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**Appendix D**  
**“The Corps of Engineers and the American Environment”**  
**August 1978**

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# The Corps of Engineers and the American Environment: Past, Present, and Future

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In Washington, D.C., my office desk sits between two framed quotations by two great Americans; each quotation describes a representative mission of the Army Corps of Engineers. One of these is by Mark Twain, who said, in 1882:

The Military Engineers have taken upon their shoulders the job of making the Mississippi over again - a job transcended in size only by the original job of creating it.

The other is an 1895 quotation from John Muir, the famous turn of the century conservationist and founder of the Sierra Club:

The best service in forest protection, almost the only efficient service, is that rendered by the military. For many years they have guarded the great Yellowstone Park, and now they are guarding Yosemite. They have found it a desert, as far as underbrush, grass and flowers are concerned, but in two years the skin of the mountains is healthy again. Blessings on Uncle Sam's soldiers as they have done the job well, and every pine tree is waving its arms for joy.

To me, these two quotations represent the complementary missions of the Corps of Engineers in the past, present and future to develop America's water resources and to perform engineering missions so as to contribute to the nation's economic well-being; and to preserve and enhance the quality of our natural environment, ensuring a more fulfilling life for every American. Because the Corps' developmental mission is relatively well understood, I will here emphasize the Corps' environmental record and goals.

In the United States today most of our citizens have developed at least a degree of concern for environmental quality. Public opinion polls regularly disclose that a majority of Americans want to breathe clean air, enjoy waters free of pollutants, have access to parks and open space, preserve wildlife, and control excess noise. We want to balance economic development with environmental quality. These beliefs follow from our realization that, if we cannot have both a functioning economy and a *General Morris* expresses appreciation to *Lance D. Wood* of the *Office of the Chief Counsel, Office of the Chief of Engineers*, whose comprehensive research made this article possible.

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livable environment, there can be little real value in an ever-increasing Gross National Product. If the average American's "quality of life" must deteriorate as our economy and population grow, then "growth" can hardly be desirable.

Because some degree of "environmental consciousness" has become commonplace, some of our citizens find it hard to understand why many of our institutions and government agencies have not always been closely identified with these currently accepted environmental policies. In fact, the more strident environmentalists do not hide their distaste and contempt for large segments of American industry and for many governmental agencies which traditionally have emphasized economic development goals rather than environmental preservation.

Although I think I understand such extreme views, I would remind those who hold them that institutions, economic systems, and agencies within democratic governments almost always reflect the predominant economic and social forces of their age; very rarely indeed can a government agency give complete deference to the values of a future generation in preference to those of the current generation. And the fact is that "environmentalism" has become a truly powerful force in the United States only in relatively recent times.

## A Brief History of America's Environment

From the earliest years when European cultures came to the New World until modern times, the primary motivation of almost all of the new Euro-Americans was to use, develop, and exploit the natural resources of a virgin land. The settlers at Jamestown and the Pilgrim Fathers and Puritans in New England generally regarded America's wilderness forests as "howling wastes": hostile, dangerous, and worthless until subdued and used by farmers, woodcutters, and mill-operators. Thus from the Europeans' arrival in the 16th Century through the middle of the 20th Century, the story of the American environment was the story of explosive human population growth, conversion of wilderness into farms, towns, and factories, and rapid development and consumption of natural resources. The tragic examples of waste, greed, and exploitation are well-known and do not need explanation: the extermination of immense numbers of passenger pigeons, bison, and waterfowl; wasteful leveling of our virgin forests by fire and ax; wind and water

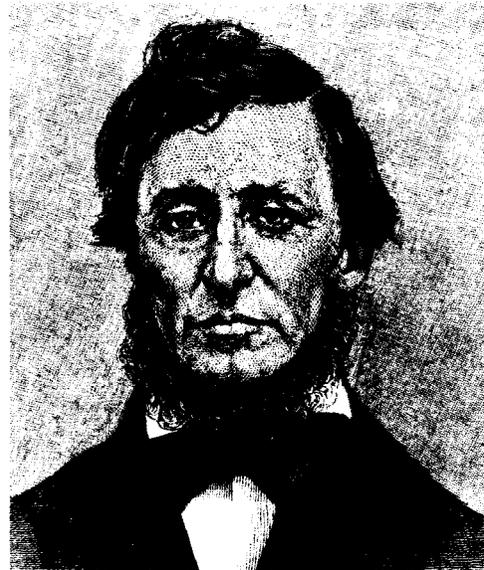
erosion of millions of acres of once-fertile farmland; thoughtless drainage or filling of productive wetlands; the poisoning of our waters, air, and soil with industrial and agricultural pollutants and raw sewage; the sprawl of cities and suburbs over farmland and open space. The list of historic environmental abuses is almost endless.

