Civil Works Developments

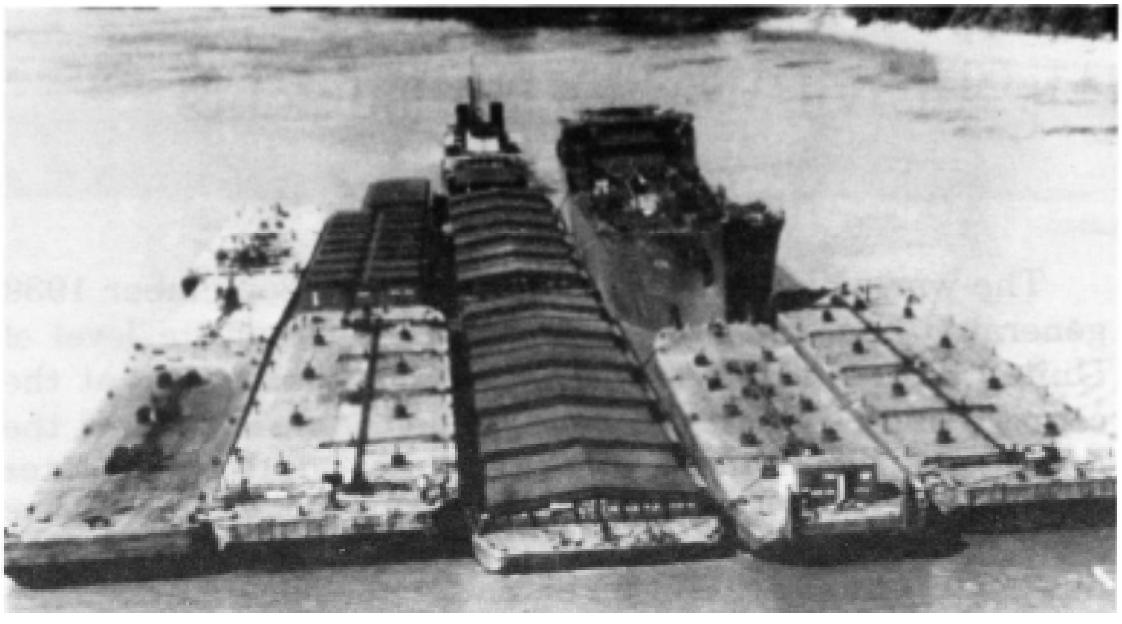
by Martin Reuss

The war which broke out in Europe in September 1939 generated heated discussion over the appropriate level of United States' involvement. Some people argued that the country must support the Western democracies against the invading German army. Others thought the United States should stay out of Europe's problems. However, there was one point upon which all could agree. The United States would have to focus more attention on national defense and mobilization requirements.

Faced with shifting priorities and increasing military expenditures, people questioned whether public works projects, including the massive program of the U.S. Army Corps of Engineers, should continue. It was a contentious issue debated at all levels of government, but nowhere more than on Capitol Hill.

The fact was that, except for relatively brief periods of military conflict or when Congress had tightened the public works purse strings, civil works had been the principal activity of the Corps of Engineers since passage of the General Survey Act in 1824. Between 1919 and 1939, the Army engineers had spent nearly $2.5 billion on rivers and harbors, flood control, and fortifications projects. The work included the construction of Bonneville, Fort Peck, and Wilson dams and major flood control work on the Lower Mississippi River. To carry out this work, the Corps had an Engineer Department, a field organization consisting of 11 divisions and 46 districts. In 1939, the department employed 225 officers and 49,000 civilians.

During World War II, civil works activities declined, but not as drastically as is commonly thought. In 1936 and 1937, the Corps spent about $250 million annually on civil works. From 1938 through 1943, although funds and authorizations for new projects declined, the expenditures hovered between $200 million and $220 million. In 1944, the amount dropped to under $170 million and in 1945, to under $140 million.



