Interview: John W. Peterson

U.S. Is Losing Its Watershed Infrastructure

The Executive Director of the National Watershed Coalition, John W. Peterson, a watershed specialist, spoke to Marcia Merry Baker of EIR *on May 30 about the growing "infrastructure deficit" in the management of the land and water resource base of the United States, particularly since the "Conservative Revolution" 104th Congress of 1994. Along with the heavy rains this spring came many instances of dams breaking, from Michigan to the Carolinas. Mr. Peterson, who has had long experience at the U.S. Department of Agriculture in the Natural Resources Conservation Service, provides the history and overview of dam-building in the country, and how rehabilitation is overdue for thousands of structures.*

The National Watershed Coalition is a nonprofit entity made up of national, regional, state, and local organizations and individuals, that advocate dealing with natural resource problems and issues, using the individual watershed *as the planning and implementation unit. (www.watershedcoalition.org)*

EIR: Let's begin with the water resource base of the United States, in terms of what's been done in the way of improvements, and what is lacking.

Peterson: We might want to go back and talk a little bit about how our nation has dealt with, not only the control of flooding—or flood damage reduction as I prefer to call it—over time, and why in the world our National Watershed Coalition is advocating what it does. I can do it fairly briefly.

If you go back far enough, you know, there is evidence of flooding that goes back to when [Hernando] de Soto got to the area that's now about where Vicksburg, Mississippi is. In his legends and journals, [de Soto] recorded all manner of flooding. And as we were even a colony, before we even became a country, there is a lot of evidence of flooding on the major rivers—the Missouri, the Mississippi, and whatnot—and we, traditionally, in the United States have looked to the Corps of Engineers as the agency, of the Federal government at least, that was primarily responsible for dealing with water. And while we started, I suspect, looking at things like navigation and power early on—in the later 1800s and the early part of the [20th] Century—of course, flooding and flood damage reduction was a big part of what they were concerned about, too. . . .

EIR: The Corps has great success stories. The Lower Mississippi, and so on?

Peterson: Yes. But the Corps traditionally has been the builders of large dams on the major streams, and you know, without getting into the fact that early on, we saw in the 1700s, people building dykes and levees down in the Louisiana part of the Mississippi Basin. And then pretty soon, they formed districts, where they got together as groups of individuals, and built bigger and better dykes, and on and so forth. Coming back up to this century, of course, the Corps had built a lot of large dams on the major streams.

In the late 1930s and in the 1940s, particularly in the breadbasket of the country in the Midwest—Kansas, Nebraska, Oklahama, that part of the world—people reacted to what at one time—and I think it came out between 1944 and 1947, what was called the Pick-Sloan Plan. And even in those days, the Pick-Sloan Plan was a plan to do a lot of major dam construction on the major rivers, particularly the Mississippi and the Missouri. And even in those days, it was a $57 billion plan, as I recall. And people really objected to that.

They said, first of all, it's a lot of money. Secondly, you know, if we would spend more time looking at the rural upstream smaller watersheds, and trying to deal with those, and manage those lands properly, and try to manage the water a little bit, and stay away from the mainstreams, and get up on the intermittent streams, that were in the headwaters of most of these larger basins, it just might be that if you did good management there, you might negate the need for some of these larger downstream structures.

In 1936 the nation had passed the "Flood Control Act of 1936," which is still the basic umbrella piece of legislation that deals with Corps-type things. And in that '36 Act, there were some references to USDA—U.S. Department of Agriculture—in the fact that we might assist the Corps in doing some studies in some watersheds. There already had been a lot of people in USDA that had been advocating working in the rural upstream watershed. . . .

In '44 then, the '36 Flood Control Act was amended, which allowed USDA's technical specialists to work with these special purpose units of state government, and deal with watersheds. In that '44 Act, it identified 11 major basins, such as the Washita, in Oklahoma, and the Trinity in Texas, and the Little Sioux in Iowa, and the Potomac in Maryland, and Virginia, and West Virginia, and some of those. It identified these big basins, and said, these were the basins that we were going to try this upstream watershed approach in.

But at that time, in 1944, USDA's technical specialists weren't allowed to build dams. They were basically doing the land management kinds of things that we still think are important when you are dealing with watersheds. So in 1948, they finally built the first actual upstream flood control structure. It was built in Cloud Creek, in Oklahoma on the Washita. That dam was built in '48, so in 1998 it became 50 years old.

EIR: So we face the rehabilitation question.

