United States General Accounting Office

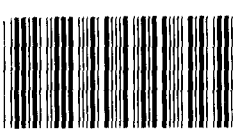
GAO

Briefing Report to the Chairman, Committee on Environment and Public Works, U.S. Senate

March 1988

WATER RESOURCES

Evaluation of Erosion Problems on Upper Missouri River



GAO/RCED-88-71BR

GAO

United States
General Accounting Office
Washington, D.C. 20548

Resources, Community, and
Economic Development Division

B-226604

March 7, 1988

The Honorable Quentin N. Burdick
Chairman, Committee on Environment
and Public Works
United States Senate

Dear Mr. Chairman:

In response to your March 3, 1987, letter and subsequent discussions with your office, this report discusses streambank erosion problems concerning the Corps of Engineers' six dams and lakes located on the upper Missouri River in Montana, North Dakota, South Dakota, and Nebraska. As requested, emphasis is given to the 87 miles of the river between Garrison Dam and Lake Oahe in North Dakota. We address (1) whether the Corps evaluated streambank erosion problems when the dams were planned, and if the planning was deficient; (2) the extent of bank erosion problems between Garrison Dam and Lake Oahe that are caused by the Corps' dam operations; (3) whether the Corps ever examined mitigation measures for bank erosion; (4) whether the Corps ever evaluated the environmental impact of bank erosion; (5) the economic consequences of letting bank erosion continue; (6) whether legal authority exists to enable the Corps to correct streambank erosion problems; and (7) whether the Corps is liable for erosion damages. Also, as agreed with your office, we have identified options the Congress could consider in dealing with streambank erosion involving federal dams.

In summary:

-- The Corps did not evaluate streambank erosion problems when the dams were planned and, in our opinion, had a reasonable basis for not doing so. The laws that authorized the projects in the 1930s and 1940s did not include bank stabilization measures as part of the projects on the upper Missouri River. At that time the concerns were flood control, hydropower, irrigation, and navigation. Accordingly, the Corps was not required to study, before construction, streambank erosion problems that the projects might create. Additionally, the earliest empirical methods for estimating degradation

below dams were developed in the early 1960s, long after the dams were planned. (See sec. 2.)

-- Corps studies of the Missouri River between Garrison Dam and Lake Oahe show that bank erosion is less now than before the dam was built--reduced from an average annual loss of 222 acres to 71 acres. However, in the period before the Garrison Dam, the 222 acres lost to erosion were offset by a like amount of soil being disposited at other places along the river during floods, a process called "accretion." Since the construction of the dam, both the Corps and North Dakota State Water Commission officials agree that the accretion process has been altered and that now there is a continuous net loss of lands. Past Corps studies of the river have not given consideration to the alteration in the accretion process. However, Corps officials in Omaha plan to review the change in the accretion process as part of their current study on the upper Missouri River. (See sec. 3.)

-- The Corps did not examine mitigation measures for streambank erosion on the upper Missouri River before construction of the dams. After the dams were constructed, however, the Congress authorized streambank erosion control structures in 1963, 1968, 1974, and 1976. Some of these structures were installed between Garrison Dam and Lake Oahe. In 1987, the Corps identified a total of 192 erosion sites of varying severity that would require an estimated $103.6 million to protect against streambank erosion on the upper Missouri River. Forty-one of these sites, estimated to cost $28.2 million to protect, are between Garrison Dam and Lake Oahe. (See sec. 4.)

-- Until the National Environmental Policy Act of 1969, the Corps nad no requirement to evaluate the environmental impacts of proposed dam construction. The last of the Corps dams and lakes on the upper Missouri River was completed in 1965. While the Corps has not evaluated the environmental impacts of erosion in general, after the construction of the dams, the Corps completed environmental impact statements in 1973 and 1978 for bank protection structures installed between Garrison Dam and Lake Oahe. The U.S. Fish and Wildlife Service also made an environmental evaluation in 1981 for these protection structures. Overall, these statements and the evaluation noted only minor environmental effects. (See sec. 5.)

-- Our analysis of relevant scientific and engineering data and reports indicated that the river banks will continue to erode, but at a lesser rate than in the past, between

Garrison Dam and Lake Oahe. Further, it appears that the worst bank erosion may already have taken place on this stretch of the river. However, the primary economic consequence from the erosion will be borne by landowners who build, farm, or timber on lands adjacent to the river. The Corps has estimated that the annual costs of the protective structures needed between Garrison Dam and Lake Oahe would be $2.3 million, whereas the annual benefits would be only $270,000. (See secs. 4 and 5.)

-- The Corps has no legal authority to construct bank protection structures using maintenance funds. However, the Corps has authority to provide erosion protection structures under the Water Resources Development Act of 1986; such structures have to be economically justified and environmentally acceptable. The Corps has estimated that the protective structures needed on the upper Missouri River--192 sites estimated to cost $103.6 million--are not economically justified. (See secs. 4 and 6.)

-- A property owner might make a claim against the United States for bank erosion on the Missouri River alleging a taking of property under the Fifth Amendment of the U.S. Constitution or the government's negligence under the Federal Tort Claims Act. On the basis of past court rulings, we believe there is little chance of anyone obtaining compensation for bank erosion in either instance. (See sec. 6.)

We identified two options that the Congress could consider in dealing with streambank erosion involving federal dams. Both would require legislation and commitments of large amounts of federal funds--$103.6 million for the upper Missouri River and billions nationwide. One option would be to fully or partially fund the cost of erosion control whether economically justified or not. Under this option the federal taxpayer and/or a nonfederal entity would pay for the protection. The other would be to allocate the costs of erosion control, whether economically justified or not, to a project purpose or purposes. Under this option the hydroelectric consumers, other beneficiaries, and federal taxpayers would pay varying portions of the cost of the erosion control structures. Neither of these options may be feasible at this time, however, because of the budget deficits and the efforts of the Congress to reduce federal spending. (See sec. 7.)

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Our work was performed between April and December 1987 in accordance with generally accepted government auditing standards. We obtained legal opinions from the Corps' Chief Counsel and our Office of General Counsel on Corps authority to construct and maintain erosion control structures, and on the Corps' liability for erosion on the upper Missouri River. We interviewed Corps officials in Washington, D.C., and in Omaha, Nebraska. We reviewed various documents relating to the construction of the dams and lakes, streambank erosion problems, completed erosion control works, and the laws authorizing construction of bank stabilization works. We also interviewed the state engineer, North Dakota Water Commission, and his staff; the chairman of a five-county board in North Dakota whose counties are affected by the river (this person was also the Chairman of the Upper Missouri River Basin Bank Protection Task Force); the owners of land along the river; and a U.S. Fish and Wildlife Service official. Additionally, we toured the Missouri River between Garrison Dam and Bismarck, North Dakota. Our staff geologist reviewed and analyzed geological, hydraulics, and engineering data with regard to the character and extent of erosion on the Missouri River.

In its official agency comments (see app. II), the Department of Defense fully agreed with our report. The Department said that the report presents a full and fair explanation of the Army Corps of Engineers' actions, applicable authorities, and responsibilities pertinent to bank erosion on the upper Missouri River.

As arranged with your office, unless you publicly announce its contents earlier, we will not distribute this report until 10 days after the date of this letter. At that time copies will be made available to appropriate congressional committees; the Secretaries of Defense and the Army; and other interested parties.

If you have any questions regarding this report, please call me at (202) 275-7756. Major contributors to this report are listed in appendix III.