Barges on the inland waterways system, which was vital for transportation of grain and fuel during World War II.

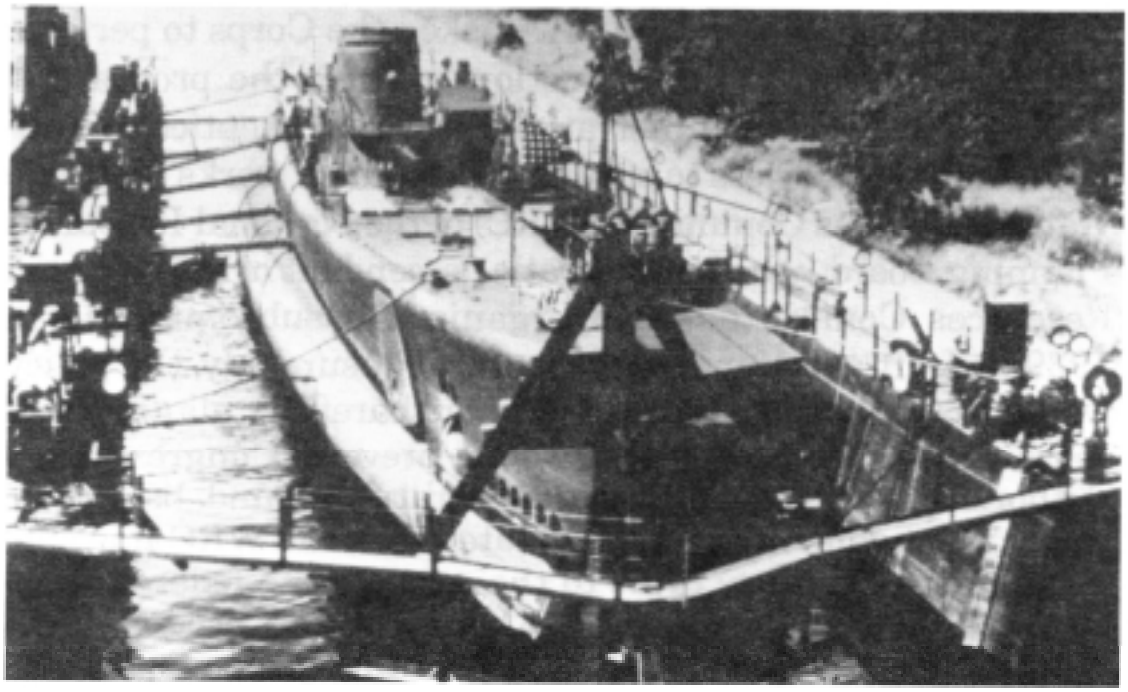
Much of this money was used for operation and maintenance requirements. Still, Corps leaders worried that the substantial decrease in new project authorizations and appropriations, which threatened major personnel reductions, would reduce the Corps' ability to discharge both its military and civil works functions.

Although the Corps focused on military needs, its civil works policies fundamentally changed during the war. This mainly resulted from the ongoing conflict between President F'ranklin D. Roosevelt and Congress over the appropriate way to develop the nations natural resources. Ever since Roosevelt had entered the White House in 1933, he had been an ardent advocate of coordinated, multipurpose development of natural resources, including water projects. To that end, he established a National Resources Board, but the board never obtained sufficient authority from Congress to be an effective coordinating body. Already existing federal agencies with natural resources responsibilities, such as the Corps of Engineers, considered the board unnecessary, and Congress thought it a threat to legislative prerogatives. Roosevelt fought for his idea with the powerful rivers and harbors bloc within Congress, but was able only to chip away at the powerful coalition.

