AN ANSWER TO SEDIMENT POLLUTION

I appreciate the opportunity to join in your Maryland Sediment Control Institute. I've had occasion to attend several of the nearly 20 such institutes that have been held since last summer. In each case, I'm impressed with--

--The groundwork that State Committees and conservation districts had done beforehand to make leaders in their state aware of the sediment control challenge;

--The sharing of ideas at the meetings, especially ideas that originated in the longtime experience of Maryland in sediment control; and

--The ability of county and state officials and district leaders to mold the suggestions and experience of others to fit the specific sediment control needs and the social and political framework of their State.

Some States are just beginning, and one of the key discussion points is a Model Act for Soil Erosion and Sediment Control that is in your packet of background material. In other States, there is already some local action underway and pending state legislation.

Material for talk by Norman A. Berg, Associate Administrator, Soil Conservation Service, at the Maryland Sediment Control Institute, Gaithersburg, Maryland, October 17, 1973.

A few are like Maryland with programs and laws already in operation. You deserve much credit for coming here to assess how well your sediment control programs have worked and where they could be strengthened--and to discuss some of the ideas that other States may have picked up from you and improved.

This restlessness to do a better job in sediment control and have it count for more people is an example of the dynamic relationship among conservation districts and the agencies that aid them.

The increased interest nationwide in water and land quality and especially in controlling sediment pollution is a culmination of many years of concern by SCS and local districts and related action over the past decade by local and State governments. The stepped-up interest also is a tribute to the demonstrated effectiveness of soil and water conservation measures in reducing land damage and sediment production.

I'd like to review with the help of slides the setting for today's sediment control thrust, highlight some of the more important factors involved, and then discuss a few of the larger issues of which sediment control must be a part. I hope this will help set the stage for your discussions today.

LIGHTS OUT SLIDE RUN BEGINS

1. Concern about sediment has been with us a long time. The focus for at least 3 decades was on damage to the land that produced the sediment.
2. Soil erosion--mostly from poor farming practices--ravaged the South and eastern parts of the United States, resulting in huge, unproductive scars. By the mid-1930's there were at least 20 million gullies in the Piedmont area. There were virtually none when the Indians had the land.
3. In the Plains, the soil blew rather than washed away, resulting in destruction of thousands of acres of land, abandoned farms and ranches, and a dust bowl that became a national disgrace in the mid-1930's.
4. Congress, in 1935, established the Soil Conservation Service as a permanent agency of the U.S. Department of Agriculture to develop land and water management systems and help farmers and ranchers in establishing the systems on their land. (Hagerstown farmer)
5. In 1937, after publication of a Model State Enabling Act sent to each Governor by President Roosevelt, local soil conservation districts and State committees began to be formed.
6. Since then, more than 2,000,000 private land owners and operators working through the more than 3,000 conservation districts that are active today have literally changed the face of the land. Stripcropping, terracing, and contouring reduce gully erosion and slow down runoff of excess water.

7. Trees and shrubs protect the soil from wind erosion and give wildlife a home.

8. Sparkling ponds lend a touch of beauty to the land and conserve water for livestock and other uses.

9. In total, the conservation work on farms and ranches measures in the hundreds of millions of acres.

10. But land use does change.

11. Land once well protected from erosion and sediment once again becomes vulnerable.

12. Since World War II, the United States has undergone a tremendous shift in land use from agriculture to subdivisions, superhighways, airports, shopping centers, and even complete new towns. In the 1970 census, for the first time, a higher percentage of Americans lived in suburbs than in either the central cities or the rural areas.

13. Here's an example--look at an area on Rock Creek in Montgomery County in 1937...

14. And the same area in 1957.

15. The result of massive land use changes too often has been massive new erosion and sediment hazards on land that once was well under control.

16. On land undergoing urban development, soil erosion can skyrocket from less than 50 tons a year to more than 25,000 tons a year per square mile. The resulting sediment and runaway water damage the construction site itself, increasing costs to the builder and the buyer.

17. I want to emphasize that urban construction is not the only significant source of sediment. Agriculture, because of the vast expanse of land it uses, is still America's largest single source of sediment. It accounts for half of the 4 billion tons of sediment produced each year. With today's emphasis on full-scale farm production, will sediment production increase?

18. Erosion along thousands of miles of secondary roads is a serious sediment source. (Calvert County)

19. A half million miles of eroding streambanks are producing sediment.

20. Surface mined land--millions of acres--contributes sediment, acid material, and debris to streams. With today's serious energy shortages, how much more land will be turned upside down? What will be its impact on water quality?

21. Sediment from all of those sources washes into streams, creating problems for fish and man. As a water pollutant, it raises costs of municipal water treatment. One Connecticut plant spends more than 4 times as much per day as another nearby plant, and uses 14 times as much flocculent chemicals per day because it has no place for sediment to settle out before water reaches the plant.

22. Where sediment does settle out, it can make a lake or reservoir die before its time...ruin fish spawning areas or oyster beds... increase flooding hazards.

23. In a channel, sediment reduces its ability to handle storm water and adds to flooding and drainage problems. Removing the deposits can cost at least $2 a cubic yard--and the channel may fill right back in.

24. America in the next 27 years will build in and around its cities the equivalent of everything we've built in the last 350 years. A lot of land will be disturbed, a lot of soil will be moved. Because many of the choice sites already have been built on, and because we need to preserve some prime land for farming and other uses, an increasing percentage of the new construction will be on sites that have a much greater erosion and sediment hazard and other problems.

