

# The Soil and Water Conservation Society: The Society's Beginning

Clark J. Gantzer and Stephen H. Anderson

The Soil and Water Conservation Society (SWCS) has provided excellent leadership in conservation over the past 75 years. As this special collection of essays celebrates progress made and identifies challenges of today, it is important to keep in mind the goals and achievements of SWCS founders and members. This effort traces the Society's beginning and the successes of its work "to foster the science and art of natural resource conservation" during its first 50 years. Discussions on the initial organization, annual meetings, business, Society leadership, and the *Journal of Soil and Water Conservation* (JSWC) are included, focusing on publications and published testimonies that have been a leading means by which the Society has advanced soil and water conservation.

The focuses of the earlier work of the Society continue today. As Wayne Pritchard, the first executive secretary of the Soil Conservation Society of America (SCSA; later renamed in the 1980s to the Soil and Water Conservation Society), stated in 1984, the real key to the future is the work and planning of landowners and farmers (Browning et al. 1984).

## ■ Before the Formation of the Society

In the early 1900s, recognition of the need for an inventory of soils led to the establishment of the US Department of Agriculture (USDA) State Agricultural Experiment Station cooperative soil survey. The survey documented the variation in soils and the need for different soil management techniques to increase productivity and to control erosion.

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The formation of the SWCS could not have occurred without the leadership of Hugh Hammond Bennett, who has since been called the father of soil conservation. Bennett studied geology and chemistry, and graduated from the University of North Carolina in the spring of 1903 (Cook and Lawrence 2015). Bennett said that it was an accident that caused him to take a job with the Bureau of Soils. His assignment was work on soil classification and mapping and observation of soil productivity. Bennett and Bill McClendon of South Carolina introduced the term “sheet erosion,” in contrast to rill and gully erosion, which had been the usual field clues for identifying soil erosion problems (figure 1).

Amazingly in 1909, Milton Whitney, Chief of the Bureau of Soils, argued that the soil was of inexhaustible and permanent fertility: “The soil is the one indestructible, immutable asset that the Nation possesses. It is the one resource that cannot be exhausted; that cannot be used up.” Bennett angrily reacted to Whitney’s statement, saying, “I didn’t know so much costly misinformation could be put into a single brief sentence” (Cook and Lawrence 2015).

In 1914, F.E. Duley and M.F. Miller at the University of Missouri, established the first experiment plots to measure factors affecting runoff and erosion (Gantzer et al. 2018). In 1928, Bennett included results from these plots in his circular *Soil Erosion—A National Menace* (Bennett and Chapline 1928). In 1939, Bennett indicated that publication was critical in securing public and political attention to soil erosion (Bennett 1939). The importance of erosion was also highlighted by Walter Lowdermilk’s report *Conquest of the Land Through 7,000 Years*, which contained erosion studies Lowdermilk made around the world between 1938 and 1939 (Lowdermilk 1953).

In 1929, due to his friendship to Arthur B. Conner, director of the Texas Experiment Station who argued that “protecting the soil that supports the citizenship protects the nation,” Bennett was invited to testify before Congressman Buchanan’s subcommittee and secured an amendment attached

**Figure 1**

**Bennett’s sheet erosion. Photo by C.M. Woodruff.**



to the 1929 appropriation for the Department of Agriculture authorizing \$160,000 over four years for soil erosion research. Bennett used the earlier Missouri erosion plot design for the first 10 USDA erosion experiment stations nationwide. This money was to be used “to investigate the causes of soil erosion and the possibility of increasing the absorption of rainfall by the soil” (Gantzer et al. 2018). Astonishingly, the loss of nutrients from erosion was greater than expected and was often greater than that by removal from crops. Nitrogen (N) loss was especially noted since it is found largely in the surface soil, which is most easily removed through erosion.