But despite the misuse of the American environment from the earliest days onward, there was no significant "environmental movement" in the United States until very recently. One extraordinary indication of this is that no really enforceable or effective Federal law was enacted to deal with the national problems of water, air, or noise pollution prior to the 1970's. Similarly, preservation of the few remaining tracts of American wilderness or wild rivers, and of endangered species of wildlife, was not even a legally recognized objective until the late 1960's.

It is true that a few highly exceptional individuals spoke out during the 19th Century against the degradation and exploitation of the American environment; but we remember those individuals today precisely because their views were advanced far beyond their respective eras. Henry David Thoreau wrote eloquently of nature, the wilderness, and an environmental ethic in the middle of the 19th Century. But he and his works were generally ignored or ridiculed during his own lifetime, while his contemporaries settled the American West, cut and burned the remaining forests, and exterminated the bison. John James Audubon painted wonderful pictures of American wildlife in the early and middle 1800's but the paying market for his pictures was largely that in Europe, and practically none of his fellow Americans gave a thought to preserving the continent's disappearing wildlife heritage, even as it was lost to market hunters and destruction of habitat. A few 19th Century painters admired and reproduced the scenic American landscape. But the great majority of Americans apparently thought that "appreciation of the landscape itself, apart from its practical uses (was) pointless and effete."<sup>1</sup>

The first modest, yet significant, achievements for conservation were almost fortuitous developments. A few extraordinary men, such as John Muir, convinced a few enlightened Federal officials to set aside a few areas of the public domain as our first national parks and monuments. Later, through the accident of President McKinley's assassination, the United States unexpectedly found itself with its first "conservationist" president-Theodore Roosevelt! Despite ferocious opposition from entrenched economic interests, Roosevelt appointed officials with advanced conservationist ideas--such as Gifford Pinchot of the Forest Service--and continued to set aside national monuments and parks.

From time to time thereafter the incipient U.S. conservation movement had modest periods of accomplishment--additional public lands were set aside in every president's administration from Franklin Roosevelt's onward; and the Fish and Wildlife Coordination Act expressed but did not effectuate a pro-wildlife policy. But for the most part America continued throughout the 19th and most of the 20th Centuries to do "business as usual," with our preeminent moving force being that of economic development. A tiny band of American conservationists did plead for anti-pollution laws, for preserva-



Henry David Thoreau was one of the few 19th Century Americans to espouse an environmental ethic.

tion of wetlands, for control of urban sprawl. But they were generally ignored and scorned by the American macrocosm as cranks and eccentrics; most of their pleas were drowned out by the roar of the American economy in operation.

The dominant American ethic of economic growth and development can be explained in many ways, of course. As far back as the history of Western Man discloses, our culture has fostered acquisitiveness, a taste for material comfort, an urge to master natural forces, and relative unconcern about the well-being of wild animals, trees, or even aboriginal men. The specific Western civilization which evolved in North America has long regarded the vast natural resources of this continent as inexhaustible, and has used and wasted them accordingly. Only the long-delayed realization that these resources are at last being outstripped by population growth and our rate of consumption has led to the unwelcome and grudging recognition of "the limits to growth."

#### Emergence of the Environmental Movement

Not until the pollution of water, soil, and air threatened literally to kill large numbers of Americans with deadly poisons did the American public and their governmental officials begin to give serious attention to the state of our neglected environment. Perhaps the most representative distress signal by which the new "environmentalists" captured the attention of the press, the public, and then the government was that alarming book: *Silent Spring* by the late Dr. Rachel Carson, first published in 1962. That seminal publication inspired an international uproar which grew in size and intensity through the decade of the 1960's culminating in the

spirit of "Earth Day" observances. Agree or not with Dr. Carson's carefully-developed case against persistent pesticides which accumulate in the environment, eventually her basic recommendations were accepted and enacted into law by the Congress and EPA regulations.<sup>2</sup> *Silent Spring* was an avant-courier of the great American environmental movement of the 1970's which eventually gave us the Environmental Protection Agency, the National Environmental Policy Act,<sup>3</sup> the Council on Environmental Quality, the Clean Air Act Amendments of 1970,<sup>4</sup> the Federal Water Pollution Control Act Amendments of 1972,<sup>5</sup> the Noise Control Act of 1972,<sup>6</sup> and the Endangered Species Act of 1973<sup>7</sup>-to name the more prominent ones.