The coalition flexed its muscle once more in the spring of 1940. In May, Congress passed a "national defense" rivers

and harbors bill that authorized 23 new projects, a very modest amount compared to earlier rivers and harbors acts. Nevertheless, Roosevelt favored only 15, opposed 8, and decided to veto the bill. In his veto message, he wrote, "Regardless of every other consideration, it seems to me that the non-military activities of the War Department should give way at this time to the need for military preparedness." Several months later, he amplified his point in a news conference: "Now, I am trying to lay down a very strict rule that national defense means actually national defense, primarily munitions, and not things like highways."

The Senate Commerce Committee was not impressed and doubted Roosevelt's competence to determine which projects were defense related. The committee solicited advice from various agencies. The Chief of Engineers responded with a memorandum that incorporated submissions from the Navy Department, the Coast Guard, and the National Power Policy Committee. The Corps and the three other agencies continued to support six of the projects the President opposed. In the end, the Commerce Committee dropped only one project--navigation work on the Thames River in Connecticut-which



Submarine, headed downstream on a floating dry dock, was built at an inland port. The inland waterways system was used to send newly constructed warships to sea.

the Navy had initiated on its own. The total estimated cost for the 22 projects was $24.7 million.

Before the House Rivers and Harbors Committee, Brigadier General Thomas Robins, Assistant Chief of Engineers, testified that the Corps was complying "literally" with Roosevelt's desire to pursue only projects related to the war effort—"iron-bound national defense projects," in Robins' words. In the middle of October 1940, Congress once more passed the rivers and harbors bill, and this time the President approved it. The bill authorized 22 projects and modified 2 others. Of the total 24 projects, 14 were for the Navy, 7 for the War Department, 2 for the Coast Guard, and 1 for the National Power Policy Committee.

October 1940 was a good month for the Corps. A few days before the rivers and harbors bill passed, Congress approved two other bills that improved the Corps' situation. A supplemental defense appropriation gave the Corps $6.7 million for the construction of seacoast fortifications, and a Civil Functions Appropriation Act included some $13 million for navigation and flood control projects. The same act appropriated $40 million for airport construction under the Civil Aeronautics Authority (CAA). It was to be the beginning of a large effort that would eventually cost half a billion dollars and include 3,100 airfields. The CAA asked the Corps to perform extensive survey and construction work in the program.

The Roosevelt administration remained skeptical of congressional willingness to stay on a low public works diet. The Water Resources Committee (WRC) of the National Resources Planning Board—the bureaucratic descendant of the National Resources Committee—had organized a subcommittee in 1939 to draft a national water policy. Presumably, the policy would insure that water projects were carefully planned and coordinated. This, at least, would prevent Congress from authorizing projects which were contrary to sound, basinwide water management practice. In late 1940, the WRC had submitted a preliminary draft to the appropriate federal agencies for review and comment. On behalf of the Corps, General Robins dissented and suggested that, although the report contained some recommendations of merit, other suggestions seemed "unnecessarily complicated, time-consuming and not in the interests of efficiency and economy."

Major General Julian Schley, the Chief of Engineers, agreed to study the report and see if he could sign it, but the differences were too deep. One of the committee's recommendations had been to establish a permanent coordinating committee for water resources. Schley favored coordination, but he saw no need for a coordinating agency whose duties, in his opinion, would be "unnecessarily extensive and, in fact, duplicating in nature. Excellent cooperation is now experienced among the Federal agencies engaged in the planning for a [*sic*] development of water resources. Also, the duties of the proposed agency go far beyond coordination." Since he disagreed with a major and substantive part of the report, Schley regretted that he could not sign it.

Without the Chief of Engineers' approval, the report was printed, circulated, and then condemned to bureaucratic oblivion. In June 1943, the board (and the WRC) was eliminated when Congress refused to appropriate funds for it and specifically directed that its functions *not* be transferred to any other agency. In fact, the WRC's demise confirmed the obvious. Opposed by the rivers and harbors bloc as an unnecessary bureaucratic layer and ignored by almost everyone in Congress, the committee's death was merciful.