The dust storms of the 1930s accelerated nationwide soil erosion programs. The first great dust storm occurred on May 11, 1934, and blew soil from the Great Plains to Washington, DC. Bennett used this disaster to alert Congress and the nation to the need to protect farmland, and by lobbying Congress, helped to enact Public Law 46, which established the Soil Conservation Service (SCS) in 1935. Bennett’s biography provides additional information about his important historical role as the first chief of the SCS as well as the founder of the SWCS who “started and organized—for conservation of our natural resources and for a better agriculture.” Bennett dramatized the critical need of soil and water to politicians, and then formulated soil and water conservation practices and pressed forward to translate theory into action on the land (Brink 1951).

Another early leader in US conservation was Aldo Leopold, who introduced the idea of “environmental ethics” and appreciated comprehensive farm conservation through demonstration projects that extended land husbandry to include wildlife. This concept agreed with Bennett’s belief that each acre on a farm or ranch should be “used for and treated in accordance with its capabilities” (Leopold 1949; Cohee 1987). In 1933 Leopold worked to integrate wildlife management into the nation’s first soil conservation watershed demonstration, the Coon Creek project in Wisconsin (Cohee 1987; Meine 1987).

### ■ The Society’s Inception in the 1940s

The Society’s inception was in 1941 when Bennett, Ralph H. Musser, A.E. McClymonds, and J.H. Christ proposed founding an organization titled “The American Society of Soil and Water Conservation.” In a 1943 meeting in Washington, DC, Musser stated, “An organization of this kind should be worthy of the people interested in work in soil and water conservation, and it should be the medium of expression of the people of this profession.”

The name of the organization, “Soil Conservation Association of America,” was introduced in the Society’s first publication of *Notes and Activities* in April of 1945. During a meeting that year, Bennett suggested a change in the name

to “Soil and Water Conservation Association of America;” however, the membership voted to change the name to “Soil Conservation Society of America” (SCSA) (Pritchard 1956).

The first SCSA chapter meeting was held in 1945 and included a keynote presentation focused on “Upstream Measures as They Relate to Flood Control.” In 1946 the first issue of the JSWC was printed. In 1949 the Journal published a Society statement on “National Land Policy” that said, “All lands should be used in a manner which will insure its continued and permanent maximum productivity and values . . . In a great measure, our natural economy, our democratic process and our national security are dependent on the future conservation and use of our basic natural resources” (Pritchard 1965). The fourth annual meeting of the Society was in St. Louis, Missouri, and proceedings were reported by national press, including *The New York Times*. Additionally in these early years, A. Dams published a highly cited paper, “Loss of Topsoil Reduces Crop Yields” (Pritchard 1956).

### ■ Soil Conservation Society of America in the 1950s

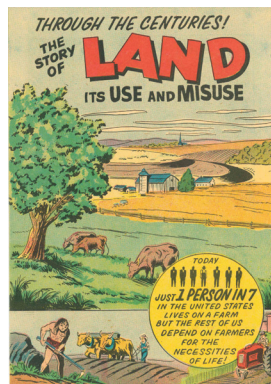
The Society’s effort to educate the public about soil and water was advanced by the publication of the booklet *Down the River* (1951). Over 200,000 copies were printed. It presented the causes of erosion and described methods of conserving both soil and water for a lay audience. In 1951 C.C. Taylor’s article “Conservation: A Social and Moral Problem” was selected as the outstanding Journal article.

In January of 1952 the Society’s first full-time office opened. The JSWC increased from a quarterly to bimonthly publication, and the article “Soil, the Substance of Things Hoped For” by Firman E. Bear was awarded the outstanding article of the year. In 1953, the eighth annual meeting was held in Colorado Springs, Colorado. A committee was established to determine the meaning of the term “soil conservation,” and international soil conservation activity was facilitated with production of the article “A Soil Erosion Survey of Latin America” in the JSWC with cooperation of the Conservation Foundation and the Food and Agriculture Organization of the United Nations.