Today the environmental movement is becoming institutionalized at all levels of American government and in innumerable private organizations such as the National and State Audubon Societies, the Sierra Club, the National Wildlife Federation, the Natural Resources Defense Council, the Environmental Defense Fund, and Zero Population Growth. Nevertheless, the battle to save America's remaining natural environment has only been joined. We need more effective national programs in the United States if we are to preserve our remaining farmland and natural habitats from sprawling suburbs and recreational-home developments, to dampen the explosive population growth rate of the U.S.A. and the world, to effect widespread conservation of energy, or to solve other environmental problems. Reviewing the history of the American environment from 1492 to the

present, one can only conclude that the American environmental movement has been "a long time coming" and has by no means achieved its objectives to date.

#### A Brief History of the Corps' Work in the Environment

With the foregoing background in mind, I would like now to assess the relationship which the Army Corps of Engineers has had over the years with the American environment and the environmental movement. Rather early in the Corps' history, the Congress and a number of presidents gave the Corps many and varied assignments to help develop the newly-founded Republic. The Corps was honored with weighty responsibilities, primarily because its West Point-trained engineers constituted the only U.S. governmental entity possessing the technical competence to deal with many engineering problems in the early 19th Century.

A few examples of 19th Century missions assigned to the Corps suggest the national drive toward economic development which determined priorities for both the Corps and the young Republic which it served. In 1824, Congress authorized President James Monroe to direct Army engineers to survey roads and canals needed for commerce or military purposes.<sup>8</sup> In that same year Congress authorized the first civil works to improve navigation in the Mississippi and Ohio Rivers,<sup>9</sup> under which authority the Corps began an extensive program to clear those rivers of snags, floating trees, and sandbars, all of which impeded navigation.



The extermination of the bison is but one example of rampant exploitation in America's history.

Also in 1824, the Corps undertook its first assignments to construct harbor improvements, such as breakwaters, jetties and piers. During the following 30 years, the Corps developed and used technology to deepen and maintain harbor depths by dredging; Corps responsibility for harbors continues to the present day.

In 1825, the Corps was directed to improve the recently-constructed Cumberland Road and to extend it into the new territories of Ohio, Illinois, and Indiana. In 1831, the Army Engineers began to supervise construction of lighthouses to aid navigation and commerce.

In 1837, Corps of Engineers officers studied the navigation potential of the lower Mississippi and recommended deepening that river's navigation channel through dredging. The Corps continued to develop and utilize dredging technology on the Mississippi up to the outbreak of the Civil War.

In 1851, disastrous floods along the Mississippi River led to congressional authorization of the first comprehensive topographic and hydrographic study of a major U.S. river basin. In response, Corps of Engineers officers completed a remarkably advanced technical study of the Mississippi, with recommended improvements for navigation and flood control. The Corps' work on the Mississippi eventually led Congress, in 1879, to create the Mississippi River Commission, which was constituted to include three Corps officers as members.

