.aplu.org/members/commissions/food-environment-and-renewable-resources/board-on-agriculture-assembly/baa_rmf_position_statement_may_2019.pdf.

⁵³ IJS Markit, *Benefits of Increased U.S. Public Investment in Agricultural Research*, 2021, commissioned by the Farm Journal Foundation and the American Farm Bureau Federation.

⁵⁴ Matching funds must derive from a nonfederal source. This source is typically appropriations from the state legislature but may include other sources. In one example, from 2000 to 2017, Lincoln University in Missouri used more than \$43 million in university resources to fully fund or supplement state matching funds in order to meet the 50% waiver requirement to receive federal funds. The university ceased providing these funds in 2018 due to competing priorities. In 2022, for the first time since Congress required nonfederal matching funds for 1890 capacity grants, the state legislature provided the full match. Rebecca Rivas, “Lincoln University Poised to Receive Full State Match for Land-Grant Funding,” *Missouri Independent*, May 6, 2022.

Figure 4. Total Annual Nonfederal Matching Fund Waivers: 1890 Institution Research and Extension Capacity Grants (FY2011-FY2020)

(U.S. dollars in millions)



Source: CRS from data provided by the National Institute of Food and Agriculture.

Note: Waiver requests (required nonfederal; for example, state matching funds that were not provided) above the 50% nonfederal matching level include all nineteen 1890 Institutions for federal agricultural research (Evans-Allen Act) and extension (NARETPA §1444) capacity grants.

While receiving a waiver allows an 1890 Institution to receive its full allocation of federal funding, such a waiver reduces the total public support for the institution (combined federal and state funding) compared with what it would receive if a complete match was provided. This opens a disparity between 1890 and 1862 Institutions.

If states had contributed 100% matching funds, overall state contributions for research and extension capacity grants at 1890 Institutions would have been \$15.5 million higher in FY2019 and \$21.5 million higher in FY2020 than actual matching contributions.⁵⁵

In 1977, when Congress, through NARETPA, originally created the Evans-Allen Act research and NARETPA Section 1445 extension capacity funding for 1890 Institutions, it did not require state matching funds. Through AREERA in 1998, Congress instituted an initial 30% state matching requirement for FY2000 that increased to 50% by FY2002. At that time, Congress gave USDA the ability to waive the state matching requirement for FY2000, but not thereafter. The 2002 farm bill increased the matching requirement over time until it reached 100% in FY2007. The 2002 farm bill reintroduced the ability for USDA to issue waivers, above the 50% level, if a state was unlikely to meet the matching requirement.

Eliminating the opportunity to apply for a waiver may result in some states increasing their matching funds to ensure that their 1890 Institutions qualify for these federal funding programs. However, this change may result in other institutions becoming ineligible to receive any federal

⁵⁵ For further exploration of this topic, see CRS In Focus IF11847, *1890 Land-Grant Universities: Background and Selected Issues*; and Association of Public and Land-grant Universities, *Land-Grant But Unequal*, policy brief, September 2013, at <https://www.aplu.org/library/land-grant-but-unequal-state-one-to-one-match-funding-for-1890-land-grant-universities/file>.

funds if their states do not increase their matching contributions. Another option that may incentivize increased nonfederal matching is to increase the waiver threshold above 50%.

Section 7116 of the 2018 farm bill (7 U.S.C. §3221(a)) addressed this issue through a transparency requirement. It requires USDA to report annually “the allocations made to, and matching funds received by, 1890 Institutions and 1862 Institutions ... for each of the agricultural research, extension, education, and related programs....” under the relevant statutes (e.g., Smith-Lever Act 3(b) and 3(c), Hatch Act, and §§1444 and 1445 of NARETPA). NIFA posts these “allocation and matching” data to its website.⁵⁶ Supporters of the 1890 Institutions voiced hope that the new transparency requirement would encourage states to provide 100% matching funding for those institutions. However, data from the first two years after this requirement was enacted show the opposite: an increase in the total funds waived (**Figure 4**).

Funding of 1994 Institutions

The 1994 Institutions make up the newest class of land-grant institution. Significant institutional differences among the 1862, 1890, and 1994 Institutions, in terms of numbers of students served, types of degrees awarded, and focal missions, may factor into federal funding allocations. While land-grant designation gave 1994 Institutions new access to federal funding, this access is more limited than that of 1862 and 1890 Institutions. 1994 Institutions receive fewer federal funds administered by NIFA than 1862 and 1890 Institutions, and they are ineligible for certain grant types available to 1862 and 1890 Institutions. Whereas the 1862 and 1890 Institutions receive federal capacity funds specific to agricultural research and extension, 1994 Institutions do not. Although 1994 Institutions have more limited enrollment and offer fewer postsecondary degrees than 1862 and 1890 Institutions, some argue that funding for agricultural research and extension at the 1994 Institutions is insufficient and should be increased.

