Legal Principles and Policies of Soil Conservation

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OF SOIL CONSERVATION

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I

Soil Conservation¹ and laws concerning soil conservation are not new concepts. Long before Roman times agricultural civilizations had developed techniques of combatting soil erosion² and buttressed them by the force of law. Under the Romans, soil conservation became a recognized part of the science of farming and the subject of a well-integrated body of law.³

Today soil conservation is regarded as so far removed from the fundamentals of society that no attempt has been made to integrate its concepts with basic legal principles. What we may call our law of soil conservation⁴ exists as an unwieldy number of disconnected federal and state statutes. For the most part of administrative character, they have been dictated by regional requirements, departmental exigencies, and the desire to avoid constitutional issues.

The lack of fundamentals may explain why soil conservation has remained a neglected field as far as private legal research goes. It may also explain why government agencies preparing for legislation have been responsible for the major portion of the existing literature. Yet soil conservation is too important a field to remain permanently on the outskirts of the law. However sketchy any attempt to outline its problems may be, some start should be made in the direction of obtaining more complete information concerning them.

An inquiry of this kind should emphasize principles. Undue detail would destroy its purpose of finding links between the fundamentals of law and the necessities of soil conservation. It may serve this purpose to approach it through the avenue of the following questions: 1) What are the principal legal aids of present-day soil conservation? 2) How effective are these aids? 3) Are other aids desirable and if so, can they...

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¹. The Soil Conservation Service defines soil conservation as “using the land according to its capabilities and treating it according to its needs.” REPORT OF THE CHIEF OF THE SOIL CONSERVATION SERVICE 77 (1949).

². Though the basis of their techniques differed greatly from our own (see the remarks in the REPORT OF THE CHIEF OF THE SOIL CONSERVATION SERVICE 79 (1948)).


⁴. There is, of course, the difficulty of defining even approximate boundaries for the term “law of soil conservation.” At the present time the inclusion within the term is necessarily arbitrary and represents one of the questions this paper attempts to raise.

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be found within the framework of the present law or would new legislation be required?

II

For reasons of convenience, the summary of the laws of soil conservation is divided into state and federal law.\(^5\) Though state and federal law are often radically different both in subject matter and in detail, the legal techniques involved are essentially similar in approach. Using the approach as criterion, these techniques may be classified as emphasizing one or more of the following means: 1) education, 2) financial benefits, 3) regulation, 4) public ownership, and 5) the common law.

A. State Law

Laws referring to soil conservation are on the statute books of every state in the Union. The earliest in point of time are laws referring to forest conservation and watershed protection on privately owned land. Statutes relating to drainage, irrigation, grazing and flood control are usually of a later vintage. Some states finally approached the subject of soil and water conservation through the avenue of public ownership, adopting laws to provide for the state acquisition and management of land, submarginal or not.

1. Conservation through education. The general program has been to channel conservation education and research through those state-created organizations, like the Agricultural Experiment Stations, whose work was often directly concerned with the mechanics of soil conservation. Many of the tools used by modern soil conservationists were forged in such workshops and went under the name of good land management.

2. Soil conservation through financial inducements. In 1861 the Territory of Nebraska passed a law granting partial tax exemption to land owners who would plant and care for forest trees; this was the start for a considerable number of states to enact tax exemptions and reductions for forest land planted and managed under specified conditions\(^6\) and for others to offer outright premiums for tree planting.\(^7\)

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5. Forestry has been emphasized in this paper because it has been a testing ground for legislation over a longer period than any other branch of soil conservation.

6. Tax exemptions and reductions were granted in Wisconsin and Iowa in 1868, the Dakota Territory in 1869, Idaho in 1875, Washington and Wyoming in 1877, Colorado in 1881, New Mexico in 1882, Utah in 1886, Maine in 1872, Connecticut in 1877, Massachusetts and Rhode Island in 1878, Vermont in 1904 and Alabama in 1907. MURPHY, STATE FOREST TAX DIGEST OF 1939 (U. S. Dep't Agric. 1939). Louis Murphy is Senior Forest Economist of the Forest Service.

7. Minnesota in 1867, Kansas in 1868, Missouri in 1870, Nevada in 1873, Illinois in 1874, Nebraska in 1879. Ibid.
Legislation of this kind was perhaps badly administered. Certainly it was too dependent for its application on local—and hungry—tax officials. Whatever the reason, neither tax exemptions nor premiums have ever achieved the desired effect, for nowhere did they result in large-scale reforestation. Trees planted under such programs were often neglected and even forgotten, while the few serious reforestation efforts met with the usual struggle with local assessors who tried to offset the tax lost on forest exemptions by an increased valuation of the forest owner’s other property. It would seem fair to conclude that soil conservation through this kind of financial inducement has enjoyed only a limited success.

3. Soil conservation through regulation. a) Forestry. A century ago individual states began to combat fires through regulation. One state after another imposed use restrictions, some of quite detailed nature, aiming at forest fire control. Many states have statutes for the control of tree diseases. Beyond that, a number of states have in one way or another subjected cutting practices to supervision or regulation for the purpose of erosion control and restocking.

Land use regulation was long ago considered to be a proper exercise of the individual state’s police power. Weed laws requiring the destruction of noxious weeds were held constitutional over one hundred years ago. Corn borer laws were generally approved in the courts. When, at the beginning of this century, attempts at forest conservation led to state legislation regulating cutting practices, the constitutionality of such legislation was generally affirmed, though not always without challenge. In 1907 the Justices of the Supreme Court of Maine rendered an opinion to the Senate of the State of Maine declaring constitutional legislation “to regulate or restrict the cutting or destruction of trees growing on wild or uncultivated lands by the owners thereof as to preserve or enhance the value of such land and trees thereon and protect and promote the interests of such owners and the common welfare of the people.” The Justices, in part quoting Chief Justice Shaw of the Supreme Judicial Court of Massachusetts in Commonwealth v. Alger, stated:

10. Delaware, Iowa, Louisiana, Michigan, Minnesota, New York, New Hampshire, Rhode Island, more recently and rather rigidly Maryland, Mississippi, Oregon and Washington.
11. In re Opinion of the Justices, 103 Me. 506, 69 Atl. 627 (1907).
12. Id. at 507, 69 Atl. 628.
13. 61 Mass. (7 Cush.) 53, 84 (1851).
"We think it a settled principle, growing out of the nature of well-ordered civil society, that every holder of property, however absolute and unqualified may be his title, holds it under the implied liability that his use of it may be so regulated that it shall not be injurious to the equal enjoyment of others having an equal right to the enjoyment of their property nor injurious to the rights of the community."

"There are two reasons of great weight for applying this strict construction of the constitutional provision to property in land: (1) Such property is not the result of productive labor, but is derived solely from the state itself, the original owner; (2) the amount of land being incapable of increase, if the owners of large tracts can waste them at will without state restriction, the state and its people may be helplessly impoverished and one great purpose of government defeated."\(^{14}\)

The most recent decision of a higher court on public regulation of private forest management is the decision of the Supreme Court of the State of Washington in *State of Washington v. Dexter*,\(^{16}\) later affirmed by the United States Supreme Court. The case concerned the State Reforestation Act of 1945,\(^{16}\) a law providing that every owner or operator of timber land should leave reserve trees of commercial species in a quantity deemed adequate under normal conditions to maintain continuous forest growth, or provide adequate restocking to insure future forest protection. The respondent, owner of a tract of 320 acres of timber land, made cuttings on his land in violation of the provisions of the Act. Holding the law unconstitutional, the lower court had concluded: "It is apparent that if the constitutionality of the law in question is upheld, that it is only one step further to the control, domination, and, in fact, operation of the farms and other lawful business of this state directed by bureaus, agencies, and incompetents."\(^{17}\) The Supreme Court of Washington divided on the question of constitutionality. The dissenting opinion of Justice Simpson bluntly challenged the contention of the state that the perpetuation of timber growth was the concern of everyone and said: "True, it is of importance that we preserve our natural resources, but they should not be preserved at the expense of the liberties of the people of this state and nation, and that is the thing the present act proposes to do."\(^{18}\) The majority of the Court had no difficulty in affirming the state's powers of regulating forest management:

"Unfortunately for the respondent's plea for the unrestricted right of the

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18. *Id.* at 564, 202 P. 2d at 912.
owner of timberland to do as he pleases with his own, the record of such unrestricted use has been one of 'cut out and get out,' the logged-off lands having no economic value being left to revert to the county for unpaid taxes. Denuded hillsides have made possible the rapid runoff of surface waters, thus increasing the dangers from floods and contributing to costly soil erosion.

