

DIVISION OF SOIL AND WATER CONSERVATION

Lawrence G. Vance

Figure 19.1. Lawrence G. Vance, Chief of the Division of Soil and Water Conservation, 1982 to the present.



FORMATION OF THE DIVISION

The Division of Soil and Water Conservation was created on 15 March 1982, 90 days after enactment of Amended Senate Bill 155, by the merging of former entities within the Ohio Department of Natural Resources. With cooperation over several years from administrative, legislative, and constituent groups, this legislation consolidated the former Division of Soil and Water Districts (see Chapter 11) and the former Division of Lands and Soil (see Chapter 13) with the Ohio Capability Analysis Program (OCAP) and the Remote Sensing Unit, both from the Resource Analysis Section of the Division of Water (see Chapter 9, page 131). Larry Vance (Fig. 19.1) of the former Division of Soil and Water Districts was appointed Chief by ODNR Director Teater. Dick Jones of the former Division of Lands and Soil served as an Assistant Chief until his retirement in December 1982. David Hanselmann (Fig. 19.2) of the former Division of Soil and Water Districts was also named an Assistant Chief. Larry Vance immediately focused on consolidating constituent groups, program development, and administrative structure within ODNR. David Hanselmann provided invaluable assistance with staff organization and coordination.

The new Division was designed to be a comprehensive



Figure 19.2. Chief Larry Vance (on left) and Assistant Chief David Hanselmann. Division of Soil and Water Conservation file photo by Nelson Strong, October 1990.

agency concentrating on the integration of soil and water conservation activities throughout Ohio. Combining the talents of the Soil Survey and soil interpretive staff with the Remote Sensing and the OCAP staff, the Division integrated the data collection and analysis efforts and offered a delivery process through Ohio's 88 Soil and Water Conservation Districts (SWCD's) that had not previously been formally developed. The result has been better service to local government, increased visibility for the data collection and analysis programs through SWCD's, and less administrative overhead.

The Soil Survey program, now within the Soil Inventory and Evaluation Section, began a transition from once-over soil mapping of Ohio's landscape (Fig. 19.3) to involving soil scientists in interpretive work, soil map digitizing, and soil map modernization. In 1986, the first area soil scientist position was created. Plans call for additional area soil scientists and modernization of mapping for several counties. The soil mapping survey for Harrison County, the last county to have its soil mapped in Ohio, was initiated in 1987.

Requests by county governments for land capability analysis grew and currently are contracted up to five years in advance. SWCD promotion of use of capability analysis and soils resource information by county and municipal governments has enhanced wise land-use decisions.

STATE FUNDS EXPAND

State support for local SWCD programs expanded rapidly in the 1980's. In 1981, State matching funds appropriated to SWCD's totaled \$1,169,238. By 1988, the appropriation had grown to \$2,483,846. The increased State commitment resulted from a well-developed effort by the Ohio Soil and Water Conservation Commission (OSWCC) (Fig. 19.4) and the Ohio Federation of Soil and Water Conservation Districts (OFSWCD).

An initiative known as the Ohio Conservation Fund began in 1982. It used information gained from a series of



Figure 19.3. The "Last Acre Ceremony" is a traditional celebration held when the field mapping of the soils of a county is completed. In attendance at the Holmes County Last Acre Ceremony and holding a soil probe used to sample the soils were (from left to right) Jack Nowels, Holmes County Commissioner; Vaughn Flinner, a Supervisor of Holmes SWCD; and Bob Lee, Holmes County Commissioner. Photo by Rhonda Rossner, 12 October 1988.



Figure 19.4. The Ohio Soil and Water Conservation Commission in 1982, from left to right: Cal Kiracofe (Chair), Betty Sekula, Bob Grieser, Bob Pitts, George Gist (representing the Dean of OSU College of Agriculture), Ed Kirby (representing the Director of Ohio Department of Agriculture), and Sam Cashman. Division of Soil and Water Conservation file photo.