While the board withered, Roosevelt sought other ways to control public works spending. Again, this was not so much a response to military crisis as a continuation of New Deal attempts to coordinate and control planning. Indeed, such efforts preceded Roosevelt's presidency. The Employment Stabilization Act of 1931, passed during Herbert Hoover's administration, directed federal construction agencies to prepare six-year programs. The same day that Roosevelt signed the 1936 Flood Control Act, he directed executive agencies to send to the National Resources Committee a list of public works that might advantageously be undertaken during each year of a six-year period beginning in 1938. Roosevelt subsequently accepted the suggestion of the committee's chairman (and his uncle), Frederic A. Delano, that this effort be continued under the administration of the Bureau of the Budget.

Increasingly, the President turned to the Bureau of the Budget to coordinate and centralize planning. The bureau had been transferred from the Treasury Department to the

newly-created Executive Office of the White House in 1939. On 26 June 1940, the President signed Executive Order 8455, which directed all federal construction agencies, including the Corps of Engineers, to prepare annually six-year advance plans and to submit those plans, with yearly budget estimates and construction priorities, to both the Bureau of the Budget and the National Resources Planning Board. Furthermore, the agencies were to submit to the board and to the Bureau of the Budget any completed examinations, surveys, or investigations. The Bureau of the Budget would then advise the agency what relationship the proposed project had to the program of the President. That statement was to be included with the document when the agency submitted it to Congress for action. Additionally, the executive order empowered the board to request reports of various sorts from the construction agencies.

On 4 October 1943, a few months after the National Resources Planning Board was eliminated, Roosevelt signed Executive Order 9384, which modified but did not substantially change the coordinating intent of the earlier order. Powers formerly given to the board were transferred to the Bureau of the Budget, and the advance planning was reduced from six to three years. At first, Congress refused to appropriate sufficient funds for the bureau to carry out its review of public works. The situation did not significantly improve until after the war. Nevertheless, together the two executive orders initiated growing influence of the White House Executive Office over water resources programs, a process that continued spasmodically, but in the end successfully, for 40 more years.

One development that Congress used to justify its refusal to appropriate more funds for the Bureau of the Budget was the establishment by the Corps of Engineers, in December 1943, of a quadripartite agreement with the Department of Agriculture, the Bureau of Reclamation, and the Federal Power Commission. Essentially, this agreement replaced a 1939 tripartite agreement by which the Corps, Bureau of Reclamation, and Bureau of Agricultural Economics (Department of Agriculture) had agreed to exchange information and consult with one another in the preparation of reports. That agreement had led to increased cooperation, but had not

eliminated basic differences among the agencies. The new agreement was much the same as the earlier one, but Congress thought it undermined the argument for Bureau of the Budget coordination.

Whether sufficient executive branch coordination existed to insure efficient and effective water resources development was a question which stimulated animated disagreement. But whatever the extent of executive branch coordination, it was more than Congress could do. While concern for national defense might have been expected to reduce some of the normal, peacetime squabbling over the allocation of funds for public works projects, in fact the opposite was true. National defense became simply one more justification for project development. Few senators and representatives thought their favorite projects were unconnected with the country's defenses.

An example that epitomizes this congressional attitude was the debate on the Tennessee–Tombigbee Waterway, a project that would connect the Tennessee River to the Gulf of Mexico via the Tombigbee and Mobile rivers. While the project was too massive to be completed in time to alleviate the national emergency of the early 1940s, its supporters argued that precautions must be taken to better prepare the country for future crises. The waterway was particularly important for better access to the Tennessee Valley because of the growth of the defense industry in that area. Moreover, should the war end suddenly, supporters argued, it was important to have plans ready so that people employed in war-related activities could still find work. A basic issue, then, was whether Congress should limit itself only to short-term "national defense" projects or consider long-range needs.