"... We do not think that the state is required by the constitution of the United States to stand idly by while its natural resources are depleted and higher authority supports our view. Walls v. Midland Carbon Co., 254 U. S. 300. ..."

"... Edmund Burke once said that a great unwritten compact exists between the dead, the living, and the unborn. ... Such an unwritten compact requires that we leave to the unborn something more than debts and depleted natural resources. Surely, where natural resources can be utilized and at the same time perpetuated for future generations, what has been called 'constitutional morality' requires that we do so. In that way, we can, in the words of Chief Justice Hughes, use 'reasonable means to safeguard the economic structure upon which the good of all depends.' Home Building and Loan Assn. v. Blaisdell. ... [290 U. S. 298]."

As in the case of every type of regulation, local necessity determined the practical success of the regulatory laws. Abuses with local effects were mostly stopped. Fire control measures, for instance, have in most of the northern states enjoyed a fair degree of enforcement. In the control of cutting practices, however, administration of regulatory laws has in too many places been spotty and inadequate. Understaffed state agencies have had to depend on voluntary compliance rather than enforcement. The small forest was often turned over in ignorance to saw mills whose owners could see a profit only in the most destructive kind of clean cutting. Among the larger properties mostly those forests managed by their owners on a long-term basis were administered in compliance with the law.

b) Land Use Regulation in General. Regulation in the field of soil conservation was limited to forestry until long after the First World War. Only then did state legislatures attack the problem on a broader front. The approach varied according to local necessity and public sentiment. Media of land use regulation were rural zoning, grazing control, and, finally, direct erosion controls.

Rural Zoning. Following the lead of Wisconsin, a number of states introduced rural zoning through County Enabling Acts. These authorized zoning for agricultural, forest, and other land uses. Zones sanctioned were forest zones prohibiting residences and agricultural operations, recreation zones permitting forests and residences, and open areas with no restrictions. Although soil conservation has rarely been the main

19. Id. at 555, 202 P. 2d at 908.
20. Minnesota, California, Michigan and Indiana.
objective of rural zoning\textsuperscript{24} it has derived certain benefits from it. Wisconsin has over 5,000,000 acres in forest and recreational zones and has made provision for stream bank zoning. In its direct application, rural zoning was aimed at preventing isolated farm settlements in order to decrease road maintenance and school expenses. The ordinances were implemented by purchase of nonconforming settlements already in existence. Even if the zoning boards were not always conservation conscious, the practical result of their activities was to reduce fire hazards in the forests and to withdraw submarginal land from cultivation.\textsuperscript{22}

\textit{Grazing Control.} Through a statute originally passed in 1933\textsuperscript{23} and later expanded, Montana provided for incorporation under the supervision of a State Grazing Commission of Co-operative Grazing Associations. These Grazing Associations were given control of grazing lands of whatever nature in their respective districts. Development of the land through fencing, livestock, and water were incidents of the co-operative work; its major function was to control the rate of grazing and to distribute the use of the land among members of the Association. A number of northern plains states passed Grazing District Acts of similar import, and in 1934 federal legislation, known as the Taylor Grazing Act,\textsuperscript{24} followed the principle of the Montana statute.

The legislation introducing grazing districts did not create Utopia, but it did end some of the chaotic conditions which uncontrolled grazing over vast tracts of unfenced land had brought about.

\textit{Direct Erosion Control.} Beginning in the 1930's, a number of states enacted legislation directly providing for erosion control operations and generally permitting checks on land uses by private individuals. The three states pioneering in this field were the dust bowl states of Kansas, Oklahoma and Texas. The Kansas statute was soon declared unconstitutional. The Oklahoma statute, reenacted later in somewhat altered form,\textsuperscript{25} is apparently still in force. Of the two Texas statutes, one was

\begin{itemize}
  \item \textsuperscript{21}A recent Michigan statute reads: "The County Board of Supervisors in any county . . . may provide by ordinance for the establishment of zoning districts within which the use of land for agriculture, forestry, recreation, residence, industry, trade, soil conservation, and additional uses of land may be encouraged, regulated or prohibited. . . ." Mich. Stat. Ann. § 2961 (1).
  \item \textsuperscript{22}For information on rural zoning see: McDougall and Haber, Property, Wealth, Land. Allocation, Planning and Development 1065-6 (1948); Brunce, The Economics of Soil Conservation 148 (1942); Comment, Legal Techniques for Promoting Soil Conservation, 50 Yale L. J. 1056, 1059 (1941); Hendrickson, Rural Zoning, 18 Journal of Farm Economics 477 (1936); Wehrlein, Enactment and Administration of Rural County Zoning Ordinances, 18 Journal of Farm Economics 508 (1936).
  \item \textsuperscript{23}Mont. Laws 1933, c. 66.
  \item \textsuperscript{24}48 Stat. 1269 (1934), as amended, 48 U. S. C. §§ 315 et seq. (1946).
  \item \textsuperscript{25}Okla. Stat. tit. II, §§ 841-7 (1941); §§ 901-4 (1939) (Wind Erosion Control Law).
\end{itemize}
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repealed; the other, called the Wind Erosion Districts Law, became the forerunner of the uniform Soil Conservation District Law, sponsored by the Federal Government, and is still in existence. As similarly provided in the Oklahoma statute, it confers on the officers of the District "the right to enter upon any lands of the District for the purpose of treating same to prevent the spread of soil erosion and damage to other lands." With proper safeguards this right of regulating land uses by private owners forms the core of the standard Soil Conservation District Law which, since its advocacy by President Franklin D. Roosevelt in 1936, has been enacted by every state in the Union in one form or another. Because of the close connection this law has with the United States soil conservation machinery it will be viewed below within the framework of the federal law.

Another type of approach in the regulatory field is exemplified by a statute recently passed by the State of West Virginia, requiring operators of strip mines to be licensed and making it their duty, under supervision of the State Department of Mines and the Agricultural Experiment Station of the State University, to restore the surface of the ground worked with plant growth. The preamble of the legislation reads: "In view of the fact that the practice of strip mining may and commonly does cause soil erosion, stream pollution, and the accumulation of stagnant waters, increases the likelihood of floods, destroys the value of land for agricultural purposes, counteracts efforts for the conservation of soil, water and other natural resources of the State, and in general creates hazards dangerous to life and property; now, therefore, the legislature declares that its purpose in the enactment of this article is to provide such regulation and control of strip mining as to minimize its injurious effects as much as may be possible."27

4. Public Ownership. Acquisition by states and their subdivisions of forest and submarginal farm land, principally for watershed protection, has in some sections been an important medium of erosion control. Washington, Michigan, and New York, the latter two owning over three million acres of forest reservations, have generally been regarded as the leaders in this type of public ownership. Other states active in the acquisition of land for state forests have been Pennsylvania and Massachusetts in the east, Wisconsin and Minnesota in the central portion, Montana, Idaho and New Mexico in the western portion of the country.28

28. For information on state forests see: Forest Lands in the United States, in Report of the Joint Committee on Forestry 77th Cong., 1st Sess. 6 (1941); and Fontana, State Forests, in Yearbook of Agriculture 350 (U. S. Dep't Agric. 1949).
As a rule, state forests owe their origin to the desire for some sort of watershed protection. As early as 1876, Colorado wrote into its constitution a provision directing its legislature to furnish watershed protection through state forests. In order to protect the sources of water its constitutional convention asked Congress to turn over the land remaining in the public domain to the states and territories and warned that public land disposal, if continued as then practiced, would "bring destruction and calamity upon the entire population of the so-called far west." No action was taken on this recommendation.

Similarly when, in 1897, the State of Pennsylvania embarked on the program of acquiring tax-delinquent forest land it was in order to establish "a forestry reservation system having in view the preservation of the water supply at the sources of the rivers of the State, and for the protection of the people of the Commonwealth and their property from destructive floods." 850,000 acres were acquired during the first ten years of the program. State forests now total almost 1,700,000 acres.