Peterson: So, I'm leading up to what we tried to address

America has 85-90,000 dams in its official inventory. There are the large mainstream—usually "downstream"—dams on major rivers, almost all the responsibility of the U.S. Army Corps of Engineers, such as the Willow Island Lock and Dam on the Ohio in West Virginia (left). On upstream sites, some 11,000 smaller—"watershed"—dams have been built through the partnership between the U.S. Department of Agriculture and local watershed project sponsors. Shown is a small dam and lake in Tama County, Iowa, with terraces, grass plantings, buffer strips, and other conservation measures.

with rehabilitation. . . .

The other thing that was distinct about this program, and USDA's involvement, is, it became a Federally-assisted program, and not strictly a Federal program. Back during this debate over upstream and downstream, big dams and little dams, centralized control versus decentralized control, these kinds of projects were built in conjunction with local sponsors. The local sponsors actually took the lead, and made the "go, no-go" decisions. And the financing of these things was shared between the Federal government and the local people. It was not like the Corps of Engineers, which comes in, buys the land, builds the structures, and the Federal government maintains that in perpetuity.

There were a lot of differences in this upstream approach we are familiar with, and the major downstream approach.

So, they had a lot of success with this approach in the upstream watersheds in these 11 basins; so in 1953, USDA said, well, let's get permission from the Congress to take this approach nationwide. In 1953 and '54, they had a pilot program, that took basically that concept, and let any state that wanted to have a watershed project, apply for one. That again proved very successful.

So in 1954, Congress passed Public Law 566, which basically said, we will have an upstream rural watershed program throughout the United States. That's the program that we still have today, and the one that we have tended to support. Our National Watershed Coalition tends to be, in a manner of speaking, a support group for this USDA approach to the rural, smaller watersheds.

Another thing to keep in mind, and there's a whole background on how it came to be this number, but, the Law says that these small watersheds, by definition, will be watersheds of 250,000 acres or less. The area of 250,000 acres is roughly 400 square miles. The reason for that, is that it was thought that if we kept USDA in those smaller watersheds, that would force them to be upstream in the headwaters in the rural areas, and they wouldn't get in the way of the Corps.

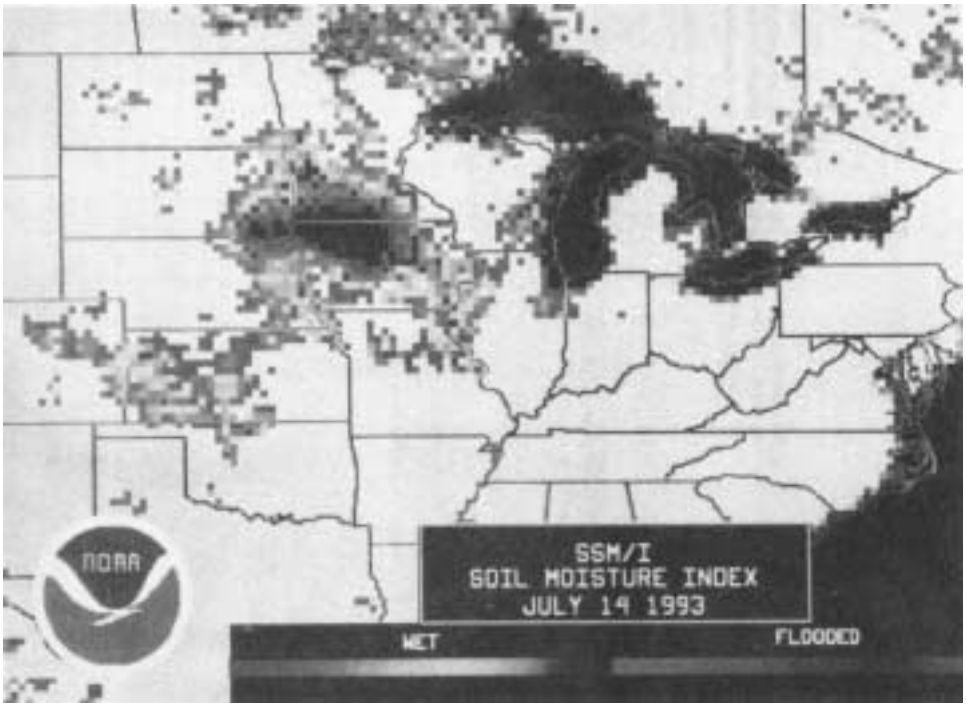
Now, you have asked, why the "watershed"? Why do we support the notion of using the watersheds? There are a number of reasons, but it is really quite simple.

First of all, for the most part—and not always, but for the most part—we're dealing with water, and we're dealing with soil. We started out thinking, flooding and erosion control, even though today, there is a whole host of water-related issues that are important to us. You know, water quality, and groundwater recharge and a whole host of things. But the fact of the matter is, watersheds don't seem to scare people.

