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CONSERVATION A FOUNDATION FOR NATIONAL WEALTH

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Waste not, want not!

The wisdom of that advice has never been doubted. Until recent years, however, the necessity of following it has not been fully appreciated in America. It is today becoming more and more evident to the people of this country that if we are to remain nationally strong and economically stable, the conservation, preservation and development of our natural resources must become a matter of national concern and united effort—for these natural resources form the only solid foundation for national wealth. This is particularly true of resources that are self-renewing and capable of continuous production.

Scarcity—water—the two most life-giving resources—have these essential characteristics. They must be regarded as the most precious prizes that could be possessed by this or any nation, for without them generations in the past have withered and died. Their reckless depletion and needless waste must be considered as grave a peril as a hardened criminal threatening the security of your home and community.

It would be erroneous to regard this peril as a new danger suddenly found lurking on our national doorstep. The peril had its seeds in the unwise use and exploitation of the material wealth of the nation when our forefathers were settling this country, when it appeared so vast and fertile that no thought was given to husbanding its seemingly limitless resources. The peril found nourishment in the inevitable waste and drain of wartime demands. It grew strong in the association of conservation with shortages in the minds of the people—a misconception that conservation meant
hoarding, saving, sacrificing the needs of today for that theoretical "rainy" tomorrow; rather than an understanding that conservation means the wise use and re-use of all resources to insure maximum benefits to the people to whom they belong, both now and in the future.

The United States has been endowed with resources unequalled by those of any other nation—resources which can serve as a crystal ball promising greatness or predicting mediocrity. From our coasts—indentured with bays and inlets for the development of ports—flow numerous rivers reaching into the interior; the mightiest of all river systems—The Mississippi and its tributaries—weaves its way through the heart of America, and the Great Lakes provide this country with the busiest inland waterway in the world. With our territories and possessions we extend from the arctic into the tropics. Our great size has provided us with a diversity of soils and climates favorable to mankind and to the production of a wide range of human needs. Rich veins of minerals run like pulsing arteries under the surface of our land.

**The Loss Is Ours**

As custodians of such treasures we have exercised neither care nor judgment. Virgin forests are largely gone. Distressingly large areas of land in our agricultural regions have been worn out by improper land use practices or have depreciated in value through soil erosion. Rich mineral resources have been exhausted or diminished through long continued use. The decline of our fish and wildlife resources has been a matter of grave concern. Our great water resources remain more potential than real; free to wreak the havoc and the suffering of floods; free to carry priceless top soil away from the land and into the sea.

The increase in general water consumption brought about by the rapid rise in population, together with skyrocketing industrial water demands, has multiplied the daily national requirements to 170 billion gallons of water every day—with an additional billion gallons a day needed to generate hydro-electric power—and has resulted in acute shortages in some sections of virtually every state in the Union. This widespread shortage, if prolonged, could eventually lower the American standard of living and could present a very serious obstacle to our industrial progress. Already this year ten million pounds of vitally needed aluminum have been lost because of water shortages in the Northwest, and if the situation continues, 119 million pounds are in jeopardy of being lost, according to the National Production Authority. But the situation must not be allowed to continue. A solution must be found—and it lies in conservation.

The first and most vital step must be the elimination of the waste and destruction of uncontrolled water. Man cannot regulate rainfall and snow melt, but he can analyze the factors leading to floods and plan and provide measures for their control. It is left to the skill of man to catch and store the surplus water during periods of excess flow to prevent flood damages and to make the water thus stored serve his domestic, industrial, and agricultural needs; to put it to use for the production of power, for navigation, irrigation, drainage, fish and wildlife preservation, stream pollution abatement, recreation, and other known and unforeseen needs.