The experience of New York in the acquisition and management of state lands is perhaps the most interesting. In 1883, following a decade of studies and recommendations, the legislature stopped the sale of tax-reverted lands in the Adirondacks. In 1885 it organized a Forestry Commission to manage the state's forest preserves with watershed protection, not timber production, as its principal objective. Considerable forest acreage was soon assembled in the Adirondacks and the Catskills. When suspicions arose that the Forestry Commission was working for the interests of the lumber trade instead of for the general objective of watershed protection, a constitutional amendment was passed in 1894 prohibiting the cutting of any timber in the state forests and requiring that state forest lands be kept in a wild condition forever. This meant that the forest reservations were left untended. A sequence of forest fires which, during 1903 and 1908, destroyed 850,000 acres of forest growth in the Adirondacks alone, pointed up the need for current management and a fire protection and reforestation program were started. Reforestation of the burnt over areas in the Adirondacks was completed in the late 1920's; a time when public attention was focused on the abandoned farm area of New York State. Since the Civil War this amounted to almost 5,000,000 acres and desertion of farm land was still continuing at the rate of 100,000 acres per year. A legislative program was thereupon prepared for the purchase and reforestation by the state and its counties of submarginal land lying outside the original forest preserve. The plan was incorporated in a constitutional amendment and adopted by the

29. COLO. CONST. Art. XVIII, § 6.
voters in the fall of 1931; it mandated the legislature to provide funds for the acquisition and reforestation by the state of a million or more acres of idle land within a period of fifteen years. Under the constitutional amendment the appropriations were to total $20,000,000—$2,000,000 per annum from 1937 on. Actually, only the appropriations for the first three years matched the constitutional provisions. By 1939 annual appropriations had been reduced to $250,000, twelve per cent of the mandated amount. Another constitutional amendment, voted on at the end of 1938, removing the mandatory provisions saved the state administration from further embarrassment. The goal of one million acres set for 1944 was never reached. As of today, the acreage acquired for reforestation amounts to 537,000 acres of which one-third was acquired during the first two years of the program.

The experience of New York’s reforestation program brings into focus both the strong points and the weaknesses of conservation by public ownership. The greatest asset, at least where forestry is concerned, is probably the absence of pressure for immediate monetary gain which has so often led to the depletion of forest preserves in private ownership. The main weakness of public ownership is the instability of financial support and the dependence on annual appropriations, which limit current maintenance and prohibit the planning forest management requires.

5. The common law. Though soil protection has been recognized as an integral part of water control and vice versa, the body of law dealing with water rights has—with the exception of the civil law doctrine of surface waters—never been affected by consideration of the problems of soil conservation. It would be stretching things to include the subject of water as such in the law of soil conservation. However, water law is interesting for our thesis in two respects. 1) The use of water as a natural resource is as a rule governed by private, rather than by public law, and while the public interest is recognized, controversies generally are settled by judicial, not administrative, processes. 2) Wherever water came to be regarded as an exhaustible resource, the right to it...
was subjected to some priority of beneficial use or some reasonable use limitation.\textsuperscript{33}

Of the two principal doctrines governing the use of water in non-navigable streams, the appropriation doctrine rules in the arid states and the riparian doctrine in the humid states. Around the arid states is located a belt which ostensibly adopted the riparian doctrine. However state after state in this group subjected riparianism to exceptions with the result that most of these states have now adopted one form or another of a reasonable use requirement. Incapable of exact definition this doctrine has not only changed riparianism but has tended to encroach on the law of water rights in the appropriation states. It is, finally, the rule used in the decision of all disputes of water rights between states. Sometimes called the California doctrine, it is the substance of an amendment to the California Constitution passed in 1928 which reads:

"It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for public welfare. The right to water or to the use or flow of water in or from any natural stream or water course in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water. Riparian rights in a stream or water course attached to, but to no more than so much of the flow thereof as may be required or used consistently with this section, for the purposes for which such lands are, or may be made adaptable, in view of such reasonable and beneficial uses: provided, however, that nothing herein contained shall be construed as depriving any riparian owner of the reasonable use of water of the stream to which his land is riparian under reasonable methods of diversion and use, or depriving any appropriator of water to which he lawfully is entitled. This section shall be self-executing and the Legislature may also enact laws in furtherance of the policy in this section contained."\textsuperscript{34}

In the field of percolating water none of the three contending doctrines—the English rule of absolute dominion, the appropriation doctrine, and the American doctrine of reasonable use (or correlative

\textsuperscript{33} For papers on water law in general see: Wiel, \textit{Fifty Years of Water Law}, 50 Harv. L. Rev. 252 (1936); NRFB, \textit{State Water Law in Development of the West} (1943).


\textsuperscript{34} For an historical review of the doctrines governing surface waters: Miller v. Letzerick, 121 Tex. 248, 49 S. W. 2d 404 (1932).

\textsuperscript{34} \textit{Calif. Const. Art. xiv, § 3.}
rights)—fall into any distinct geographical berth. The majority of the water-short western states divide between the California version of the doctrine of reasonable use and an appropriation doctrine tempered by a beneficial use requirement.

In the realm of diffused surface waters the common law doctrine, better called the Massachusetts rule, has been adopted mainly in the dairy states where small holdings predominate, and in the wheat belt. Except in the case of a few hold outs, it has been riddled with exceptions that have tended to obliterate many of the differences between it and the civil law rule which governs in England, most of the United States, and on the Continent. The essence of this rule is that the upper estate may either retain diffused surface waters or discharge them on a lower estate provided the water reaches the borders of the lower estate untouched and undirected by the hands of man, i.e., not enclosed by any but natural channels. In its aim to prevent gullying, the rule has served as a legal principle for well over two thousand years. Absorbed into the common law it has been at the disposal of soil conservation, but has remained a wallflower.

No attempt has been made to integrate any other aspects of soil protection into the common law or translate them into civil causes of action.

B. Federal Law

Soil conservation legislation, both state and federal, began with a concern over watershed protection. State legislation was mainly concerned with private lands, federal legislation with public ownership.

The area represented by the forty-eight states embraces today over 400,000,000 acres of federally owned land. Of these, 180,000,000 acres are in National Forests. 170,000,000 acres are unreserved lands operated by the Bureau of Land Management under the Department of the Interior. 20,000,000 acres are National Parks. 55,000,000 acres are Indian lands. 15,000,000 acres are controlled by the Army, Navy and Air Force. 11,000,000 acres of submarginal land are largely administered by the Soil Conservation Service (see below). The remaining several million acres are represented by re vested railroad lands, wild life refuges, holdings of the TVA and other smaller holdings.

One of the guiding purposes behind the holding of these lands in public ownership is soil conservation, more particularly in the case of

35. The California version provides that the owners of overlying lands have equal and correlative rights to the reasonable and beneficial use of the underlying percolating waters on or in connection with their overlying lands. Corona Foothill Lemon Co. v. Lillibridge, 8 Cal. 2d 522, 66 P. 2d 443 (1937).

the acreage under the management of the Department of the Interior. From the point of view of our thesis, however, the most important of the federal lands are the 180,000,000 acres of National Forests, since they represent the first really serious effort at soil conservation on a national scale.

1. Federal forestry legislation. a) National Forests. The Department of the Interior had been urging reservation and management by the Federal Government of all timber lands in the public domain since the 1870's. It took almost two decades of prodding for Congress to pass the Act of March 3, 1891, which conferred on the President the power to establish National Forest Reserves out of the public domain. President Harrison created the Yellowstone Park Timberland Reserve within less than a month. Other reservations, totalling roughly 40,000,000 acres were established by both President Harrison and President Cleveland. But when, at the end of his term, President Cleveland acted to establish further reserves Congress suspended the action on the ground that it locked up public lands without proper administration. This temporary setback of conservation led to the Pettigrew Amendment of the Appropriation Act of June 4, 1897—sometimes called the charter of the National Forests—which for the first time provided for administration of the forest reserves: "No national forest shall be established, except to improve and protect the forest... for the purpose of securing favorable conditions of water flows, and to furnish a continuous supply of timber for the use and necessities of citizens of the United States..." Administration was handicapped by the complete absence of trained personnel, and the Department of the Interior soon recommended a transfer of the Forest Reserves to the Department of Agriculture. At the time of its transfer, the Secretary of Agriculture laid down the guiding principles of the United States Forest Service:

"In the administration of the Forest Reserve it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people, and not for the temporary benefit of individuals or companies. All the resources of Forest Reserves are for use, and this use must be brought about in a thoroughly prompt and business-like manner, under such restrictions only as will ensure the permanence of these resources.

