

SCS AND URBAN DEVELOPMENT

Slide Presentation for
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1. First of all, let me tell you something about the Soil Conservation Service--what it is and how it functions. Primarily we are a service organization of approximately 14,500 full time employees trained in disciplines such as soil science, ecology, engineering, forestry, hydrology and agronomy.
2. Our technical help is channeled through the more than 3,000 soil and water conservation districts--subdivisions of state government--that are located in just about every county in the United States.
3. SCS has almost 40 years of experience in helping rural people stop the tragic and costly waste of land and water resources.
4. As the countryside continues to undergo change--to satisfy not only farm needs but also those of expanding suburban areas--SCS specialists and county and state governments, community planning agencies, and other organizations are working together more and more to insure proper land and water management.
5. We know that the basic principles of soil conservation apply whether the crop is soybeans or split-level homes.
6. Soil erosion and the resulting sediment is a serious environmental problem. And the consequences in urban areas are far greater and more costly than those in rural areas.

7. To help combat this problem, the National Association of Counties consulted with our specialists in the publication of this Community Action Guide for Soil Erosion and Sediment Control to encourage the development of local laws.
8. Another recent cooperative venture was this publication, "Planning and Zoning for Better Resource Use," by the Soil Conservation Society of America.
9. Much of our work depends on resource facts. So we continually inventory and survey natural resources and interpret these findings for a wide variety of uses.
10. For example, some may wonder what the Soil Conservation Service could possibly do in the high mountain snow of the West.
11. Well, that snow eventually makes its way down to the valley soil below.
12. Much of the West's water for irrigation and municipal and industrial use comes from the melted snow.
13. Throughout the winter months, SCS snow surveyors measure . . .
14. . . and weigh the snowpack and issue water supply forecasts that enable the West's water users to adjust plans according to how much water will be available during the growing season.
15. Our Conservation Needs Inventory, continually updated and published on the state and national level, is a compilation of data designed to give responsible agencies a means of assessing and dealing with some of the implications of changes in land use.

16. For example, it tells of agricultural shifts in acreage such as woodland to cropland--cropland to pasture--and the quality of this land for its intended use.
17. It also tells how much of the Nation's finest agricultural land is being lost permanently through suburbanization, which, incidentally, has averaged 1.1 million acres annually during the past 9 years.
18. The inventoried area amounts to 64 percent of the Nation's total land area. Not covered by the inventory are Federal lands, water areas, or urban and built-up areas. But land that will become urban or is in an early stage of the transition is included.
19. Land capability data from the inventory can also be interpreted to guide planning for projected land needs for recreation and wildlife purposes, non-farm rural residences, and future urban uses. The Conservation Needs Inventory is generally used in conjunction with SCS's basic information and analytic tool--the soil survey.
20. In making the survey, a soil scientist studies the soil's vegetation and features of the landscape.
21. He identifies the different kinds of soil by examining the soil layers--usually to a depth of 5 feet. He determines the slope, possible erosion hazards, and depth to rock.
22. He classifies the soils according to a national system, and outlines each kind of soil on an aerial map before he leaves the field.
23. The soil survey is published, usually on a county basis, by the Soil Conservation Service. The work is done in cooperation with state land grant universities, and, in many instances, other Federal, state, and local agencies.

24. Now let's take a close look at a survey map. At first it seems pretty complicated. However, each of the symbols, printed over an aerial photo, stands for a specific kind of soil.
25. By checking these symbols against the tables in the survey, we can find a storehouse of information on soil behavior for both rural and urban uses.
26. For example, that symbol, HmB2, identifies a soil with slight limitations for residential development and septic tank filter fields installed in the area should function properly.
27. But move a short distance away to the next soil type and you could have trouble. This soil has a temporary high water table that will result in wet basements and septic tank failure during parts of the year.
28. A little farther to the right and we run into soils that have severe limitations for homes because of a permanent high water table. Also, the shrink-swell capacity is so great that the land is ill suited for roads and commercial and industrial development.
29. Nevertheless, all three of these soil types are well suited for farming and are among the most productive in the area.
30. And most of them can safely be used for parks, golf courses, wildlife sanctuaries or plant nurseries. In other words, there is very little land that is completely useless.
31. In many areas, special soil maps are available that show the suitability of land for some one particular purpose such as housing construction, onsite sewage disposal or agriculture. These maps are color coded to reflect slight, moderate, and severe limitations.