Sincerely yours,

James Duffus III

James Duffus III
Associate Director

Contents

ABBREVIATIONS

GAO	General Accounting Office

SECTION 1

BACKGROUND

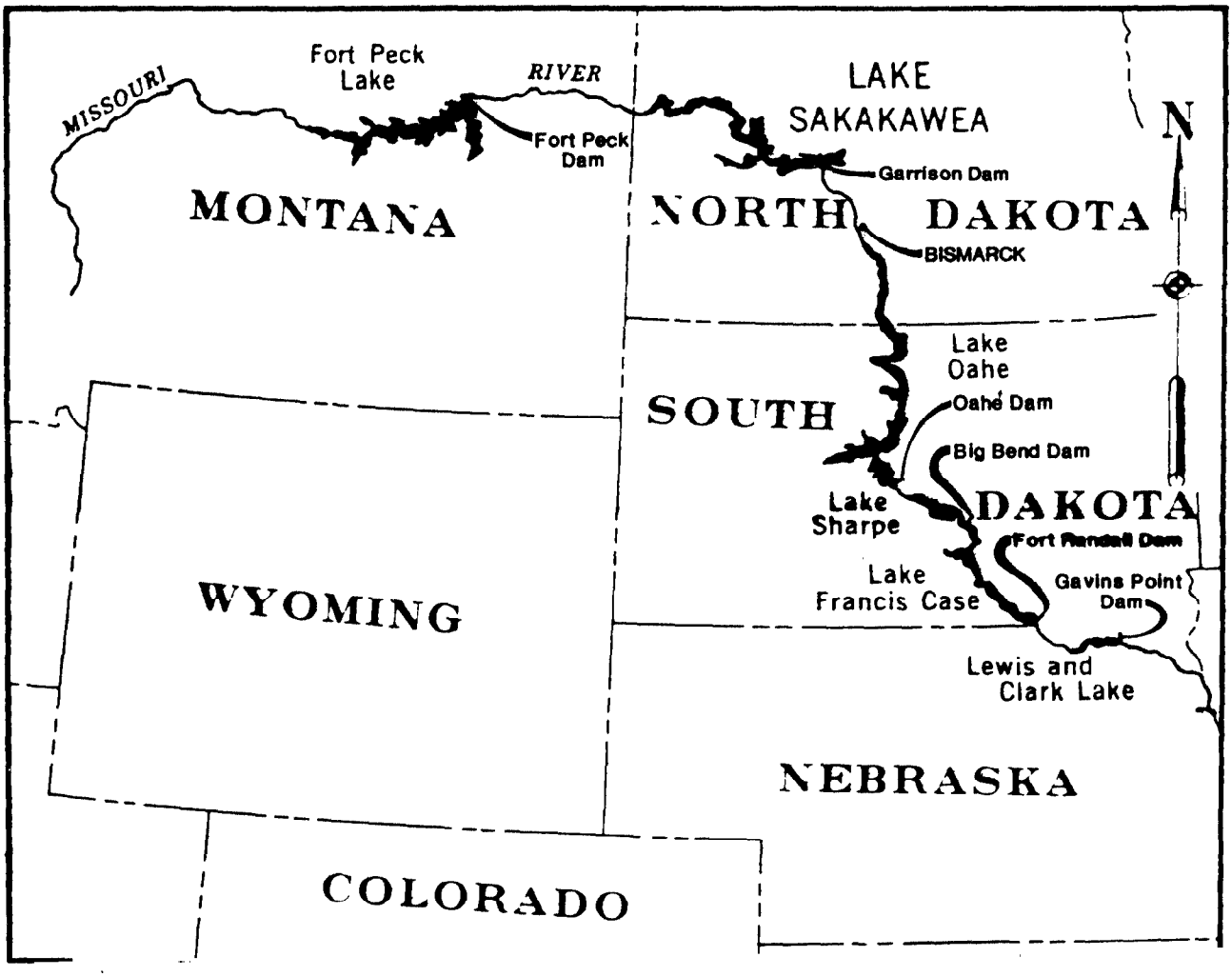
UPPER MISSOURI RIVER DAMS AND LAKES

The Corps of Engineers built and operates six dams and lakes on the upper Missouri River in Montana, North Dakota, South Dakota, and Nebraska. The Congress authorized the Fort Peck Dam and Lake under provisions of the Public Works Administration Act of 1933, and it was completed under the Rivers and Harbors Act of 1935. The Garrison, Oahe, Big Bend, Fort Randall, and Gavins Point projects were authorized by the Flood Control Act of 1944. The authorized purposes of these dams and lakes include flood control, hydropower, irrigation, and navigation. These projects also provide municipal and industrial water supply, sanitation, fish and wildlife conservation, and recreation. Figure 1.1 shows the location of the six dams and lakes.

The construction of the six dams and lakes on the upper Missouri River began in 1933 with the Fort Peck project and ended in 1965 with completion of the Big Bend project. The Garrison Dam project in North Dakota was started in 1947 and the dam was completed in 1954. The six dams and lakes were designated the Pick-Sloan Missouri Basin Program in 1970.

The Corps' district office in Omaha, under the Missouri River Division, is responsible for operating and maintaining the six dams and lakes on the upper Missouri River.

Figure 1.1: Upper Missouri River Dams and Lakes



Source: U.S. Corps of Engineers.

In 1982 the Corps estimated that since completion its projects have prevented more than $1.7 billion in flood damages. In addition, the Department of the Interior estimated that the projects have produced more than $1.4 billion from sales of hydroelectric power, allowed for a steady increase in barge traffic, and provided recreation for millions of people. Irrigation benefits, however, were considerably less than planned. Over 5.3 million acres were planned for irrigation development but only about 394,000 acres have been irrigated. Landowners and people living in the states along the upper Missouri River received many of these benefits.

EROSION PROBLEMS

Bank erosion occurs to some extent on practically all streams of the Missouri River Basin. According to Corps studies, the predominant factors causing bank erosion are channel meander, varied streamflow rates, channel restrictions, and wave action. Other general causes are high sand content of the soil, saturated banks, and the freeze-thaw winter periods.

Before construction of the dams and lakes, the upper Missouri River had a wide variation in seasonal flows. Typically, a spring rise in the flow began in late March or early April when snow cover melted and spring rains came; flows were low in the summer and through early autumn. From December to February, ice may cover the river as far south as Kansas City, Missouri. The dams regulate releases to meet system requirements such as flood control and navigation.

Since the completion of the dams and lakes on the Missouri River, the Corps has evaluated the streambank problems below the dams. The most recent evaluations were completed in 1985 and 1986. Table 4.1 shows that 375 miles of open river exist on the upper Missouri River. In 1987, the Corps district officials in Omaha identified a total of 192 erosion sites on the 375-mile stretch that would require an estimated $103.6 million to protect. According to these officials, about 15 percent of these sites are active and in need of immediate attention and the remainder are mildly active and probably would not warrant protection.

In 1981, the Corps reported to Congress that out of nearly 3.5 million miles of rivers and streams nationwide, approximately 142,000 bank-miles had severe erosion problems and needed protection. The Corps estimated the cost to protect these banks from erosion at $1 billion annually. The Corps reported that the costs of bank protection structures generally exceeded by a large margin the benefits to be derived.

SECTION 2

PLANNING OF DAMS

Question: When the Corps of Engineers planned the Garrison and other Missouri River dams, were the erosion problems that the operation of those dams would create anticipated or evaluated in any way? Additionally, does the GAO believe that the Corps' planning of the dams was deficient for bank erosion?