"In the management of each Reserve, local questions will be decided upon local grounds; the dominant industry will be considered first, but with as little restriction to minor industries as may be possible; sudden changes in industrial conditions will be avoided by gradual adjustment after due notice; and where conflicting interests must be reconciled, the question will always be de-

cided from the standpoint of the greatest good of the greatest number in the long run.\textsuperscript{40}

The great increase in National Forests, amounting to well over 100,000,000 acres, came between 1901 and 1909. Under the existing law these National Forests were created only out of the public domain, however. To properly effect watershed protection National Forests were necessary at the head waters of the more important streams and the Federal Government needed power to purchase land from private ownership for National Forests on the watersheds of navigable streams. This authority was given by the Weeks Law of March 1, 1911;\textsuperscript{41} acquisition of land in the eastern United States began shortly thereafter with the creation of National Forests in the White Mountains and Southern Appalachians. By the Clarke-McNary Law of June 7, 1924,\textsuperscript{42} authority to acquire land by purchase was extended to include land valuable for timber production. Today our National Forests cover 180,000,000 acres, of which 18,000,000 acres have been acquired by purchase, the balance reserved out of the public domain.

Viewed solely as a watershed protection, National Forests have proven invaluable. Yet this protection was not achieved without constant and protracted struggle. The fact that the National Forests “put the Government in business” clashed with the traditional concept of free enterprise. Groups hurt by the withdrawal of land reserves from private exploitation gained allies in those fearful that the National Forests were an entry wedge for government ownership on a larger scale. The ensuing battle seesawed for decades. To date, the idea of conservation through publicly owned and operated forest reserves has been the winner and skirmishes over matters like grazing permits no longer affect acceptance of the principle of government ownership as a medium of conservation.\textsuperscript{43} Due to the inadequacy of appropriations, however, the Forest Service has been unable to subject millions of acres of idle land and inferior second growth stands to proper management. New land acquisitions have practically stopped. The regular budgets simply never measured up to the size of the problem.\textsuperscript{44}

\textsuperscript{40.} Letter of James Wilson, Secretary of Agriculture, to Gifford Pinchot, Chief of the Division of Forestry. February 1, 1905.


\textsuperscript{43.} This controversy seems to have been the principal reason for the recent appointment of a National Forest Board of Review, its purpose that of advising the Secretary of Agriculture “on matters relating to the use by the public of the National Forests and other lands under the administration and control of the Forest Service.” The Land News, June, 1950.

\textsuperscript{44.} “Great as are these and other accomplishments, the building up of the National
b) Research. By comparison with the National Forests, the other federal activities in the forestry field have been fringe efforts. The Division of Forestry in the Department of Agriculture was established in 1881 to serve principally as an information and research center. "Unfortunately the Division of Forestry in the Department of Agriculture, during its first twenty years, found itself unable to carry on much scientific research in the woods because it controlled no forest land, could not get permission to use other timber lands or military reservations and was not allowed to use private land for fear of criticism that public money was being used for the benefit of private individuals." As a result, research in the early days was largely devoted to forest products research. After 1900 larger appropriations permitted research in active forest management and centered products research in the forest products laboratory at Madison, Wisconsin (1911). The latest federal effort in the direction of forest research was the McSweeney-McNary Law of 1928 which broadened research activities and set up a ten year program to include forest and range experiment stations.

c) Financial inducements. The Federal Government offered private land owners financial inducements of various kinds in the interest of forestry. The Timber Culture Act of 1873 offered land free to settlers who would allot twenty-five per cent of it to trees. Estimates of the results range from 50,000 acres of actual forest growth to 2,000,000 acres of new plantings. Federal contributions to forest fire control were

Forest resource has been too slow. Much too small an area is under intensive timber management. Forest ranges are too far below full productivity. . . . In water-shed protection, efforts have been confined too largely to ordinary protection, and special supplemental provisions needed for fully satisfactory protection are largely lacking. Acquisition of land has proceeded at a snail's pace.

"Among the reasons for this situation are: the remoteness and inaccessibility of much of the area; the rather wide-spread public opposition in the early years; the serious handicap of private and other interior holdings which, at the extreme, have made satisfactory administration impossible; lack of technical knowledge, inadequate legislation, and insufficient funds." March and Gibbons, Forest-Resource Conservation, in YEARBOOK OF AGRICULTURE 458, 473 (U. S. Dep't of Agric. 1940).

45. For information on National Forests in general see: Fernow, Brief History of the Forest Movement in the United States (1898); Boerker, Our National Forests (1918); Ise, The United States Forestry Policy (1930); Cameron, The Development of Governmental Forest Control in the United States (1928); Recknagel, Forestry (1929); YEARBOOK OF AGRICULTURE (U. S. Dep't of Agric. 1949). The Ise and Cameron books give a vivid picture of anti-conservation activity, e.g., the Fulton Amendment to the Appropriation Bill of 1907, which for practical purposes ended further extensions of forest reservations in the Pacific Northwest.


48. 17 STAT. 605 (1873).
authorized originally by the Weeks Law and grew from $37,000 in 1911 to $9,000,000 in 1948. The Reforestation Act of June 4, 1924 (Clarke-McNary Law) authorized expenditures by the government for the distribution of forest nursery stock to private owners and for assistance to farmers in managing their forest land on a basis of continuous production. In 1930 the Knudsen-Vandenberg Act authorized a national forest planting program that led to the re-stocking of over one million acres by 1947. This was later followed by the Norris-Doxey Farm Forestry Act of 1937 which authorized appropriations up to $2,500,000 to provide advice and planting stock to farmers owning small woodlands.

d) Regulation of private forest lands. Ever since the so-called Capper Report on Timber Depletion in 1920 the Forest Service has called attention to the abuse suffered by the great majority of privately owned forests and urged the imposition of restrictions on cutting practices and other management control. In 1933 the Forest Service submitted to Congress a two-volume report on the forest problem of the United States entitled: A National Plan for American Forests. The report's principal recommendations were the imposition of controls on private forestry and the acquisition of new forest lands over a twenty year period amounting to 134,000,000 acres for the states and their subdivisions. Although neither of its recommendations were acted upon by Congress, the report has been a valuable tool for the Forest Service in hammering away at the necessity for public controls on private forest lands.

After 1933, Congressional effort to tackle the problem came with The Report of the Joint Committee on Forestry of the 77th Congress in

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51. "The immediate aim of this recommendation to the Joint Congressional Committee on Forestry is nation-wide control of how privately owned forests may be cut, if and as cutting takes place." Annual Report of the Chief of the United States Forest Service 18 (1941).

"For several years the Forest Service has advocated that the public exercise some measure of control over timber cutting." Annual Report of the Chief of the United States Forest Service 10 (1946).


"The Forest Service has also repeatedly recommended public control of timber cutting and related practices on private forest lands, sufficient to prevent destructive practices and to assure that forest land will be kept in reasonably productive condition. A plan for regulation by the states, with basic national standards, and with federal financial assistance, has been proposed." Annual Report of the Chief of the United States Forest Service 23 (1948).
1941 and resulted in the passage in 1944 of an Act of Congress providing for the establishment of so-called sustained yield units. These consisted of both federal and privately owned land which might be expected to become subject to co-operative sustained yield cutting of timber. Beyond that Congress has so far consistently refused to authorize public controls on private forestry.

2. Federal soil conservation legislation in general. The Buchanan Amendment to the Agricultural Appropriation Bill of 1929, establishing the first Erosion Control Experiment Station, has been called the turning point from soil exploitation to soil conservation. Perhaps this is placing previous efforts to promote soil conservation in too dim a light. It is true, however, that the Buchanan Amendment marked the escape of soil conservation from the bounds of forestry and that it formed the starting point for a broad attack on soil erosion. The work started by the first Soil Erosion Experiment Stations was consolidated in the Soil Erosion Service of the Department of the Interior in 1933. Though the immediate purpose of the organization was to carry out provisions of the National Recovery Act bearing on the prevention of soil erosion, the agency continued after the NRA was declared unconstitutional and on March 25, 1935, was transferred in toto from the Department of the Interior to the Department of Agriculture. Reestablished by the Soil Conservation Act of 1935 as the United States Soil Conservation Service, it has remained under the command of its old chief, Hugh Bennet, and has grown until it is now the country's principal agency in the fight against soil erosion outside the forestry field. Unfortunately, its powers are too limited to properly effect the broad attack it was designed to spearhead.

