

Philosophical & Institutional Innovations of Kenyon Leech Butterfield and the Rhode Island Contributions to the Development of Land Grant and Sea Grant Extension

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Abstract

Land Grant Education in Rhode Island began with the awarding of 1862 Morrill Act funds to Brown University, making it Rhode Island's first Land Grant College. Continuing controversy over the next two decades mostly through Rhode Island's Grange and other farm organizations led to the formation of the Rhode Island College of Agriculture and Mechanical Arts (RICA&M; now the University of Rhode Island or URI). From the establishment of the Rhode Island Agricultural Experiment Station (RIAES) in 1888, station scientists engaged in a wide variety of Extension activities with local farmers and fishermen. The second president of RICA&M, Kenyon L. Butterfield (serving 1903-06), was a charismatic leader who strived to make the college serve greater numbers of Rhode Island's farmers whose political action was critical in the formation of the institution. He was successful in convincing the state legislature of the need for an Extension Department in the college in April 1904 and secured an ongoing appropriation, thus administratively organizing RICA&M on the three cardinal points of research, classroom instruction and extension work that is now familiar at all Land Grant colleges and universities. In 1906, Butterfield left Rhode Island to assume the presidency of the Massachusetts Agricultural College (MAC; now the University of Massachusetts). While at MAC he established an Extension Department there which further influenced the creation of the federal Smith-Lever Act of 1914 that established a Cooperative Extension program at all Land Grant Colleges nationwide. Later in 1966, administrators and faculty at URI made contributions to the expansion of the Land Grant philosophy toward the seacoast through the National Sea Grant College and Program Act of 1966. A Sea Grant College Act first proposed in 1963 by Athelstan F. Spilhaus of the University of Minnesota. It was later championed by John D. Knauss of the URI who worked with Sen. Claiborne Pell of Rhode Island in promoting the Sea Grant College and Program Act in 1965. First hearings for the Sea Grant bill were on 2 May 1966 at the URI campus in Kingston. The Smith-Lever Act Cooperative Extension programming philosophy was explicitly used by Pell as the model for the Sea Grant Marine Advisory Service, which is now successfully serving coastal communities nationwide.

Introduction

In an effort to understand the formation of a Department of Extension at the Rhode Island College of Agriculture and Mechanic Arts (RICA&M) in 1904, there were several important political antecedents that laid the groundwork for the formal institutionalization of extension education into the triad of Land Grant education in Rhode Island. Although the University of Rhode Island (URI, the successor of RICA&M) is now the state's 1862 Morrill Land Grant University, it was Brown University that became the first recipient of the federal Land Grant funds in 1863 under clouds of considerable controversy. The University of Rhode Island had its

formal institutional origins a quarter century later in 1888 as Rhode Island's Agricultural Experiment Station, funded by the 1887 Hatch Act. In September 1890, an associated state agricultural school began offering courses, followed by the formal charter of RICA&M in 1892 along with the surrender of the 1862 Morrill Act funds from Brown University. The long-term controversy over the awarding of the original Morrill Act funds to Brown University and the commitment to the Morrill Act mandate to "to teach any branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life" would be a continuing theme in the formation of the agricultural education system in Rhode Island, including the establishment of an Extension Department at its Land Grant institution and a half century later influencing the role of the University of Rhode Island in establishing the Marine Extension Service as part of the Sea Grant College and Program Act of 1966.

The 1862 Morrill Land Grant Act and Brown University

The Federal grant of 120,000 acres of 1862 Morrill Act Lands in western Kansas was accepted unanimously by Resolution of the Rhode Island General Assembly on 14 January 1863.¹² However, a companion resolution to award the lands to Brown University for the purpose of fulfilling the requirements of the first Morrill Act was considerably more controversial. This companion House Resolution would compel Brown University to create a department or college that would meet the requirements of the Act, and that the funds would be invested in federal or state government securities to provide student scholarships to deserving farm or working class students to be chosen by the Governor, Secretary of State and the President of Brown University at the beginning of each academic year, and ten percent of the funds could be used for the purchase of farm lands for teaching and experimentation.³ Although the Rhode Island House of Representatives passed this second Resolution unanimously on January 15, the Senate was not completely convinced that Brown University should be the recipient of the funds. Debate beginning on January 22 was led by senators from rural areas arguing that Brown University specialized in classical arts and sciences education, and was unqualified to provide proper practical education for the industrial classes. Defenders of Brown University counter-argued, pointing out that there was no other qualified collegiate institution in the state to carry out the program. The establishment of another stand-alone college was not considered. On the first vote on the House Resolution, the anti-Brown forces prevailed by a single vote.⁴ However, this left the legislature with the conundrum of accepting the federal offer of the western land but having no means to dispose of it, so there was another attempt to pass the second House Resolution. A week later the matter was taken up again, but in the meantime the *Providence Journal* backhandedly editorialized about the desirability of Brown receiving the Land Grant funds, and there was likely considerable lobbying pressure applied by industrial and university interests in Providence.⁵ The January 27 vote was 18 in favor of and 6 against the resolution, with all six rural senators steadfast in their opposition to the end. Brown University thus became Rhode Island's first Land Grant institution.

In the years following, Brown University made efforts to establish an agricultural program run in parallel to its program in classical studies, but restrictions put in by the legislature on the funds hampered program development. The agricultural education program instituted by Brown began in 1867 by the appointment of Dr. Charles W. Parsons to teach courses in the new

Agricultural and Scientific Department. However, the prescribed program for agricultural students was very similar to the traditional classical arts and sciences program, with the addition of a new course in chemistry as applied to agriculture. Students were also held to similar high entrance examination standards.⁶ Although the original 1863 Resolution allowed Brown University to use 10 percent of the annual Morrill Act funds to purchase lands for an experimental farm, they did not do so at the onset, opting instead to invest in student scholarships exclusively. Later in 1868, the Chancellor of Brown University approached the General Assembly for additional funds to purchase land sites for an experimental farm. The response to this request was the formation of a legislative commission to fully study the progress of agricultural education at Brown.⁷ The report, which was comprehensive in its analysis of the agricultural program that Brown had developed, was scathing in its conclusion that the provisions of the Morrill Act providing for a "college where the leading object should be education in agriculture and the mechanic arts" were not followed, asserting that Brown's Agricultural and Scientific Department was not such a college. The report forcefully concluded that the intent of Congress was that the state should erect buildings for an agricultural college, and that the state was not in compliance with the Morrill Act until it did so. The report proposed that Brown be allowed to use \$5,000 from the fund to purchase a farm and that the state pledge \$10,000 if it would be raised by fundraising efforts by Brown, and this money would be used toward "providing such buildings and apparatus as is necessary."⁸ There was no action by the General Assembly on the report, so Brown was thwarted in its attempt to develop a practical, new curriculum, and further efforts languished. To fulfill its obligations in 1870, Brown offered thirty scholarships to aid poor but qualified young men to receive a college education.⁹ But by 1875, a single sentence sufficed to describe their agricultural education program:

The instruction in Agriculture will embrace Zoology and Comparative Anatomy illustrated by specimens from the Museum of Natural History, with field excursions for practical instruction in obtaining and preserving specimens, and in Taxidermy.¹⁰

Although the state of agricultural education infuriated members of the agricultural community, they were largely unorganized politically. There were some additional legislative inquiries into the use of 1862 funds by Brown University, but action on the issue languished for two decades.

