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**Appendix B**  
**“A Time for Reflection”**  
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Reprint of an interview with  
Maj. Gen. J.W. Morris by the editor of  
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# A TIME FOR REFLECTION

Maj. Gen. J. W. Morris

In mid-September 1975 Major General J.W. Morris relinquished his post as Director of Civil Works to become Deputy Chief of Engineers. In doing so, he left behind a job and a challenge he had enjoyed more than any other he had ever held. Since the spring of 1972 General Morris had been in a position that required him to lead the Corps of Engineers in coming to terms with the challenging provisions of the National Environmental Protection Act

(NEPA) of 1969. His tour of duty encompassed that period when the Corps was hardest put to implement through action what NEPA requested in mere words. A task easier talked about than done *Water Spectrum*, therefore, asked the out-going director to discuss the accomplishments of the U S Army Corps of Engineers in overcoming some of the major environmental problems faced during his 3-year tour.

General Morris, what exactly has the Corps done under your direction regarding national issues of environmental concern?

If I were to rank our efforts in accordance with their relative importance to the environment, I would say the policy organizational changes which have been made from top to bottom are fundamental to all the rest. These changes were made so that the U.S. Army Corps of Engineers, in accomplishing its mission, could give proper and full consideration to the environmental effects of proposed solutions to the Nation's water problems. Few people realize that we have now augmented our internal staffing so that decision makers at all levels have full environmental advice available which can be input into the decision making process.

Among our external activities, I would have to put the regulatory, or permit, program high on the list of things the Corps has done in recent years, particularly where the program controls abuses to the Nation's environmental assets.

We can put nonstructural approaches to solving flood problems near the top of the list, too, since it was Corps

initiative that unleashed the great potential that exists here in dealing with flood control. Among other areas in which we have made significant progress, I feel that the Corps studies and the adjustments we are making in our maintenance program, particularly the dredging portion, are important.

Which specific areas of environmental concern would you say deserve the most attention at this particular time?

I think our efforts to protect the wetlands must continue to get highest priority. We can approach this problem from two directions, not only to protect the wetlands we have, but also-which I think is completely reasonable to anticipate-being able to produce wetlands.

Our flood control problems also require a new look. While I think there are probably going to be continuing needs for structures to store excess waters, I would like to see much more attention given to the nonstructural solutions as the first option. We are moving that way rapidly. A related area that needs a lot of attention, and provides great opportunities for the future, is a full analysis of flood plains throughout the country. We need

complete identification of what is there now, an inventory of the environmental assets and development of sufficient hydrologic data to identify the areas susceptible to flood damages. This information can then be turned over to the local governments to keep our flood plains from being unwisely developed and thereby minimize future problems.

A third area that still deserves a lot of attention is water pollution. This is basically EPA's (Environmental Protection Agency) and not the Corps' primary responsibility, but we certainly can help. The last, but not necessarily the least important, problem requiring priority attention is our urban areas. We've allowed water resources problems to develop where our people are concentrated. We need to do a lot more work to be sure we're not encouraging unnecessary flood damages, to provide energy where it's needed, to keep water supply available for our people, and to avoid building problems for the long term.

*Continuing in the environmental vein, the Corps also is responsible for maintaining domestic waterways. What happens when the Corps is instructed to stop dredging at a particular location?*

When the courts tell us to stop dredging we do as the courts direct. Of course we are usually given such instruction on an injunctive or temporary basis either because, in the courts' opinion, we've not fully complied with or not satisfied some requirements of the law. Therefore, the stoppage usually is dependent upon or limited by certain actions which we are expected to take. We then make adjustments and, hopefully, are able to resolve the legal cause of the stoppage. The instructions to stop dredging have been relatively few and, almost always, we've been able to resolve the issues.

*Suppose the Corps cannot resolve the issues and is told to stop dredging. What alternatives are there?*

There really aren't too many alternatives since natural processes tend to make the rivers shallower. The only alternatives then would be less utilization of that waterway or port, or changes in the configuration of the shipping fleet that uses it. I really don't feel the alternatives need be that severe; I think the problem is finding alternative methods of dredging so that we can continue to operate the waterways.

*Besides dredging, are there other problems that affect navigation?*

Yes. We have a continuing problem concerning the efficiency of the existing structures, or locks. Many of our locks are old and not as efficient as we would like to see them. Some are inadequate for the volume of today's traffic, others are reaching the point in age where they



served their usefulness and need to be replaced for safety reasons. So we have a continuing problem on our waterways: not only in keeping channels at authorized depths, but also in modernizing and replacing our locks and, in some cases, maintaining channel alignment through bank stabilization and control structures.