300 county-level meetings which involved nearly 6000 Ohioans in evaluating inventory data about resources and identifying major conservation concerns. This base information was used by a committee of agricultural and conservation leaders to project where the program should be in ten years, and to determine the financial increase needed to enable the educational, research, and technical assistance gains and financial incentives desired to "get from where we are to where we should be." OFSWCD then reviewed funding alternatives, narrowed the scope to the most feasible, and set as the first goal working with the General Assembly to gain appropriations to enable a dollar of State funds to match each dollar of local funds. This action stimulated local funding support by county commissioners in anticipation of earning more State funds. It stimulated the administration and General Assembly to increase the State commitment to at least match the local commitment. Combined funding for SWCD's from State and local sources grew over \$2.5 million in seven years. ODNR Director Shoemaker made this a priority in 1983 and gained a long-term commitment for increasing SWCD capability through State-local matching funds. Subsequent support by Director Sommer continued the commitment and added funding for nonpoint source pollution control.



Figure 19.5. Honorable Frank D. Celebrezze, Chief Justice of the Ohio Supreme Court, (far right) administered the oath of office to newly elected and reelected Soil and Water Conservation District Supervisors at the 1985 Annual Meeting of SWCD's in Columbus. Division of Soil and Water Conservation file photo by Nelson Strong.

PROGRAMS EXPAND

As funding support to SWCD programs increased, so did District and Division capabilities to respond to identified needs and to undertake new responsibilities. Locally elected Supervisors (Fig. 19.5) were placed in a role of meaningful responsibility. They employed additional professional staff and acquired equipment to accelerate existing programs and to implement new ones. They were no longer in a passive role of coordinating programs and depending upon assistance from other agencies.

In 1985, seven districts entered into funding agreements with the ODNR Division of Oil and Gas. District employees reviewed oil and gas well sites and worked with inspectors from the Division of Oil and Gas to estimate erosion potential and to plan erosion control techniques for active site operation and restoration. A reclamation handbook was developed jointly to guide drillers and agencies, and Division of Oil and Gas inspectors now incorporate off-site damage and site erosion control planning as a part of routine inspection efforts.

In 1986, the first ever State grants to SWCD's were made. Numerous legislative efforts had been attempted over the years to establish a program to control or eradicate the multiflora rose, but none was adopted until the SWCD delivery process had been incorporated. Once Districts were identified as the local agents to manage State cost-share funds, approval and funding of a five-year pilot program passed both House and Senate with only one dissenting vote. Ironically, the program counteracted a program to establish multiflora rose initiated by conservationists in the 1940's. The plant was promoted at the time as a "living fence" with excellent wildlife benefits because of its dense thorny cover (see Figure 11.6 on page 149). However, uncontrolled spreading of the rose proved to have such disadvantages to pasture and forest land that its eventual control was necessary.

In 1987, concerns regarding impacts to surface and subsurface drainage by construction activities associated with pipelines, other utilities, and highways prompted legislative funding of an engineering position in the Divi-

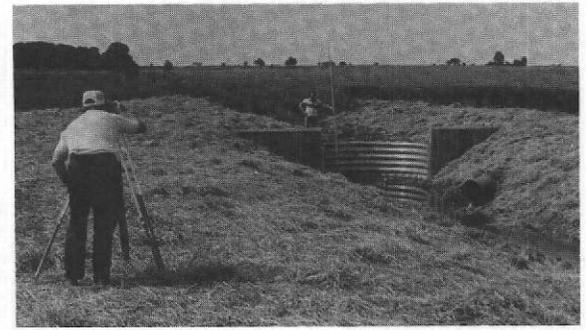
sion to coordinate ODNR and SWCD assistance to private landowners being impacted by such projects. This initiative provided long-needed assistance to prevent problems before they happened by developing good planning and communication between landowners and project sponsors. A by-product of the interaction with the Ohio Department of Transportation was better installation and enforcement of erosion control practices on new highway construction.