Response: The Public Works Administration Act of 1933, the Rivers and Harbors Act of 1935, and the Flood Control Act of 1944 that authorized the projects on the Missouri River did not include bank stabilization measures as part of the projects. At that time the concerns were flood control, hydropower, irrigation, and navigation. Accordingly, the Corps was not required, prior to construction, to study erosion problems that the projects might create. Additionally, our literature search shows that the earliest empirical methods for estimating degradation below dams were developed in the early 1960s, long after the dams were planned. On this basis, we believe that the Corps' planning of the dams was not deficient.

The current Corps policy on bank erosion is stated in its Digest of Water Resources Policies and Authorities, dated June 30, 1983. The policy states that remedial or corrective measures for streambank erosion control should be considered in studies of regulating river flows. The federal interest is limited to bank stabilization measures required as components of flood control, hydropower, navigation, and other water resources developments.

According to Corps division and district officials in Omaha, if it is determined that bank erosion has increased as a result of project construction or operation, congressional authorization would be needed to construct stabilization measures. If authorized, the cost of bank stabilization measures could be allocated to the project purposes. The most effective method to correct the erosion problem generally would be proposed. Further, the cost of the project purpose or purposes, including any applicable erosion protection structures, would have to be economically justified and environmentally acceptable. The economically justified requirement for flood control works is derived from the Flood Control Act of 1936, which requires the value of the benefits to be greater than the costs.

SECTION 3

EXTENT OF BANK EROSION BELOW GARRISON DAM

Question: What is the extent of bank erosion on the Missouri River between Garrison Dam and Lake Oahe that is caused by the way the Corps operates the dam?

Response: According to Corps studies, bank erosion is less on the 87-mile stretch of Missouri River between Garrison Dam and Lake Oahe in North Dakota than it was before the completion of the dam. Before the dam was constructed, the average annual bank erosion was 222 acres between 1938 and 1954. Since the dam was completed in 1954, the average annual loss has been about 71 acres for this stretch of the river up to 1982, the last year that erosion rates were computed by the Corps. Table 3.1 shows erosion losses over the years.

Table 3.1: Streambank Erosion Rates--Garrison Dam to Lake Oahe

Period	Length of time (years)	Total erosion loss (acres)	Average annual erosion loss (acres)
Pre-dam			
1938-54	16	3,561	222
Post-dam			
1954-56	2.0	215	108
1956-58	2.0	183	92
1958-60	1.8	192	106
1960-64	4.2	355	85
1964-68	4.3	271	63
1968-72	4.0	265	66
1972-74	1.7	134	79
1974-78	3.8	177	47
1978-82	4.2	201	48
1954-82	28.0	1,993	71

Source: U.S. Corps of Engineers.

The state engineer, North Dakota State Water Commission, believes the Corps' erosion rates are accurate. However, he told us that these decreased figures can be misleading because the change in the natural process called "accretion" in the pre-dam era is not adequately addressed in Corps studies. Before the dams, a balance resulted over the years between the high bank erosion and building of valley lands by sediment deposited during floods. Under the pre-dam erosion process, virtually no net loss of land occurred because the 222 acres lost to erosion were offset by a

like amount of soil being deposited at other places along the river during floods. Under the present process, there is an average annual net loss of about 71 acres a year caused by banks eroding and falling into the river.

The Corps' division and district officials in Omaha take the position that the Garrison Dam has eliminated the periodic floods and has altered the accretion process. However, the Corps is required to conduct its evaluations using the Water Resources Council's guidelines and the Corps of Engineers' regulations. These requirements do not provide for considering the change in the accretion process caused by the dam, and past studies by the Corps have not given consideration to the altered accretion process.

After our inquiry into this matter, Corps division and district officials in Omaha told us that the Corps plans to review the change in the accretion process as part of its study of the upper Missouri River, to be completed in early 1988. However, they do not foresee that erosion control measures can be economically justified in agricultural areas, even if the loss of accreted lands is considered, because the cost to protect this land would greatly exceed benefits that can be derived.

SECTION 4

MITIGATION MEASURES

Question: Did the Corps ever examine any mitigation measures for bank erosion on the upper Missouri River?

Response: Corps division and district officials in Omaha told us that they were not aware that the Corps examined any mitigation measures for streambank erosion on the upper Missouri River before the construction of the dams and lakes. After the dams were constructed, the Congress authorized streambank erosion works in 1963, 1968, 1974, and 1976. The protection works under these authorities did not need to be economically justified, and the federal government paid all of the construction costs. The operation and maintenance of these works were, however, assigned to the states. The protection works under these authorities have been completed and the authorities have expired.

Under Public Law 88-253 dated December 30, 1963, as amended by the Flood Control Act of 1968 (Public Law 90-483), the Corps completed 23 projects costing about $8 million on the river stretch between Garrison Dam and Lake Oahe. According to Corps district officials in Omaha, these erosion control projects are located where critical erosion was taking place.

A national streambank erosion prevention and control demonstration program was authorized by the Streambank Erosion Control Evaluation and Demonstration Act of 1974, as amended by the Water Resources Development Act of 1976. Under these acts, the Corps completed 28 demonstration projects on the upper Missouri River. Of these projects, 17, which cost about $6 million, are located between Garrison Dam and Lake Oahe. The remaining 11 projects are located on other stretches of the river.

In 1987, the Corps identified a total of 192 erosion sites of varying severity that would require an estimated $103.6 million to protect against streambank erosion. Table 4.1 shows the number of erosion sites and potential costs.

Table 4.1: Erosion Problems Identified on Upper Missouri River and Cost to Stabilize

River stretch below	Miles of river	Number of erosion sites identified	Estimated cost of projects (millions)
Fort Peck	189	113	$ 43.8
Garrison	87	41	28.2
Oahe	5	0	0
Fort Randall	36	16	11.2
Gavins Point	58	22	20.4
Total	375	192	$103.6

Source: U.S. Corps of Engineers.

According to a Corps district office representative in Omaha, the completed erosion control measures between Garrison Dam and Lake Oahe protect 42 (24 percent) riverbank miles out of a total of 174 (87 miles on each side). Further, 38 miles (22 percent) of riverbanks are not in danger of erosion because the river flows through high bluff land. For the remaining 94 miles (54 percent) of riverbanks, the Corps and the North Dakota State Water Commission have identified 41 sites needing erosion control measures. Examples of bank erosion are shown in figures 4.1 and 4.2.