The 1887 Hatch Act and the Rhode Island Agricultural Experiment Station and Rhode Island State Agricultural School

When the Hatch Act of 1887 was signed on March 2 by President Grover Cleveland, the Federal government was prepared to appropriate \$15,000 each year to create and maintain Agricultural Experiment Stations at each of the 1862 Land Grant institutions. It was clear that this Federal Act could possibly resolve the issue of Brown University not having a research farm to support its academic program in agriculture, but it also provided the opportunity for the Rhode Island farm community to advocate for a stand-alone agriculture school separate from Brown. On March 29, 1887 the Rhode Island Senate resolved to accept the Hatch Act money, but another legislative study commission was created on a supplementary motion by Senator Charles Peckham of Scituate, a farmer and the President of the Society for the Encouragement of Domestic Industry. Peckham's study commission was charged with determining how the agricultural interests of the state could be best served by the Hatch Act funds, and also as what

had become a matter of course, investigating and reporting on how the 1862 Morrill Act funds were being spent.¹¹ On March 31, 1887 the Rhode Island House of Representatives concurred with the two separate resolutions to accept the federal money, and then to form the study commission to determine the disposition of the funds.¹² The reporting date of the commission was set for the January 1888 session to allow for work during the legislative recess.¹³

The issue of the disposition of Hatch Act funds was a key element in galvanizing farmers into political action. A farmers' field day was organized by the newly-established¹⁴ Patrons of Husbandry (The Grange) of Rhode Island and its sister Grange organizations in Connecticut and Massachusetts. The field day was held August 20, 1887 at Oakland Beach in Warwick with more than 1,100 farmers in attendance. Several impassioned speakers urged Rhode Island farmers to take action to urge the legislature to establish an agricultural experiment station and associated agricultural school separate from Brown University. Charles O. Flagg, who presided over the field day, read a letter from Senator Peckham that indicated that the study commission was considering the idea of an experiment station and agriculture school separate from Brown and that Brown University officials seemed receptive to the idea.¹⁵ At the end of the field day, the Grangers unanimously adopted a resolution calling for the establishment of a state-supported agricultural school to which the Hatch Act funds would go. They also called for Brown to surrender the 1862 Morrill Act funds in favor of the proposed new school. The resolution was printed and distributed widely by the Grange as a handbill manifesto entitled "The Farmer Speaks Out." The farmers were most adamant in their opposition to the idea of awarding Hatch-Act funds to Brown.¹⁶

By the time the General Assembly reconvened in January of 1888, the Patrons of Husbandry and The Society for the Encouragement of Domestic Industry had joined forces to apply pressure to the General Assembly. On January 15, a special open meeting on the issue of formation of a state agricultural school along with an agricultural experiment station was held and presided over by Governor John W. Davis. Key individuals providing testimony included former Senator Nathaniel Peckham from South Kingstown, who had begun an inquiry in 1870 about the use of the Morrill 1862 funds. Peckham testified that students going to Brown were getting the classics of Latin and Greek, but they needed a more practical education. Thomas G. Hazard, also of South Kingstown and Master of the Rhode Island Grange, supported Peckham in his testimony. Charles O. Flagg, who officiated at Oakland Beach, testified that Brown University President Ezekiel G. Robinson had told him that no one had ever actually applied for an agricultural education at Brown, a fact that Robinson had already publicly admitted on several occasions.¹⁷ This key hearing paved the way to the eventual passage of the bill creating the state agricultural school and experiment station by the Senate on March 21, 1888.¹⁸ The measure passed the House unanimously on March 23, but the 1862 Morrill Act funds still remained with Brown University.¹⁹

Hazard was later a key individual in the purchase of lands and the eventual siting of the Rhode Island Agricultural Experiment Station (RIAES) and the state agricultural school in Kingston, a village in his hometown of South Kingstown. Flagg was appointed by Governor Royal C. Taft as one of the initial five members of the Board of Managers for the new institution on June 13, 1888. In late July, colleagues on the Board of Managers elected Flagg, a graduate of the Massachusetts Agricultural College in Amherst, as director *pro tempore* of the agricultural

school and experiment station pending the hire of a school principal and station director.²⁰ Nearly a year later, in June of 1889, Flagg was appointed as the permanent Rhode Island Agricultural Experiment Station Director, with an annual salary of \$1,500. He was involved with the initial staffing of the school and the station, serving in that capacity until his resignation in 1897.²¹

The critical position of Principal of the Agricultural School was filled by John H. Washburn, a graduate of the Massachusetts Agricultural College (1878) with a doctorate from the University of Göttingen in Germany (1889). Washburn was to take office on October 1, 1889.²² An able leader of the new college, Washburn brought with him a considerable amount of up-to-date scientific apparatus from Germany with \$2,000 in funds appropriated by the Board of Managers.²³ Washburn ably began recruiting faculty members, setting up curricula, recommending books for purchase by the library, selecting textbooks, and getting the campus ready for the first admission of students in September of 1890. The mechanics of outfitting and staffing the school, while posing its challenges, did not wholly address a central issue: balancing the academic as well as the practical development of the students. Washburn firmly believed that a proper agricultural education included exposing the students to classical studies, writing, literature and the sciences along with the practical “hands-on” skills of farm mechanics, carpentry and animal management. Washburn was put into spotlight with keen oversight from both the General Assembly and a politically powerful farm community who had much more parochial views about the value of “book learning” as a part of an agricultural education. Herman F. Eschenbacher put it as follows in his 1967 *The University of Rhode Island: A History of Land Grant Education in Rhode Island*:

Washburn, for his part, had no vested faculty interest to overcome, no liberal arts tradition to flaw, no reputation to risk. At Kingston the atmosphere was frankly experimental, the ends provisional. But Washburn had more masters to serve, more snares to avoid. The experiment at Kingston would flourish or atrophy in accordance with how well its Principal could strike a balance between his own educational views and the more parochial interests of the community the School was expected to serve.²⁴

Washburn brought with him a missionary zeal and passion for making the State Agricultural School work as well as it possibly could, but a number of his contemporaries, including George E. Adams, have suggested that Washburn, although loved by many, was prone to sarcasm and often had a lack of diplomatic tact. This flaw created considerable interpersonal friction that would dog his entire tenure as Principal of the Agriculture School and later, in part, cost him the Presidency of the College.²⁵

The 1890 Second Morrill Act and the Founding of the Rhode Island College of Agriculture and Mechanic Arts

The creation of the State Agricultural School by the RI General Assembly did not quiet criticisms of the agricultural curriculum at Brown University. The situation had put the state in the uneasy position of using state funds to support the state school, while still directing the 1862 Morrill Act funds to Brown. The Board of Managers immediately began an investigation of the use of the Morrill funds and found that in all of the years since the 1867 inception of the program,

77 percent of the hundreds of scholarship recipients hailed from urban rather than rural areas. Also, to the Board's extreme dismay, they could not find one single student beneficiary who had pursued agriculture as a career after graduation. In their 1889 report to the General Assembly, the Board urged them to cease awarding scholarships to students matriculating at Brown University using the 1862 Morrill Act funds and instead, make them available to the State Agricultural School.²⁶ Nothing came of the report other than continued concern by the farm community. The next year, on 30 August, 1890, Congress passed the Second Morrill Act. This act primarily provided funds for "separate but equal" Land Grant Colleges for black students, however funds were allowed to be used by Land Grant Colleges that made no distinction of race in their admissions criteria. This development created a renewed stimulus for RI farmers and the Board of Managers to make their case again that all of the Land Grant funds should be vested with the new State Agricultural School. After considerable debate in the legislature, with opposition from legislators who were alumni of Brown University, bills to upgrade the State Agricultural School to college status as The Rhode Island College of Agriculture and Mechanic Arts were passed on May 19, 1892. This included a resolution to accept the 1890 Morrill funds to fund the new college. Despite all of the vigorous debate, the 1862 Morrill funds still remained with Brown University.²⁷ It would take two more years and considerable legislative and legal wrangling [e.g. *Brown University v. The Rhode Island College of Agriculture and Mechanic Arts, et al.*, (1893) 56 Fed., Rep. 55] until a suitable compromise and legislation passed that awarded all federal Land Grant funds to RICA&M on April 19, 1894.²⁸

On the surface of most of the debate between the farm community and their legislative representatives and the interests of the more urbane Brown University was the nature of agricultural education and the legal basis by which the two institutions might be awarded the Land Grant funds. But beyond the legislative and legal wrangling, the deeper visceral issue of a farmer-centric agricultural college was really at the core. As Eschenbacher put it:

The farmers' institute disclosed that the agriculturalists regarded the Kingston School as their own institution, governed by farmers, supposedly staffed by farmers, and recruiting students almost wholly from the farm areas. To them it was recognition of the importance, the value of agriculture as a way of life, educationally expressed.²⁹

This attitude of the farmers of Rhode Island and their advocacy organizations not only formed the basis of the formation of RICA&M, but it profoundly influenced educational programming at the new institution including its curricular, research and even its future extension programming.