Personal liability of SWCD Supervisors for programs they sponsored or for actions of their staff was an important issue that could have negatively impacted the SWCD program. After a three-year process with conflicting opinions from the Ohio Attorney General, Ohio Supreme Court, county prosecuting attorneys, and the insurance industry, the General Assembly acted in 1986 to remedy the problem. Legislation was enacted which authorized the Attorney General to defend Supervisors, their employees, or Districts if sued; and if a judgment were rendered against SWCD's, its supervisors, or employees, the State would pay the claim. This action verified the State's continued support for SWCD's and established model legislation for other states to follow. A significant impediment to serve as a local District Supervisor was thus eliminated.

RESPONSIBILITIES EXPAND

Expanding responsibilities for SWCD's was also occurring at the federal level. The Food Security Act of 1985 (the Farm Bill) and the Clean Water Act Amendments of 1987 expanded linkages with the Division and Districts in carrying out federal programs. Participation in planning and assessment programs with officials of the Ohio Environmental Protection Agency (OEPA) and the United States Environmental Protection Agency (USEPA) regarding nonpoint source pollution control programs resulted in occasional confrontation and resolution of agency roles and priorities for action. Ohio agricultural and conservation leaders knew that it would be only a matter of time until nonpoint pollutants were identified as the limiting factor in attainment of clean water goals. Much had been accomplished in the 1970's by "catch-and-treat" programs for

Figure 19.6. The Hardin Soil and Water Conservation District assisted this landuser in constructing "straight drop" structures and grassed waterways to provide safe removal of water without erosion and sediment pollution. Division of Soil and Water Conservation file photo.



point source discharges of municipal and industrial pollutants, and the control of nonpoint source, landscape-generated runoff pollutants was coming into focus (Fig. 19.6).

Ohio's soil and water conservation and agricultural and urban pollution abatement programs were early responses to this issue. Reactivation of both the agricultural and urban technical advisory boards in 1987 enabled the program to be evaluated, and refinements were recommended for updating standards and enforcement procedures. Techniques for compliance were broadened and financial incentives were reevaluated.

Conservation planning, which originally was oriented towards agricultural erosion and protection of productivity of the soil resource, was broadened to resolve off-site sediment and water quality damage. Surface and groundwater quality issues joined the well-established flooding and drainage concerns in water management planning (Fig. 19.7). Proper storage, application and disposal of agricultural chemicals, livestock manures, and organic materials were incorporated into comprehensive farm plans. A State cost-sharing program for agricultural pollution abatement was developed and coordinated with federal programs. Several pilot concepts for pollution abatement funding were initiated.

Funding for a pilot project was requested and received from the United States Department of Agriculture (USDA) in 1985 to initiate a conservation financial incentive program with tenant farmers. Over 40 percent of Ohio's cropland was being operated by tenant farmers who had no assurance that they would receive returns on their investments made in installation of permanent soil and water land treatment practices on rented land. Tenant farmers, therefore, had little incentive to practice conservation on that land. At the same time, absentee landlords had less contact with the land than owner-operators and were not as likely to install erosion control practices or to oversee yearly management techniques. Therefore, a Conservation Resource Assistance to Farmer Tenants project (CRAFT) was authorized and implemented in Clark and Hardin SWCD's. Tenants received credit based on tons of soil saved by tending their tillage management operations. Payments were made to the

tenants' financial lenders to reduce the interest charge on their operating loans. The bankers, tenants, and landlords participated and saw benefits. This model serves as an example for USDA to focus the redirection of future programs. It is currently used in some water quality/watershed land treatment projects in Ohio.

The Food Security Act of 1985, specifically the conservation reserve and conservation compliance provisions, also influenced the Division and SWCD programs. Early in the decade, the Soil Conservation Service (SCS) employed "targeting" as a technique to redirect the USDA program to the "worst first" acres needing treatment. These erosion-prone acres certainly deserved attention from a soil depletion and water quality impact perspective, yet were subject to treatment only when a landuser voluntarily decided to protect them based on economic or stewardship motives (Fig. 19.8). This Act also established a new conservation compliance program which required USDA program participants with highly erodible land (HEL) to have a conservation plan by 1990 and to be implementing it by 1995 if they were to remain eligible for USDA program participation. Immediate identification of landowners of the 1.8 million acres of HEL cropland in Ohio was needed to inform them of the need to comply with these provisions. This federal priority for SCS staff created concern that the remainder of the SWCD educational and technical assistance programs might be jeopardized by the HEL workload. Concern was expressed that SWCD staff funded from State and local appropriations intended to support a broad-scope SWCD program may be diverted to HEL workload and create a loss of funding support. Concern was also expressed to USDA that compliance plans on HEL acres were not complete farm conservation plans and fell short of the desired erosion control levels that had been previously encouraged by conservationists and achieved by farmers for decades. Nonetheless, the compliance plans were accepted as adequate by USDA for retention of farm benefits and local concerns were ignored.