Figure 4.1: Eroding Bankline Below Garrison Dam

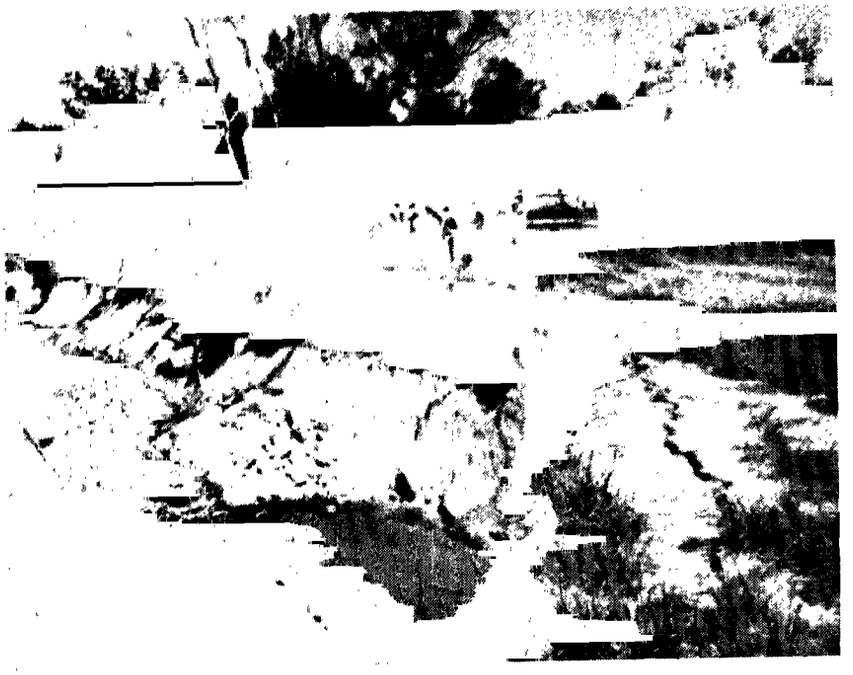


Figure 4.2: Trees Collapsed From Eroding Bankline Below Garrison Dam

In 1985, the Corps estimated that the total cost of bank stabilization between Garrison Dam and Lake Oahe would be about $24.5 million ($28.2 million in 1987), or $2.3 million annually. The Corps estimated the annual benefits to be worth about $270,000. The Corps' analysis resulted in a benefit-cost ratio of 0.1 to 1.0, which is not economically feasible under the Flood Control Act of 1936 requiring that benefits must exceed costs. Table 4.2 shows estimated costs and benefits.

Table 4.2: Benefit-Cost Analysis

Annual costs		Average annual benefits	
Construction	$2,050,000[a]	Flood damage	$ 40,000[c]
Operation and maintenance	250,000[b]	Hydropower	200,000[d]
		Bank stabilization	30,000[e]
Total	$2,300,000		$270,000

[a]Based on $24.5 million in construction costs amortized over 100 years at an interest rate of 8.375.

[b]About 1 percent of the total construction costs of $24.5 million.

[c]Reduction of flood damage by delaying silt accumulation in the channel.

[d]Extended life of the hydropower operation by delaying silt accumulation in the channel.

[e]Fifty acres saved annually from erosion, appraised at an average of $600 per acre.

Source: U.S. Corps of Engineers.

SECTION 5

ENVIRONMENTAL AND ECONOMIC IMPACTS

Question: Did the Corps ever evaluate the environmental impact of the bank erosion?

Response: The National Environmental Policy Act of 1969 was the first legislation that required federal agencies to evaluate the environmental impacts from proposed construction activities. Since the last of the six dams on the upper Missouri River was completed in 1965, the Corps was not required to evaluate environmental impacts from the dams, including damages resulting from changes in bank erosion rates.

While the Corps has not evaluated the environmental impact of erosion in general, after construction of the dams and lakes, the Corps completed environmental impact statements in 1973 and 1978 for bank protection structures completed between Garrison Dam and Lake Oahe. These statements deal with benefits and detrimental impacts resulting from bank protection projects authorized between 1963 and 1976. The 1973 impact statement indicated that without this protection, erosion would have destroyed irrigated lands, resulting in a decreased tax base; historic sites would have been endangered; and private investors would have been reluctant to locate adjacent to the river. Similarily, the 1978 impact statement indicated that the erosion control program should be implemented to prevent loss of irretrievable river bottomland. Both statements noted that bank protection structures would curtail loss of existing habitat.

In addition, the U.S. Fish and Wildlife Service reported in 1981 on erosion control works authorized by the Congress in 1974 on the stretch of Missouri River between Garrison Dam and Lake Oahe. The report stated that the erosion control works would have only minor environmental effects.

Question: What does GAO believe the potential short- and long-term environmental and economic consequences will be of letting the bank erosion situation on the Missouri River in general, and between Garrison Dam and Lake Oahe in particular, continue unchecked?

Response: On the upper Missouri River above Sioux City, Iowa, about 375 miles of open river remain since the construction of main-stem dams and lakes. According to Corps studies made between 1979 and 1984, landowners were losing an estimated average of 377 acres per year along the river. As previously noted, the Corps estimated in 1982 that erosion had occurred at an average annual rate of 71 acres between Garrison Dam and Lake Oahe.

Our analyses of relevant scientific and engineering reports and data indicate that the river will continue to erode its

confining banks and channel to adjust to the changed hydraulic conditions that have resulted from the Garrison Dam. Further, at such time as the river has adjusted its sediment load and channel shape to match the new hydraulic conditions, the erosion pattern will stabilize. Also, indications are that the worst of the erosion that may occur between Garrison Dam and Lake Oahe may already have taken place along this stretch. Enlargement of existing sandbars and islands will likely continue due to lack of floods that might sweep them away or diminish their size.

In addition, while the Corps estimated that bank erosion has decreased, the landowners who build, farm, or timber on lands adjacent to the river are subject to continued losses by erosion. However, as shown in section 4, the Corps has estimated that the annual costs to eliminate the erosion would far exceed the annual benefits that would be achieved.

SECTION 6

EROSION CONTROL AUTHORITY

Question: Does the Corps have the legal authority to correct the existing erosion problems on the upper Missouri River as a maintenance function? Additionally, does GAO believe that a stable riverbank between Garrison Dam and Lake Oahe can be justified as a maintenance responsibility of the Corps?

Response: In our view, the Corps does not have the legal authority to correct the existing erosion problems as a maintenance function of the reservoir system, including the stretch of river between Garrison Dam and Lake Oahe. None of the legislation that authorized the projects states that streambank stabilization is to be considered as a project purpose. Since the riverbanks below the dams and reservoirs are not part of these projects, neither can their stabilization be considered as part of the projects; therefore, the riverbanks are not eligible for the use of project funds.

The Corps has authority to remedy certain off-site problems connected with Corps projects under section 9 of the Flood Control Act of 1946, as amended, but only to the extent of repairing, restoring, relocating, or protecting highways, railways, or other utilities. The Corps also has authority under section 14 of the same act to construct streambank stabilization works to prevent damage to highways, bridge approaches, churches, hospitals, schools, public works, and other nonprofit public services. However, these authorities cannot be used to provide general bank stabilization measures to protect privately owned lands and facilities.

Question: What legislative authority exists to relieve the bank erosion problems on the upper Missouri River and between Garrison Dam and Lake Oahe, in particular?

Response: Section 603 of the Water Resources Development Act of 1986 authorizes the Secretary of the Army to carry out an erosion control program on many of the nation's rivers. The act included the Missouri River between Garrison Dam and Lake Oahe. It requires that the work be economically justified (the value of benefits must be greater than costs) and be environmentally acceptable. The nonfederal share of the cost of each project carried out under this section is 25 percent, and the nonfederal entity is fully responsible for the subsequent operation and maintenance costs of the projects upon completion. As indicated previously, the Corps has estimated that the erosion control structures needed between Garrison Dam and Lake Oahe are not economically justified.

Question: Does GAO believe that the Corps is in any way liable for damages which have occurred or may occur in the future as a result

of bank erosion on the Missouri River in general and between Garrison Dam and Lake Oahe in particular?

Response: A property owner might make a claim against the United States for bank erosion on the Missouri River alleging a taking of property under the Fifth Amendment of the U.S. Constitution or the government's negligence under the Federal Tort Claims Act. On the basis of past court rulings, we believe there is little chance of anyone obtaining compensation for bank erosion in either instance.