President John H. Washburn and the Rhode Island Agricultural Community

Since 1887, the Association of American Agricultural Colleges and Experiment Stations (AAACES) had been meeting and acting as a coordinating body and communications organ among officials in the Land Grant Colleges.³⁰ Washburn, who had been appointed President upon the 1892 formation of the College, had been an active participant in the annual meetings of the AAACES, and in gaining respect of national colleagues, was elected to serve as Secretary-Treasurer of the organization in 1895.³¹ One of the major standing committees of the AAACES was the College Work Committee, which heard reports from the member institutions and recommended best practices for manual student labor and curriculum development and delivery,

and grappled with common issues of student preparation and retention. Washburn took heed of the many discussions of the committee, as many of the recommendations soon showed up as part of his policies for RICA&M. For instance, Washburn acted to hire Marshall Henry Tyler in 1898 to head the short-lived College Preparatory Department in response to College Work Committee discussions on student preparation for college-level work at their 1897 meeting.³² It is of particular note that Washburn served as Secretary of the College Work Committee at that 1897 meeting of the AAACES. At the meeting, in addition to discussing student preparation, the committee took up a major discussion of “How May University Extension Work Be Carried Out by Colleges of Agriculture?”³³ Clearly, Washburn was well in tune with national trends in agricultural education, including extension, and had begun acting to bring RICA&M along.

However, the influence of Rhode Island's farm community on the affairs of the college came to a head in 1902, when several grievances were lodged against President Washburn. Complaints from some residents of southern Rhode Island began reaching newly inaugurated Governor Charles D. Kimball in December of 1901, but these charges were vague and unsupported, so he did nothing.³⁴ By the end of January, however, the complaints had become so intense that Kimball contacted the Board of Managers, who in turn expressed willingness to meet with the Governor and the accusers.³⁵ By March 30, 1902, the *Providence Journal* had taken up a position against Washburn by pointing out that there were only 33 actual students in the college taught by 27 faculty members. They chided Washburn for counting students in the College Preparatory Department and so-called ‘special students’ admitted to the college on a provisional basis due to their low performance on entrance exams in the total student counts. They had particular issue with RICA&M's instruction in the mechanical arts, since Brown University was previously providing it at no expense to the state.³⁶ By April of 1902, the Grange organizations were beginning to turn against Washburn. The 140 members of the Cumberland Grange passed a resolution calling for Washburn's removal.³⁷ The Washington County Pomona Grange made charges that mechanic arts were being stressed more than agricultural studies, entrance examination standards were too high, the student-faculty ratio was way too low, and the institution was excessively dominated by the President.³⁸ On May 5, the *Evening Telegram* published the charges against Washburn, and the three persons who had been leading the revolt were revealed - Thomas G. Hazard of Narragansett (a key figure in the founding of the state agricultural school), Isaac L. Sherman of Portsmouth, and John G. Clarke of West Kingston, all of whom were Grangers and disaffected farmers. Although they charged Washburn with negligence in his attention to agriculture, most of their charges were *ad hominem* in nature, accusing him of undignified conduct, lowering the moral character of students, by being vulgar, obscene and intemperate.³⁹ Washburn and his attorney, Amasa Eaton, responded by filing suits against Hazard, Sherman, Clarke and the Telegram Publishing Company for \$25,000, with Eaton insisting that the charges against his client should not have been made public until the Board of Managers took action.⁴⁰ All indications were that the whole Board was supportive of Washburn, with Chairman Henry L. Greene of the Board of Managers completely contemptuous of the charges, pointing out that, “He [Washburn] tells right out what he means, speaks plainly, and consequently may have hurt some people's feelings.”⁴¹ Governor Kimball was far less sympathetic, considering the libel suit a major overreach by Washburn and his attorney. On a meeting with the Governor on May 13, Washburn was told that he should resign because of the libel suits that in Kimball's opinion were designed to thwart a free and open hearing. The Governor indicated that a solution resulting in the dropping of the charges against Washburn, a

dropping of all the libel suits and Washburn's resignation would be a satisfactory outcome.⁴² On May 19, Washburn tendered his resignation effective August 15, 1902, and all charges and lawsuits were dropped by the parties.⁴³

The charges against Washburn and his messy removal from the presidency is a stark example of the perils posed by following nationally-accepted best practices of AAACES while simultaneously being responsive to the expectations of the local farm community. The latter's feeling that they had heavily invested in the establishment of the college led to a closely-held "ownership" stake in its programs. Into this milieu, a full Extension program was to be hatched and incubated at RICA&M that would aim to fully serve and engage the farm community of Rhode Island.

President Kenyon L. Butterfield and an Extension Department at RICA&M

After a brief interim presidency by the Agricultural Experiment Station Director, Dr. Homer J. Wheeler,⁴⁴ Kenyon Leech Butterfield was elected by the Board of Managers to serve as the second President of RICA&M. Slated to begin work on April 1, 1903, Butterfield was appointed with a salary of \$3,100 per annum.⁴⁵ From the discussions in the Minutes of the Board of Managers, it was clear that they were aware of the work of Butterfield at the Michigan Agricultural College to cooperate with the Grange organizations and to create Farmers' Institutes as a vehicle for practical farm training. Apparently, Butterfield had both the academic credentials to lead the college, as well as the personal charisma to be able to get along with the farm community, at least in Michigan.

In a 1901 article in *Educational Review*, while still in Michigan, Butterfield grappled with the problem of agricultural education, particularly reaching farmers with entrenched ideas and building an appreciation for higher education and scientific agriculture. This was the very issue that at its core brought down the Washburn presidency. Butterfield praised both the Grange organizations and the Farmers' Institutes supported by the counties or the states as "educational forces."⁴⁶ Butterfield had been quite familiar with the Farmers' Institutes that had begun at the Michigan Agricultural College in 1878.⁴⁷ He worked with the Michigan state legislature in 1895 to obtain funds to greatly expand the program, and he was assigned to lead the institutes.⁴⁸ But Butterfield firmly believed that the key to reaching the hearts and minds of the farm community was not just through short courses and demonstrations, but through a full system of extension programming to reach and engage the farmers more completely:

Indeed I am free to say, and desire to advocate as a specific plan, that at every land-grant college in this country there should be a thoroughly organized and well equipped *College Extension Department* [emphasis in Butterfield's original] for work among the farmers. It should have Farmers' Institutes as we have them to-day; courses of extension lectures in agriculture under the same general plan as pursued by university extension; reading and correspondence courses; field demonstrations; illustrative experiments at agricultural fairs; possibly the elementary work of an agricultural survey; traveling to schools of agriculture, horticulture, and dairying; and to some extent the administration of the movement to place nature study into rural schools. Granges and other farmers' organizations may often be used as the circles or centers of extension work.⁴⁹

It was clear to many in Rhode Island that the incoming president had promise and was sympathetic with the needs of the farmers, as he had a keen interest in rural sociology, and that he strongly believed that the social well-being and education of farmers is a key part of maintaining American democracy.⁵⁰ Butterfield was also highly supportive of the notion that farm women would "have equal share in all respects, even in voting and holding office."⁵¹ The *Narragansett Times*, the local rural newspaper in South Kingstown, RI, was ample in its praise of the incoming president, noting his sympathies for rural communities.⁵²

But Kenyon Butterfield had his work cut out for him. Prior to the start of his tenure in RI, he purported that "in secondary education the showing for agriculture is unsatisfactory in the extreme" and that while land-grant colleges with agricultural courses were performing efficiently in training agricultural teachers, experimenters and editors, graduates were not returning to the farm. This disconnect in education outcomes, he argued, was born from a "great gulf" fixed between the rural school and the agricultural college. Neither entity, he argued, possessed any appreciable element of education for agriculture and that this was detrimental to the material, social and intellectual betterment of the rural classes, especially farmers.⁵³