*Such an extensive maintenance program implies outlay of a large amount of dollars. Would it be feasible to lay user charges on some of the waterway operators to help defray the costs of some of these improvements?*

That's really not a matter in which I've been involved officially, although I have been responsible for the operation of the waterways. I understand, however, that current administration policy favors some user fees or some use charges to offset operation and maintenance costs. My personal feeling is these charges will be passed on directly to the consumers. Since the waterway operators constitute a very competitive industry, there really isn't enough profit in their operations to allow them to absorb the charges. Thus the charges must be added to the cost of the products being transported, which means the consumer, in effect, will pay the user fees. Fees would probably have some effect on our international trade situation also, since our export costs would have to be increased as well. I am inclined to think it would be to



the users' advantage if they offered a proposal. I would hope that whatever the alternate proposal would be, we wouldn't have to collect the money.

*While NEPA introduced a national policy of concern for the overall environment, the Water Resources Development Act of 1974 was more specific in its requirements, including nonstructural flood control measures. What progress has the Corps made?*

Both the policy and conception of nonstructural solution are excellent. That message has been well distributed throughout the Corps. From a practical standpoint, though, we don't seem to be getting very far because of the cost sharing features. To date there's been no national policy set on what the cost sharing should be on nonstructural measures. Admittedly, the law sets forth some limits, but the U.S. Water Resources Council has the chore of coming up with a position which will be applicable to all elements of the executive branch. As far as I know, the Council has been unsuccessful in getting its recommendations approved. I'm disappointed that progress has been so slow on this feature because

nonstructural measures are so important, but cannot be implemented until the cost sharing problems are resolved.

*The 1974 Act a/so directed the President to took into the Princip/es and Standards applied to water resource projects, including the discount rates. What impact will this have on Corps projects?*

I don't think the national Principles and Standards are going to have any major impact. At first we thought they would be more severe, but now that we've put together our regulations on how to develop the two objectives of *national economic development* and *environmental quality*, we find we can adapt very nicely. One of the things that's attractive to me is that if we do the *environmental quality* analysis properly then the need for a separate environmental impact statement (EIS) on the same project would be lessened. Even if we do not eliminate the EIS itself, we should be able to make the document which we're now preparing much simpler since we would save significant amounts of time and money. Those people interested in the details of environmental assessments can go to the environmental quality part of the project report document itself.

*The Corps has traditionallyh made its flood plain management services, which are nonstructural available to individual communities upon request. Would this service not become more effective on a regional /evel/?*

Definitely, and we need to come to that soon. First, we need the base data so that regional planners can have the information at hand with which to make their plans. The Corps can and should provide this service to the States and other Federal, as well as local, planning agencies. It's important and we really ought to get on with that.

*While the public traditionally associates the Corps with flood prevention, not many persons realize the extent of Corps interest in supplying water to regions facing current or future shortages.*

There's no question that many regions of the country have potentially critical situations and when drought conditions occur in these regions the problems will appear very rapidly. The most serious situation is right here in Washington. It would be devastating if we had a drought next year during the height of the Bicentennial.

Actually, the whole Northeast region of the United States has a potential water shortage and the Southwest already has its water problems. While there's ample water in the upper Missouri now, there's no reason to think that during a drought that area wouldn't be short

*Dredged material converted to manmade island*

also. So you might say the United States has a pending water crisis which would be much more difficult to handle than either the energy or the economic situation which we now have. It's pretty hard to negotiate with Mother Nature when she decides to cut off the supply.

*Would it be feasible to help Mother Nature by transporting water from areas of abundance to those of needy*

I suppose so, but this is a very complicated subject and making it come true is probably more difficult than the average person might think. For one thing, there's the question of who owns the water. Does it belong to the States? Another problem is embargoes, some Federal, on moving water from certain basins to others, and there are even international agreements which preclude such transbasin shipments. So while it would be feasible from the engineering standpoint, there are political and regional constraints which, for a while at least, present very difficult obstacles.

*Besides providing drinking water, will the Corps be able to increase the Nation's supply of electrical energy through further development of hydropower?*

Most definitely! A great amount of energy exists in our rivers which could be converted into hydroelectric power. We need to take a hard look at the proper role of hydroelectric power, including pumped storage, in meeting the Nation's electric energy demands. We already know that hydroelectric developments provide a clean source of electric energy with little, if any, consumption or degradation of the water resource itself. There are great opportunities for hydroelectric power development in Alaska as well as the Pacific Northwest, some potential on the Missouri River, and in some of the existing facilities in the Southeast. Speaking comparatively, hydroelectric energy is a clean and nonconsumptive form of energy.