In 1955 an educational cartoon booklet, *The Story of Land—Its Use and Misuse*, was published (figure 2). Over 435,000 copies were sold by year’s end. Ralph H. Musser testified for H.R. 8914, entitled the Farm Conservation Civil Defense Act of

**Figure 2**

*The Story of the Land.*



1956, writing, “I am pleased to see the stress placed on the conservation of our natural resources, particularly soil, water, forestry, and wildlife.” Wayne Pritchard wrote, “Your proposal to combine conservation and a farm program with a civil defense program is a new approach to the total problem that needs to be accomplished. . . . the problem of conservation is a complicated one, and one in which we need to use many incentives because the urban citizen is dependent upon those who manage the agricultural land.”

In 1957, the Society’s annual meeting emphasized urban and rural land planning, and Douglas E. Wade became the first full-time editor of the *Journal*. Asheville, North Carolina, hosted the 1958 annual meeting with a theme of “Land and Water for Tomorrow’s Living.” There were a total of 1,139 attendees.

**Figure 3**

US Postal Service commemorative stamp.



figure 3). Through arrangement with cartoonist Hank Ketcham, a cartoon publication, *Dennis the Menace and Dirt* (figure 4), was produced (Pritchard 1965).

The federal Soil Bank Program (authorized by the Soil Bank Act, P.L. 84-540, Title I) of the late 1950s and early 1960s paid farmers to retire land from production for 10 years. It was the predecessor of the Conservation Reserve Program (CRP), where the government bought back submarginal land to reduce the need for the government to support overproduction.

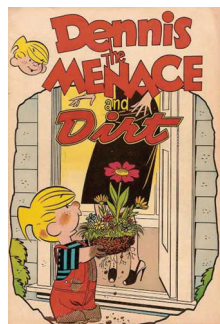
### ■ Soil Conservation Society of America in the 1960s

The 1960s introduced environmental events, including the book *Silent Spring* by Rachel Carson (1962), which addressed the danger of excessive use of pesticides; the Wilderness Act of 1964; and the federal Water Quality Act of 1965. These issues related to land use were of concern to the Society. To address

In 1959, the annual meeting was held in Rapid City, South Dakota. A meeting highlight was the issue of a US Postal Service commemorative stamp honoring conservation and illustrating the importance of soil conservation measures, like contour plowing and the planting of cover crops (fig-

**Figure 4**

*Dennis the Menace and Dirt.*



them, SCSA published a 1960s position statement on “Land Use: Choices and Challenges.” It stated:

National legislation has been directed toward certain types of land such as parks, wilderness areas, wetlands, and surface-mined lands. . . . However, the United States has not been able to develop and adopt an over-all land use policy to help decisionmakers establish priorities when conflicts regarding land use occur. The nation needs to identify the importance of its productive agricultural land and develop ways to settle conflicts among competing private interests and protect the public interest . . . improved conservation measures must be considered now to help insure an adequate land resource base for the future. (Baum 1981)

The theme of the 1960 annual meeting in Ontario was “New Technologies in Land Resource Management.” This marked the first annual meeting to be held in Canada and was attended by 1,256 people. Other 1960s topics included “Land Use: Changing Agriculture” and “Conservation—Key to World Peace.” In 1965 a speech on “National Forest Wilderness” was delivered at the annual meeting by Associate Chief of the Forest Service Greeley (Frome 1975; Pritchard 1965).

Conservation work focused on the causes of lost soil productivity, and the JSWC published many papers on this topic. Peterson published “The Relation of Soil Fertility to Soil Erosion” (1964), Heilman and Thomas reported on “Land Leveling Can Adversely Affect Soil Fertility” (1961), and Eck and Ford wrote about “Restoring Productivity on Exposed Subsoils” (1962). Shrader et al. published an important paper on “Applying Erosion Control Principles” in 1963. Development of the Universal Soil Loss Equation for advancing and designing erosion control systems was published by Wischmeier and Smith (1965).