25. For all these reasons, soil conservation districts and their cooperating agencies have stepped in to help builders and farmers and industries ward off critical sediment problems.

26. We reasoned that if a step-by-step conservation plan helps a farmer protect his investment and environment...

27. The same process ought to help bring about an urban land use change successfully.

28. We reasoned that if knowledge of the soil patterns and characteristics helps a farmer avoid mistakes and put his land and water to best use...

29. The same facts ought to be helpful in planning a new subdivision or highway or utility right-of-way.

30. We reasoned that the hundred or more proven farm conservation practices, such as grassed waterways...

31. Might well be adapted to protecting the land in an urbanizing area. And they were.

32. A terraced farm field slows down water runoff and prevents erosion damage.

33. A terraced lawn also keeps the soil in place.

34. Seeding an open farm field to protect it over the winter provides temporary insurance...

35. And a developer can do the same thing to protect newly graded land until construction starts. Same practices, different situations but all achieve erosion and sediment control.

36. Other practices that have worked well in an urbanizing setting include temporary silt basins that sometimes can serve as attractive lakes later on...

37. Building storm drains well and early... You have been pioneers in storm water management. Keep at it!

38. Putting down sod or seed as quickly as possible helps, too...

39. Along with using netting along waterways and other areas to hold the soil until grass can get a good foothold.

40. Using a spray mulch to cover the ground and help the grass along...

41. Installing boards to act as temporary terraces on critical slopes...

42. Or building small diversions to keep water out of potential trouble spots, with hay bales as a barrier at the bottom of the slope. And many more, some expensive, some surprisingly cheap to install but very effective.

43. Armed with ideas, soil conservation districts (especially in Maryland) moved quickly to work with builders...

44. With new homeowners...

45. With industry representatives...

46. With local and area-wide agency staffs, especially planning and zoning professionals...

47. And with State lawmakers and legal staffs--to get started on effective control programs.

48. County government joined in with a comprehensive guidebook of principles and practices--developed with our help and your experience--that went to more than 50,000 officials who need the information. NACD co-sponsored a national conference on sediment control in 1969.

49. We began a full-scale information effort to reach new audiences with helpful conservation facts. One hundred thousand copies of this booklet were gone in no time, and requests still are heavy.

50. Districts worked with other government units to develop handbooks at the county level...

51. And sediment control standards at the state level.

52. The Council of State Governments and the National Association of Conservation Districts more recently developed a Model State Act and worked with the Environmental Protection Agency to sponsor a series of statewide institutes to discuss the need for legislative and administrative programs.

53. These same groups worked out a set of suggestions to guide States in implementing programs. You need to do your own thing--but it might be useful to capsule the basic intent of the Model Act:

54. The Model Act would place responsibility for sediment control with local people--the districts and their State committees--because, as Maryland has proven, these are the ones with experience.

55. The Model Act is aimed at all land uses--highways or houses or forests or factories or farms--because all are potential sources of sediment pollution. (I-95 near Laurel, Md.)

56. The Model Act is aimed at all land-disturbing activities--clearing or grading or tillage or a host of others.

57. Only minor land-disturbing practices such as home gardens or landscaping would be excluded.

58. The Model Act would call for development of guidelines and standards at the state and local levels. These would help identify potential problems, avoid them, and insure sound development and a quality environment.

59. The Model Act would also provide for technical and financial help, inspection, penalties, and legal appeals, Each state would have its own best makeup of provisions, but each of these basics ought to be considered.

60. The thrust of the whole effect is to show that sediment must be controlled on agricultural land...

61. In the suburbs...

62. And even in the big cities when land uses change.

63. The thrust of the whole effort is to show that help is available from many sources in planning for general land use in sediment control...

64. All the way to specific problems on site with any land use or sediment control program. (Columbia)

65. The message is that sediment affects people, not just something called environment.

66. The message is that it is possible to grow enough food and other crops for all our demands without sending our farms and our futures downstream...

67. It is possible to have more homes for people without first wrecking the landscape and polluting the water...

68. It is possible to build commercial or industrial centers a piece at a time without leaving the whole site bare for years. (IBM on 70-S)

69. It is possible to build highways, even great ones, without ruining waterways for miles downstream.

70. What does it take? A workable sediment control program is one in which responsibility is transferred all along the line from the people who plan a land use change, to those who review it, the builder, the bulldozer operator, the sediment control inspector, the landscape architect, the nurseryman, the homeowner.

71. A workable sediment control program is one that is part and parcel of a larger planning effort to blend the best of rural America with the best of the metropolitan areas in patterns for people. Sediment is only one of many effects from unwise use of land and water resources. And sediment control efforts, to be effective, must not be piecemeal but included in a comprehensive body of policies and guidelines for land use.

72. Maryland and other States have worked at sediment control a long time and accomplished a lot through voluntary cooperation. There are those who do not become district cooperators, do not make land-use decisions on the basis of natural resource information, do not take steps to avoid sediment production or animal waste pollution or other ills. In a few states exceeding specific soil-loss limits is now against the law. What kind of controls will you need?

73. The time for sediment control is before the dredge is needed. The time for land-use planning is before all the land is taken by helter-skelter. The time for both is now. You have made some great strides already. The stakes are so high you must keep moving.

74. The SCS is proud to be working with you in meeting your environmental and social goals for Maryland. I hope the discussions today will lead to ideas and action worth copying again. Other States will be watching.

END SLIDE RUN LIGHTS ON

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