A property owner may get compensation from the federal government on the basis of the Fifth Amendment for a taking of property. However, a condition precedent is to establish that the Corps caused the erosion. The burden has been placed on the landowner to prove that the damage was caused by the federal project. In the leading flood control project case of United States v. Sponenbarger, 308 U.S. 256, 267 (1939), the Supreme Court denied compensation for a taking by the United States because the flood control program did little injury in comparison with the far greater benefit conferred.

The Garrison Dam is a multipurpose project that includes flood control. In our opinion, if the court finds that the project has done more good than harm, no liability for eroded land will be found even if erosion is directly and proximately caused by the project.

With regard to whether damages sustained are compensable under the Federal Tort Claims Act, the law permits actions against the United States for loss of property due to negligent or wrongful acts or omissions by a federal government employee within the scope of the person's employment. This liability is limited since the federal government is not liable for acts of government employees in the performance of a discretionary[1] function, but is liable for improper acts or operations. In our opinion, if the projects on the Missouri River are operated according to the Corps' standard procedures, the discretionary function exception would appear to protect the government from any tort claims for erosion damages to downstream landowners.

In addition, 33 U.S.C. 702c provides absolute immunity to the United States government for any damage from floodwaters. Since this provision is applicable to tort claims, it has been used to prevent recovery for damages by landowners along the river from operation of flood control projects. Whether other purposes at

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[1]Discretionary function exception means that if a federal employee is properly carrying out an agency's policy, the government should not be liable. However, if an employee fails to properly carry out the agency's policy, then the government can be found liable.

multipurpose projects like those on the upper Missouri River are similarly immune has not been made entirely clear by past court cases.

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The opinions summarized in this section were provided by our Office of General Counsel by memorandum dated September 28, 1987. A copy of this memorandum is included as appendix I.

SECTION 7

OPTIONS THE CONGRESS COULD CONSIDER

Bank erosion continues to be a problem along the upper Missouri River and, according to the Corps, results in the loss of hundreds of acres annually. Present authority for erosion works, under the Water Resources Development Act of 1986, requires that projects need to be economically justified and environmentally acceptable. Additionally, the nonfederal share of the cost of each project carried out under this act is 25 percent, and the nonfederal entity is fully responsible for the operation and maintenance of the projects upon completion. However, according to the Corps, the costs of bank protection structures generally exceed the benefits by a wide margin.

There are two options that the Congress could consider in dealing with streambank erosion involving federal projects. These involve new legislation and require commitment of large amounts of federal funds. We recognize that neither of these options may be feasible at this time because of the budget deficits and related efforts of the Congress to reduce federal spending.

1. Legislation could be enacted to fully or partially fund the cost of erosion control structures whether they are economically justified or not. Under this option the federal taxpayers, and/or the nonfederal entity, would pay for the cost of erosion protection.

2. Legislation could be enacted to charge the cost of erosion control structures, whether they are economically justified or not, to (1) hydropower or (2) all the project purposes on the basis of the cost allocation for the project. Under this option the hydroelectric consumers, other beneficiaries, and federal taxpayers would pay varying portions of the cost of the erosion control structures for the benefit of individual landowners.

FEDERAL FUNDING

The Congress has enacted legislation in the past that included the upper Missouri River but that did not require that the erosion control structures be economically justified. However, the past legislation, aimed at certain critical erosion sites and demonstration projects, did not solve the long-term problem of continuing bank erosion on the upper Missouri River. The Congress could enact legislation to fully or partially fund the cost of erosion structures whether they are economically justified or not. As stated previously, the Corps has estimated the cost of such structures for the upper Missouri River to be $103.6 million; nationwide, erosion control costs would be in the billions. Under

this option the federal taxpayers, and/or the nonfederal entity, would pay the cost to benefit private landowners.

CHARGE COSTS TO PROJECT PURPOSES

The Congress could enact legislation to charge the cost of erosion control structures, whether they are economically justified or not, to (1) hydropower or (2) all the project purposes, such as flood control, navigation, hydropower, and irrigation, on the basis of the cost allocation for the project.

Regarding charging only hydropower, essentially all released water flows through the hydropower facilities of the six dams to generate electricity. According to Corps division officials in Omaha, generally the first five dams, moving downstream from Fort Peck Dam to Fort Randall Dam, generate electricity to satisfy demands during peak periods and constant load requirements. These hydropower facilities generally have high water releases for a certain period of the day and then have lower water releases. The Gavins Point Dam, the last downstream dam, generally has a constant water release to meet downstream navigation needs. While we believe this overall system operation is highly beneficial to hydroelectric consumers, it is less beneficial to property owners along the river who are losing their land because of bank erosion. Under this option, the hydroelectric consumers would pay for the cost of erosion protection structures needed.

Regarding charging all the project purposes, the Corps would allocate the cost of erosion structures to all the purposes, such as flood control, navigation, hydropower, and irrigation on the basis of the cost allocation for the projects. Under this option, both the beneficiaries of the projects and federal taxpayers would pay the cost of erosion protection structures to protect the lands of individual landowners.

GAO United States
General Accounting Office

Memorandum

Date: September 28, 1987

To: Assistant Comptroller General, RCED - J. Dexter Peach

From: Associate General Counsel, GGM - Rollee H. Efros

Subject: Request for Assistance--Evaluation of Streambank Erosion Problems on the Upper Missouri River (Job Code 140821), B-226604-O.M.

Incident to this evaluation, your staff requested our views on questions submitted by Senator Burdick as part of his request for a GAO study of this matter. They are as follows:

> "1. Does the Corps of Engineers have the legal authority to perform necessary bank stabilization measures to correct the existing problems as a maintenance function of its operational responsibilities for the main stem reservoir system?
>
> "2. Does GAO believe that maintaining a stable riverbank on the Missouri River between the Garrison Dam and Lake Oahe can be justified as a maintenance responsibility of the Corps of Engineers?
>
> "3. Does GAO believe that the Corps of Engineers is in any way liable, including under the Federal Tort Claims Act, for damages which have occurred or may occur in the future as a result of the bank erosion on the Missouri River in general and between Garrison Dam and Lake Oahe in particular?
>
> "4. What legislative authority exists to relieve the bank erosion problems on the Missouri River in general and between Garrison Dam and Lake Oahe in particular?"

For the reasons stated below, in answer to the first and second questions, it is our opinion that bank stabilization is not part of the Corps' operation and maintenance responsibilities for the main stem reservoir system. Accordingly,

streambank stabilization for the Missouri River between Garrison Dam and Lake Oahe cannot be considered a project cost. In response to the third question, a property owner might make a claim against the United States for bank erosion to property on the Missouri River, alleging a taking subject to the Fifth Amendment to the U.S. Constitution, or a claim against the United States under the Federal Tort Claims Act. However, the likelihood of success in either case is not great. Our answer to the last question is that the Water Resources Development Act of 1986 provides authority for the Corps to correct bank erosion problems on the reaches of the Missouri River indicated in the Act, including the riverbank between Garrison Dam and Lake Oahe. However, this authority places a heavier burden on local interests than if the streambank work were done as part of an existing project.

We requested the views of the Secretary of the Army regarding the questions presented. A copy of the response from the Acting Assistant Secretary of the Army (Civil Works), which forwards the views of the Corps' Chief Counsel, is attached.