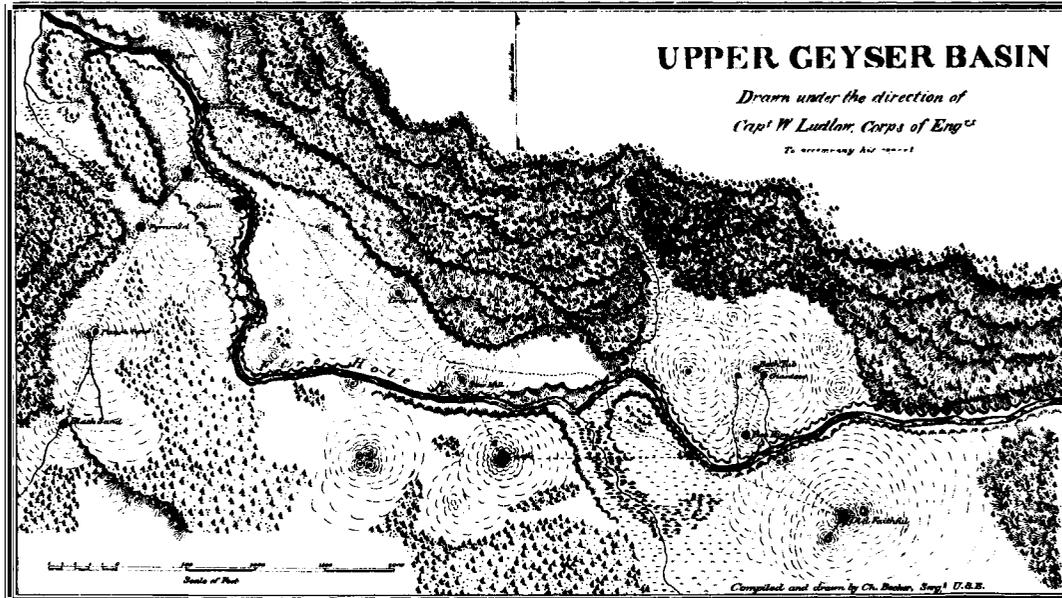
In 1874, Congress gave the Corps extensive responsibilities to modernize, restore, and maintain essential services for the Federal District of Washington, D.C. Among other projects, the Corps completed the Washington Monument, the Lincoln Memorial, the Tidal Basin, and the Washington water supply system.

The Corps of Engineers began to implement major flood control projects in 1882 when Congress authorized the Mississippi River Commission to build flood control levees along the river. In 1907, Army engineers were assigned major responsibilities for construction of the Panama Canal, which resulted in canal operations only six years later, in 1913.

This sketchy outline of early Corps of Engineers assignments rather accurately indicates the goals and needs which motivated the American nation during the 19th and much of the 20th Centuries. Because our young Republic was preoccupied with economic development and growth, the Corps of Engineers carried out missions which reflected those national objectives.

### Early Corps Contributions to Environmental Quality

Of course, the Corps did carry out some assignments which clearly were "conservationist" in nature, even during the 19th Century. For example, Army engineers were prime movers in exploring, mapping and convincing the government to preserve a number of natural areas, the most notable being Yellowstone, Yosemite and Sequoia National Parks. Corps of Engineers officers were primarily responsible for protecting those parks from commercial exploitation and vandalism, and for designing roads and bridges which blend harmoniously with their natural settings.<sup>11</sup> Furthermore, in the last decade of the 19th Century, Congress directed the Corps to perform a few missions which had "environmental" spin-off benefits. In 1893 Congress asked the Corps to control hydraulic mining abuses in California, where that gold-mining technology threatened to ruin many rivers for



Army Engineers were among the first to explore the Yellowstone area and to urge that it be set aside and protected.

navigation, agriculture, and most other purposes. The Corps officers composing the California Debris Commission regulated hydraulic mining effectively, thereby saving California's rivers from being choked with sand and gravel.<sup>12</sup>

In 1899, the River and Harbor Act authorized the Corps to regulate activities which could obstruct U.S. navigable waters. Although that statute was designed primarily to protect navigation from unregulated bridges, piers, and filling, the broad language of that Act allowed the Corps to control the degradation of U.S. waters from refuse, oil, and other pollutants.<sup>13</sup> One must recognize, nonetheless, that these environmental accomplishments of the Corps were "ahead of their time" in the sense that they were atypical of the 19th Century. The Corps could only carry out those missions which Congress and the President prescribed, and most of those were intended to "develop" rather than to "preserve" the nation's natural resources.

Theodore Roosevelt's presidency elevated the conservationist ideas of the Progressive Movement to respectability within the Federal Government, so from his administration onward the Corps did at times find opportunities to incorporate conservationist objectives into its projects. For example, the several projects which improved the upper Mississippi River for navigation during the 1930's were carefully designed to create fish and wildlife habitat and human recreation opportunities. Congress had authorized development of the river's 9-foot navigation channel primarily to ensure new economic growth for the region and to give work to many unemployed persons. The project consisted of a series of locks and dams, creating a series of navigation pools, and other appropriate works to ensure a 9-foot channel.