Just a week after his arrival in Kingston, Butterfield began taking his message on the road throughout Rhode Island and urged his faculty to do so as well. He began with lunches at businessmen's organizations in the urban centers, speaking about the work done at the College, convinced that if people came to know of the work of RICA&M, they'd support its needs.⁵⁴ He invited the Rhode Island Press Club to the college in early June, entertaining forty journalists and their spouses with presentations and demonstrations from key faculty. The press community responded quite favorably.⁵⁵ The same month, he began holding the annual farmers' field day in a fair-like atmosphere, with free refreshments and rides to and from the Kingston train station a mile and a half away.⁵⁶ Butterfield also convinced the state Board of Agriculture to hold at least one of their meetings each year in Kingston so they could have the opportunity to learn firsthand of the scientific work of the college faculty, students, and staff.⁵⁷

The efforts to involve not only the farmers, but the Providence business community, the press and legislators paid off handsomely for the college the next legislative session. In April, 1904, Butterfield was able to secure a permanent annual state appropriation to the budget of the college for the formation and maintenance of a stand alone Extension Department as he had outlined three years earlier.⁵⁸ Within the month, he had established the Extension Department in the college with Andrew E. Stene as the first Superintendent of College Extension. In the following legislative session, Butterfield was again successful with the legislature, securing \$10,500 in funds for deferred building repairs not previously budgeted and an additional \$15,000 for a new research greenhouse.⁵⁹ The goodwill between Butterfield and the state government reached a crescendo shortly after the 1905 legislative session. On June 26, 1905, Butterfield hosted Governor George H. Utter and 65 state legislators at a field day at the college in which they were greeted by cannon fire salutes from the student cadets. In a lengthy article reporting on the event, the *Providence Journal* reported that the governor and the legislators ventured from one end of the campus to the other, amazed at what they were seeing. Butterfield had made "an exceedingly favorable impression on the Assemblymen."⁶⁰

Despite the overall good relations with agricultural, business and the state government communities, by the fall of 1905, it had become increasingly clear to Butterfield that his interests lay more in developing the agricultural side of the College. It was also becoming evident that the RICA&M's strength was not in its agricultural degree program, and that agriculture as an industry in Rhode Island was in decline as the state's economy was rapidly industrializing. In 1904 and 1905, despite all the high-profile public relations efforts, student enrollments in agriculture were still as modest as they were under Washburn, and of the fifteen students graduating RICA&M during the Butterfield presidency, only two actually decided upon agricultural careers after graduation.⁶¹ In the mean time, Butterfield's work to create an Extension Department in Rhode Island was becoming well known outside Rhode Island. The death of President Henry H. Goodell of the Massachusetts Agricultural College (MAC) in 1905 provided the opportunity for the Board of Trustees to search for a suitable replacement, and they were able to successfully seek and recruit Butterfield to fill the position.⁶²

Butterfield was recommended on November 24, 1905 by the Committee on Course of Study and Faculty to the full MAC Board of Trustees for hire beginning July 1, 1906.⁶³ His hire was approved on January 2, 1906 by the full Board, with a starting salary of \$4,000 per year plus a generous housing allowance of \$50 per month (or \$900+ above his RI salary).⁶⁴ On January 5, 1906, Butterfield announced to the Board of Managers that he would accept the Presidency of the Massachusetts Agricultural College.⁶⁵ Butterfield left Rhode Island on extremely good terms, but in his final report to the Board of Managers he spoke to the General Assembly urging them to “[give] support consistent with the dignity and progressive spirit of a wealthy state,” and he noted that the continued partnership among RICA&M, the legislature, and the people would continue to move the institution forward.⁶⁶ Butterfield apparently was a “quick study” as to the ways of Rhode Island, its institutions and its people. As an unexpected parting gift in an unprecedented display of gratitude toward Butterfield, the General Assembly increased the College appropriation to \$25,000 per year solely upon his final recommendation.⁶⁷ But ironically in 1909 the General Assembly eventually came around to accepting the wider value of RICA&M beyond just agriculture and the mechanic arts by enacting a name change to Rhode Island State College during the presidency of Butterfield's successor, Howard Edwards.⁶⁸

Right from the start at MAC in his October 17, 1906 inaugural speech, Butterfield pledged to create an Extension Department similar to the one he created at RICA&M:

The agricultural college is the proper place for centralizing this extension teaching, because first of all educational in its aims. It is not a scheme to advertise the college. It is a plan by which as much of the college that will bear transportation is sent out on a mission of education to the multitude who cannot come to the college for instruction. And let it be said also that the organization of an extension department need not involve any interference with the work of other agencies which attempt to educate adult farmers. Indeed, one of the purposes of the department will be to secure a closer cooperation between the college and the board of agriculture, the Grange, the horticultural societies, the normal schools, and the state department of education. Cooperation, not antagonism, will be its motto. The importance of the department of college extension lies in the fact that through it all the forces that aim to disseminate information among the rural masses can be focused. All the aims of the college that are extra-academic can here be

centralized. This department will be the interpreter between scholarly pursuit and popular need.⁶⁹

In this inaugural address, Butterfield had elegantly laid out the full philosophical underpinnings of the Smith-Lever Act that was to be drafted, debated and passed by Congress eight years later. Butterfield believed that the success of the farmer was directly related to the breadth of training he received, and that this training was not only to help the farmer secure larger crops of choicer products at less cost, but to technically prepare the man as an expert while also preparing him for his political and social duties in community life. A farmer, in Butterfield's eyes, was only to be taken seriously in the business and legislative community with social and political savvy gained through a mix of social, moral and business training.⁷⁰ Butterfield elevated the stature of the farmer through his thinking; he spoke of the need to keep up with the march of investigation and practice related to, understanding the principles of scientific agriculture, and appreciating the need to maintain social and political status, alertness of mind and the hopefulness of spirit.⁷¹ In this respect, farming was a career, deserving of access to university as was other professions of the time. Of particular note is the use of the word “cooperative” in this inaugural speech, referring to the relationship between partnering organizations. Butterfield's use of the word “cooperative” is in many of his writings about Extension going at least as far back as his time organizing Farmers' Institutes back at Michigan Agricultural College.⁷²

The Smith-Lever Act was finally signed into Law by President Woodrow Wilson on May 8, 1914, creating the Cooperative Extension Services. At this point, Butterfield was eight years into his presidency at MAC. He eventually moved on in 1924 to preside over his *alma mater* of Michigan State College in East Lansing, serving in that capacity until his retirement in 1928.

The University of Rhode Island and Sea Grant Extension

Times changed during the mid-20th Century at Rhode Island State College and it grew to become the University of Rhode Island by Act of the General Assembly in 1951.⁷³ In the half century after the passage of the Smith-Lever Act, a deep concern for the economic development of the oceans developed in America during the Cold War Era. This was in much the same way a need for a better educated populace and application of scientific principles to the problem of agricultural development and the opening of the vast western lands catalyzed by the American Civil War. Rhode Island, the “Ocean State,” had not been a stranger to marine research and extension, with a history going back to the beginnings of the RICA&M, presaging later development of URI as a leader in marine sciences. Oyster farmers with farm plot leases in Point Judith Pond noticed that their oyster production was declining in the pond for several years, so in 1895 they approached President Washburn about the problem. As a result of these meetings with the oyster farmers, Washburn urged the hire of marine scientist Dr. George Wilton Field to work with the farmers in investigating the reason for this localized decline in oyster production. After all, oyster production in nearby Narragansett Bay was substantially increasing at the time.⁷⁴ He authorized the establishment of Rhode Island's first marine laboratory under the sponsorship of RIAES in the village of Jerusalem on Point Judith Pond in July of 1896.⁷⁵ This laboratory is among the oldest marine laboratories in the United States, and it is still in use by the Rhode Island Department of Environmental Management, Division of Fish and Wildlife as a shellfisheries restoration lab.⁷⁶

The University of Rhode Island's current marine station (the Graduate School of Oceanography at the URI Narragansett Bay Campus) began modestly, with an \$8,000 appropriation by the Rhode Island General Assembly in 1936. The appropriation set up the College's Narragansett Marine Laboratory, under the direction of Zoology professor Dr. Charles J. Fish.⁷⁷ There is a report that early work at the lab in 1940 included extension-like engagement with cooperating local Point Judith fishermen by College staff in applied research to devise methods to harvest ocean quahog clams, a species of great abundance offshore but not commercially exploited to any great extent. This report concluded with the statement, "The Laboratory is enjoying the part of pioneer in getting more food from the sea."⁷⁸

The first proposal to create a Sea Grant College Program was made by Dr. Athelstan F. Spilhaus of the University of Minnesota at the 93rd meeting of the American Fisheries Society in 1963 where he outlined in his keynote address his vision of a Sea Grant program parallel to the successful Land Grant colleges.⁷⁹ Spilhaus went on to write an editorial article in the September 4, 1964 issue of *Science* in which he explicitly drew parallels to the Land Grant colleges as follows:

The sea-grant college would focus attention on marine science, and it would develop strengths in the applications of marine science in colleges of aquaculture and marine engineering. These would be modern parallels of the great developments in agriculture and the mechanic arts which were occasioned by the Land Grant Act of about a hundred years ago. Basic funds, undesignated except that they would be used by the sea-grant colleges, could be obtained in much the same way the agricultural support has been established in the past. Establishment of the land-grant colleges was one of the best investments this nation ever made.⁸⁰

It is quite clear that Spilhaus drew on all three elements of Land Grant programming - teaching, research, and extension - as the basis for his concept of the mission of the Sea Grant Colleges.