Questions 1 and 2. Does the Corps of Engineers have the legal authority to perform necessary bank stabilization measures to correct the existing problems as a maintenance function of its operational responsibilities for the main stem reservoir system? Can maintaining a stable riverbank on the Missouri River between Garrison Dam and Lake Oahe be considered a maintenance responsibility of the Corps of Engineers?

Answer. No. The Pick-Sloan Missouri Basin Program was initiated by the Flood Control Act of 1944, Chapter 665 of the Act of December 22, 1944, 58 Stat. 887. Under section 9 of that Act prior plans of the Army Corps of Engineers and the Bureau of Reclamation were combined in Senate Document 191, 78th Cong., 2d Sess. It provided for 5 main stem reservoirs. For example, Garrison Dam, Reservoir, and power plant were included, with the purposes of flood control, navigation, irrigation, and hydroelectric power production. None of these projects include the streambanks between them as part of the projects nor is streambank stabilization a project purpose.

Under section 14 of the Flood Control Act of 1946, Chapter 596 of the Act of July 24, 1946, 60 Stat. 641, as amended, 33 U.S.C. § 701r, the Corps of Engineers is authorized to perform streambank stabilization with flood control funds but only for the purpose of preventing damage to highways, bridge approaches, and public works, churches, hospitals, schools, and other nonprofit public services.

Under section 9 of the same Act, as amended, 33 U.S.C. § 701q, the Corps is also authorized to use project funds to repair, relocate, restore or protect any highway, railway, or utility damaged or destroyed because of the operation of any Corps dam or reservoir project.

We agree with the Corps' Chief Counsel that the Corps has only limited authority to perform bank stabilization. Since the riverbanks below the dams and reservoirs generally are not part of these projects their stabilization cannot be considered as part of the projects, and are therefore not eligible for the use of project funds. Aside from the authority for streambank protection projects under the Water Resources Development Act of 1986, discussed below, only in the special circumstances described in 33 U.S.C. §§ 701q and r, may Corps' funds be used for bank stabilization. Accordingly, we are not aware of any authority for the Corps to regard bank stabilization as an operation and maintenance function of Garrison Project for the Missouri River between Garrison Dam and Lake Oahe, or operation and maintenance of the main stem reservoirs, for other reaches of the river.

Question 3. Is the Corps of Engineers in any way liable, including under the Federal Tort Claims Act, for damages which have occurred or may occur in the future as a result of the bank erosion on the Missouri River in general and between Garrison Dam and Lake Oahe in particular?

Answer. We think that there is little chance of anyone obtaining compensation for bank erosion either as a property taking or because of the government's negligence. A property owner may get compensation from the federal government based on the Fifth Amendment to the United States Constitution for a taking of property. A condition precedent is to establish that the Corps caused the erosion. This is a factual question. Loesch v. United States, 645 F.2d 905, 913 (1981), cert. denied, 454 U.S. 1099 (1981), Rhoads v. United States, 6 Cl. Ct. 278(1984).

The navigable reaches of the Missouri River are subject to the navigation servitude of the federal government under which no claim against the United States may lie for water damage below the high water mark, the United States having the paramount power to improve navigation. As to lands above the high water mark, the Court of Appeals for the Federal Circuit in Ballam v. United States, 806 F.2d 1017, 1022 (1986), cert. denied, 107 S.Ct. 1889 (1987), denied compensation for erosion caused by waves from a navigation project holding that there was no property right to be safeguarded against the collateral consequences of

navigation improvements which do not themselves impinge on the lands suffering erosion.

Regarding flood control projects generally, in the leading case of United States v. Sponenbarger, 308 U.S. 256, 267 (1939), the Supreme Court denied compensation for a taking by the United States, finding that the flood control program in that case, "does little injury in comparison with far greater benefits conferred." In Bartz v. United States, 633 F.2d 571, 577-78 (1980), cert. denied, 450 U.S. 967 (1981), the Court of Claims held that there was no taking because of dam operations in a project operated primarily for flood control because the losses

> "were heavily countervailed by the benefits to the farmlands as a whole, whether to rescue them from the damaging effects of floods or to save them from the consequences of drought conditions,"

We understand that the reach of the Missouri River between Garrison Dam and Lake Oahe is not considered to be navigable, and thus is not subject to the special rule relating to the government's navigation rights. However, for a multipurpose project, one of whose purposes is flood control, no taking will be found even if erosion is directly and proximately caused by the project if the court finds that the project has done more good than harm.

A claim for loss of land due to erosion not amounting to a taking of property might be made under the Federal Tort Claims Act, 28 U.S.C. § 2671, et seq. Under the Act a landowner must show that the damage is caused by a negligent or wrongful act or omission of a federal government employee within the scope of his or her employment. Additionally, the landowner would have to show that the negligence or omission was not in the performance of a discretionary function, since under 28 U.S.C. § 2680, this is an exception to liability under the Federal Tort Claims Act.

In Miller v. United States, 583 F.2d 857, 867 (1978), the Court of Appeals for the Sixth Circuit considered a tort claim by owners of lakefront property for damages from inundation resulting from the manner in which the flood gates at the outlet of Lake Superior near Sault Ste. Marie had been operated. The Court after carefully reviewing past cases involving releases of water through a dam or diversion of floodwaters stated that--

> "the 'discretionary function exception' does not immunize the government from liability for the manner in which its agents raise and lower the flood gates at Sault Ste. Marie, or for their

> mistakes in judging or measuring how much water is going through the gates, or for their failure to observe regulations governing their activities. The discretionary function exception does, however, insulate the government from tort liability for deliberate official decisions and directives requiring lake levels to be maintained within a specific range."

There is an additional difficulty in a tort claim action. Under 33 U.S.C. § 702c (section 3 of the Flood Control Act of 1928)

> "No liability of any kind shall attach to or rest upon the United States for any damage from or by floods or flood waters at any place . . . ."

This provision, which antedated the Federal Tort Claims Act, and which provides absolute immunity to the United States, was not superseded by the later Act.

Whether a release for power or other nonflood control purposes in a multipurpose project is subject to the immunity provision, is not entirely clear. In Hayes v. United States, 585 F.2d 701 (1978), a claim for damages resulting from erosion of a riverbank and flood, the Court of Appeals for the Fourth Circuit held that, if the plaintiff could prove that the damage resulted from operation of the dam as a recreational facility "without relation to the operation of the dam as a flood control project," section 702c would not bar the claim.

However, the Court of Appeals for the Ninth Circuit did not agree with the holding in Hayes. In Morici Corp. v. United States, 681 F.2d 645 (1982), a claim based on the negligent operation of a dam and reservoir located upstream from the plaintiff's farm, the bar was applied. According to the court, the determinative factor is the purpose of the project authorized by the Congress and not the purpose of the operation that caused the damage, since even if the project were being operated at the time for another purpose, that operation was not "wholly unrelated" to an authorized flood control project. The court also noted that in a large multipurpose project it is difficult to identify the particular purpose of a water release which may well serve multiple purposes.

In United States v. James, 106 S. Ct. 3116 (1986) the Supreme Court held that the sweeping immunity provision, 33 U.S.C. § 702c, applied to a claim which resulted from the mismanagement of recreational activities at reservoirs forming part of a federal flood control project. It relied

on the legislative history of the provision to show that the Congress intended that federal costs be limited only to expenditures directly necessary for the flood control projects. There was to be no liability for any kind of damages. According to the Court, the failure to convey warnings for recreational purposes was part of the management of the flood control project and therefore was not compensable.