The reasons for this limitation are largely legal and are rooted in the defeats suffered by many of the major policy laws of the Roosevelt Administration when brought to court. When, following its decision in Schechter v. United States, invalidating the NRA, the Supreme Court in United States v. Butler declared the Agricultural Adjustment Act of 1933 unconstitutional agricultural policy makers decided that the time

54. The latest attempt to introduce federal regulation of private forestry was Senate Bill 1820 introduced in 1949 by Senator Anderson of New Mexico.
55. 45 Stat. 1189, 1207 (1929).
56. Bennet and Pryor, This Land We Defend 76 (1942).
had come to use a different legal approach. The first draftmen of con-
servation legislation had incorporated into law their belief that national
problems like soil erosion could be tackled only with the aid of power
to regulate on a national or at least regional scale. The Tennessee
Valley Authority Act (1933)\(^{62}\) made soil conservation a regional affair.
The codes created under the NRA affecting soil conservation, like the
lumber code, were national codes. The original Agricultural Adjust-
ment Act (approved May 12, 1933) which affected soil erosion by the
limitation of tilled acreage put conservation legislation on a national
scale. Then came the \textit{Butler} decision, and with it a complete turnabout
of legislative theory. Because it seemed that federal regulation in the
agricultural field would have difficulty in winning the approval of the
courts, it was considered advisable to settle for a less ambitious program.
The essence of the legislation that followed was the old device of buying
cooperation by subsidies and of making regulation the concern of the
states. This system was erected on the twin pillars of the Soil Conserva-
tion and Domestic Allotment Act of 1936\(^{63}\) (reenacted in the Agricul-
tural Adjustment Act of 1938)\(^{64}\) and the Standard Soil Conservation
Districts Law\(^{65}\) proposed for adoption by the states in the same year.
The system has been in force ever since and still governs our soil con-
servation machinery as far as privately owned lands are concerned. Of
supplementary measures making soil conservation a principal objective,
only the Taylor Grazing Act of 1934, amended in 1936, pre-dates the
legislation of 1936; the others, mainly the Flood Control Act of 1936\(^{66}\)
(frequently amended in subsequent years) and the Bankhead-Jones
Farm Tenant Act of 1937\(^{67}\) (substantially amended in 1946) share the
approach rooted in the \textit{Butler} decision.

\begin{itemize}
  \item[a)] The Soil Conservation and Domestic Allotment Act. The Soil
Conservation and Domestic Allotment Act was passed on the heels of
the \textit{Butler} decision in order to fill the vacuum which the decision had
created in farmers' pocket books.\(^{68}\) What it did was to authorize the

\begin{footnotes}
  \item 64. \textit{52 Stat.} 31 (1938), 7 U. S. C. §§ 1281 \textit{et seq.} (1946).
  \item 65. \textit{A STANDARD STATE SOIL CONSERVATION DISTRICTS LAW} (U. S. Dep't of Agric. 1936).
  \item 68. The language of the committee reports introducing this legislation is interesting in
showing the effort to achieve legal adequacy with little regard for the consequences in
respect to soil conservation: "... each producer will be completely free to operate his
farm in whatever manner he sees fit. He will have available to him full information
as to the method of operation best calculated to effectuate the purposes of the bill. He
will be free to adopt such practices or to disregard them. In case he does follow the

\end{itemize}
disbursement of substantial federal funds to farmers who co-operated with the idea of soil conservation by introduction of soil-saving practices. In general, these practices are established on a nation-wide basis although regional adaptation is made possible by variations according to states. The last Report of the Production and Marketing Administration lists as the most important: pasture seedings; construction of dams for livestock water, erosion control and irrigation; green manure and cover crops; terracing and contour strip cropping; application of lime and phosphate; and tree plantations. Funds are usually allocated on a state-wide basis and benefits are disbursed in cash or in kind (fertilizers and lime). Actual operation is highly decentralized and in the hands of local committees who undertake the checking of performance by and the allocation of benefits to individual farms.

Apart from the emergency purpose of maintaining the flow of government funds which the Butler decision had cut off, this legislation was designed as an instrument for production curtailment. By encouraging through cash benefits practices which would tend to contract crop acreage and thus convert more and more land into permanent sod, it hoped to reduce indirectly the creation of agricultural surpluses. It soon became clear that it did no such thing. Already the year 1937 produced heavy surpluses of wheat and cotton and the problem of surplus control was right back again. Farm leaders now took an active hand in shaping new legislation (the Agricultural Adjustment Act of 1938) which, through the medium of marketing quotas, attempted to achieve the same kind of production control as had been the aim of the Agricultural Adjustment Act of 1933. Since the Butler decision had invalidated the Act of 1933 on fairly narrow grounds, namely, the feature of government contracts for production limitations and the application of a processing tax, these two features were omitted from the 1938 legislation. Though the new Act went at least as far as the first in providing for regulatory measures, it was nevertheless held constitutional. 69

The 1938 legislation furnished the instrumentality for a national production control program which the Soil Conservation and Domestic Allotment Act of 1936 had not accomplished. But in the essentials, the 1936 Act was left intact, and it has so remained over the last fifteen


69. Mulford v. Smith, 307 U. S. 38 (1939), establishing constitutionality of mandatory marketing quotas. Wickard v. Filburn, 317 U. S. 111 (1942), holding that an individual farmer no longer had the right to determine how much wheat he could grow beyond the marketing quota even though one hundred per cent of the crop was to be used on the farm.
years. What was said in an analysis of agricultural policy ten years ago, that “the program has been to date somewhat more effective in distributing a half billion dollars annually to the country’s farmers than it has been in meeting the country’s erosion problem” is still true, except that the sum distributed now totals a quarter billion dollars.

Perhaps the law has set itself too difficult a task; certainly it is somewhat ambiguous in its attempt to forge permanent weapons against soil erosion out of current subsidies. At best, its contribution to soil conservation has been only incidental. Neither the farmer himself nor the United States Internal Revenue Department has hesitated to take a realistic view of the soil conservation payments. They treat them as current income.

b) The State Soil Conservation Districts Law. Until the passage of the Soil Conservation Act of 1935, the Soil Conservation Service was largely a research and demonstration agency. In order to move the work of the Service out of the demonstration areas into the field, the Act of 1935 provided authority for expenditures in connection with soil defense measures on private lands. As a condition to extending benefits to lands in any state the Secretary of Agriculture was to require “The enactment . . . of State and local laws imposing suitable permanent restrictions on the use of such lands and otherwise providing for the prevention of soil erosion. . . .” A model for state legislation which would “suitably provide for the prevention of soil erosion” was prepared by the Department of Agriculture in the form of a “Standard Soil Conservation Districts Law.”

The Standard Law created local conservation districts within each state, “such districts to be governmental subdivisions of the State and to exercise in the main two types of powers: 1) the power to establish and administer erosion control, demonstration projects and preventive measures, and 2) the power to prescribe land use regulations to provide for the prevention and control of erosion.” A detailed analysis of the Act is contained in Edwin E. Ferguson’s informative paper, “Nationwide Erosion Control: Soil Conservation Districts and the Power of

70. Blaisdell, Government and Agriculture 117 (1940).
71. “The Agricultural Conservation payments should be used as a powerful leverage to bring about concerted farm planning. Perhaps that is the way they have been administered, but I do not get that impression in the field, where you see a farm pond here, a strip of terracing there, a grass water-way somewhere else, but not tied together as far as I can see in an orderly integrated whole.” C. C. Davis, Address given January 16, 1947, reprinted in The Land 16 (Spring 1947).
73. Foreword by the Secretary of Agriculture to SCS, A Standard State Soil Conservation Districts Law (1936) (Hereafter cited as Standard Act).
Land-Use Regulation,” to which the reader is referred.74

Briefly, the Standard Act provides for a State Soil Conservation Committee whose function it is to hold the hearings and make the determinations leading up to the creation of Districts and—after Districts have been organized—to co-ordinate the activities of the Districts “as far as this may be done by advice and consultation.”75 Once the Districts are organized they are independent units and legally not subject to any outside control except for what influence may be exercised by the financial assistance of the state and federal governments. The procedure for organization of Districts includes an initial petition by at least twenty-five land occupiers for a hearing to define boundaries, and a referendum of all the land occupiers of the proposed District. A District may be established only if a majority of the votes cast on the question of organization are in its favor.