It was not long afterward, on 7 May 1965, that Rhode Island's junior Senator Claiborne deB. Pell began legislative action by giving a floor speech on the topic of marine sciences, fisheries and the economics of investment in the sea. It was then that he first mentioned his intention to introduce legislation to create the Sea Grant Colleges using the Land Grant model.⁸¹ Pell's speech drew the early interest of Admiral David L. McDonald, Chief of Naval Operations, who in a May 17 letter to Pell congratulated him for taking a keen interest in oceanography. McDonald pointed out that such a broader interest by the scientific community was good for national security as well.⁸² Early on in the process, Pell and his staff, including George Beardsley, the primary person who was drafting and managing the Sea Grant Bill, were in contact with Spilhaus and John A. Knauss, Dean of Oceanography at the University of Rhode Island. In a July 7 letter from Spilhaus to Knauss and Pell, some ideas for funding of the Sea Grant Colleges were discussed, including granting of tracts of underwater lands and possibly shares in lease fees or royalties paid to the federal government for fisheries, mineral extraction, or oil and gas leases or other commercial uses of the federal waters. Also discussed was a proposed national meeting to be held in Newport, RI the following October to discuss how a national Sea Grant College Program might be structured.⁸³ On July 15, a press release was

prepared by James Leslie of the URI public information office announcing a national conference on “the concept of a Sea Grant University” to be held at the Viking Hotel in Newport on October 28 & 29, 1965. The conference was to be co-sponsored by URI and the Southern New England Marine Sciences Association. Invitees to the conference included Spilhaus and Pell as keynote speakers, as well as representatives from universities and other institutions that housed marine science, fisheries, aquaculture, marine engineering and other closely related marine disciplines. In addition to Knaus and Leslie, the local arrangement committee included Dr. Neils Rorholm, a professor of food and natural resources economics at URI and Dr. Nelson Marshall, a professor of oceanography, also at URI.⁸⁴

During the summer of 1965, Pell and his staff worked to get the Sea Grant Bill ready for introduction in the Senate. The first draft of the Sea Grant Bill was written by George Beardsley about a week after the URI announcement of the Newport Conference. Beardsley reported to Pell that his first draft eliminated any transfer of titles to underwater lands in favor of a funding mechanism based on collection of marine rents and royalties.⁸⁵ In an August 6 memo, Beardsley reported that the bill draft was close to complete and he acknowledged extensive input by Spilhaus in the draft. He recommended to Pell that the term “Sea Grant College” be scrapped in the legislation in favor of “Sea Grant Program” to keep from subtly implying to legislators that entire new institutions are planned.⁸⁶ Pell undoubtedly disagreed with Beardsley in this point as he continued to always use the term “Sea Grant College” or “Sea Grant College Program” in legislation and his speeches. In the drafting of the bill, Beardsley used the Smith-Lever Act as a model for the Sea Grant Marine Extension Service, but he used other sources as well. During the mid-1960s, New Bedford, Massachusetts, was experiencing a downturn in fisheries, a key industry in the city, especially among the poorest fishermen with smallest boats. To address this problem, the city entered into a cooperative program with the American Friends Service Committee of Cambridge to provide technical services for fishermen along with an array of supporting educational services for the families of clientele fishermen with funding from the Massachusetts Economic Development Administration.⁸⁷ It was clear to Beardsley and Pell that this effort was very similar to traditional Smith-Lever extension programming, but this was an especially good example of programming for extension clientele in a marine-based industry. The work to produce the bill culminated on August 4, 1965, with Sen. Pell introducing the Sea Grant College Program Act of 1965 (S-2439). In his floor speech introducing the bill, he was explicit that:

When the causes of the development of agriculture in the United States is sought, three main primary factors are noted. First, a strong educational program at the college level, both graduate and undergraduate. Second, a program of applied research and development directed toward improving current practices and techniques. Finally, an extension service that brings the latest results to the workers involved.⁸⁸

It is quite evident that the three pillars of the Land Grant philosophy were brought into Sea Grant legislation by Pell right from the bill’s inception. The Sea Grant bill was referred to the Labor and Public Welfare Committee. A companion bill to Pell's Senate version was introduced into the House of Representatives as H.R. 16559 by Rep. Paul G. Rogers of West Palm Beach, Florida. Rogers proved to be a valuable ally to Pell throughout the entire legislative process.⁸⁹

Shortly after the introduction of the bills, correspondence between Beardsley and Pell showed concern about selecting the proper committee to hear the bill. Beardsley was most worried about the support of Sen. Warren G. Magnuson of Washington. He reported to Pell that Magnuson really considered oceanography and oceans his territory and it may have been best to introduce the bill to the Commerce Committee chaired by Magnuson rather than running the risk of alienating him. Sen. Magnuson was floor manager for a successful oceanographic research bill (S-944) that consolidated existing oceanography programs under a Division of Marine Sciences in the National Science Foundation. Despite this, the bill was introduced to the Labor and Public Welfare Committee because the bill as written created the Sea Grant through an amendment to the National Science Foundation Act of 1950. Since NSF fell under the jurisdiction of that committee the committee chairman Sen. J. Lister Hill of Alabama was pleased to hear the bill.⁹⁰

As Beardsley and Pell were working to get the bill introduced in the Senate, Knauss and the other conference organizers were working with two discussion panels of invited speakers to the Newport Conference, which included Emery M. Castle from Oregon State University; Paul M. Fye, from Woods Hole Oceanographic Institution; President Francis H. Horn from the University of Rhode Island; Spilhaus of the University of Minnesota; Robert B. Abel from the Interagency Committee on Oceanography; G. William Miller, President of Textron, Inc., based in Providence; Wilbert M. Chapman of the Van Camp Seafood Corporation of San Diego; Howard H. Eckles from the Department of Interior; and Milner B. Schaefer from the University of California, San Diego. Schaefer was also Chairman of the National Academy of Sciences Committee on Oceanography. Of particular note is that Dr. Harold C. Knoblach, the US Department of Agriculture Associate Director heading the Cooperative State Research and Extension Service, was a key contributor to the conference proceedings.⁹¹ In a September 29 letter, Knauss urged all speakers to give thought to the key question of how to structure Sea Grant. Would there be colleges of marine sciences similar to agriculture colleges? Could the program instill a “marine bias” into existing disparate departments such as fisheries, marine engineering or pharmacognosy? Might there be adjunct units such as the MIT Lincoln Laboratory or the Lawrence Berkeley Laboratory able to draw talent from across disciplines? What would be the marine equivalent of the Agricultural Experiment Stations? Engineering Experiment Stations? How would a Marine Extension Service be structured? Would two-year technical training programs be part of university programs?⁹²

Proceedings of the conference were published as part of the May 2-5, 1966 Senate subcommittee hearings on the Sea Grant bill. Of particular note is that like the formation of RICA&M seven decades earlier, the Rhode Island business community, this time the marine trades and associated industries in Rhode Island, were providing substantial input into the formation of the program. Input was gathered from David Bailey of Bailey Engineering Corporation, Jacob J. Dykstra of the Point Judith Fishermen's Cooperative, W. Rogers Hamel of the Raytheon Corporation, John J. McAniff of the Underwater Society of America in Newport, E.A. Palmer of the Greater Providence Chamber of Commerce, and Marc Walsh of the Rhode Island Hospital Trust Company.⁹³ Another notable participant in discussions at the Newport Conference was Dr. Lewis M. Alexander, then chairman of the URI Geography Department who would later work with Pell and Knauss on issues surrounding the United Nations Law of the Sea