The case of the Tennessee–Tombigbee was especially interesting because the benefit/cost ratio was only 1.16 to 1, among the lowest ever submitted, and because the Chief of Engineers had passed the survey report to Congress in 1939 without either approving or disapproving it. General Schley doubted that the intangible values assigned to the project—including $600,000 for national defense—could be easily substantiated, and he decided to let Congress make the determination. His decision was, to say the least, highly unusual. Congress voted against the project in 1939, but that did not

keep proponents from returning to the proposal during the next five years.

In 1939, the estimated cost of the Tennessee–Tombigbee Waterway was about $76 million. By way of comparison, the Army Air Corps paid less than $13 million for 524 Curtiss P-36 fighters in April 1939. B-17 bombers at that time cost about $200,000 each. The fact that waterway proponents continued to ask Congress during the war to authorize the project reflects the way in which national defense was exploited to help justify projects. The Tennessee–Tombigbee issue was unusual because its supporters, especially Representative John Rankin of Mississippi, were so vocal and because the project, even in peacetime, was being questioned. Yet, legislators brought many other projects before Congress, using the national defense shield to ward off both legitimate and illegitimate attacks. It is true that project authorization did not guarantee appropriations and that Roosevelt's intentionally narrow definition of "national defense" eliminated many projects from this category. Still, proponents hoped that some funding might be forthcoming, if not during the war, then soon after, once their project was authorized. Congress finally did authorize the Tennessee–Tombigbee project in 1946. Construction began in the early 1970s, and the waterway was completed in 1985.

As the war progressed, greater restrictions were placed on nonmilitary-related activities. On 20 October 1942, Donald E. Nelson, chairman of the War Production Board, issued a stop order for all nonessential civil construction projects. In response, the acting Secretary of War directed the Chief of Engineers to scrutinize the Corps' civil works program. Eventually, the Corps submitted two lists to the Facilities Review Committee of the War Production Board. One identified projects still under construction. The other listed suspended projects. The Chief of Engineers and the board then reviewed the projects under construction to determine if any more could be discontinued. The Corps consulted with other federal agencies before making recommendations.

In general, the stop order did not apply to the operation and maintenance of civil works projects since the continued operation of most projects was considered essential to the war effort.

Major General Eugene Reybold, the Chief of Engineers from 1941 to 1945, told a House Appropriations subcommittee in early 1942 that, "it would be hard to imagine a navigation or flood control project which does not contribute directly or indirectly to the war effort" and he suggested that even the smaller projects "are in general of more value to the nation at present than in ordinary times." About 250–400 rivers and harbors projects were maintained annually. New work was confined to projects of obvious military value, such as dredging New York Harbor, stabilizing the bank of the Chesapeake and Delaware Canal, widening the Sabine–Neches Waterway, constructing a new lock at Sault Ste. Marie, Michigan, and developing hydroelectric power capacity at Fort Peck and Bonneville dams.

However, flood control projects were far more controversial than rivers and harbors work since their immediate importance to the war effort was not so easily discerned, and even though the number of flood control projects was fewer, the cost per project was far more.

The 1942 *Annual Report of the Chief of Engineers* confidently advised, "All authorized flood-control projects are directly connected with the national economy and are therefore either directly or indirectly related to the war effort, especially when it is remembered that one major flood in a large river basin, such as the Ohio or Mississippi, may easily accomplish in a few weeks at least the same amount of damage that can be caused by intensive air raids." The Corps emphasized, "All of these [flood control] projects are parts of comprehensive coordinated plans for the river basins of the Nation to provide desirable and economic flood protection and allied benefits for a large number of centers of industry and population and for many thousands of acres of rich agricultural land." The importance of these projects notwithstanding, the *Annual Report* noted that flood control projects initiated before the war "have been and are being brought to completion or to a safe point of suspension as soon as possible."

Indeed, the War Production Board ordered the Corps to suspend 35 flood control projects and curtail 32 others. In many cases, the Corps was able to stop work at a point when the uncompleted structures still offered substantial flood

Troops of the 398th Engineer General Service Regiment detrain at Biscoe, Arkansas, to replace the 359th Engineer General Service Regiment fighting the White River flood.

protection. Contracts were suspended without formal termination, which allowed work to begin again at short notice.