**There Is a Definite Responsibility**

Congress has assigned to the Corps of Engineers responsibility for the conservation and development of the water resources of our country for flood control, navigation, and allied purposes. The first projects assigned to the Corps were concerned with problems of navigation, and we have been performing this civil function for 128 years. Later, when flood control was recognized as a Federal responsibility, this task was also assigned to the Corps of Engineers and comprehensive studies, approached from a nation-wide standpoint and taking into consideration all multiple uses of water, were initiated. Today we are working in more than 200 river basins throughout the country. The national flood control program—although a relatively recent activity of the Federal Government and one that was almost completely stopped during World War II—has already prevented flood damages of well over five billion dollars, or 300 million dollars annually. This is compared with the 2.3 billion dollars appropriated through the last fiscal year for construction, maintenance, and operation of the projects—and their useful life, in some cases, is just beginning. Over 860 communities and over 26 million acres of rural land, with an aggregate population of about 4,600,000, are now afforded protection.

**An Ultimate Goal**

But the job is only half finished. The remaining average annual flood damage actually experienced in this country totals some $500,000,000. While there remains a single unprotected river valley, floods will continue to plague and harass the people with double trouble—the waste of too much water today, the want of not enough tomorrow. Floods that destroy past labor and prevent future progress are not man's inevitable heritage. He can himself create and pass on a better one. Complete protection from floods, and maximum utilization of water resources must be the ultimate goal. No tributary stream possessing a flood threat must be allowed to go uncontrolled; no stream must be permitted to impose a drain on regional and national economy. In returning to the sea from whence it originally came, our water must be made to serve beneficially every need known to man in his ambitious quest for all that is good in life. In accomplishing this complete utilization, our planning must have vision. It must reflect the resourcefulness of our people and be responsive to their will. It must be characterized by flexibility rather than rigidity to better meet the
The central industrial district of Kansas City, Missouri, is paralyzed by the raging waters in which investments totaling $600,000,000 are being jeopardized.

complex, changing needs of our generation and the anticipated needs of future generations.

The Corps of Engineers has long recognized the need for close cooperation and coordination among the various Federal agencies charged with different phases of land-and-water resource conservation and development, and our engineering studies have always taken full cognizance of all uses of water—and all accepted methods of control and conservation. The various uses are carefully studied and analyzed by the Corps of Engineers, working jointly with other interested Federal agencies, local and state governments, and with the people in the affected areas. Projects which provide for multiple water uses have been constructed to the maximum extent feasible.

Navigation improvements in the Corps of Engineers civil works program have provided the country with over 27,000 miles of improved inland waterways. This unsurpassed system of navigable waterways has become a vital element in the national transportation structure in both war and peace. Improvement of seacoast harbors and channels has resulted in the current maintenance of 286 commercial harbors which have been essential to our peacetime ocean-borne commerce, and have served as ports of embarkation and sites for shipyards and naval bases in time of war. Improvement of harbors and connecting channels of the Great Lakes has produced 131 ports on that natural waterway system, which provides the basic transportation structure for the midwest industrial development.

Development of the hydroelectric power potential of our river basins is one of the most important aspects of water resource development. Corps of Engineers projects, either completed or under construction, have provision for an ultimate capacity of approximately 8 million kilowatts of hydroelectric energy, and plans—to be carried on over a long period of time—contemplate the development of over 15 million kilowatts.

The disposal of sewage and industrial waste is an important problem of water conservation, especially in metropolitan areas. In its planning for river basins the Corps of Engineers has worked closely with the Public Health Service and with appropriate State and local agencies where pollution abatement problems were involved, and it has been apparent in many cases that civil works improvements could contribute substantially toward solution of this problem.

In contributing to fish and wildlife conservation, the flood control and navigation projects of the Corps of Engineers have provided three and one-half million acres of wildlife range for development, management and use of wildlife resources which otherwise would not have been available. In addition to the great value of these areas for conservation, they are in active use for hunting and fishing. Last year the harvest of fish from Corps of Engineers reservoirs totalled over eight million pounds of sport fish and more than sixteen million pounds of commercial fish, providing a substantial supplement to the food supply of the nation.

One hundred man-made lakes have been added to America's recreational resources by projects in the civil works program of the Corps of Engineers. During 1951 over 26 million visitors used the lands and waters of these projects for various recreational activities.

In alleviating the growing threat of inadequate municipal water supplies, twelve reservoirs will be used to furnish water to combat this menace. Dallas, Texas, which at the present time is faced with less than a scant four months normal supply, will be one of the municipalities thus aided.