While accomplishing the project's economic goals, the Corps designed the necessary large dams with great



**The upper Mississippi River navigation project greatly benefited waterfowl by stabilizing water levels during the nesting season and by creating refuge areas.**

care to stabilize water levels during waterfowl nesting season, and to create 194,000 acres of wildlife refuges from formerly-stagnant sloughs and backwaters. The new water level greatly benefited the river's fish resources and many of the ducks, geese, and shorebirds of the Mississippi wildfowl flyway. Furthermore, the Corps built scenic drives and parks along the new lakes, and planted dogwood, hawthorn, and redbud trees for their beauty and wildlife food value. Famous conservationist Ira Gabrielson said the Corps' project benefited wildlife in the region more than any conservation organization could have, since the Corps had greatly increased wildlife and recreation values along the upper Mississippi.<sup>14</sup>

### **Modern-Day Impacts on the Environment**

One thus sees that the Corps' conscientious engineering was assisting the conservation movement for many years before the term "environmentalism" had even been coined. Nevertheless, one must recognize that environmental preservation was never a dominant priority for the United States for the first half of the 20th Century, any more than it had been during the 19th; thus it was not and could not be made a paramount mission of the Corps. Instead, this nation concentrated far more of its resources and attention to economic growth, the improvement of our citizens' material standard of living, and the development of our natural resources, in addition to defending itself during two World Wars, a number of smaller wars, and an uneasy peace. If one merely calls to mind the more noteworthy events and trends of each decade of the 20th Century prior to 1970, one must agree that the economic values and concerns of the 19th Century still predominated. Most of the century's new developments were hardly beneficial to environmental preservation, since most entailed rapid and large-scale application of new technologies which consumed energy voraciously and polluted air, water, and the land itself. The mechanization of transportation via trucks and private autos used up most of our petroleum reserves and inspired the mushrooming of suburbs which covered the American countryside. The technological revolution in American agriculture brought tractors, other extremely costly machinery, and an "agribusiness" founded upon chemical pesticides and massive consumption of energy. American manufacturing industries began to use and discard thousands of new chemicals which polluted our water and air and used up our natural resources rapidly. New packaging and marketing techniques, plus a growing population, led to problems in disposing of solid wastes; and these are but a few examples of 20th Century trends hostile to environmental preservation.

The Corps of Engineers carried out many vital missions from 1900 to 1970, but most of them were "developmental" rather than "environmental" in nature. From Corps efforts in World War II to Corps contributions to the U.S. space program; from continued work for flood control, water supply, and navigation, to creation of hydroelectric energy, the Corps helped build the U.S. economy; but because the public interest priorities were focused on development, the Corps was less frequently expected to preserve the American environment during this period.

## **The Federal Government Accepts Environmentalism**

As already mentioned, the decade of the 1960's saw a belated quickening of public and governmental concern for the deteriorating American environment. In 1963 Congress enacted the Clean Air Act, a statute that proved less than effective in ending air pollution, but did reflect Federal concern with the problem.<sup>15</sup> Soon thereafter Congress passed the Water Quality Act of 1965,<sup>16</sup> a law which did not reduce significantly the problem of water pollution, but which was a trial-and-error attempt to improve water quality. In 1968 Congress adopted the Wild and Scenic Rivers Act<sup>17</sup> which required all Water Resource Development Plans to consider setting aside the river in question as a free-flowing, natural stream.

The growing "environmental movement" achieved a signal victory in 1969 with the passage of the National Environmental Policy Act-NEPA.<sup>18</sup> That now-famous statute also created the Council on Environmental Quality and required preparation of a thorough environmental impact statement for every major Federal action which could have a significant impact on the human environment.

One can hardly overemphasize the value and importance of other environmental legislation which followed NEPA. For example, Congress recognized the inadequacies of earlier statutes, and so adopted the 1970 Clean Air Act Amendments<sup>19</sup> and the 1972 Federal Water Pollution Control Act Amendments;<sup>20</sup> those acts finally gave the Federal Government authority to act against air and water pollution. Another example is the 1973 Endangered Species Act,<sup>21</sup> which established an effective Federal program to preserve species of animals and plants threatened with extinction. In short, the national movement which had been inspired by Carson's *Silent Spring* and by other environmental declarations of the 1960's actually did begin redirecting the course of America's government by the 1970's ensuring that all

Federal decision-makers would at last consider environmental quality as an important national goal