If you go out into a meeting in the heartland, and go out to a meeting of local people, and start talking ecosystems, and airsheds, and viewsheds, and this sort of thing, a lot of people react negatively to that. They understand what a watershed is. Most people do. They can be drawn on maps. They're easy to see. People understand them. And if you're dealing with water, for the most part, or at least, as one of your objectives, why it's a very natural, logical thing.

You and I would both understand that living things don't necessarily—you know, plants and animals don't necessarily just abide by those geographic, physical boundaries, but water does.

EIR: About 30 years ago, was a period of shift in policy, in which some outright anti-infrastructure groupings were formed such as the American Rivers group, and World Watch and so on. They were against traditional public works



A 1993 satellite photo shows "Lake Iowa": River flooding had left so much soil moisture that Iowa showed up like a sixth Great Lake. Yet even within and around Iowa then, Peterson recalls, watersheds with full local water management plans and structures were far less affected than the rest of the state.

in the national interest.
Peterson: Correct.

EIR: Heavy-influence blocs opposed infrastructure-building worldwide.
Peterson: You are getting down to something fairly basic. And that's this business of mankind, population, and the need for development to sustain those populations.

There are a lot of folks around that think, first of all, we have to limit the population growth. We have to limit development. You never should build a dam. There's no such thing as a good dam. As a matter of fact, American Rivers tends to be wanting to remove most of the dams.

EIR: Exactly. So we're at a point now, after 30 years, where just sanitation and safe water supplies are threatened, because we coasted. Same in other nations. In the 1960s, Mexico was building in the way you were saying; but then that was blocked. We are now seeing biological and disease threats resurgent. We are seeing the penalties of not going ahead with infrastructure.
Peterson: Well, yeah, in the end, I guess we all—the thing that drives almost everything, of course, is the need to support the people. And some of us, myself included, probably still think that the primary interest ought to be the human one, and then everything else takes another, lower priority. I know there's a lot of people who don't agree with that. It gets into religion and a whole bunch of things.

EIR: Let's put it in terms of culture. . . . The reason we are here today is that people over thousands of years believed in infrastructure, or we might not still be around.
Peterson: There is a really excellent publication, called, "Conquest of the Land Through 7,000 Years." It's about a 60- or 70-page booklet. It's by a gentleman who was in one of the positions that I held with the USDA—he was an assistant chief of the Soil Conservation Service, much earlier that I, a guy named Dr. Walter Lowdermilk. He studied in China in the 1920s, and in the area that is now Iran/Iraq, and in Egypt, and all over there in the 1930s.

Dr. Lowdermilk looked, while he was a professor, at all of these civilizations, and how they managed their lands. He sees where people actually managed well, those civilizations thrived, and in some instances, are still in existence today. But where they didn't manage, the civilizations disappeared. It's a really good little book.

I usually advised people, and I did when I was still at work, at least once a year to go back and re-read that. It's Agriculture Information Bulletin No. 99. It's a good little primer. I read it about once a year. I'm looking through it all the time. (www.usda.gov)

Let me go back and address the need to maintain and rehabilitate some of these older structures.

First of all, I mentioned that many of our structures—these rural upstream structures, where USDA-assisted local sponsors—most of those were designed, as I mentioned, for rural kinds, levels of protection—agricultural levels of protection. Number one. So they are very different than the major, big dams. Although many of them do service multiple objectives, including water supply, recreation, and a whole host of

The same area with its major rivers and tributaries which flooded in 1993 (the lower Mississippi, long controlled by the Army Corps of Engineers, did not *flood). Water control structures on dams up on the tributaries, Peterson maintains, will make the demands down in the big main river valleys much easier to meet.*

those things.

The other thing is, they were out in the country. They were not above major urban areas. So what's happened? Well, over time, a number of things have happened.

First of all, these local sponsors, these districts, for the most part, are pretty poor.

EIR: Especially now.

Peterson: Especially now. They don't have a lot of money, and what money they do get, they probably get from a county government that provides a little support, or state government that provides a little support. Most of them don't have much staff, if any. They may have an elected board of directors that meets every now and again, but, you know, they weren't in the business—or didn't think they were in the business, of dealing with major pieces of our nation's infrastructure, and maintaining it. . . .

In some cases—not all, in some cases, these folks just have not had the money to keep these things in good condition. It just wasn't there. It wasn't available.