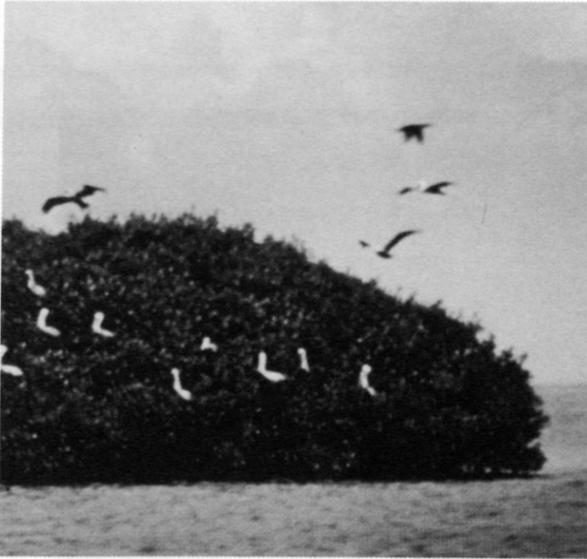
*When construction projects disturb existing fish and wildlife habitat, what are the ecological results?*

Generally speaking, the effect has been to change the fish and wildlife populations which were in a region before the project was developed. That's particularly true with our lake projects. With the help of the Fish and Wildlife Service we have replaced what was there with, in many cases, a better fish and wildlife population. In all cases that I'm aware of, once a project is in operation, the Corps has given constant attention to the matter of the species of fish and wildlife which choose to reside in that area.

*On the human side how will growth in visitations be managed?*

We've learned an awful lot in the last 30 years or so about operating reservoirs and what masses of people can do to these pleasant and attractive areas. I think





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the principal direction which lakeshore management will take from now on will be to preserve public lands so that they may be used for the pleasure of everyone. That will be done by limiting commercial uses to certain areas, limiting boat docks and recreation vehicles to other areas, and leaving some areas in a natural state. The thrust of lakeshore management, generally speaking, will be to keep an area from becoming degraded so that, over the long pull, public lands will provide the greatest amount of pleasure and use for all elements of the public.

*Your concern over public lands indicates that appropriate public facilities should be included in the Corps' future lakeshore management plans.*

They are part of our plans. However, facilities of the type you are referring to are provided only where a local non-Federal agency contributes 50 percent of the cost. Therefore, the extent to which these plans are implemented is dependent upon how much money other than Federal agencies are willing to put into them. The growing public demand for campsites, picnic areas and other facilities greatly exceeds availability and these areas will have to be expanded to meet local area requirements.

*Although not as visible as those projects producing man-made lakes, the urban studies program appears to be even more multipurpose in nature.*

Our urban study program is really a comprehensive analysis of all the water and related land problems in a highly populated, highly industrialized area. That includes items such as flood control, water supply, recreation, water quality, in some cases navigation, and in other cases hydroelectric power. Whatever the existing water and land related problems or opportunities might be, they are folded into an overall study for a given urban area.

*Which of these items would you say appear to be receiving the most emphasis today?*

That's very hard to generalize since the cities are all different and their water situations are all different. I think, certainly, water quality has to be put high on the list because of the law (P.L. 92-500) which says the cities will have reached certain levels of water quality and treatment facilities by certain fixed dates.

*There are several new directions the Corps has been asked to pursue by Congress, such as streambank and shoreline erosion research, a new 2-stage authorization procedure and, perhaps most important, the deauthorization procedure. How are we progressing?*

Let's take them in reverse order. The deauthorization procedure is moving very well. The Secretary of the Army has submitted a list of about 350 projects prepared by the Chief of Engineers that are recommended for deauthorization. I anticipate that Congress will



allow most, if not all, of these to be deauthorized by not overruling the recommendations. Next year there will be another list and the year after that and so forth. So that's working well.

The 2-stage authorization procedure has many good features to it. So far as we know, it's also working well, and I phrase it that way simply because we have not yet had a project move all the way through the system and back to the Congress under the 2-stage procedure. We see no great problem once we get all the pieces sorted out.

The third item is streambank and shoreline erosion, and this one, I must say, has been fairly disappointing to me because we've not had the funds to undertake these research programs as we should have. In the shoreline erosion area we have no money appropriated to date. We do have an advisory panel appointed as the law requires and we have taken \$100,000 from other sources just to keep that panel working. As far as anything specific is concerned—such as picking a demonstration site—no decision has been made. The same thing is true, generally, with streambank erosion. There just haven't been any funds appropriated to allow us to proceed with these new initiatives.

*Having briefly explored the major challenges you have faced as Director of Civil Works if now seems appropriate to ask for your impression of the Corps' future Civil Works mission.*

We should start with what we have as our current missions. Traditionally, that includes navigation, flood control and hydroelectric power. Navigation, I feel certain, will remain an integral part of the Nation's economic transportation system, but its place in the system will depend upon the national transportation policy and the relationship of water to other transportation modes. I think there's a definite continuing requirement here, so the Corps' mission in the navigation field probably will stay pretty active.