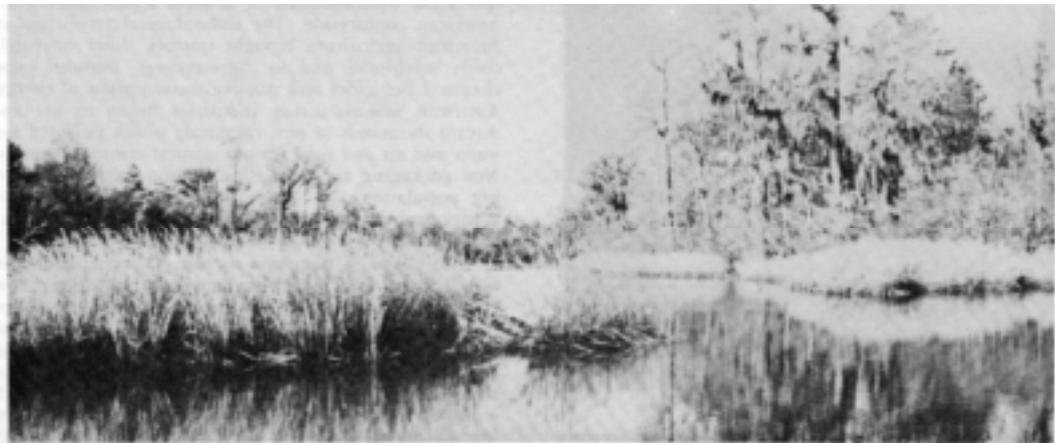
An objective evaluation of the Corps of Engineers record during the 1960's and '70's will, I think, demonstrate conclusively that the Corps not only accepted the environmental policies adopted by the Federal Government, but that it actually provided environmental leadership. Before and after the enactment of these Federal environmental laws, the Corps worked to redirect national attention to programs that seek to balance the objectives of development and conservation, rather than merely emphasizing development.

## **The Corps' New Environmental Consciousness**

In this brief article I cannot do more than begin to explain the many measures which the Corps has initiated since the 1960's to elevate environmental quality to an equal status with economic development as a Corps objective. An abbreviated summary must suffice.

One Activity which has led many environmentalists to praise the Corps (and has led some land developers to revile us) has been the Corps' regulatory protection of U.S. waters and wetlands against unjustifiable dredging, filling, and polluting. The Corps has attempted to safeguard U.S. navigable waters since passage of the River and Harbor Act of 1899; however, before the 1960's court decisions and Attorney Generals' opinions restricted Corps regulations to protection of navigation. Nevertheless, once a U.S. Supreme Court decision gave us expanded authority in 1966,<sup>22</sup> the Corps began to act against water polluters even if their discharges would not have hindered commercial navigation.

In 1967, the Corps expanded its efforts to stop destructive dredging and filling of productive wetlands and shallow water areas. We initiated a regular practice of denying the "dredge and fill" permits requested by land developers, who seemed intent upon eliminating all our remaining marshes, and the fisheries, wildlife, and clean water resources dependent on them. Under the



**The Corps protects U.S. waters and wetlands against unjustifiable dredging and filling.**

1967 Memorandum of Understanding between the Army and Interior Departments, both Federal **agencies** have cooperated to preserve wetlands and **estuarine** shallows, now recognized as invaluable public resources. In 1968, well before enactment of NEPA, the Corps issued formal **regulations**<sup>23</sup> to restrict drastically the rate at which wetlands were being converted into parking lots, recreational second home developments, condominium sites, and the like. When the Corps refused to permit dredging and filling of a biologically productive Florida marsh to make a commercial trailer park in 1969, the developer sued us to obtain a permit. In the landmark case of **Zabel v. Tabb**,<sup>24</sup> the U.S. Court of Appeals for the Fifth Circuit upheld the Corps permit denial as a valid defense of the public interest in environmental conservation.

The Corps was thus actively preserving the environment even before the President signed NEPA into law in 1970. However, that statute reaffirmed the Corps' already-adopted goals redirecting our policies and programs to give due emphasis to environmental preservation.