Additional important SCSA outreach activities in the 1960s included the *Soil and Water Conservation Glossary* published in Spanish in cooperation with the US Agency for International Development. In 1964 a popular booklet, *Making a Home for Wildlife*, was introduced at the 19th annual meeting. Also in 1964, *Focus on Resource Conservation* included articles on “Outdoor Recreation—Its Impact Today,” “Policy in Land Management—A Symposium,” and “Using and Managing Our Water Resources.” The first scholarships offered by the Society were established during the 1960s.

### ■ Soil Conservation Society of America in the 1970s

The 1970s ushered in the environmental movement. On January 1, the National Environmental Policy Act was installed. Senator Gaylord Nelson



initiated the first Earth Day, an environmental teach-in, on April 22, 1970, and the US Environmental Protection Agency was founded later that year. The Federal Water Pollution Control Act amendments of 1972 (Clean Water Act), the Safe Drinking Water Act of 1974, and the Resource Conservation and Recovery Act (1976)—all landmark laws—were approved. The Surface Mining Control and Reclamation Act of 1977, regulating strip mining, and the Soil and Water Resources Conservation Act of 1977 were enacted and were also of profound interest to the Society.

Concern about excessive soil erosion increased. In 1977, average erosion rates in the United States exceeded  $11 \text{ Mg ha}^{-1} \text{ y}^{-1}$  ( $5 \text{ tn ac}^{-1} \text{ yr}^{-1}$ ) for all row crops produced in the Southeast. In many counties, erosion rates exceeded  $112 \text{ Mg ha}^{-1}$  ( $50 \text{ tn ac}^{-1}$ ) on corn and soybean land. For conventional tillage, average erosion was  $21.5 \text{ Mg ha}^{-1} \text{ y}^{-1}$  ( $9.6 \text{ tn ac}^{-1} \text{ yr}^{-1}$ ); for chisel-plowing, soil loss was  $8.7 \text{ Mg ha}^{-1} \text{ y}^{-1}$  ( $3.9 \text{ tn ac}^{-1} \text{ yr}^{-1}$ ); and for no-tillage, just  $6.5 \text{ Mg ha}^{-1} \text{ y}^{-1}$  ( $2.9 \text{ tn ac}^{-1} \text{ yr}^{-1}$ ). A prescription to address the excessive erosion on sloping row crops must have sizeable increases in sod crops in the rotation, contouring and terracing, or growing of winter cover crops to control erosion (Larson 1981).

The prestige and distinction of the Society was greatly advanced by quality journal articles. The Journal published many papers, including Narayanan and Swanson's (1972) "Estimating Trade-Offs Between Sedimentation and Farm Income," Anderson et al.'s (1975) "Perspectives on Agricultural Land Policy," Lyles's (1975) "Possible Effects of Wind Erosion on Soil Productivity," Allen et al.'s (1977) "Conservation Tillage and Energy," and Burwell et al.'s (1977) "Nitrogen and Phosphorus Movement from Agricultural Watersheds." Foster edited *Soil Erosion: Prediction and Control* (1977), and "Soil Erosion Effects on Soil Productivity: A Research Perspective" was published by the National Soil Erosion-Soil Productivity Research Planning Committee (1981). The advances promoted by the Society in the 1970s ushered in important work on topics including improved tillage, the use of cover crops, and the off-site cost of soil and water loss from the land.

### ■ Soil Conservation Society of America and Soil and Water Conservation Society in the 1980s

In the 1980s, Society policy statements and annual meetings advanced conservation science and policymaking. In the late 1980s, programming turned to research-oriented special projects. The first of these was a three-year field evaluation of USDA's implementation of conservation programs in the 1985 Food Security Act (farm bill), national mail surveys of CRP contract-holders, and a series of focus groups on the Wetlands Reserve Program. The Society worked hard in developing information for the 1985 farm bill (Berg and Gray

1984; Cook 1984). Conservation policy was greatly affected through the farm bill CRP and Conservation Compliance Programs.

In 1987 the Society's name was changed from "Soil Conservation Society of America" to "Soil and Water Conservation Society." The change was made to (1) broaden the Society's appeal by adding "water" to the name, (2) re-emphasize soil conservation, and (3) remove "of America" to highlight and promote international conservation.

