

# THE CENTENNIAL OF THE SMITH-LEVER ACT AND AQUACULTURE EXTENSION



Last May 8<sup>th</sup> there was a ceremony at the United States Department of Agriculture offices in Washington, D.C.

By Michael A. Rice\*

This event was to commemorate the centennial of the landmark Smith-Lever Act of 1914 signed into law by U.S. President Woodrow Wilson creating the Cooperative Extension Service as a partnership between the USDA and the Land Grant Universities nationwide. Extension Directors from Land Grant Universities across America along with other dignitaries were in attendance at these ceremonies in celebration of the successes of the last century and hopes for

the next century for this program of practical education, outreach, and cooperative research primarily with extramural farm and conservation communities.

The creation of the Cooperative Extension Service set into place the “third pillar” of the Land Grant mission of extramural engagement in addition to the previously recognized mission activities of intramural teaching, scientific research and other scholarship. Thus the Land Grant Universities were expected to

seek out cooperators and engage beyond the ‘ivory towered walls’ of the academy in this new model for higher education in America. The development of aquaculture is an example of a vibrant sector within America’s farm economy that has been aided greatly through extension services enabled through the Smith-Lever legislation.

### Seaman A. Knapp

Extension programming as part of the Land Grant University system began shortly after the 1862 Morrill Act that created the Land Grant Colleges with a primary focus on agricultural education. The Iowa Agricultural College (IAC, now Iowa State University) begun in 1859 was an early contributor to the Cooperative Extension movement in 1869 by dispatching faculty from the college to conduct courses for farmers at the invitation of government officials in Iowa’s Black Hawk County. That same year, an early proponent of extension programming, Seaman A. Knapp (Fig. 1), a graduate of Union College in New York, was appointed as superintendent of the Iowa School for the Blind, in Vinton and engaged in his passion for agricultural research on his own farm nearby. Within four years he had organized the *Iowa Im-*



Extension training in shrimp harvesting Ohio State University.

proved Stock Breeders Association in a move to organize the livestock breeders and to apply scientific principles to cattle breeding and by 1876, he began publishing the *Western Stock Journal and Farmer* as an outlet to disseminate results of scientific research to farmers. Knapp’s reputation in Iowa resulted in his hire to the faculty of the IAC in 1879, and by 1883 he had assumed the presidency of the college where he set up the college’s agricultural research farm. While at IAC, Knapp then drafted what was later known as the 1887 Hatch Act

that provided federal government aid for the establishment of the Agricultural Experiment Stations at all of the Land Grant Colleges nationwide.

The latent extension movement at America’s Land Grant Colleges was given a boost because implicit within the Hatch Act of 1887 was an expectation that practical research at these newly created Agricultural Experiment Stations would be disseminated among America’s farmers. In the late 1880s and 1890s Knapp resided in Lake Charles, Louisiana developing the rice farming industry there after

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bio-prospecting of rice varieties in Asia. Knapp’s greatest achievement was most probably the establishment cooperative farm-based research effort in 1903 with cotton farmer Walter C. Porter of Kaufman County, Texas that led to development of farm management techniques to mitigate the damage of the boll weevil that was devastating the cotton crops of the South. In this effort, Knapp in 1906 developed the system of county agricultural agents to work with farmers, and by 1910 Knapp had conceived of boys’ and girls’ cotton and corn growing clubs that served as the forerunner of today’s 4-H Clubs to engage the farm youth, build excitement for agricultural education, and build the ‘pipeline’ into the professions of scientific agriculture.



Fig. 4. A historical marker tablet at the Memorial Union of the University of Rhode Island commemorating the United States Senate hearings on the Sea Grant College and Program Act of 1966. Photo courtesy of Michael A. Rice.



Fig. 1. Seaman Asahel Knapp (1833-1911), the father of Cooperative Extension programming. Public domain image from: *The Demonstration Work: Dr. Seaman A. Knapp's Contribution to Civilization* by Oscar Baker Martin, published by The Stratford Company, Boston. 1921.



Fig. 2. Kenyon Leech Butterfield (1868-1936), a major contributor to the drafting of the 1914 Smith-Lever Act. Photo courtesy of the University of Rhode Island Special Collections, Kingston, Rhode Island.



Fig. 3. Athelstan Frederick Spilhaus (1911-1998) the father of the Sea Grant College Program. Photo courtesy of Smithsonian Institution Archives, Washington, D.C.

**Kenyon L. Butterfield**

By the time of Knapp's death in 1911, the seeds of Cooperative Extension programming were sown, but the formal institutionalization of the program into the Land Grant colleges was largely taken up by Kenyon L. Butterfield (Fig. 2) who became the President of the Rhode Island College of Agriculture and Mechanical Arts (RICA&M, now the University of Rhode Island) in 1903. In an atmosphere of considerable political action by Rhode Island's farmers at that time, Butterfield in April, 1904 was able to secure a USD\$4,000 appropriation from the Rhode Island General Assembly to institute an extension department at the college and hire dedicated extension faculty to cooperate with the experiment station researchers and work with Rhode Island's farmers.