32. The colors usually used are green for go ahead, yellow for caution, and red for watch out--there could be serious trouble ahead.
33. This map is color coded for agricultural uses. A large portion of the 10 square-mile area, colored in various shades of green, is well suited for cultivated crops. The yellow areas have moderate to low crop yield potential and usually need permanent type conservation practices. The red areas, due to steep slopes or marshes, are suited only for meadow, woodland, and wildlife habitat.
34. This is the same area, coded this time for homes with septic tank filter fields. In general, the area is unsuited for this purpose. Septic tanks installed in the red areas would fail. Even those installed in the yellow areas would be troublesome unless good planning and careful design were employed.
35. The soil survey does not replace the need for detailed foundation and site investigation by qualified engineers or geologists. Quite often, facts disclosed in the survey make further investigation a necessity.
36. In many areas the soil maps provide the basis for zoning and subdivision regulations.
37. As a result, construction is confined to good sites, designs are prepared more economically, cost estimates are more accurate, and maintenance costs are lower.
38. Most important, distressing misuses of land can be avoided or minimized beforehand.
39. Not all the land in the United States has been surveyed. At the present time, 41 percent of the land has been mapped and about 72 new surveys are being published each year.

40. The survey is used by SCS technicians as they help farmers and ranchers develop a conservation plan for each acre of the farm or ranch.
41. It is used in areas in transition from rural to urban use to avoid serious environmental impacts.
42. It is the basis, also, for our broader programs such as small watershed projects and Resource Conservation and Development projects.
43. Quite often, environmental problems are community wide problems and need action on a larger scale than the individual can undertake, especially where flooding is persistent.
44. Half the annual flood damage in the United States occurs in the small upstream areas.
45. Hundreds of millions of dollars are lost each year in ruined crops, livestock deaths, and soil losses.
46. And the damage isn't restricted to farmland. City homes are damaged.
47. Bridges washed out . . .
48. Transportation disrupted . . .
49. And businesses damaged or completely lost.

50. Public Law 566, the watershed protection and flood prevention act, allows the Department of Agriculture to give technical and financial help to local groups who organize themselves to develop watersheds up to 250,000 acres in size.
51. A watershed project has two primary parts, each dependent on the other for overall success. One part seeks to slow down water runoff by establishing soil and water conservation practices on the land where the water falls.
52. The second part involves the construction of small earthen dams to catch and hold peak water runoff following heavy storms.
53. These dams and the reservoirs in back of them can be developed for multipurposes and local sponsoring organizations are encouraged to do so.
54. For example, in addition to flood protection, the reservoirs can be developed for municipal and industrial water supply, recreation, and fish and wildlife development.
55. The sum of a watershed project is usually greater than its parts, for it serves as a basis for area planning and becomes a positive force for economic development.
56. For example, before the Mountain Run Watershed project was completed, periodic flooding, coupled with a dwindling water supply, had pinched off Culpeper, Virginia's chances for community and industrial growth.
57. The watershed project included three flood detention reservoirs, one of which was developed as a billion gallon municipal water supply.
58. Since the project's completion, four new industries employing 560 local people have been attracted to the town, bringing in an added payroll of \$1.7 million annually.

59. A park, the first in the county, is being developed at one of the reservoirs and brings fishing and boating facilities to the community's back door.
60. The Mud River Watershed project in Kentucky was developed for flood protection, municipal water, and recreation.
61. The Kentucky Department of Fish and Wildlife Resources developed a 300-acre park adjacent to the large watershed reservoir, and it attracts more than 100,000 visitors a year.
62. More than 200 privately owned cottages, valued at more than \$2 million, have been built along the lake.
63. Adequate water supplies have attracted two new industries and allowed for the expansion of four others. In sum, 1,300 new jobs have been created since the project's completion.
64. Another broad approach to rural development is represented by Resource Conservation and Development projects, authorized by Congress under the Food and Agriculture Act of 1962.
65. Like watershed projects, these are locally initiated, but on a larger scale. Project areas usually cover more than one county, and draw on programs from all Department of Agriculture agencies, and, in many instances, other Federal agencies.
66. Although no two projects are alike, they usually involve an accelerated soil survey operation . . .
67. And a number of multiple purpose watershed projects for flood prevention, recreation, and municipal water supply.

68. A concerted effort is made to put misused cropland to more profitable new uses like growing Christmas trees or raising fish.
69. In some areas, industrial training and retraining centers may be established to give local people new skills so they may become gainfully employed in the area.
70. Take the Lincoln Hills project, for example, which covers four counties and more than a million acres in scenic southern Indiana.
71. One of the first programs to receive priority by the RC&D committee was planting trees on critical areas to reduce erosion and sediment damage.
72. To date, more than five million trees have been planted on 7,000 acres, including 6,500 acres of gullied land.
73. Another project was to upgrade the timber industry in the area. RC&D project leaders sponsored logging demonstrations, sawmill clinics, woodgrading courses, and Christmas tree management courses.
74. One demonstration brought the first modern logging equipment into this heavily wooded area. Today several sawmills are handling more volume in board feet than 20 mills did when the RC&D project started in 1964.
75. Scrap wood which was formerly burned is now chipped and sold to three new local industries and this alone brings in \$850,000 to the area every year.
76. Probably most important, the advent of new job opportunities has reversed the out migration which has plagued the area for the past 70 years.

77. This, then, briefly, is what the Soil Conservation Service is in business to achieve.

78. To assist in the development of land . . .

79. And water resources . . .

80. For the benefit of all people.

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