The Corps' continued assertion of the importance of flood control projects to national defense, while responding to presidential directives to reduce flood control expenditures, suggests a certain amount of possibly unavoidable bureaucratic schizophrenia. The Flood Control Act, signed on 18 August 1941, authorized 64 projects "in the interest of national security and the stabilization of employment" which were to be "prosecuted as speedily as may be consistent with budgetary requirements, under the direction of the Secretary of War and the supervision of the Chief of Engineers."

However, President Roosevelt directed that no new projects be begun unless they were of direct importance to the defense of the nation. In fact, in fiscal year 1942, only seven new flood control projects were initiated, mostly to supply power to war industries or to protect industrial centers against floods. Included were the Berlin Reservoir project to protect the steel industries in the Mahoning Valley, Ohio, and to supply water; projects in Tulsa, Oklahoma, and Prattville, Alabama, to protect war-related industries; and, at the request of the War Production Board, three multipurpose

dams to augment power production. Altogether, in fiscal year 1942, the Corps worked on 41 dam and reservoir projects, putting 14 into operation, and on 91 local flood protection projects, completing 17 of them. Some projects, such as Bluestone Reservoir in West Virginia and Youghiogheny Reservoir in Pennsylvania, were not brought "to a safe point of suspension" for another two years.

In 1943, the Corps initiated construction of a local flood control project on the Illinois River at East Peoria, Illinois, in order to protect a Caterpillar Tractor plant; the Mosquito

Civil Works Expenditures
Fiscal Years 1941-1945
(in millions)

	1941	1942	1943	1944	1945
Rivers and Harbors					
New Work	45.9	44.6	37.0	26.1	6.9
Maintenance	40.6	44.1	47.3	38.3	50.3
Total	**86.5**	**88.7**	**84.3**	**64.4**	**57.2**
Flood Control					
New Work	90.3	84.7	93.5	58.8	25.9
Maintenance	3.4	3.2	4.1	13.6	13.7
Total	**93.7**	**87.9**	**97.6**	**72.4**	**39.6**
Mississippi River and Tributaries					
New Work	26.8	18.7	14.1	16.9	23.0
Maintenance	3.8	7.8	11.5	12.0	11.0
Total	**30.6**	**26.5**	**25.6**	**28.9**	**34.0**

Note: Expenditures do not include Sacramento River flood control, working funds transferred from other departments, and miscellaneous funds allocated for National Industrial Recovery Act, Public Works Administration, Civil Aeronautics Administration, and District of Columbia projects.

Civil works expenditures.

Creek Reservoir to supplement the Berlin Reservoir in the Mahoning Valley; and a project on the Teche and Vermillion rivers of Louisiana to protect important rice production areas. Additionally, the Corps had to perform emergency repairs after major flooding in 1943 and 1944. Throughout the war, the Corps continued to do flood control work to protect vital industries or agricultural lands. Because of the cost of these projects, new flood control work remained the largest single civil works expenditure throughout the war.

In spite of the requirement to reduce nonmilitary spending, the Corps was regularly under pressure to do all sorts of civil works during World War II, and not all the pressure came from Congress. The Army and the Navy regularly requested help from the Corps on various water projects, including some that had never been authorized. The Navy justified such requests by insisting that the work was necessary for the ship-building program, navigation safety, seaplane landings, bases for patrol or convoy vessels, or some other reason. The Corps consolidated requests from the military services or from the wartime Office of Production Management and sent a list to Congress through the Secretary of War with the recommendation that the projects be authorized.