Each District is governed by five supervisors of whom two are appointed by the State Committee. The powers of the District are broad. In addition to projects for the District’s own account, like erosion research, demonstrations, and operation of District lands, they include the power to enter into agreements with farmers for erosion control measures on their land and to furnish them with financial or other aid by way of material and equipment in carrying out erosion control measures.

The most far-reaching power provided in the Standard Act is the power to adopt land use regulations. Land use regulations are initiated by the Supervisors and their imposition determined by a majority vote of the land occupiers. Regulations adopted by any District are binding on all land occupiers within the District whether they are members or not, and enforceable by court order. Variations from the regulations may be granted by a Board of Adjustment.

Under the Standard Act, Districts are not authorized to issue bonds, to levy taxes, or to make special assessments because they “will not be operating revenue-producing properties.”76 “The Standard Act contemplates that funds to finance the operations of the districts (which will, of course, be supplemented with contributions by land occupiers of funds, labor, materials, and equipment, for erosion-control operations carried out on their lands) will be secured in two ways: (a) By appropriations made available to the districts out of funds in the State treasury, these funds to be annually appropriated by the State legislature and to be divided among the various districts; (b) funds, proper-

74. 34 IOWA L. REV. 166 (1949).
75. Standard Act § 4 D (3).
76. Id. § 16 n. 12.
ties, and services made available to the districts by the United States through the Soil Conservation Service of the Department of Agriculture or through any other agencies.\textsuperscript{77}

Soil Conservation Districts Laws have been adopted by all forty-eight states and the territories and possessions. Districts organized under these statutes blanket the country almost solidly from the Atlantic Seaboard to the Rocky Mountains, except for portions of the states of Pennsylvania and Missouri and the region covered by the Tennessee Valley Authority.\textsuperscript{78}

The plan for integrating the work of the Districts into that of the Service has usually worked as follows: The District enters into a “memorandum of understanding” with the United States Department of Agriculture which provides that the District will prepare erosion control plans for the individual farms and that aid—financial and otherwise—furnished by the Department will be passed on to farmers only under certain co-operative agreements approved by the Department. The chief aid furnished by the Department consists of services by engineers and other experts. A District conservationist, together with a staff whose size depends on the District, represents the usual departmental personnel in the District. Aid is given by preparation of surveys and land capability maps which form the basis for a detailed conservation plan for each farm, usually incorporated in a co-operative agreement between the farmer and the District. The plan—usually a five year plan—sets forth the erosion control measures needed and outlines the participation of the farmer and the District in the work necessary to achieve these measures. The bulk of the work done and the expense incurred is furnished by the farmer; the material aid furnished by the District and derived from appropriations of state and federal governments consists largely of special services not available locally. (The early practice of making heavy equipment available to the farmer at less than cost has been almost completely discontinued.) Once erosion control measures are introduced and operations like terracing, damming and fence-moving have been completed, most farmers continue in accord with the plan as originally prepared. In other words, most five year agreements are lived up to without trouble where there is no change of ownership.\textsuperscript{79} Of the acreage now covered by Districts, roughly

\textsuperscript{77} Ibid.

\textsuperscript{78} A map and chart has been prepared by the Department of Agriculture to present details in regard to state laws adopted and the coverage by Districts organized. The map and chart may be secured from the Department of Agriculture without cost.

\textsuperscript{79} Ferguson expresses concern that “conservation accomplished at considerable public expense might be dissipated” in case of a change of ownership. Ferguson, \textit{supra} note 74 at 176.
twenty per cent has been planned for and ten per cent has been actively treated. The Service regards the present pace as too slow. The chief obstacle to a more rapid increase in conservation treatments is shortage of experienced help.

Only about two-thirds of the states included powers to adopt land use regulations in their Soil Conservation District Laws, although the district system adopted by the planners of 1935 and 1936 considered regulation essential for effective soil defense, and the police power of the states the easiest available source of authority for such regulation. Among the states lying between the Atlantic Seaboard and Lake Michigan, only Vermont confers regulatory powers on the Districts. In those states that do permit regulation it is frequently made difficult by the requirement of more than a simple majority for adoption. The best available information indicates that in the fifteen years since preparation of the Standard Act only four localities in the United States made use of land use ordinances. Wind Erosion Districts in Texas have used them to solve local erosion problems; Soil Conservation Districts in the dust bowl section of Colorado tried use regulation against so-called suitcase farmers plowing up sod; a District in Oregon having sand dune trouble passed ordinances pertaining to sand drifting; and a District in North Dakota limited grazing on range land to its carrying capacity. The Colorado and North Dakota regulations were voted by local farmers against abuses by absentee owners, the Oregon ordinance refers to a purely regional situation, and the Texas Districts were organized for the purpose of solving local problems before Soil Conservation Districts were thought of as instruments of national policy.

The law makers of the early 1930's had believed that some degree of compulsion should be applied to make soil conservation effective. They sought to obtain compulsion through regulation. Regulation was to be on a nation-wide scale because it was recognized that virtually every one of the sixteen major drainage basins of the United States overlapped state lines and that it would be next to impossible to get regulation adequate for the protection of these watersheds through the avenue of state laws. These attempts to place regulation on a national basis ended with the announcement of the Butler decision. The Districts Laws that followed proved that regulation depending on the unanimity of local districts sometimes hundreds of miles away from the trouble-spot itself would not be obtainable.

Thus the program spearheaded by the Soil Conservation Service has perforce been operated without the weapon of regulation. The progress

80. The highest requirement for an affirmative vote is 90 per cent (Kansas).
81. Defeated when the Colorado Legislature changed the law.
which has been made has been achieved entirely on a voluntary basis, with the work of the Service, federal financial aid, and the interest of land owners in good land management the contributing factors. It is difficult to appreciate fully the accomplishments of voluntary action and particularly the share of the Soil Conservation Service itself. The Service has saved the nation enormous values which cannot be bought for any amount of money; how much more it could have saved with adequate legal weapons can only be guessed.

c) Supplementary conservation legislation. The Taylor Grazing Act. Before passage of the Taylor Grazing Act in 1934 the unreserved public domain, roughly ten per cent of the total area of the United States, was a grazing common. Interspersed with numerous private holdings, it was unfenced and open to uncontrolled grazing. As a result, deterioration of the range proceeded rapidly and unchecked. The Taylor Act withdrew the public domain from homestead entry and provided for the formation of districts including in their boundaries public lands on a lease basis and with grazing subject to regulation. Grazing districts now embrace 250,000,000 acres of which 140,000,000 are federal lands. While the Act has not been a panacea and overstocking is still a problem the groundwork has been laid for a stoppage to range deterioration on a disastrous scale.

The Bankhead-Jones Farm Tenant Act. Three types of land have always been subject to mismanagement and exploitation: the land of absentee owners, the land occupied by tenants, and land which was or had become submarginal. Sometimes all three types are represented by the same piece of land. The Bankhead-Jones Farm Tenant Act was designed to attack the second and third types of holdings. It provides the means whereby tenants may become farm owners by use of government loans at low interest rates and with long-term amortization. In order to prevent improvidence it sets up financial safeguards and minimum standards of care. Title III of the Act refers to public lands acquired by the Government under a program originating with the National Industrial Recovery Act. It authorizes the Secretary of Agriculture to develop a land utilization program for these lands and makes provision

82. Naturally, not all of it has been easy sledding. Chester C. Davis, Chairman of the Federal Reserve Bank of St. Louis and AAA Administrator during the last war recently remarked: "I wish we might have closer team work. We have states in the Middle West where county agents and district soil conservationists are at each other's throats, where open feuds exist between the Extension and the Soil Conservation Service." Chester C. Davis, Address, Washington, January 16, 1947, reprinted in The Land 11 (Spring 1947). The pertinence of these observations is not limited to the Middle West.


for retirement of acreage that is submarginal. Of 11,000,000 acres originally acquired the Secretary of Agriculture administers 7,000,000 acres under the provision of the Act. Most of it is kept in sod and used for grazing by adjoining farmers.

In its attempt to reduce farm tenancy the Act is aimed at one of the most basic causes of soil erosion. Since the ultimate success of this effort is dependent on factors outside of the law's own scope, its efficacy is difficult to determine. Acquisition and restoration of submarginal land has shown itself to be an effective weapon against soil erosion (New York State), however Government acquisitions of submarginal land have ceased to be on a significant scale.