Flood control, though, is to me the one area where the changes in philosophy and approach have to be most significant and perhaps the most immediate. I feel that national attitudes no longer accept retention structures as the singularly correct solution to flood problems. Only after we have thoroughly exhausted all other alternatives, in particular those labeled non-structural solutions, will the public accept structural solutions. This is quite a change in the national attitude which existed just 10 or 15 years ago. As a result, I see the Corps role in flood control changing significantly.

Allied with flood control is hydroelectric power. That seems to remain a priority issue because of the energy

Energy found in nature can be converted into clean, nonconsumptive hydroelectric power.



shortage. I feel that we will be providing more hydroelectric power both in existing and new structures. Hydroelectric power, like water supply, comes off a little better in the area of structural solutions than does flood control, simply because the water supply obviously must be obtained by storing water and hydroelectric power is most efficiently produced when water is impounded for the purpose of generating great amounts of energy during a release.

Looking beyond the structural areas, or what might be called the traditional missions which involve structural work, I see a great opportunity and a need for the Corps of Engineers to provide software service. By that I mean engineering advice that will help States develop their own State water plans. I'm particularly concerned that we look at our capability to resolve the quality of life issues, not only for today, but for the long term; also that we use our talents in developing flood plain data and environmental inventories, so that planners on a national, regional and even local basis have at hand good data on what's out there in order to make proper decisions in developing our water resources.

This software service would have its first priority input in urban areas, because there's where the prob-

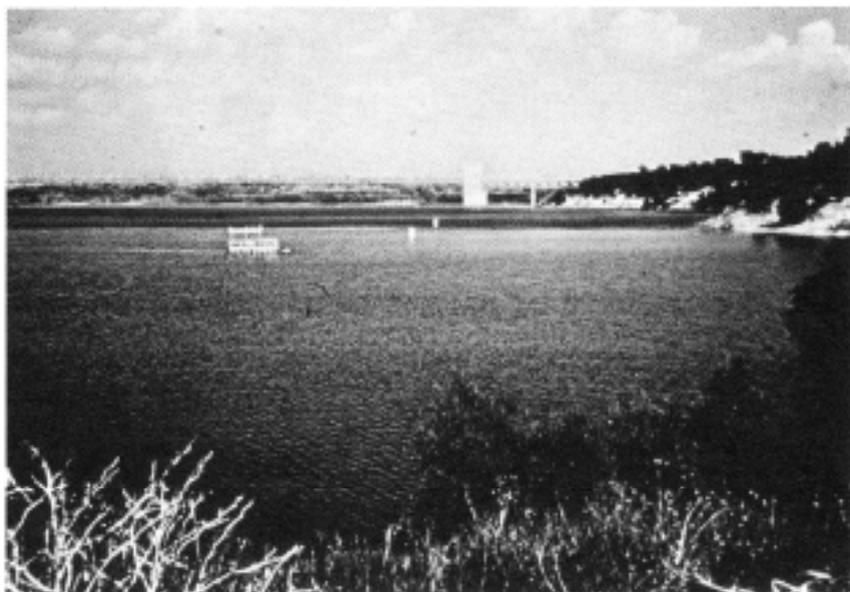
lems already exist. The urban areas are a particular problem because our planning processes take so long that by the time we get an answer the going-in situation has changed. We have to be able to translate software planning into action much quicker than we have in the past. The next area where I see software service having immediate application is one I've already mentioned - the flood plain information and environmental inventory arena.

Another area of great opportunity is using the maintenance of our waterways as a catalyst for proper development of our river basins, and particularly the water courses themselves. I believe that working in conjunction with State and local fish and wildlife interests, the Department of the Interior and others, our activities in removing deposition from authorized waterways and maintaining these waterways can lead to optimum development of the physical features adjacent to our waterways. There's no reason why we cannot open up tributary areas in order to place the dredged material from the waterways in preselected sites. This would not only provide fish and wildlife habitat, but excellent recreation areas, and generally raise the environmental, industrial



*Meeting growing demands for recreational facilities depends on cost-sharing.*

*Effective wafer supply sometimes requires impoundment.*



and social utilization of these water courses to their most attractive and optimum levels.

What I've covered so far really are not new missions for the Corps. We are just approaching tomorrow from a better angle, using the authorities which the Congress already has given us for tending to our Nation's water needs. Beyond that, the U.S. Army Corps of Engineers is available for a variety of future challenges, just as it has been in the past. We can undertake additional tasks with our existing field organization and our engineering and planning talents if, in the judgment of the Congress and the executive branch, such use would serve the national interest.

If I may be permitted an additional observation along that theme, I see in the great planning, engineering and construction talents of the Civil Works ele-

ment in the Corps of Engineers a unique management capability strong in experience and organization. I'd like to think these capacities are available to everyone -other elements of Federal Government as well as the States and local agencies-to assist in resolving the Nation's problems, whatever they may be, but especially those related to water. H

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