Table 3 illustrates some differences in federal research funding among land-grant institution types. In FY2022, agricultural research appropriations for 1994 Institutions (Tribal College Research Grants Program, \$4.5 million) equaled less than 2% of research capacity funds provided to 1862 Institutions (Hatch Act, \$260 million). They received the equivalent of 3% of the extension appropriations (Tribal Colleges Extension Program, \$9.5 million) provided for extension capacity grants to 1862 Institutions (Smith-Lever Act, \$320 million). There are fewer 1994 Institutions than 1862 Institutions (61% as many), and the 1994 Institutions enroll fewer students (**Table 3**). The American Indian Higher Education Consortium (AIHEC), a nonprofit group representing TCUs, has consistently requested increased appropriations for 1994 Institutions, characterizing the difference in funding between 1994 and 1862 Institutions as an inequity.⁵⁷ Across all academic disciplines, in academic year 2019-2020, 1862 Institutions enrolled about 1.5 million undergraduate students, and 1994 Institutions enrolled about 23,500, or 1.6% of the enrollment in 1862 institutions.⁵⁸ Others might argue that funding differences are appropriate to the different academic structures, institutional missions, and number of students served at 1994 and 1862 Institutions.

⁵⁶ See search results for “allocation” filtered by “Reports” at NIFA, “Resources: Search for Documents,” https://www.nifa.usda.gov/document?search_api_fulltext=allocation.

⁵⁷ American Indian Higher Education Consortium (AIHEC), *Fiscal Year 2023 Agriculture Appropriations Requests: Tribal Colleges and Universities*, http://www.aihec.org/what-we-do/docs/FY23/FY2023_TCU_Land%20Grant_3.9.22.Final.pdf.

⁵⁸ Based on data from U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, available at <https://nces.ed.gov/ipeds/datacenter>.

Table 3. FY2022 Selected Federal Research Funding by Institution Type

Institution Type	1862	1890	1994
Funding Program	Hatch Act	Evans-Allen Act	Tribal Colleges Research Grants Program
Total Appropriation	\$260.0 million	\$80.0 million	\$4.5 million
Total Number of Institutions	57	19	35
Average Appropriations Per Institution	\$4.6 million	\$4.2 million	\$0.1 million
Total Number of Students^a	1,853,496	92,004	15,485

Source: Appropriations data compiled by CRS using appropriations acts and conference reports. Number of students are 12-month (2021-2022) enrollment data from National Center for Education Statistics, Integrated Postsecondary Education Data System.

Note:

- a. Number of students includes both undergraduate and graduate students enrolled in the institution across all academic disciplines. These student totals do not reveal the subset of students who are engaged in agricultural disciplines, making it challenging to compare overall support levels for these students.

Section 7120 of the 2018 farm bill included 1994 Institutions in one new avenue for competitive funding. This section, titled “New Beginning for Tribal Students,” authorizes USDA to make competitive grants, with a one-to-one matching funds requirement, to land-grant institutions—including 1862, 1890, and 1994 Institutions—targeting support for tribal students. Institutions may use such funds to support tribal students through recruiting, tuition and related fees, experiential learning, and student services. No state may receive more than \$500,000 per year through this program. Of all projects funded (FY2020 and FY2021), 12% (4 of 33 projects) were proposed by 1994 Institutions. Of new projects funded in FY2021, 15% of awarded funds went to a 1994 Institution.⁵⁹

⁵⁹ CRS analysis of funding data for the New Beginning for Tribal Students program, in NIFA, Current Research Information System, [https://cris.nifa.usda.gov/cgi-bin/starfinder/0?path=fastlink1.txt&id=anon&pass=&search=\(GC=nbts\)&format=WEBTITLES&GIY](https://cris.nifa.usda.gov/cgi-bin/starfinder/0?path=fastlink1.txt&id=anon&pass=&search=(GC=nbts)&format=WEBTITLES&GIY). The 1994 funds reflect a single multi-year award of \$572,331 to Lac Courte Oreilles Ojibwa Community College.

Appendix. Land-Grant Institutions by State

Table A-1. List of Land-Grant Institutions by State

ALABAMA	Alabama A&M University, Normal [‡] Auburn University, Auburn [°] Tuskegee University, Tuskegee [‡]
ALASKA	Ilisagvik College, Barrow [‡] University of Alaska, Fairbanks [°]
AMERICAN SAMOA	American Samoa Community College, Pago Pago [°]
ARIZONA	Diné College, Tsaile [‡] University of Arizona, Tucson [°] Tohono O'odham Community College, Sells [‡]
ARKANSAS	University of Arkansas, Fayetteville [°] University of Arkansas at Pine Bluff, Pine Bluff [‡]
CALIFORNIA	D-Q University, (Davis vicinity) ^a University of California System-Oakland as Headquarters, Oakland [°]
COLORADO	Colorado State University, Fort Collins [°]
CONNECTICUT	University of Connecticut, Storrs [°]
DELAWARE	Delaware State University, Dover [‡] University of Delaware, Newark [°]
DISTRICT OF COLUMBIA	University of the District of Columbia, Washington [°]
FLORIDA	Florida A&M University, Tallahassee [‡] University of Florida, Gainesville [°]
GEORGIA	Fort Valley State University, Fort Valley [‡] University of Georgia, Athens [°]
GUAM	University of Guam, Mangilao [°]
HAWAII	University of Hawaii, Honolulu [°]
IDAHO	University of Idaho, Moscow [°]
ILLINOIS	University of Illinois, Urbana [°]
INDIANA	Purdue University, West Lafayette [°]
IOWA	Iowa State University, Ames [°]
KANSAS	Haskell Indian Nations University, Lawrence [‡] Kansas State University, Manhattan [°]
KENTUCKY	Kentucky State University, Frankfort [‡] University of Kentucky, Lexington [°]
LOUISIANA	Louisiana State University, Baton Rouge [°] Southern University and A&M College, Baton Rouge [‡]
MAINE	University of Maine, Orono [°]
MARYLAND	University of Maryland, College Park [°] University of Maryland Eastern Shore, Princess Anne [‡]
MASSACHUSETTS	University of Massachusetts, Amherst [°]