The mandates of NEPA and similar environmental statutes encouraged the Corps to re-examine all of its projects in the construction and design stages to seek ways to accommodate environmental quality concerns more effectively. A recent study of Corps civil works projects shows that one-third of the 500 projects under construction, or about to be constructed, were modified to accommodate environmental considerations. Similarly, of 200 studies investigated, about one-third of the final alternatives proposed had been significantly changed during the course of the study to minimize their impact on the environment. In 43 percent of the 102 completed projects investigated, the operators had adopted, new procedures to help protect the environment. . . .<sup>25</sup>

Corps implementation of NEPA also has been lauded by the President's Council on Environmental Quality, which stated in its report on Environmental Impact Statements of March 1976:

The Corps dropped or abandoned work on over a dozen proposed projects because its NEPA process, (not litigation) . . . revealed that significant environmental damage would result. Eleven other projects were stopped until environmental analysis could be completed. The Corps also modified or recommended for deauthorization many more projects, in large part because of NEPA and the EIS requirement . . . . These actions have resulted in widespread benefits which are real and substantial but cannot be tallied in monetary terms.

In the years since enactment of NEPA, environmentalism has become increasingly institutionalized as a key component within the Corps of Engineers. The Corps now employs a full array of environmental experts, including biologists, geologists, recreation specialists, wildlife management authorities, hydrologists, and environmental lawyers. This staff and the Corps' new environmental policies continue to generate valuable new programs which will, we hope, benefit the Nation and our environment.

We now advocate non-structural measures to prevent flood losses for all circumstances where flood control dams are not essential—we thus hope to minimize flood damage by restricting development in flood plains. We are studying intensively the traditional Corps practices of dredging navigation channels, and hope to use dredged material as a useful resource to build new wetlands, to reclaim strip-mined areas, and to serve other beneficial purposes. We continue our efforts to prevent the destruction of marshes, swamps and shallow water areas by dredging or filling operations, an enlarged responsibility under Section 404 of the Federal Water Pollution Control Act Amendments of 1972. The few examples cited above at least show that the Corps has been profoundly influenced by the environmental movement which has spread across this country since the **1960's**.

The final and, in many ways, the most essential step has been the revision of the procedures by which policies and programs are implemented. During the past six or seven years, we have established completely new guidelines and procedures which now systematically relate all aspects of water resource planning to environmental criteria.

### **Environmentalism's Recent Difficulties**

An objective observer might say that American environmentalism bloomed most luxuriantly from about 1970 until the autumn of 1973. But from the fall and winter of 1973 onward, environmentalism has faced difficult challenges spawned by the oil embargo, the energy crisis, and years of inflation and relative economic stagnation. Not that environmental policies and programs can legitimately be blamed for America's energy and economic troubles; but certain interests in our country have tried to blame environmentalists for obstructing solutions to many of these problems.

Nevertheless, most of the American people maintain faith in the basic environmental ideals conceived in the 1960's and symbolized in the spirit of Earth Day celebrations. Popular support for environmental quality has registered high in public opinion surveys during every year from the late 1960's to the present, even in spite of some economic woes. Perhaps the continuing commitment of so many of our citizens to the environment was a significant element in the election of an avowed environmentalist to the White House, in the person of President Jimmy Carter.

### **Environmental Prospects for the Future**

The administration of President Jimmy Carter already has become a milestone in the history of America's environment. On February 21, 1977, President Carter asked for a careful reappraisal of all water projects authorized for the Corps, the Bureau of Reclamation, the Tennessee Valley Authority, and the Department of Agriculture. Beyond the review of specific projects, a more fundamental goal was to review and reform the standards which have traditionally governed Federal investments in water resource projects.

The reappraisal was welcomed within the Corps of Engineers for two reasons. A similar in-house review and analysis, initiated in 1973, produced several environmentally or economically unsound projects which were dropped from further funding while strengthening confidence in those remaining underway. Also, the time

had come to complete the transition from criteria passed into laws before 1969 to the priorities defined in NEPA and more recent legislation. This Presidential updating did help "clear the air" on the many water resource projects conceived, justified and authorized ten, twenty, or thirty years earlier under different criteria. Unfortunately, so much attention was paid to the few projects that were deleted that the 98% which passed the review were obscured from the public.

Over a year later, in June, 1978, the long awaited Presidential water policy was announced and forwarded to the Congress. Conservation has been added as a specific component of both economic and environmental objectives. Sensitivity to environmental protection is a key element of the new water policy.

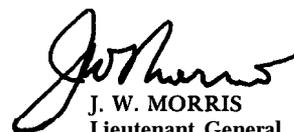
Thus, in total, President Carter's project review, in effect, dropped the curtain on pre-NEPA approaches to project development and now his emerging national policies will open the door to a new era of partnership between environmental and conservation values on the one hand and economic and developmental needs on the other.