Treaty of 1982 (UNCLOS III) and serve as the Geographer of the U.S. State Department during the period of United Nations treaty discussions.⁹⁴

After the Newport Conference was completed, it was clear that the concepts discussed and developed there would have profound influence on the future formulation of the program, and wider interest from across the country was beginning to be expressed. Knauss received correspondence from marine programs around the nation expressing interest in participation. To accommodate these additional institutions interested in the program, Leslie and Knauss organized a day long workshop at a hotel near JFK Airport in New York on February 25, 1966 with invitees including Donald E. Bevan of the University of Washington School of Fisheries, Wayne V. Burt of Oregon State University, David C. Chandler of the University of Michigan Great Lakes Laboratory, William J. Hargis of the Virginia Institute of Marine Sciences, Galen E. Jones of Boston University, F.G. Walton Smith of the University of Miami Institute of Marine Sciences and Donald E. Wohlschlag of the University of Texas Institute of Marine Sciences. Both Spilhaus and Chapman, attendees at the earlier conference in Newport, were also there.⁹⁵

In the months following the New York meeting, Knauss had been in correspondence with virtually every university and laboratory in the country with a marine science or aquatic science program. In a letter to Pell on April 5, 1966, Knauss said he had been in correspondence with representatives from 30 states and there was near uniform enthusiasm for the Sea Grant Concept. The only exception was Gordon Gunter, Director of the Gulf Coast Research Laboratory in Ocean Spring, Mississippi.⁹⁶ In his March 28 letter to Knauss, Gunter expressed dismay that grant programs for graduate student scholarships administered by the Bureau of Commercial Fisheries were given out largely to states like California that were better connected politically, while state like Alabama and Mississippi got none. Gunter declared that he'd contact local legislators from the southern states to oppose the Sea Grant bill unless there was a formula for funding in statute so that "money would be equitably distributed among coastal states."⁹⁷ Knauss responded on April 5 with an explanation that there would be state or local match requirements for the federal funds. In a follow-up letter to Knauss, Gunter replied:

I think your idea of having the Sea Grant University funds put up on a matching basis is a good one and it should attract those states that are really interested in the program and eliminate those who just want money because it is money. I would be very happy to go along with this idea.⁹⁸

Thus it appears from the positive comments that Knauss was receiving in all of the correspondence that there was good support from the scientific community by the time of the first hearing on the Sea Grant Bill.

The hearings before the Special Subcommittee on Sea Grant Colleges began on May 2, 1966 at the Memorial Union Ballroom at the University of Rhode Island, with continuing hearings from May 3 to May 5 in Washington, D.C. The members of the Senate Subcommittee on Sea Grant Colleges (in addition to Pell, who chaired the subcommittee) were Senators Jacob K Javits from New York, Edward M. Kennedy from Massachusetts, Wayne Morse from Oregon, George Murphy from California and Gaylord Nelson from Wisconsin. Through the four days of hearings, testimony was given by legislators, marine-related businesses throughout the country

and officials from scientific institutions from most of the coastal states and the Great Lakes Region.⁹⁹ This valuable testimony went a long way in supporting final passage of the Pell and Rogers bills in both houses of Congress and their final signing into law by President Lyndon B. Johnson on October 15, 1966 as Public Law 89-688. The only major subsequent change to the Sea Grant Act was with a 1970 Reorganization Plan, whereby the Office of Sea Grant was transferred from the National Science Foundation to the newly organized National Oceanic and Atmospheric Administration, where the program has resided ever since.¹⁰⁰

In many ways, the history of Land Grant and Sea Grant programming and their respective Extension Services at the University of Rhode Island have been profoundly affected by Rhode Island's small size as a state and the willingness for business interests, whether they be the Grange organizations, or later the marine trades industries, for better or worse, to get entrepreneurially involved in the greater politics of the state's higher education policies. The Rhode Island farmers who were disaffected by Brown University's management of the original 1862 Morrill Act funds were quite instrumental in creating Rhode Island's agricultural college in Kingston and an institutionalized Extension Department more to their liking in 1904, a full decade before the Smith-Lever Act. Kenyon Butterfield's pioneering work in Michigan to develop the seeds of Extension in the Farmers Institutes in cooperation with the Grange Organizations found fertile political ground in Rhode Island, allowing the entrepreneurial leadership opportunity to fully institutionalize Extension programming as we now know it today. The significance of Butterfield's accomplishments during his short tenure in Rhode Island were immediately grasped by the Board of Trustees of the Massachusetts Agricultural College, and Butterfield's leadership to create an Extension Department in Massachusetts was a further step in the movement that eventually spread nationwide by way of the Smith-Lever Act. Six decades later, the creation of a national Sea Grant College Program as proposed by Spilhaus based fully on the powerful triad of Land Grant principles, including Extension, was seen as a significant entrepreneurial opportunity for the marine industries of Rhode Island. Despite agriculture being in a sad state of decline by the 1960s in Rhode Island, Sen. Claiborne Pell was able to adapt the tried and true *philosophy* of the agricultural Land Grant University formula, and marshal local Rhode Island business and academic support to effectively champion the legislative program on a national stage and help build up URI to be one of the major marine-focused universities in America. On the occasion of the Centennial of the Smith-Lever Act on May 8, 2014, a joint resolution passed by both houses of the Rhode Island General Assembly recognized the contributions of both Land Grant Cooperative Extension and the Sea Grant Marine Extension Programs and having continued relevance into the 21st Century "as critical in resolving society's greatest challenges of economic and environmental sustainability."¹⁰¹

Acknowledgement

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Notes

¹ *Providence Journal* January 15, 1863.