ODNR and SWCD's both supported the concepts of the Food Security Act of 1985 and worked to accomplish its conservation provisions. Specialists from the Divisions of

Figure 19.7. To provide an effective prevention of soil erosion, the Franklin Soil and Water Conservation District assisted in the design and construction of this gabion-lined water course in suburban Columbus. Division of Soil and Water Conservation file photo.

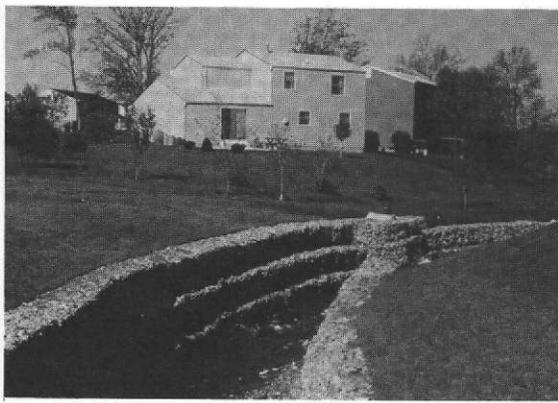


Figure 19.9. Adoption of conservation tillage practices by Ohio farmers in the 1980's has resulted in very significant gains in soil and water conservation. Division of Soil and Water Conservation file photo.



Figure 19.8. Many acres of Ohio farmland, even relatively flat land, are erosion prone as demonstrated by this Greene County farm with conventionally tilled cropland. Photo by M. Rozum, May 1983, by courtesy of the Soil Conservation Service, United States Department of Agriculture.



Forestry and Wildlife joined SWCD's in land-use assistance efforts. This Act added a new dimension of compliance to the voluntary and stewardship motives of the traditional program by the inclusion of three other important elements:

- 1) A "conservation reserve program," whereby a landowner could be paid for retiring highly erodible land for ten years. Several ODNr Divisions joined the Division of Soil and Water Conservation in promoting this option as a way to gain wildlife habitat, to establish trees and to reduce sediment damage.
- 2) "Sodbuster" language, whereby a landuser who began tillage on land formerly under grass vegetation, would be denied USDA program benefits if the land were converted to row crops.
- 3) "Swampbuster" language, whereby USDA program benefits would be denied if defined wetland areas were drained for conversion to cropland.

CONSERVATION TILLAGE

The biggest gain in soil and water conservation in the decade has probably occurred because of conservation tillage (Fig 19.9). Inversion plowing by the moldboard plow has been widely replaced by more time-efficient tillage methods which consume less energy. Soil erosion control and sediment reduction were advantages of the tillage evolution, which varied from the extreme of no-till farming to chisel-plow farming that stirred the soil but retained

surface residue to reduce erosion. The large gain in this evolution came in 1981-1983 when 20 districts in the Lake Erie watershed received grants from USEPA to initiate the Accelerated Conservation Tillage program. Funds were used to employ technicians who worked with farmers to teach the use of conservation tillage equipment and precision fertilizer and agricultural chemical application equipment. This change from plowing and cultivating was teaching farmers to learn to farm differently, and breaking tradition was not easy. Demonstration plots and rental equipment for use on farms helped convert tillage practices and develop farmer confidence that yields could be maintained or increased and weed and insect problems could be overcome (see Figure 11.17 on page 159). Districts outside the USEPA funding zone took the initiative to establish similar programs, and conservation tillage is rapidly becoming the conventional farming technique throughout Ohio.