The administrative organization of RICA&M worked so well that only two years later in 1906, Butterfield was hired as president of the Massachusetts Agricultural College in Amherst (MAC, now University of Massachusetts) to replicate the work

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that he had done in Rhode Island to set up the college's Extension Department. It was while serving as president of MAC that Butterfield drafted the Agricultural Extension Act introduced by Senators M. Hoke Smith of Georgia and Asbury F. Lever of South Carolina and signed into law by President Wilson on May 8, 1914.

**Athelstan F. Spilhaus**

For America's aquaculture community, particularly those engaged in mariculture, a major part of the extension programming is carried out by extension professionals associated with the nation's Sea Grant Colleges. The National Sea Grant Program and College Act of 1966 was initially conceived by Athelstan F. Spilhaus (Fig. 3), an oceanographer and geophysicist at Woods Hole Oceanographic

Institution and the University of Minnesota who introduced the idea at the 1963 annual meeting of the American Fisheries Society. In his September 4<sup>th</sup>, 1964 essay "Man in the Sea" in *Science*, Spilhaus explicitly patterned the Sea Grant Program after the successful Land Grant Colleges and the Smith-Lever Act that he described as "one of the best investments this nation ever made. The same kind of imagination and foresight should be applied to the exploration of the sea."

**The Sea Grant Act**

The first hearings in support of the passage of the Sea Grant Act were held on May 2nd, 1966 by its primary sponsor, Senator Claiborne de B. Pell, the then junior senator from Rhode Island (Fig. 4). Assisting Pell and his staff in the hearings and drafting of the bill were John A. Knauss, the then dean of oceanography at the University of Rhode Island who later served as Undersecretary of Oceans and Atmosphere in the Department of Commerce, and Lewis M. Alexander, a professor of Geography and Marine Affairs at URI who later served as the Geographer for the United States Department of State. The Sea Grant Act was signed into law October 17<sup>th</sup>, 1966 by President Lyndon B. Johnson, creating the Sea Grant Program and its associated Marine Extension Service at Sea Grant Universities nationwide.

Two decades later, in September 1983, the first comprehensive National Aquaculture Development Plan for the United States was published by the Joint Subcommittee on Aquaculture of the Federal Coordinating Council on Science, Engineering and Technology, with Land Grant and Sea

Grant Extension capabilities identified as a key component of the plan. On the heels of this national plan in 1987, the U.S. Congress appropriated USD\$3 million to the budget of the Department of Agriculture to fund five Regional Aquaculture Centers (RACs) that were previously authorized under the Food Security Act of 1985.

The formation of the RACs allowed Extension professionals from both the Land Grant and Sea Grant College Programs to actively cooperate nationwide in aquaculture extension programming. One major effort of the RACs has been the sponsorship of a series of National Aquaculture Extension Conferences held about every five years. The first of these conferences was primarily organized by Nathan Stone of the University of Arkansas at Pine Bluff in 1992, bringing together the national network of aquaculture extension professionals to meet at the Arkansas Cooperative Extension Center in Ferndale, Arkansas. This successful joint conference of Land Grant and Sea Grant extension professionals set the pattern for subsequent RAC extension networking and programming efforts, which is expected to continue well into the future.

**The relationship between the government and the Academia**

This year's Centennial of the 1914 Smith-Lever Act in America provides

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Extension Aquaculture Zanzibar.

a good opportunity to remember the accomplishments of Extension over the last century and to reflect upon the elements that make extension programming effective. The foresight of Knapp, Butterfield and Spilhaus in creating the extension services has greatly benefited America's aquaculture industry largely due to its tight relationship with the research and instructional capabilities of the Land Grant and Sea Grant colleges.

University-based extension programming is also advantageous in building trust and cooperation between and among aquaculture industry members, researchers and extension professionals, much as Knapp initially conceived. Although there is governmental funding of Extension programming at American universities, there is frequently an arms-length relationship between the universities and governmental regulatory authorities responsible for industry oversight.

Elsewhere in the world, extension programs have often developed differently. For instance, in some other countries, extension services may be based upon programming by non-

governmental organizations that may have the arms length between them and governmental regulators, but they may not have such a tight relationship with the research community and most up to date and relevant scientific information. Conversely in some other places, extension professionals may be based directly in national, provincial governmental offices and have ties to excellent research from national agricultural or marine science laboratories, but their efforts may be hampered by the too-close relationship with important regulatory authorities often in their same agency.

The ingenuity of the Extension system built by Knapp, Butterfield, Spilhaus and all the others is the assurance that the best science and scholarship is brought to bear on the most difficult problems facing industry, while simultaneously building cooperation and trust among all the stakeholders. **EM**

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Extension Aquaculture Field Visit 2006.