Based on the foregoing, we agree with the Chief Counsel that to the extent the main stem dams on the Missouri River impound and release water for flood control purposes, tort liability for erosion damage is barred by section 702c. It appears likely that operations of these facilities for other purposes would also be immune from claims for negligence resulting from non-flood control operations. However, even if not barred, a plaintiff would face difficulty in showing that damage resulted from employee negligence or omission within the scope of duty and also was not in the exercise of a discretionary function. For example, if operations pursuant to a power or recreation operations plan for releases caused erosion, the claim would be subject to the discretionary exception, and no recovery could be obtained.

Question 4. What legislative authority exists to relieve the bank erosion problems on the Missouri River in general and between Garrison Dam and Lake Oahe in particular?

Answer: The Water Resources Development Act of 1986 provides this authority.

Sec. 603 of the Water Resources Development Act of 1986, Pub. L. No. 99-662, 100 Stat. 4082, authorizes the Secretary of the Army to carry out specified streambank erosion control projects when in his opinion this work is economically justified and environmentally acceptable. The non-federal share for each project is 25 percent. Upon completion, the non-Federal interests are to operate and maintain the projects. Included are the following locations:

> "on the Missouri River upstream of the Fort Randall Dam and downstream of the Oahe Dam; upstream of the Oahe Dam and downstream of the Garrison Dam; upstream of the Garrison Dam and downstream of the Fort Peck Dam; and upstream of the Fort Peck Dam to the confluence of the Missouri and Musselshell Rivers."

Clearly, this authority is far less favorable to local interests than if the streambank work were done as part of an existing project. If it were, an independent economic justification probably would not be necessary, local interests would not bear 25 percent of the cost of the work, and the operation and maintenance of the completed streambank works would be at federal expense.

Attachment

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
WASHINGTON, DC 20310-0103

Feinstein

B-226604

10 AUG 1987

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Mr. Robert H. Hunter
Assistant General Counsel
Office of the General Counsel
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Hunter:

The enclosed legal opinion is furnished in response to your May 27, 1987, letter to the Secretary of the Army concerning legal questions incident to the evaluation of "Erosion Problems on the Upper Missouri River in the Area Below Garrison Dam and Above Lake Oahe" (GAO code 140821).

Sincerely,

Steven Dole, Acting

for John S. Doyle, Jr.
Acting Assistant Secretary of the Army
(Civil Works)

Enclosures

APPENDIX I

DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF:

23 JUL 1987

Office of the Chief Counsel

MEMORANDUM FOR THE ACTING ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS) - INFORMATION MEMORANDUM

SUBJECT: Erosion Problems on the Upper Missouri River

1. You have requested my opinion with respect to whether the U.S. Army Corps of Engineers (hereinafter "the Corps") has any authority to undertake bank stabilization measures along the main stem of the Missouri River and whether the Corps may be liable for damages which have occurred in the past or may occur in the future as a result of bank erosion on the Missouri River between Garrison Dam and Lake Oahe. These questions have been presented by the General Accounting Office as part of its investigation of bank stabilization and erosion problems along the Missouri River.

2. I believe the Corps has only limited authority to perform bank stabilization measures. Section 9 of the Flood Contol Act of 1946, contained in Title 33, U.S.C., Section 701q, provides authority to the Corps to remedy off site problems connected with Corps projects, but only to the limited extent of repairing, replacing, relocating or protecting highways, railways or other utilities. This statute would not authorize general bank stabilization measures not designed specifically to protect public utilities. Section 14 of the Flood Control Act of 1946, P.L. 526-79, as amended by Section 27 of the Water Resources Development Act of 1974, P.L. 93-251, and by Section 915(c) of the Water Resources Development Act of 1986, P.L. 99-662, provides somewhat broader continuing authority to the Corps to expend up to $25,000,000 annually for the construction of emergency bank protection works to prevent damages to public utilities and to non-profit institutions. While this authority is independent of authorities related to Corps projects, the Corps is limited to expending only $500,000 per project, and the authority is limited in scope and could not be used to provide general bank stabilization measures. Beyond these two specific authorities, I am unaware of any other Corps authority that could be utilized to provide general bank stabilization.

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3. While the General Accounting Office has asked as a separate question whether the Corps can provide riverbank stabilization between Garrison and Oahe Dams as part of its maintenance responsibility for these projects, this question is really an aspect of the discussion in the previous paragraph. The Corps maintenance responsibility and authority to maintain its projects is limited to those projects and the authority to undertake any maintenance work must be found in the authorizing legislation for the projects. There is no broad generic authority for maintenance that would exceed the project authorization. Indeed, the legislative history of Section 14, which granted authority to remedy off site problems arising from Corps projects, indicates that this authority was granted by the Congress due to the fact that the Corps lacked any authority to perform remedial work beyond maintenance of the project itself.

4. Whether the Corps is liable for damages sustained by landowners for streambank erosion must be viewed from the aspect of whether the erosion constitutues a taking under the fifth amendment of the U. S. Constitution or whether the damages sustained are compensable under the Federal Tort Claims Act.

5. In the past the Federal government has been held liable for the taking of property due to erosion under certain circumstances. If the construction or operation of a navigation improvement is the direct and proximate cause of resulting erosion on privately held land, the Federal government has been held liable for taking the land. See Loesch v. United States, 645 F. 2d 905 (Ct. of Claims, 1981), cert. denied, 454 U.S. 1099 (1981); and Rhoads v. United States, 6 Cl. Ct. 278 (1984), affirmed, 770 F.2d 182 (Fed. Cir., June 13, 1985) (Table, No. 85-770). Whether there has been a taking is in the end a factual question, and the burden has been placed on the landowner not only to prove that the damage was caused by the Federal project, but that the damage was a direct and not a consequential result of Federal activities. The eroded land must be above the mean high water mark of the banks of the river. Lands lying below the mean high water mark are subject to the Federal navigational servitude and immune from a takings claim.

6. In the Loesch case, supra, the landowners did not recover because they failed to show that the government's dams increased the natural frequency, duration or peaks of flooding which the landowners claimed were eroding their lands. See also Ballam v. United States, 747 F. 2d 915 (4th Cir., 1984), vacated, 106 S.Ct. 844 (1986), affirmed 806 F.2d 1017 (Fed.Cir.1986). In

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W. A. Ross Construction Co. v. Yearsley, 103 F. 2d 539 (8th Cir., 1939), the court held that dykes constructed in the Missouri River by the Corps and which shifted the river current and eroded plaintiff's land, had merely caused consequential or indirect damages and did not constitute a taking under the Fifth Amendment. In a more recent case, the Court of Appeals for the Federal Circuit in Ballam v. United States, 806 F. 2d 1017 (Fed. Cir., 1986) at 1021, stated: " It hardly is pretended that the government would be responsible to landowners on natural navigable water for erosion caused by public works which do not themselves impinge on such upland but only cause water to do so by waves or currents causing erosion." In light of the holdings in the above cases, I believe government actions which cause the redirection of currents which in turn cause erosion would not appear to constitute takings of property. Only if the Federal projects actually raise the water level above what it normally would have been, and the raised water level impinges on and damages property above the ordinary high water mark, could a taking be claimed.