STREAM MANAGEMENT

A resolution of conflicts between drainage interests and river preservationists came in the form of a "Stream Team" from ODNr and publication in 1986 of *Ohio Stream Management Guide*, a guidebook for groups interested in the channel modification issue. The basic ODNr philosophy is that beginning in the planning phase, channel obstructions should be managed with the least amount of work necessary to solve the problem. This policy strongly encourages the use of natural restoration techniques to provide for desirable

levels of water flow, yet to retain streamside vegetation and instream features beneficial to wildlife and aesthetics. The guidebook describes alternative modification techniques that are available to groups, and it establishes ODNR policy on assistance (see Plate 9). A Department-wide stream channel modification program was needed to assist effectively local interests in large proposed projects. ODNR staff from each of its relevant Offices and Divisions coordinated with other concerned agencies, such as the United States Fish and Wildlife Service and OEPA. This coordination enabled decisions to be made in a more direct and timely manner. Local sponsors and other units of government finally had an understanding of what was desired regarding restoration techniques prior to the engineering planning process.

The Department's petition ditch review process, as mandated by Section 6131.14 of the Ohio Revised Code, became more of an investigative review process involving all Divisions. County Engineers are now receiving recommendations on possible restoration methods for projects in which they may incorporate the techniques.

NEW SERVICES AND NEW CONSTITUENCIES

During the 1980's, several factors combined to involve new constituencies in the effort to conserve and protect soil and water resources in Ohio. In 1982, the merger of several ODNR programs into the Division of Soil and Water Conservation brought urban land use planners and developers, township and municipal governments, and others into closer association with soil and water management programs. Administration of the Jennifer McSweeney Land Use Course for Local Officials, which originally was a function of the ODNR Director's Office, was transferred to the new division in 1982 and is administered by OCAP. It is offered twice annually and always has full registration. OCAP expanded the scope of capability analysis that is provided to land decision-makers regarding land uses and thereby broadened the range of constituent groups served. Major upgrading of computer equipment enabled better

quality computer maps to be generated, faster and with less error (see Plate 23). Output of the OCAP staff increased proportionately.

The Division's Remote Sensing Section advanced its capability and capacity through the addition of satellite photography to its low-level aerial photo services (Figs. 19.10-19.14). It also became Ohio's "one-stop center" for the public to obtain aerial photography, both current and historical. The Section does a very active business of supplying information for requests for assistance from several State agencies and individuals.

SWCD's had matured due to increased funding, staffing, and program diversity. SWCD's expanded their efforts from agricultural erosion control into a number of new arenas which added other interest groups to their traditional audience. Groups such as the Ohio Alliance for the Environment (OAE) and Ohio Lake Management Society (OLMS) sponsored several meetings on water quality and the effects of erosion and agricultural nonpoint source pollution. The OAE published several widely distributed brochures on tillage systems, land use, and agricultural nonpoint pollution, with input from the Division of Soil and Water Conservation. In 1986, legislation was enacted authorizing ODNR to match appropriations from municipalities; this was expected to lead to closer ties between SWCD's and cities.

In 1984, visibility of ODNR and SWCD's at the Farm Science Review of The Ohio State University took a giant step forward. A special conservation park was developed in the commercial exhibit area by OFSWCD. In 1984, the Division joined with *The Ohio Farmer* magazine in sponsoring the Ohio Conservation Farmer Awards program. This effort resulted in a high degree of visibility for on-farm soil and water conservation success stories, reaching both agricultural and nonagricultural audiences. The program, "Conservation Ohio," that is broadcast weekly on radio station WRFD at Worthington, also began in 1984. The program features a wide range of soil, water, and related natural resource issues and can be heard by listeners in approximately 80 percent of the state.

In 1987, a unique four-county "Conservation Assis-

Figure 19.10. In the early 1900's in Europe, pigeons were occasionally used to carry small cameras on aerial photography missions. Division of Soil and Water Conservation file photo.