The Flood Control Act of 1936. The Act\textsuperscript{85} takes cognizance of the fact that floods are created at the headwaters of a river and that flood control methods such as levees, reservoirs, or channel straightening are not sufficient means of prevention in themselves; it authorizes the Department of Agriculture to engage in so-called upstream engineering, in order to supplement downstream engineering of the army engineers. This upstream engineering aims at the reduction of washing and retardation of runoffs at the head waters. Its means are reasonable protection of cultivated land and use of grass land and forest cover in the strategic areas. The legal weapons have been the same as those used by soil conservation in general, \textit{i.e.}, government ownership, financial aid to private land owners, and persuasion. Regulation has not been attempted.

The Case-Wheeler Act\textsuperscript{86} aims at the pre-development of land by the Government in irrigation farming. \textit{The Pope-Jones Act,}\textsuperscript{87} limited in its application to semi-arid states, enables farmers to obtain government assistance in the construction of dams, tanks, and other water-containing devices as well as small irrigation works.\textsuperscript{88}

As far as soil conservation legislation outside the field of forestry in concerned, it becomes evident that—contrary to early assumptions—it has operated almost entirely without the power of compulsion. Financial benefits to private land owners has been its principal lever and measured by the size of the appropriations, the Soil Conservation and

\begin{thebibliography}{99}
\bibitem{85} 49 \textit{Stat.} 1570 (1936), 33 \textit{U. S. C.} \textsection 701 (1946).
\bibitem{86} 54 \textit{Stat.} 1119 (1940), 16 \textit{U. S. C.} \textsection\textsection 590y \textit{et seq.} (1946).
\bibitem{87} 50 \textit{Stat.} 869 (1937), as amended, 16 \textit{U. S. C.} \textsection\textsection 590r-590x (1946).
\bibitem{88} Since the purpose of this paper is not the complete coverage of all pertinent laws, but the ascertainment of major policies and their application, we must omit reference of other developments.
\end{thebibliography}
Domestic Allotment Act of 1936 stands out as the Government's major effort in erosion control on private lands. As the following table shows, Congressional appropriations under this Act still far out-weigh anything done for soil conservation through the agencies specifically created as conservation's fighting force.

<table>
<thead>
<tr>
<th>Year</th>
<th>Soil Conservation payments under Act of 1936</th>
<th>Soil Conservation Service</th>
<th>Flood Control</th>
<th>Forest Service</th>
<th>Land Utilization (Sub-marginal land program)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1941</td>
<td>434.5</td>
<td>18.7</td>
<td>2</td>
<td>20.9</td>
<td>2.4</td>
</tr>
<tr>
<td>1942</td>
<td>494.8</td>
<td>25.5</td>
<td>1</td>
<td>25.9</td>
<td>2.8</td>
</tr>
<tr>
<td>1943</td>
<td>444.6</td>
<td>23.9</td>
<td>1</td>
<td>21.5</td>
<td>1.6</td>
</tr>
<tr>
<td>1944</td>
<td>400</td>
<td>23.9</td>
<td>26.4</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>1945</td>
<td>290</td>
<td>29.7</td>
<td>29.7</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>1946</td>
<td>300</td>
<td>34.5</td>
<td>33.4</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>1947</td>
<td>257</td>
<td>44.8</td>
<td>2.1</td>
<td>40.2</td>
<td>1.8</td>
</tr>
<tr>
<td>1948</td>
<td>223</td>
<td>39.1</td>
<td>3</td>
<td>42</td>
<td>1.8</td>
</tr>
<tr>
<td>1949</td>
<td>145</td>
<td>48.6</td>
<td>6</td>
<td>45</td>
<td>1.4</td>
</tr>
<tr>
<td>1950</td>
<td>257</td>
<td>53.2</td>
<td>9.5</td>
<td>51</td>
<td>1.5</td>
</tr>
</tbody>
</table>

(In millions of dollars)

Enacted as a temporary stop-gap, the 1936 Act has become a permanent fixture. Designed as a dual purpose measure it quickly turned into a single purpose device for paying current subsidies to all farmers meeting certain minimum standards. Prosperous farm areas and regions with little erosion compete for their share in the subsidy with sub-standard regions in real need of help. The side-tracking of the Service has been a definite flaw. The local committees which the law sets up have hardly anywhere been equal to the task of administering the Government's most expensive conservation effort. Composed almost always of farmers of good standing these committees are well enough equipped to make an equitable distribution of government-allotted funds to the farmers of their communities, but they fall down when it comes to the technical aspects of soil conservation and they are without time to devote to field work. Efforts have been made to integrate the activity of the Production and Marketing Administration under the Soil Conservation and Domestic Allotment Act of 1936 with the work of the Soil Conservation Service, but they have remained local efforts. The Hoover Commission proposed discontinuance of soil conservation payments as “income supplements in disguise” and a consolidation of all soil conservation activities in one agency but its

recommendations have not been acted upon. Conservation's mainstay, the Act of 1936, continues to make money determine the needs of conservation, rather than conservation the needs of money.

III

"The depredations of wind, water and man are now responsible in the continental United States for the loss of 500,000 acres of top soil each year. This is the equivalent to the acres needed to support 175,000 people with food and clothing at accepted standards of living. This is good, fertile, and priceless top soil which has wasted away down the rivers to the sea, forever lost. The effect of this loss is not merely numerical. This stripping robs many times that number of their productivity, reduces some to sheer wastelands, and increases the burdens of production on others to a point of diminishing return. . .

"The problem is whether present program levels of soil conservation, of the retirement of worn-out acres and their gradual rehabilitation, of supplemental and new irrigation, can match the depredations and over-use and the increased demand of new population. The answer is: 'No, not yet.' The answer could be permanently 'No' should the national effort of land conservation and development falter. The air traveler of the future will either gaze upon a vista of desolation or one of geometrical patterns of soil conservation furrows and irrigation and drainage canals. One will mean the decline of our great American civilization; the other will spell continued progress and national well-being."

It is easy to blame ignorance and selfishness in the face of this incalculable waste of resources, but what has the law done to prevent it? Judging from our conservation legislation—which is nothing but a magnificent attempt at dissuasion through reason, bribes, and outright purchase from the pursuit of a course of colossal destruction—we have proceeded on the assumption that this destruction is self-inflicted and that the law is powerless when it comes to stopping a suicide.

To the property owner responsible for the destruction we added the public interest as a further victim and made ineffectual attempts at regulation in the interest of the public welfare. Forgetting that an action injurious to the public would be first of all injurious to some of its individual members we failed to erect a system of safeguards for the protection of those individuals who became the first and most direct victims of soil exploitation by others.


91. REP. SEC. INT. 6 (1947).
Before concluding that the damage done by erosion is beyond the reach of the law let us consider its nature. Most erosion damage is man-made. Man inflicts it on his own land, and he inflicts it on the land of others. He does it by gullying and siltation and by air-borne deposits. He gullies his neighbor's land by reckless cultivation of his own; he silts up distant reservoirs by deforestation of his hillsides; and he buries land miles away in dust by plowing sod unsuitable for cultivation. Is it true that our law offers no defense against these water and air-borne invasions by masses of earth dislodged from other properties? A few case histories may provide the answer.

a. Speaking of the plow-up conducted by speculators in the semi-arid western plains, Senator Anderson, former Secretary of Agriculture, has said: “These lands might in very favorable years raise some grain, but in the long run they would only raise a dust and misery. To let them go under the plow would be as sensible as turning a tiger loose in the streets.”