Concurrent with the conservation of our water re-
resources, must be the equal conservation of our other basic resource—soil. In a world pleading for increased food production we can do no less. But we cannot do it if we continue to destroy our land—to wear it out or watch it wash away. As a nation we started with 600,000,000 acres of good tillable land. Today we have 500,000,000 acres of high-class cropland left on all the farms of the nation—and we are considered still a young nation. One-fourth of that cropland is now being damaged by erosion at a critically rapid rate; and another fourth is being eroded at a less critical but still serious rate; and another fourth is suffering from a decline in fertility. We are allowing about 500,000 acres of our cropland to be lost by erosion each year, and present estimates indicate that some 90,000,000 acres of land now cropped regularly should either be retired to permanent cover or should be cultivated only once in five or more years. This is indeed a gloomy picture, but it need not remain so. Soil fertility need not be diminished. European farms cultivated for a thousand years have demonstrated this fact. We know the secret—it is conservation. But it requires more than knowing—it requires practicing. Water is the irremediable limiting factor in crop production. We have thousands upon thousands of acres of land needing only the moisture from controlled streams, and proper farming practices, to multiply by many times the richest crop and livestock yield we have known. To offset the loss in present cropland, good land not now used for agriculture could be brought into cultivation through drainage, irrigation and other needed improvements.

**FEDERAL FLOOD CONTROL IS AN ANSWER**

In addition to the prevention of flood losses, the effect of the Federal flood control program on agricultural land is largely one of improvement, and similar in effect to the provision of supplemental water, rather than of reclamation of new land. It has been estimated that, on the average, when three acres are given a good degree of flood protection, there results an increase in productive capacity at least equal to that produced by reclamation of one acre of new land. This factor, if applied only to the agricultural lands affected by the flood control program of the Corps of Engineers which are suited to farming and which have been given from good to full protection, would give a new-land equivalent of at least eight million acres. In other words, the improvement in production made possible or to be made possible by the Federal flood control program is equivalent to the reclamation of eight million acres of land.

But flood control works cannot retard erosion of the soil resulting from improper land-use practices. On the other hand, proper soil conservation practices cannot eliminate floods—there were floods on our rivers long before the white man’s plow bared top soil to wind and rain.

Consequently our programs—one for the preservation of the land, the other for protection of the land from floods—are natural complements of each other. Only by such combined programs can the needed controls be obtained and uninterrupted production of agriculture be assured. Together they can end the needless dissipation of precious resources, end the needless waste and, with the help of God, eliminate future want.

Every measure for the control of floods and use of the water must be considered and applied, just as every technique for soil conservation and restoration must be given the widest possible practical application—for therein lies our hope for the future. But conservation of our natural resources is not the responsibility of a few specialized groups or government agencies. It must be the responsibility of every individual to share equally in the task as they shall share equally in the benefits. The resources of our country will be secure only when each of us—the true owners—understands our responsibility, and through unity of desire and unity of purpose, achieve the greatness that can be ours: for in the words of Ralph Waldo Emerson: “He who knows what sweets and virtues are in the ground, the waters, the planets, the heavens, and how to come at these enchantments, is the rich and royal man.”

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**ABOUT THE AUTHOR . . .**

General Pick attended the Virginia Polytechnic Institute, and was graduated from there in 1914 with a Bachelor of Science Degree. In 1917 he was appointed first lieutenant, Engineers Reserve, and in 1920 he joined the Regular Army.

During World War I he served in France with the 23rd Engineers. In 1921 he was assigned to the 3rd Engineers and stationed in the Philippines. In 1924, he became Professor of Military Science and Tactics at the Alabama Polytechnic Institute.

In World War II he was commander of an Advanced Section, Army Service Forces, India-Burma Theater of Operations. While there he was responsible for the construction, operation and maintenance of the Ledo Road.

In 1945, he became Division Engineer, Missouri River Engineer Division, Omaha, Nebraska.

On March 1, 1949, he became Chief of Engineers for a four-year term by presidential appointment.