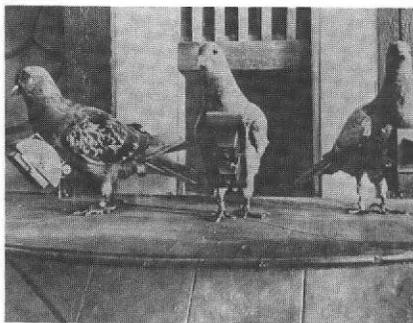


Figure 19.11. Low-level aerial photos are obtained from cameras and associated equipment installed in a Cessna 207 airplane. Division of Soil and Water Conservation file photo.

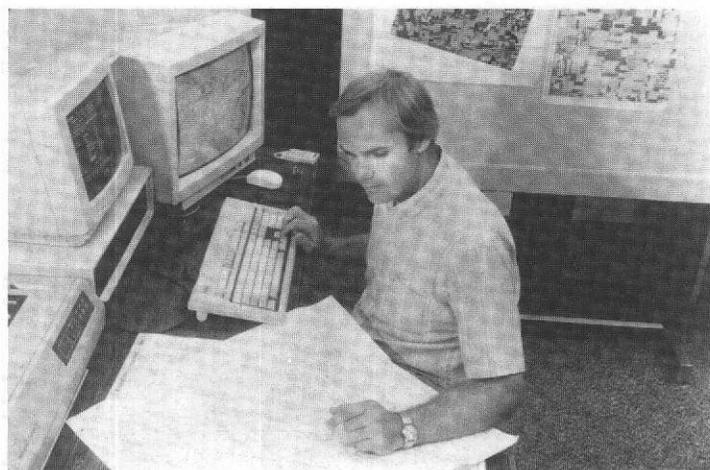


Figure 19.14. The Division operates an Earth Resources Data Analysis System (ERDAS), an image processing and geographic information system which allows the State to use data from satellites of the United States and France. Bruce Motsch of the Remote Sensing Section is using a computer to analyze satellite information. Photo by Bill Foreman, 1989.

Figure 19.12. Jim Given of the Remote Sensing Section is interpreting an aerial photograph as viewed through a zoom transfer scope in mapping Ohio's changing landuse patterns on a topographic map. Division of Soil and Water Conservation file photo.

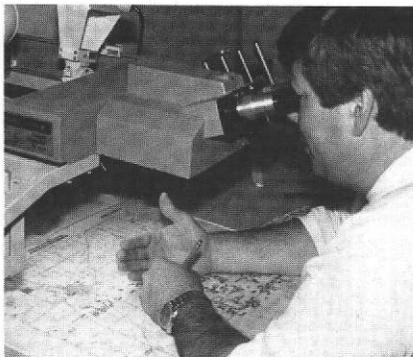


Figure 19.13. Kathy Hughes and Ken Pendley of OCAP are digitizing information from maps into computerized data bases. Division of Soil and Water Conservation file photo by Bill Foreman, 1989.



tance Program" was initiated by Henry, Wood, Defiance, and Fulton SWCD's. It linked agricultural herbicide, fertilizer, and seed dealers with SWCD's in a networking program through which the dealer promoted conservation tillage. Customers who agree to work with the SWCD on tillage reduction planning for water quality improvement would receive some of their product at no cost. Not only did the dealer present a positive image to the customer but also the dealer and customer were made more conscious of

water quality impacts from tillage and agricultural chemical use. The District also gained a highly credible tillage reduction, water quality salesperson.

Perhaps the most pointed innovation of the 1980's was a program dubbed "MNM", for Manure Nutrient Management, which began to deal with a 40-year-old problem. In 1989, ten counties out of 31 identified as having the highest livestock populations in the state were selected to receive a six-year grant and to employ a technician to work with livestock producers to develop manure sampling and land application plans. Concentrated livestock feeding operations were creating a buildup of nutrients on cropland in excess of crop removal rates at sites in these counties. Pollution and soil toxicity concerns were apparent, yet handling of manure remained virtually the same as in the past. Efforts to create a "compost" market and offer producers alternatives to land disposal are underway (Fig. 19.15). MNM is administered by the Pollution Abatement and Land Treatment Section.