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- ² *Rhode Island Acts and Resolves of the General Assembly Passed at the January Session 1863* (Providence: Anthony Press, 1863) p. 217.
- ³ *Rhode Island Acts and Resolves of the General Assembly Passed at the January Session 1863* (Providence: Anthony Press, 1863) pp. 214-216.
- ⁴ *Providence Journal* January 23, 1863.
- ⁵ *Providence Journal* January 24, 1863, "There is every reason to believe that the resolution will be adopted".
- ⁶ *A Catalogue of the Officers and Students of Brown University 1867-68*. Providence: Hammond & Angel, 1867, pp. 22, 30-31.
- ⁷ "Appendix 9. Report of the Committee on Education in Relation to the Agricultural Department at Brown University" hereafter "1869 Education Committee Report" in *Rhode Island Acts and Resolves of the General Assembly Passed at the January Session 1869*, Providence: Providence Press, 1869. p. 1
- ⁸ "1869 Education Committee Report" p. 4.
- ⁹ *A Catalogue of the Officers and Students of Brown University 1870-71*. Providence: Hammond & Angel, 1870, p. 25.
- ¹⁰ *A Catalogue of the Officers and Students of Brown University 1875-76*. Providence: J.A. and R.A. Reid, 1875, p. 41.
- ¹¹ *Rhode Island Acts and Resolves of the General Assembly Passed at the January Session 1887*. Providence: E.L. Freeman, 1887, p. 305.
- ¹² *Providence Journal* April 1, 1887.
- ¹³ *Rhode Island Acts and Resolves of the General Assembly Passed at the January Session 1887*. Providence: E.L. Freeman, 1887, p. 133.
- ¹⁴ Gardner, Charles M., *The Grange - Friend of the Farmer, 1867-1947*. Washington, D.C.: The National Grange, 1949, p. 63.
- ¹⁵ *Rhode Island Country Journal*, August 26, 1887.
- ¹⁶ "The Farmer Speaks Out" Handbill published by RI Patrons of Husbandry. Papers of John H. Washburn, University of Rhode Island Special Collections.
- ¹⁷ *Providence Journal* January 13, 1888. However in all fairness to Brown University officials, the Morrill Act scholarships to needy students allowed many of them to go on to rather respectable positions in the community, including some that became members of the judiciary or were elected to the legislature.
- ¹⁸ *Providence Journal* March 22, 1888.
- ¹⁹ *Providence Journal* March 24, 1888.
- ²⁰ *Minutes of the Meetings of the Board of Managers of the Rhode Island College of Agriculture and Mechanic Arts*. July 30, 1888. University of Rhode Island Special Collections.
- ²¹ *Minutes of the Meetings of the Board of Managers of the Rhode Island College of Agriculture and Mechanic Arts*. June 14, 1889; *Minutes of the Meetings of the Board of Managers of the Rhode Island College of Agriculture and Mechanic Arts*. November 4, 1897. University of Rhode Island Special Collections.
- ²² *Second Annual Report of the Board of Managers of the Rhode Island State Agricultural School and Experiment Station, Made to the General Assembly at its January Session, 1890*, "Part II Agricultural Experiment Station." Providence: E.L. Freeman, 1890, pp. 3-4.
- ²³ *Second Annual Report of the Board of Managers of the Rhode Island State Agricultural School and Experiment Station, Made to the General Assembly at its January Session, 1890*, Providence: E.L. Freeman, 1890, p. 20.
- ²⁴ Eschenbacher, Herman F. *The University of Rhode Island: A History of Land Grant Education in Rhode Island*. New York: Meredith Publishing Company, 1967, p. 43.
- ²⁵ Weldin, John C. "Typescript of an Interview with George Adams" May, 1958. Unpublished ms., p. 10. University of Rhode Island Special Collections. George E. Adams was the first graduate (alphabetically) in 1894 from the Rhode Island College of Agriculture and Mechanic Arts and long-serving (1917-38) dean of agriculture at the college; Weldin, John C. "Typescript of an Interview with William Clark" May, 1958., pp. 2-3. Unpublished ms., University of Rhode Island Special Collections. William Clark was one of the first graduates of RICA&M along with Adams in the Class of 1894.
- ²⁶ Board of Managers, *First Annual Report, 1889*. pp. 16-26.
- ²⁷ *Rhode Island Acts and Resolves of the General Assembly Passed at the January Session 1892*. Providence: E.L. Freeman, 1892, pp. 339-340; Also: *Providence Journal* May 20, 1892.
- ²⁸ *Rhode Island Acts and Resolves of the General Assembly Passed at the January Session 1894*. Providence: E.L. Freeman, 1894, pp. 166-167; Also: *Providence Journal* April 20, 1894; and *Narragansett Times*, May 18, 1894.

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- ²⁹ Eschenbacher, Herman F. *The University of Rhode Island: A History of Land Grant Education in Rhode Island*. New York: Meredith Publishing Company, 1967, p. 58.
- ³⁰ *Proceedings of the First Annual Conference of the American Association of Agricultural Colleges and Experiment Stations*. Washington D.C., October 18-20, 1887. Washington, D.C., U.S. Government Printing Office, 1941.
- ³¹ *Proceedings of the Ninth Annual Conference of the American Association of Agricultural Colleges and Experiment Stations*. Denver, Colorado, July 16-18, 1895. Washington, D.C., U.S. Government Printing Office, 1896. p.4
- ³² Board of Managers, *Eleventh Annual Report, 1899*. pp. 8-15.
- ³³ *Proceedings of the Eleventh Annual Conference of the American Association of Agricultural Colleges and Experiment Stations*. Minneapolis, Minnesota, July 13-15, 1895. Washington, D.C., U.S. Government Printing Office, 1896. pp. 55-68.
- ³⁴ *Providence Journal* March 25, 1902.
- ³⁵ *Minutes of the Meetings of the Board of Managers of the Rhode Island College of Agriculture and Mechanic Arts*. January 29, 1902. University of Rhode Island Special Collections.
- ³⁶ *Providence Journal* March 30, 1902.
- ³⁷ *Minutes of the Meetings of the Board of Managers of the Rhode Island College of Agriculture and Mechanic Arts*. April 2, 1902. University of Rhode Island Special Collections.
- ³⁸ *Providence Journal* April 20, 1902.
- ³⁹ *Providence Evening Telegram* May 5, 1902.
- ⁴⁰ *Narragansett Times* May 9, 1902.
- ⁴¹ *Providence Journal* May 8, 1902.
- ⁴² *Providence Journal* May 20, 1902.
- ⁴³ *Minutes of the Meetings of the Board of Managers of the Rhode Island College of Agriculture and Mechanic Arts*. May 19, 1902. University of Rhode Island Special Collections.
- ⁴⁴ *Minutes of the Meetings of the Board of Managers of the Rhode Island College of Agriculture and Mechanic Arts*. August 12, 1902. University of Rhode Island Special Collections. Like Washburn, Homer Wheeler had earned his doctoral degree at the University of Göttingen and had helped set up the RICA&M laboratories with then state of the art scientific apparatus from Germany.
- ⁴⁵ *Minutes of the Meetings of the Board of Managers of the Rhode Island College of Agriculture and Mechanic Arts*. January 6, 1903. University of Rhode Island Special Collections.
- ⁴⁶ Note: The concept of Farmers' Institutes had been around since first discussed in 1853 by President Edward Hitchcock of Amherst College at a January 12 meeting of the Massachusetts Agricultural Board. See full discussion in: "Early Farmers' Institutes" p. 5 In: A.H. True, *A History of Agricultural Extension Work in the United States 1785-1923*. Washington DC: United States Department of Agriculture, Miscellaneous Publication No. 15. 220pp.
- ⁴⁷ Snyder, J.L. "Extension Work in Agriculture" p. 310. In: *Michigan State Farmers' Institutes: Season of 1913-14*. Michigan State Board of Agriculture, Agricultural College, Michigan. 420pp.
- ⁴⁸ Kuhn, M. *Michigan State: The First Hundred Years*. East Lansing, MI: Michigan State University Press. 1955. pp. 185-186.
- ⁴⁹ Butterfield, K.L. "VII. Discussions: A Significant Factor in Agricultural Education." *Educational Review* 21: 301-306, March 1901
- ⁵⁰ Butterfield, K.L. "An Untilled Field of American Agricultural Education" *The Popular Science Monthly* 63(17):257-261. (1903); Butterfield, K.L. "The Social Problems of American Farmers" *American Journal of Sociology* 10:606-622. (1905).
- ⁵¹ Butterfield, K.L. "VII. Discussions: A Significant Factor in Agricultural Education." *Educational Review* 21: 301-306, March 1901 p. 303.
- ⁵² *Narragansett Times*. February 13, 1903.
- ⁵³ Butterfield, K.L. "VII. Discussions: A Significant Factor in Agricultural Education." *Educational Review* 21: 301-306, March 1901.
- ⁵⁴ *Providence News*, April 8, 1903.
- ⁵⁵ *Providence Journal*, June 9, 1903; *Evening Times (Pawtucket)*, June 8, 1903; *Rhode Island Pendulum* June 11, 1903.
- ⁵⁶ *Minutes of the Meetings of the Board of Managers of the Rhode Island College of Agriculture and Mechanic Arts*. June 7, 1903. University of Rhode Island Special Collections
- ⁵⁷ *Providence Journal*, October 6, 1903.