The JSWC continued publishing excellent papers, including the Mannering and Fenster (1983) and Myers (1983) papers on conservation tillage, an article by Rodale (1984) on "Alternative Agriculture," "Evolution of the Universal Soil Loss Equation" by Meyer (1984), and an important paper on "The Off-Site Costs of Erosion" by Clark (1985). The decade was capped by a SWCS cosponsored conference on cover crops that resulted in a publication, *Cover Crops for Clean Water* (Hargrove 1991).

### ■ SWCS Membership

The business of the Society is largely conducted through membership. The multidisciplinary, multi-institutional membership remains a major strength of the organization. At the Society's inception, it was not the intention to create an organization exclusively for USDA SCS (now Natural Resources Conservation Service) employees, but rather to create a scientific organization to foster soil conservation and represent individuals in government, academia, and business working professionally in soil conservation (Schnepf 2005).

In 1965 the Society had about 10,000 members, of which about two-thirds were SCS employees. Membership peaked around 1977 at about 15,000. It has been on a declining trend ever since. In 2019 membership is about 2,500, and the percentage of Natural Resources Conservation Service employees within the Society's membership has dropped to below a third. Reasons for the decline in membership are many. In the past, membership was important for one's resumé, and becoming an officer, council member, or even a committee chairman, with good performance, helped in promotion. Initial correlation between Society membership and membership across federal conservation agencies was greater than between the Society membership and the SCS members. That relation shifted beginning in the late 1970s when the Society narrowed its program focus more toward private land conservation instead of on both public and private lands generally and agricultural conservation issues specifically. The decreasing trend might have been accelerated by a change in the Society's interests. Historically these included both public and private land issues that interested members from the US Forest Service, Bureau of Land Management, and other public land agencies. Ethical issues



of federal employee involvement in scientific and professional organizations also likely added to decreased membership (Schnepf 2005).

In 2020 the Society has 93 local chapters and 25 student chapters. The Society is a strong supporter of student chapters. One example of these is the University of Missouri student chapter in Columbia, Missouri. It has been active for 25 years and sponsors soil and water conservation activities throughout the academic year. Student club members have traveled and participated in the annual meetings, and past student club leaders have gone on to careers in soil and water conservation.

### **SWCS Successes**

There are many ways SWCS influences conservation. While much has been accomplished in 75 years of the organization, many concerns, including erosion, nonpoint source pollution, eutrophication and hypoxia of water, and flooding, remain. The need for conservation and environmental protection has not decreased (Cohee 1995). However, key to the future conservation work is improved planning for landowners and farmers, and the application of soil and water conservation practices on the land and water (Browning et al. 1984). Annual meetings have shown clearly that the Society can provide a venue for presenting and discussing the latest in conservation science and policy and offer professional development opportunities for membership. The SWCS collaborates with many conservation organizations, government, university, nonprofit partners, and industries to advance soil and water conservation.

Chapters offer members opportunities to advance local soil and water conservation. In 2020 considerable potential exists for the Society to advance its mission through special projects to influence and communicate conservation and to advance public policy in and beyond the United States.

The JSWC remains a great success for the Society and is one of the most important natural resource conservation forums published since 1946. As the Society's flagship publication, the multidisciplinary journal of natural resource conservation research, practice, policy, and perspectives is distributed to over 3,000 individuals and libraries worldwide. The current issues contain two sections (A Section and Research Section) designed to engage a diverse readership: a front A Section contains features, perspectives, and articles on practices; and the Research Section contains peer-reviewed applied research papers. The online journal provides access to JSWC issues back to 1981. In 2018, the JSWC had an impact factor (reflecting the yearly average number of citations) of 2.258 and ranked 14 of 34 titles in the "soil science" category, and 27 of 90 titles in "water resources."

This review of the early years of SWCS history touches on a few of the many accomplishments of the organization, including the presence of the annual meeting and high quality journal and the continued support of chapters and members that help promote soil and water conservation around the world.

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