7. Furthermore, before a taking can be found to have occurred, the benefits conferred by the Federal project will be compared by the courts to the damage inflicted, and if the benefits greatly outweigh the detriment, no taking will be found. See for example, Bartz v. United States, 633 F. 2d 571 (Court of Claims, 1980), cert. denied, 450 U.S. 967 (1981), in which the court stated: "The remaining instances, where the operation of the dam caused sustained high levels of the stream which kept the lower areas of the adjacent farms too damp to farm, and which might properly be attributed to meteorological events, were heavily countervailed by the benefits to the farmlands as a whole, whether to rescue them from the damaging effects of floods or to save them from the consequences of drought conditions."

8. While the Federal Government may not be liable in a particular instance for the taking of property under the Fifth Amendment, the Federal Government may be liable for damages under the Federal Tort Claims Act, 28 U.S.C. Section 1346 (b), which permits actions against the United States for loss of property due to negligent or wrongful acts or omissions by an employee of the Government. However, this liability is limited by the "discretionary function exception" found in Title 28 U.S.C., section 2680 (a), which protects the Federal government from any claim based upon the exercise or performance or failure to exercise or perform a discretionary function or duty on the

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part of the Federal agency or employee. In Dalehite v. United States, 346 U. S. 15 (1953), the Supreme Court made the definitive interpretation of the Federal Tort Claims Act, stating to the effect that the Federal government is not liable for acts of government employees of a discretionary nature, but is liable for negligent or wrongful acts of an operational variety.

8. With regard to Federal water projects, the Sixth Circuit made this distinction in Miller v. United States, 583 F. 2d 857 (6th Cir., 1978), at 867, in a case dealing with Corps navigational facilities at Sault Ste. Marie and Lake Superior, when it stated: "This analysis leads us to the conclusion that the 'discretionary function exception' does not immunize the government from the manner in which its agents raise or lower the flood gates at Sault Ste. Marie, or their mistakes in judging or measuring how much water is going through the gates, or for their failure to observe regulations governing their activities. The discretionary function exception does, however, insulate the government from tort liability for deliberate official decisions and directives requiring lake levels to be maintained within a specific range." In addition, the Eighth Circuit, in Konecny v. United States, 388 F. 2d 59 (8th Cir., 1967), held that Corps determination of the reservoir pool levels at the Upper and Lower Red Lakes in Minnesota was a discretionary decision for purposes of the Tort Claims Act. See also Coates v. United States,181 F. 2d 816 (8th Cir., 1950). As was noted, however, in Alabama Electric Cooperative v. United States, 769 F.2d 1523 (11th Cir.1985), the discretionary function is not excepted from judicial review when it is exercised in the absence of any social, economic or policy decision concerning the design of the project. In the present situation, since the Missouri main stem projects are operated pursuant to standard procedures in a nonarbitrary manner, the discretionary function exception would appear clearly to immunize such activities from any tort claims for erosion damage by downstream landowners.

9. In addition to the above, Title 33, U.S.C., Section 702c provides: "No liability of any kind shall attach to or rest upon the United States for any damage from or by floods or floodwaters at any place..." This statute has been applied to claims under the Federal Tort Claims Act to prevent recovery for damages to riparian lands from operations of flood control projects. In Taylor v. United States, 590 F. 2d 263 (8th Cir., 1979), the Eighth Circuit held that this provision immunized the Corps from liability for damages due to operations of the Garrison Project which impounded excess water during rainstorms in 1975, backing water on to plaintiffs' property. In Oahe Conservancy Subdistrict v. Alexander, 493 F. Supp 1294 (D. South Dakota,1980), the court cited this provision to dismiss a

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nuisance claim aginst the Corps for operation of the Jamestown and Pipestem Dams in North Dakota for flood control purposes which allegedly flooded plaintiffs' land in South Dakota. The validity of 33 U.S.C., section 702c, to protect the Federal government from tort liability for operating projects for flood control purposes was recently affirmed by the U. S. Supreme Court in United States v. James, 92 L. Ed. 2d 483 (1986).

10. From the foregoing, it would appear fairly clear that insofar as the main stem dams along the Missouri River impound water for, or release water for, flood control purposes, the United States has no liability for erosion damage, unless such damage amounts to a taking. Such activities would involve the exclusive flood control zone of the reservoirs. Below that zone, the multipurpose zone is operated for other purposes, such as navigation, hydropower, irrigation and recreation, aside from flood control. The question therefore arises whether the government is liable for such other purposes. The answer to this question turns on whether 33 U.S.C. Section 702c pertains to all the operations of flood control projects, including operations not connected with flood control, or only to flood control operations of such projects.

11. The Ninth Circuit, in Morici Corp v. United States, 681 F. 2d 645 (9th Cir., 1982), took the position that the operation of a flood control project is protected from liability by 33 U.S.C., Section 702c, even if the damage resulted from operations for nonflood control purposes. The plaintiff's complaint in that case was therefore dismissed. The Fourth Circuit, in Hayes v. United States, 585 F. 2d 701 (4th Cir., 1978), took the opposite approach, and refused to dismiss a claim based on the Tort Claims Act on the grounds that the plaintiff could recover if the damage resulted from releases for recreational purposes, despite the fact that the dam in question was also built for flood control purposes. A recent District Court case in the Tenth Circuit, Pueblo de Cochiti v. United States, 647 F. Supp. 538 (D. N.M., 1986), noting that in the James case, supra, the U.S. Supreme Court cited both the Morici and Hayes cases with approval, refused to dismiss the plaintiffs' claims based on allegedly negligent design, construction, maintenance and operation of a Corps dam. The plaintiffs claimed that the damage resulted from nonflood control operations of the dam. In view of the conflicting case authority, the court felt compelled to grant plaintiffs the opportunity to prove that the damage did not result from flood control operations. The law on this issue, therefore, is still in a state of uncertainty.

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SUBJECT: Erosion Problems on the Upper Missouri River

12. Finally, The General Accounting Office has asked what legislative authority exists to relieve the bank erosion problems on the Missouri River in general and between Garrison Dam and Lake Oahe in particular. The Water Resources Development Act of 1986, P.L. 99-662, Section 603(f)(10), conditionally authorizes the Corps to carry out a program of streambank erosion control along the Missouri River. The conditions pursuant to which this authorization is to be effectuated are spelled out in Section 903(a) of the same statute. This section provides that no construction of a project may take place until the Secretary of the Army has reviewed and commented upon the project to Congress or until 90 days have passed following the receipt of the proposed plans for the project from the Chief of Engineers. However, any project not commenced by the Secretary within a three year period from the date of enactment of the law is deemed approved by the Secretary. Lastly, Section 1001(a) of the same act provides for deauthorization of any project not funded within a five year period from the date of enactment.

FOR THE CHIEF OF ENGINEERS:

LESTER EDELMAN
Chief Counsel

APPENDIX II

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
WASHINGTON, DC 20310

10 FEB 1988

Mr. James Duffus III
Associate Director
Resources, Community, and
Economic Development Division
U.S. General Accounting Office
Washington, D. C. 20548

Dear Mr. Duffus:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report "WATER RESOURCES: Evaluation of Erosion Problems on Upper Missouri River," dated December 21, 1987, (GAO Code 140821), OSD Case 7510.

The Department fully agrees with the report. The draft presents a full and fair explanation of the Army Corps of Engineers actions, applicable authorities, and responsibilities pertinent to bank erosion on the Upper Missouri River.

The opportunity to review and comment on the GAO draft is appreciated.

Sincerely,

Robert W. Page
Assistant Secretary of the Army
(Civil Works)

APPENDIX III

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