Our law of nuisances offers protection against immissions of smoke, noise and odors. Is it not based on a broad enough principle to abate recurring attacks by waves of dust caused by an action “as sensible as turning a tiger loose in the streets”?

b. The Annual Report of the Chief of the Soil Conservation Service for 1948 states: “It is not difficult to understand how the refusal of a farmer to protect his own land from erosion can do serious damage to an adjoining farm as where, for example, uncontrolled gullies pouring out infertile sand, gravel, or subsoil clay spread these materials over nearby lower lying fields which have been given all the protection the neighboring farmer can provide through his own endeavors. It would seem that some means of protection is justified on the part of the farmer whose lands are being damaged in such manner.” The answer to this problem would seem to lie in the civil law rule on diffused surface waters requiring the discharge of water on the lower estate in such a manner that it reaches the lower estate “untouched and undirected by the hands of man,” i.e., not enclosed by any but natural channels. Gullies are usually man-made channels and they are the very thing the rule has been designed to prevent. True, a minority of jurisdictions is applying the Massachusetts rule of surface waters, but most of the states where gullying is common apply the civil law doctrine.

c. “Studies during the past decade have revealed the seriousness of sedimentation damage to water control and utilization structure; to channels, water ways, and canals; and to agricultural land throughout

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93. P. 55.
the country. The problem now centers on how to reduce these damages. "Some of the largest reservoirs in the West are silting up at a rate which will seriously diminish their storage capacity in less than two generations." "The cost of flood control works completed, or under construction in the United States to date, amounts to nearly ten billion dollars and projects which are definitely planned will cost nearly twice that amount. Unless sedimentation is adequately controlled many of the improvements made under these programs may suffer considerable damage and their life and usefulness diminished." Siltation through sediment carried away in surface water and streams is such a common occurrence that it is generally considered unavoidable. Some of it is unavoidable and an Act of God; some of it is man-made and avoidable, but we do not know how to avoid it; most of it is man-made and avoidable through the application of proper agricultural and forestry practices.

Continued siltation which is clearly due to improper land use might well be thought of as a public nuisance, or it might be attacked by the lower riparian as stream pollution. There was a time when our courts went to the limit in permitting pollution as "trifling inconveniences to particular persons [which] must give way to the necessities of a great community" but since then our courts have become more reluctant to sacrifice every vestige of riparian rights to industrial progress and their views have tended to impose stricter standards by application of "reasonable use" restrictions. While the decisions have been concerned mainly with chemical pollution, they are broad enough in principle to include siltation.

Another avenue of approach to the problem of erosion damage to others is offered by the rule of *Rylands v. Fletcher.* This rule has

98. Jacobson, Stream Pollution and Special Interests, 8 Wis. L. Rev. 99 (1933); Note, Purity and Utility, Diversity of Interests in River Pollution, 84 U. of Pa. L. Rev. 630 (1936).
100. L. R. 1 Ex. 265 (1866). "We think that the true rule of law is that the person who for his own purposes brings on his lands and collects and keeps there anything likely to do mischief if it escapes, must keep it at his peril, and if he does not do so, is prima
often been declared dead in this country and it has been riddled with exceptions where it was applied at all. In a paper written forty years ago and examining the origin and growth of the rule of *Ryland v. Fletcher*, the author analyzes the lack of enthusiasm with which the doctrine was met. Contrasting the affirmative attitude of the British decisions with the almost unanimous repudiation of the doctrine by the American courts, the author says: "In every case, where by the lawful and careful use of his land, an owner infringes his neighbor's exclusive occupation and enjoyment of and dominion over his land, there arises a conflict of antagonistic interests; and this conflict is not merely between the interests of the particular parties but involves a far wider antagonism. The ownership of land carries with it two beneficial incidents—each of which has come to be recognized as a legal right—the 'right' to exclusive occupation, enjoyment and dominion, and to utilize it for the owner's social and economic purposes. When these two rights conflict which is to prevail?"\(^{101}\) After showing that the "right to exclusive occupation, enjoyment and dominion" prevailed in Britain while the American courts gave precedence to the owner's right to "utilize the property for his social and economic purposes" the paper continues: "The English courts are concerned chiefly in preserving the integrity of the traditional distribution of an advantage given by nature by [sic to] all riparian owners, as it were in common, or perhaps better, successively—the American courts are endeavoring to so distribute it that it may be best utilized in building up the industrial and commercial prosperity of the country in so far as this is compatible with a reasonable equality of distribution. The first is the view natural in a country whose development, gradual and slow, is substantially complete. . . . The latter is the view natural to a new settled country urgently requiring development even at the cost of some apparent injustice. . . .\(^{102}\) The rule of *Rylands v. Fletcher* has continued to find a cool reception in American courts, however there has been a distinct change in the climate in which these courts have proceeded to repudiate the rule. "Building up the industrial and commercial prosperity of the country" is no longer the unqualified ideal and the right to "utilize one's property for social and economic purposes" has become progressively subject to restrictions. True, the vehicle of these restrictions has generally been public regulation, but the tendency to impose or resurrect by court fiat "reasonable use" limitations on property utilization is evidence that the common


\(^{102}\) Id. at 386.
law has not remained static. Although the rule of *Rylands v. Fletcher* has never found real acceptance in this country, its principle of imposing a strict liability on certain property uses has shown surprising vitality and the frequently violent impacts within the close relationships of modern society have actually led to extensions of the doctrine beyond its original scope.\(^3\)

Considering all the facts there is powerful argument for a turn in legal thinking. The mechanics of soil erosion are a discovery of only the last decades, but the timing of the discovery is perhaps not wholly accidental. It is well known that the mechanical tools at the disposal of today’s builders, farmers, and foresters have a potential of far greater destruction than anything known heretofore. This potential is presently being used to capacity with the result that our ground is packed, cut, and scraped deeper than ever. In spite of the decrease in cultivated farm area, the silt load of our rivers has increased so tremendously that it has become the nightmare of many a community whose livelihood depends on the future condition of a reservoir. Translated into legal terms, this increase in the utilization of power tools for the production and unloading on other properties of large masses of earth can only mean that the people responsible for such increase have ceased to make of their own properties the “natural use” contemplated by the law and that they have, in their utilization of land drained by surface water and streams, gone beyond the limits permissible under the rules of law prevailing in the majority of jurisdictions.

Integration of the essentials of soil conservation into our common law would in itself be a step forward. It would have the further advantage of diminishing the need for public regulation. Once litigation had settled certain minimum standards of land use these standards would tend to become a matter of custom. The distasteful policing job connected with any kind of regulation would be dispensed with in the area of conduct governed by the rules of private law.

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While proper application of common law principles would solve many of the short term problems of conservation, it would not take care of its long term aspects. Because erosion control is not just a process of containment, a system based solely on short term considerations is inadequate. In reality conservation embodies two concepts: conservation and restoration. The first requires personal standards much higher than

those applied at present; the second requires an effort whose dimensions we have hardly begun to grasp.

When considering this long term job of restoration, let us learn from the past. The history of our conservation efforts shows that subsidies, whether in the field of forestry or general conservation, achieved only scant results. This was true because the subsidy was offered with little consideration for the requirements of permanency. Yet, while we paid premiums for the most temporary kind of conservation practices, we failed to offer inducements to the man who tackled the long term job of restoration.\textsuperscript{104}

The main task of future legislation—federal and state—consists in the creation of a system which would benefit these long term efforts of conservation. Its aim should be:

1) Appropriations adequate for the expansion, improvement and current management of publicly owned land.

2) Segregation rather than consolidation\textsuperscript{105} of governmental functions in the conservation field. Management of government owned land including forests and submarginal land should be in one agency, research and assistance to private conservation work in another (e.g., by way of a division between the Department of the Interior and the Department of Agriculture).

3) Soil conservation as a goal to rank equal if not above other agricultural goals, and the Soil Conservation and Forest Services to be given a voice in both the framing and administration of general policies.

4) Removal of inequalities by taxation or otherwise to which permanent land improvements for conservation purposes are currently subjected.

5) Discontinuance of the present system of current subsidies. Increased use of government funds for research, technical assistance to private land owners, and under proper safeguards, permanent improvements on private lands.

\textsuperscript{104} In fact, we penalized him. Because our tax laws treat expenditures for permanent conservation improvements as additions to land, such expenditures are deductible neither as current expenses nor by way of an annual depreciation allowance. In other words, the man who practices permanent conservation has to use either income after taxes or capital. This may not be always true of conservation works on small farms, but it is true of any large scale efforts. How can we approach the vast undertaking of re-habilitating our sub-standard woodlands if we limit the area of such undertaking to operators who can deduct expenditures for rehabilitation from logging income? In the majority of the run-down woods east of the Mississippi the economics are against the sustained yield operator and a tedious and costly effort of wholesale restoration will have to be undertaken which under present circumstances is wholly unattractive to the private operator.

\textsuperscript{105} The Hoover Report recommends consolidation.
6) Regulation, its need greatly reduced if common law principles are applied, to be used only where enforcement is practical.\textsuperscript{106} Whatever our suggestions for legislative action may be, such action should be considered as part of a system in which the common law takes its share. Without it, it will remain patchwork; with it, conservation will be able to face the great task ahead.

\textsuperscript{106.} \textit{i.e.}, forestry on sizable properties.
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