OFSWCD AND OSWCC PROVIDE LEADERSHIP

The 1980's were influenced by several outstanding OFSWCD and OSWCC leaders. James Vines (1981-1982), an Ashland District dairyman; Albert Ashbrook (1983-1984), a Licking District livestock and grain farmer, Robert Pitts (1985-1986), a Lorain District crop producer; Nevin Smith (1987-1988), a Logan District beef and grain producer; and Lynn Meyer (1989-1990), a Butler District golf course owner/operator, all served the OFSWCD with excellence as Presidents. Of particular note was the increased OFSWCD



Figure 19.15. Composting of manure was promoted at this exhibit at the 1990 Farm Science Review of The Ohio State University. Division of Soil and Water Conservation file photo by Nelson Strong.



Figure 19.16. Clarence Durban of Plain City, a Supervisor of the Union Soil and Water Conservation District for 26 years, President of the National Association of Conservation Districts for four years, and a member of the Ohio Conservation Hall of Fame.

presence in Washington, D.C. and the State House to lobby for SWCD's and SWCD-related funding as well as other water quality and soil conservation issues. The influence of Clarence Durban (Fig. 19.16) from near Plain City has been especially significant. This Supervisor for 26 years of Union SWCD served as OFSWCD officer in the 1970's and went on to become President of the National Association of Conservation Districts from June 1985 to February 1989. He is known nationally for his ability to influence policy by meeting with USDA and USEPA leaders,

members of Congress, and staff of the President. He toured all states and several foreign countries in this effort to spread the conservation message of local self-government and citizen-participation in government programs. Attendance by local Supervisors at national, state and regional meetings increased greatly in the 1980's, demonstrating the strength of commitment these leaders had gained statewide.

The OSWCC also enjoyed excellent leadership during the decade from the membership of Bob Pitts from Wellington, Nevin Smith from Bellefontaine, and Bob Rockwell from Barnesville as OFSWCD representatives in addition to Governor-appointed members: Sam Cashman of Columbus (Fig. 19.17), Ervin Meyer of Hamler, Jeanne Bartholomew of Logan, Clarence Durban, and Kathryn Cieszynski of Parma Heights.

Today, the Division of Soil and Water Conservation offers a diversified, yet integrated program of data gathering, analysis, and delivery. It features providing tools for decision making by local government, and offering training and program development in local self-government. The long-standing practice of educating youth in soil and water conservation continues to be emphasized. The Division sponsors the innovative "Envirothon" for team competition



Figure 19.17. Sam Cashman (on left), representing the Ohio Soil and Water Conservation Commission, received a proclamation from Governor Richard F. Celeste which announced "Soil and Water Stewardship Week" in 1985 as Marilee Peterson of the Ohio Federation of Soil and Water Conservation Districts Auxiliary and Nelson Strong of the Division of Soil and Water Conservation enjoyed the occasion. Division of Soil and Water Conservation file photo.



Figure 19.18. The Ohio Champion Team from Akron Coventry High School at the Ohio Envirothon held at The Wilderness Center, Wilmot, on 21 June 1990, (from left to right) Mike Strosaker, Tom Holtz, Jason Goff, Susan Tueekrem, Bart Bruehler, Team Advisor Susan Cook, Cheryl Rectorschek, and Gary Mast, a Supervisor of the Holmes Soil and Water Conservation District. Division of Soil and Water Conservation file photo by Nelson Strong.

statewide (Fig. 19.18). Sensing the increased State commitment for funding soil and water conservation programs and the expanding interaction with USEPA and USDA, the OSWCC and OFSWCD have determined it is again appropriate to evaluate the potential of securing a dedicated revenue source for program continuation. They reason that reliance upon appropriated funds could lead to disruptions in programs since more and more county and State funding is being consumed by mandated programs and less is available for discretionary appropriations. Action on this potential for funding, as well as involving the soil and water conservation programs as the first line of defense in resource management, represents tremendous opportunities for the Division of Soil and Water Conservation in the 1990's.