MICHIGAN	Bay Mills Community College, Brimely‡ Keweenaw Bay Ojibwa Community College, Baraga‡ Michigan State University, East Lansing° Saginaw Chippewa Tribal College, Mount Pleasant‡
MICRONESIA	College of Micronesia, Kolonia, Pohnpei°
MINNESOTA	Fond du Lac Tribal & Community College, Cloquet‡ Leech Lake Tribal College, Cass Lake‡ Red Lake Nation College, Red Lake‡ University of Minnesota, St. Paul° White Earth Tribal and Community College, Mahnomen‡
MISSISSIPPI	Alcorn State University, Lorman† Mississippi State University, Starkville°
MISSOURI	Lincoln University, Jefferson City† University of Missouri, Columbia°
MONTANA	Aaniih Nakoda College, Harlem‡ Blackfeet Community College, Browning‡ Chief Dull Knife College, Lame Deer‡ Fort Peck Community College, Poplar‡ Little Big Horn College, Crow Agency‡ Montana State University, Bozeman° Salish Kootenai College, Pablo Stone Child College, Box Elder‡
NEBRASKA	Little Priest Tribal College, Winnebago‡ Nebraska Indian Community College, Winnebago‡ University of Nebraska, Lincoln°
NEVADA	University of Nevada, Reno°
NEW HAMPSHIRE	University of New Hampshire, Durham°
NEW JERSEY	Rutgers University, New Brunswick°
NEW MEXICO	Institute of American Indian and Alaska Native Culture and Arts Development, Santa Fe‡ Navajo Technical College, Crownpoint‡ New Mexico State University, Las Cruces° Southwestern Indian Polytechnic Institute, Albuquerque‡
NEW YORK	Cornell University, Ithaca°
NORTH CAROLINA	North Carolina A&T State University, Greensboro† North Carolina State University, Raleigh°
NORTH DAKOTA	Cankdeska Cikana Community College, Fort Totten‡ Fort Berthold Community College, New Town‡ North Dakota State University, Fargo° Sitting Bull College, Fort Yates‡ Turtle Mountain Community College, Belcourt‡ United Tribes Technical College, Bismarck‡
NORTHERN MARIANAS	Northern Marianas College, Saipan, CM°
OHIO	Central State University, Wilberforce† Ohio State University, Columbus°
OKLAHOMA	College of the Muscogee Nation, Okmulgee‡ Langston University, Langston† Oklahoma State University, Stillwater°
OREGON	Oregon State University, Corvallis°
PENNSYLVANIA	Pennsylvania State University, University Park°

PUERTO RICO	University of Puerto Rico, Mayaguez [°]
RHODE ISLAND	University of Rhode Island, Kingston [°]
SOUTH CAROLINA	Clemson University, Clemson [°] South Carolina State University, Orangeburg [†]
SOUTH DAKOTA	Oglala Lakota College, Kyle [‡] Sinte Gleska University, Rosebud [‡] Sisseton Wahpeton College, Sisseton [‡] South Dakota State University, Brookings [°]
TENNESSEE	Tennessee State University, Nashville [†] University of Tennessee, Knoxville [°]
TEXAS	Prairie View A&M University, Prairie View [†] Texas A&M University, College Station [°]
UTAH	Utah State University, Logan [°]
VERMONT	University of Vermont, Burlington [°]
VIRGIN ISLANDS	University of the Virgin Islands, St. Croix [°]
VIRGINIA	Virginia State University, Petersburg [†] Virginia Tech, Blacksburg [°]
WASHINGTON	Northwest Indian College, Bellingham [‡] Washington State University, Pullman [°]
WEST VIRGINIA	West Virginia State University, Institute [†] West Virginia University, Morgantown [°]
WISCONSIN	College of Menominee Nation, Keshena [‡] Lac Courte Oreilles Ojibwa Community College, Hayward [‡] University of Wisconsin, Madison [°]
WYOMING	University of Wyoming, Laramie [°]

Source: CRS from the U.S. Department of Agriculture's National Institute of Food and Agriculture.

Notes: See **Figure 1** for a map of U.S. land-grant institutions. The three types of land-grant institution are identified: 1862 Institutions (°); 1890 Institutions (†); and 1994 Institutions (‡).

a. Although D-Q University is named in statute as a 1994 Institution, it lost its accreditation in 2005.

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Acknowledgments

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