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- ⁵⁸ *Rhode Island Acts and Resolves of the General Assembly Passed at the January Session 1904*. Providence: E.L. Freeman, 1904, pp. 162-165.
- ⁵⁹ *Rhode Island Acts and Resolves of the General Assembly Passed at the January Session 1905*. Providence: E.L. Freeman, 1905, pp. 161-163; 265.
- ⁶⁰ *Providence Journal*, June 27, 1905.
- ⁶¹ *Report of the Board of Managers Nineteenth Annual Report*, Rhode Island College of Agriculture and Mechanic Arts, Kingston, RI. 1907, pp. 78-79.
- ⁶² *Minutes of the Committee on the Course of Study Faculty, Board of Trustees, Massachusetts Agricultural College*, October 19, 1905. "Various letters to and from Pres. Kenyon L. Butterfield in regard to the Presidency of Massachusetts Agr'l College were discussed and it was decided to ask for an early personal interview with Mr. Butterfield." There no other apparent applicants and no other correspondents mentioned anywhere in the minutes.
- ⁶³ *Minutes of the Committee on the Course of Study Faculty, Board of Trustees, Massachusetts Agricultural College*, November 24, 1905. Special Collections and University Archives, University of Massachusetts, Amherst.
- ⁶⁴ *Minutes of the Meetings of the Board of Trustees of the Massachusetts Agricultural College*. January 2, 1906. Special Collections and University Archives, University of Massachusetts, Amherst.
- ⁶⁵ *Minutes of the Meetings of the Board of Managers of the Rhode Island College of Agriculture and Mechanic Arts*. January 5, 1906. University of Rhode Island Special Collections.
- ⁶⁶ *Report of the Board of Managers Eighteenth Annual Report*, Rhode Island College of Agriculture and Mechanic Arts, Kingston, RI. 1906, pp. 32-35.
- ⁶⁷ *Rhode Island Acts and Resolves of the General Assembly Passed at the January Session 1906*. Providence: E.L. Freeman, 1906, pp. 96-97.
- ⁶⁸ *Providence Journal*, April 22, 1909; *Providence Journal*, April 23, 1909.
- ⁶⁹ Butterfield, K.L. "Inaugural Address: The Forward Movement of Agricultural Education." *Inauguration of Kenyon L. Butterfield as President of the Massachusetts Agricultural College, October Seventeenth, 1906*. Amherst, MA: Massachusetts Agricultural College. p. 25.
- ⁷⁰ *ibid.* pp. 16-18.
- ⁷¹ *ibid.* p. 24.
- ⁷² Note: Stretching back into his early days in organizing the Farmers' Institutes at Michigan Agricultural College, Butterfield was using the term "cooperation" between Grange organizations and the educational institution. Butterfield's sociological concepts of rural communities and the cooperative role of farmers' institutions, rural schools, government, and the university were most fully developed in what might be considered his memoirs: Butterfield K.L. *The Farmer and the New Day*. New York: MacMillan Publishers, 1919. 311pp.
- ⁷³ *Providence Journal*, March 24, 1951.
- ⁷⁴ *Minutes of the Meetings of the Board of Managers of the Rhode Island College of Agriculture and Mechanic Arts*. June 11, 1896. University of Rhode Island Special Collections.
- ⁷⁵ Field, G.W. *Ninth Annual Report of the Rhode Island Agricultural Experiment Station, 1896*. Providence: E.L. Freeman 1897. pp. 173-186.
- ⁷⁶ Rice, M.A., A. Valliere, and A. Caporelli. A review of shellfish restoration and management projects in Rhode Island. *Journal of Shellfish Research* 19:401-408 (2000).
- ⁷⁷ *Report of the Board of Managers*, Rhode Island State College, Kingston, 1937. p.26.
- ⁷⁸ "The Narragansett Marine Laboratory" pp. 76-77 In: *Report of the President and Other Officers 1942-43*. Rhode Island State College (Vol. XL no. 1), Kingston, Rhode Island.
- ⁷⁹ "Ninety-third Annual Meeting of the American Fisheries Society: Pick-Nicollet Hotel, Minneapolis, Minnesota, September 11-13, 1963." *Transactions of the American Fisheries Society* 93(1):109-125 (1964).
- ⁸⁰ Spilhaus, A.F. "Man in the Sea" *Science* 145(3633):993. (September 4, 1964)
- ⁸¹ Pell, C.deB. Congressional Record - Senate. vol. 111, no. 82: 7 May 1965
- ⁸² Letter May 17, 1965, Adm. D. L. McDonald, Chief of Naval Operations, to Sen. Pell. Papers of Claiborne Pell, M71, box 91, folder 1030, University of Rhode Island Special Collections.
- ⁸³ Letter July 7, 1965, A.F. Spilhaus to J.A. Knauss and Sen. Pell. Papers of Claiborne Pell, M71, box 91, folder 1030, University of Rhode Island Special Collections.
- ⁸⁴ Leslie, J. "Press Release Concerning National Sea Grant Conference, October 28-29, 1965, Newport, Rhode Island." University of Rhode Island Public Information Office July 15, 1965. Papers of Claiborne Pell, M71, box 90, folder 1027, University of Rhode Island Special Collections.
- ⁸⁵ Memo July 23, 1965, G. Beardsley to Sen. Pell. Papers of Claiborne Pell, M71, box 90, folder 1028, University of Rhode Island Special Collections.

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- ⁸⁶ Memo July 29, 1965, G. Beardsley to Sen. Pell. Papers of Claiborne Pell, M71, box 90, folder 1028, University of Rhode Island Special Collections.
- ⁸⁷ Kirby, Michael A. *Efforts by New Bedford and American Friends Service Committee to develop a "Fishery Extension Service"* Cambridge, MA: American Friends Service Committee, funded by the Massachusetts Economic Development Administration. September 27, 1965. Unpublished Ms. 4pp. Papers of Claiborne Pell, M71, box 90, folder 1026, University of Rhode Island Special Collections.
- ⁸⁸ National Sea Grant Colleges and Program Act of 1965. Congressional Record - Senate, vol. 111, no. 142. August 4, 1965
- ⁸⁹ p. 6 In: Hull, E.W. Seabrook, *The National Sea Grant College Program: The First Ten Years*. Rockville, MD: Sea Grant Office, NOAA, U.S. Department of Commerce.
- ⁹⁰ Memo August 16, 1965, G. Beardsley to Sen. Pell. Papers of Claiborne Pell, M71, box 90, folder 1028, University of Rhode Island Special Collections.
- ⁹¹ *The Program for the Concept of a Sea Grant University* October 28-29, 1965, Newport Rhode Island. Papers of Claiborne Pell, M71, box 90, folder 1024, University of Rhode Island Special Collections.
- ⁹² Letter September 29, 1965, J.A. Knauss to Sen. Pell and all other speakers at the national conference on *The Concept of a Sea Grant University*, Papers of Claiborne Pell, M71, box 91, folder 1030, University of Rhode Island Special Collections.
- ⁹³ "Proceedings of the National Conference - The Concept of a Sea Grant University," Sponsored by University of Rhode Island and Southern New England Marine Sciences Association. October 28-29, 1965, Newport, RI. pp. 23-122. In: *Hearings Before the Special Subcommittee on Sea Grant Colleges of the Committee on Labor and Public Welfare, United States Senate, Eighty-ninth Congress, Second Session*. Washington, DC: U.S. Government Printing Office, 1966. 285pp.
- ⁹⁴ Obituary-Professor Emeritus Lewis M. Alexander. *University of Rhode Island Department of Marine Affairs*, Kingston, RI. May 23, 2013.
- ⁹⁵ Letter of Invitation James Leslie to Donald E. Bevan and other invitees to the Feb 25 meeting in NYC, February 10, 1966. Papers of Claiborne Pell, M71, box 90, folder 1025, University of Rhode Island Special Collections.
- ⁹⁶ Letter April 5, 1966, J.A. Knauss to Sen. Pell, Papers of Claiborne Pell, M71, box 90, folder 1025, University of Rhode Island Special Collections.
- ⁹⁷ Letter March 28, 1966, G. Gunther to J.A. Knauss, Papers of Claiborne Pell, M71, box 90, folder 1025, University of Rhode Island Special Collections.
- ⁹⁸ Letter April 11, 1966, G. Gunther to J.A. Knauss, Papers of Claiborne Pell, M71, box 90, folder 1025, University of Rhode Island Special Collections
- ⁹⁹ *Hearings Before the Special Subcommittee on Sea Grant Colleges of the Committee on Labor and Public Welfare, United States Senate, Eighty-ninth Congress, Second Session*. Washington, DC: U.S. Government Printing Office, 1966.
- ¹⁰⁰ p. 7 In: Hull, E.W. Seabrook, *The National Sea Grant College Program: The First Ten Years*. Rockville, MD: Sea Grant Office, NOAA, U.S. Department of Commerce.
- ¹⁰¹ *Rhode Island Acts and Resolves of the General Assembly Passed at the January Session 2014*. 14R-295 -- Joint Resolution Declaring May 8, 2014 as "Rhode Island Cooperative Extension Day" in Celebration of the Centennial of the Passage of the Smith-Lever Act and Rhode Island's Contributions to the Development of America's Land Grant and Sea Grant Universities. Providence: Rhode Island General Assembly 2014.