The 1970's could well be called the Decade-of the Environment in water resource matters and, for that matter, in the history of the Corps of Engineers. No one can argue that this period brought an irreversible impact for change on the direction this nation is to follow in managing its water resources in the future-and, consequently, in the role of the Corps of Engineers, not only as a manager of America's water resources but **also** as a steward of the American environment. The effect of this change goes

beyond our own shores. Emerging nations have growing needs to develop and use their water resources wisely as their nation-building expands. The lessons learned at home provide the Corps of Engineers excellent credentials to export America's experiences to foreign allies and thus improve the welfare and quality of life of their people while conserving and protecting their natural resources. The look into the future may not be entirely clear, but we can be sure that the road out of the Decade of the Environment and into the 1980's will lead in a different direction than **the one** which the nation and the Corps of Engineers traveled into the 1970's.

We can also be sure that the Corps of Engineers stands ready and is eager to devote itself to the emerging goals for solving our nation's water resource needs as an environmentally conscious America moves into the future. The Corps of Engineers-like the Army of which it is a part-has a long and proud record of accomplishment and service to the United States and its people.

#### THE CORPS CARES



**J. W. MORRIS**  
Lieutenant General, USA  
Chief of Engineers

<sup>1</sup>David Lowenthal, "The American Scene," *The Geographical Review*, Vol. 58, No. 1 (Jan. 1968) p. 72.

<sup>2</sup>The Federal Environmental Pesticide Control Act (FEPCA), 7 U.S.C. Section 135 *et seq.* (1970), as amended, 7 USCA Sections 136 *et seq.*, and E.P.A. Regulations thereunder.

<sup>3</sup>P.L. No. 91-190, 42 U.S.C., Sections 4321 *et seq.*

<sup>4</sup>P.L. No. 91-604, 42 U.S.C. Sections 1857 *et seq.* (1970).

<sup>5</sup>P.L. No. 92-500, 33 U.S.C.A. Sections 1251 *et seq.*

<sup>6</sup>P.L. No. 92-574, 42 U.S.C.A. Sections 4901 *et seq.*

<sup>7</sup>16 U.S.C. Sections 688 *et seq.*

<sup>8</sup>Act of April 30, 1824.

<sup>9</sup>Act of May 24, 1824.

<sup>10</sup>See generally, *The Corps in Perspective Since 1775*, Publication of U.S. Dept. of the Army, Office of the Chief of Engineers, WASH., D.C. (1976).

<sup>11</sup>*Id.*, also see Baldwin, K.H., *Enchanted Enclosure: the Army Engineers and Yellowstone National Park*, Wash., D.C. (1976).

<sup>12</sup>See 33 U.S.C. Sections 661-687, Act of March 1, 1893, 24 Stat. 507.

<sup>13</sup>See Cowdrey, "Pioneering Environmental Law: The Army Corps of Engineers and the Refuse Act," *Pacific Historical Review*, Vol XLVI, No. 3 (August, 1975).

<sup>14</sup>See Gabrielson, *Wildlife Refuges* (New York, 1943), p. 193; "Floods and Wildlife," *Scientific American*, CLVI (Feb. 1937) p. 101; St. Louis and Rock Island District Histories, all developed by Corps of Engineers Historical Division.

<sup>15</sup>P.L. No. 88-206, 77 Stat. 392. See Jorling, "The Federal Law of Air Pollution Control," pp. 1059-61 of *Federal Environmental Law* (ELI-West, 1974).

<sup>16</sup>P.L. 89-234.

<sup>17</sup>16 U.S.C. Sections 1271-1287 (1970).

<sup>18</sup>See n. 3, *supra*.

<sup>19</sup>*Supra* n. 4.

<sup>20</sup>*Supra* n. 5.

<sup>21</sup>*Supra* n. 7.

<sup>22</sup>*U.S. v. Standard Oil* 384 U.S. 224 (1966).

<sup>23</sup>35 CFR 209,120(d) (1968).

<sup>24</sup>*Zabel v. Tabb*, 430 F.2d 119 (5th Cir. 1970). 401 U.S. 910 (1972).

<sup>25</sup>Ash, "Three-Year Evolution," *Water Spectrum*, Vol. 5, No. 5 at p. 33.