More than that, knowing that President Roosevelt would question some of the projects, the Corps requested that its divisions around the country review cost figures and develop data that would make a "full and convincing defense" before Congress. Indeed, as early as the beginning of 1941, Colonel Ernest Graves, who worked in the Office of the Chief of Engineers, suggested that Corps districts and divisions provide a "sob story" for flood control projects coming before Congress in order to engender support. General Schley simply directed district engineers to supply "human interest" stories.

While not officially part of the civil works program, the Corps oversaw two special wartime projects related to rivers and harbors. Both projects were done for the Defense Plant Corporation. At Escanaba, Michigan, the Corps constructed two ore docks and appurtenant facilities in order to maintain the flow of iron ore from the mines to the steel plants. The Corps also constructed a fleet of vessels to barge essential commodities through the inland waterways system. The

program involved building 100 steel hull tugboats, 180 welded steel barges, 269 wooden and composite barges, 21 twin-screw steel hull towboats, and 2 oil terminals for water-rail transfer. This project cost about $85 million.

During World War II, the executive branch—mainly White House offices—came to assume increasing control over public works programs. This partly resulted from the continuing struggle of President Roosevelt to impose centralized planning and control over budgetary and planning matters. No matter that Congress did not fund all of the Bureau of the Budget's activities or that it rendered impotent the National Resources Planning Board. The fact of the matter was that the President's influence and popularity, coupled with his wartime powers, allowed the White House to assume policy-making functions that earlier had rested with Congress. The President's increased authority also resulted from congressional confusion. There was little agreement on what a "national defense" project was, and members tended to look to their own parochial interests and to the postwar period when jobs would be needed and the heated wartime economy might cool.

The Corps was just as confused. At about the same time that Corps officers protested that they were following the President's policy to the letter, they were seeking additional funding, suggesting new projects, and writing "human interest" stories. In December 1943, the River and Harbor and Flood Control Branch in the Construction Division of the Office of the Chief of Engineers became a separate Civil Works Division, with Colonel George R. Goethals in charge. By that time, the Corps was already at work planning postwar civil works projects. This activity was partly in response to a May 1943 presidential memorandum directing federal agencies to develop supplemental appropriation estimates covering the cost of updating public works plans so that work could be started quickly once war ended.

Roosevelt also requested agencies to recommend legislative changes that would expedite postwar construction. Roosevelt's intuition was right. There was a postwar public works construction boom, and the Corps' civil works projects expanded enormously. Indeed, the 1944 Flood Control Act, passed in December of that year, authorized the appropriation

of $750 million for about 150 new projects. It also gave the Corps new authority to develop and operate recreation facilities and to dispose of hydroelectric power not needed for project operations.

Although the war had given the Corps a major new responsibility for military construction, neither during nor after the war did the new mission diminish the Corps'—or the nation's—commitment to water resources development.

Sources for Further Reading

An important work that criticizes the Corps for its lack of administrative accountability is Arthur Maass, *Muddy Waters: The Army Engineers and the Nation's Rivers* (Cambridge: Harvard University Press, 1951).

Lenore Fine and Jesse A. Remington supply some useful background material, but do not critically examine the relationship between the Corps' civil works and military construction missions. See their work, *The Corps of Engineers: Construction in the United States. United States Army in World War II. The Technical Services.* (Washington, DC: The Office of the Chief of Military History, United States Army, 1972).

The research collections of the Office of History, Headquarters, U.S. Army Corps of Engineers, has some informative sources including "War, Politics, and Public Works: The Impact of World War II on the Civil Activities of the Army Corps of Engineers," by Lee F. Pendergrass (unpublished); "The History of the Tennessee–Tombigbee Waterway," Volume I by James Kitchens (unpublished); the civil works legislative files; and the Arthur Maass papers.

Other sources include *The Annual Report of the Chief of Engineers* for 1939–1945; the Executive Orders of the President; and the *Report of the Federal Civil Works Program as Administered by the Corps of Engineers, U.S. Army,* Part I, Volume 3 of the 1951 *Annual Report of the Chief of Engineers.*