And the Federal government—even though they helped these folks build these initially, and the Federal government helped design them, and helped get them constructed, helped share in the costs of constructing them, and that sort of thing, the Federal government always argued they had no authority to assist these people, when one of these things got into a condition where it needed to be rehabilitated. And as it turns out, that was actually true, they didn't have. And of course, they didn't *want to have* either. The Federal government doesn't want to do anything like that anymore.

But we argued, and argued successfully, as it turns out: No, the Federal government really did have an interest. That they were agents of these people all thoughout the process of getting these projects on the ground, and even though they'd like to duck away from that role, they really couldn't. And while they didn't have the *legal* authority to help these folks share in rehabilitating those that needed rehabilitatiion, we thought that was something that was in the Federal interest and needed to happen. And Congress agreed.

In 2000, the law was passed that allowed, again, for the Federal government, through USDA, to cost-share with these local sponsors, and upgrade those structures to meet current health and safety conditions where that was needed.

EIR: So, in other words, that was the authorization.

Peterson: Yes. Public Law 106472. And I wrote the initial drafts of that for a Congressman from Oklahoma, who at that time had the Sixth District in Oklahoma. It's now the Third District. His name is Frank Lucas. We got the bill signed by President on Nov. 9, 2000.

We ended up, because they did use some shortcut procedures, having to modify the dollar limits—the financial things in the bill, because I think, when you use the shortcut procedures in both the House and the Senate, no bill can have a pricetag of more than a hundred million.

We had estimated the need throughout the country, even back in the early '80s, at closer to $600 or $700 million. The important thing was, we not only got the legislation passed, which was the authorization legislation—it certainly wasn't appropriations, and as you know, that is a very different animal. But we now had the authorization, and we had money in the bill for rehabilitation. And we could work with the Committees of the House and the Senate in the future. . .

EIR: The $600-700 million is to cover rehab on the upstream watershed structures?

Peterson: Now that doesn't at all come even close for what the national needs might be for the entire range of looking at dams of every size.

EIR: The whole range, meaning the Army Corps "big dams," the locks, the big systems like the Ohio, and so on.
Peterson: Right. . . . If you look at all those things that exist in our country, you know, we've got about 11,000 of these dams that you and I are talking about, that USDA helped people build. But in the Dams Inventory that exists now, I think there are 85-90,000 dams in the inventory now. It's kept out at Stanford—they just volunteered to do it. It was something that resulted after a whole bunch of major dam failures occurred in our country.

Remember, we had the Teton failure. We had the Toccoa Falls failure in Georgia, which is why Georgia got so interested. That killed 80 or 90 people.

Then, there was this Buffalo Creek disaster out here in West Virginia, which, basically, was nothing more than a slag pile that they had dumped across one of the rivers. So it was never built to much in the way of standards.

Then were was a dam that collapsed out above Rapid City, South Dakota.

I think those four things combined to cause people's interest in this. What the Federal government did, is to appoint a committee to deal with large dams. So this committee then, started putting together this inventory. And I think there are 85-90,000 dams in the inventory now.

EIR: So they are monitoring the condition of these 90,000 dams. How long has that been going on?
Peterson: Probably now, for—I'm going to guess, for 15 years or so.

EIR: In testimony to Congress this March, you go into the lack of funding for rehabilitation of dams. What about the consequences?
Peterson: Let's talk about the funding for the base watershed program. It's just kind of interesting, if you remember that—that great Midwest flood of 1993?

EIR: I remember it well. "Lake Iowa"!
Peterson: Yeah, right. Well, there are a couple of interesting things about that period of time. When I was still at USDA, and we were managing this watershed program, we had annual appropriations in the $250-300 million range, which basically allowed USDA to keep up with what, I think, anybody's best estimate is of what the true national need was.

In other words, the people out in the country—the local people—through their individual districts, would come to USDA and ask for this kind of assistance. And it took about that kind of annual funding to make sure that all the watersheds the people had an interest in dealing with, were addressed.

Well, in 1993, that monstrous flood occurred throughout the Mississippi and Missouri Basins, and it became clear to Congress that USDA, and its technical specialists were going to be spending a great deal of their time over the next near or two, in recovering from the flood. And of course, there is both the financial side of this picture, and the people side.

So what Congress did, in their wisdom, they said, OK, we're going to take away about $200 million of the money that we normally would have given USDA for the basic watershed program, and we are going to supplement that $200 million we just took away, with another $250 million, and we're going to give USDA $450 million in 1994 to do the flood recovery work. And when the flood is all recovered from, we're going to restore the funding for the base program.

That left the base program with funding in the $95 to $100 million range, which is roughly one-third of what the needs really were, and still are to this day.

EIR: So that's how it ended up being cut back.
Peterson: And interestingly enough, that was all in the 103rd Congress; and in the 104th Congress, the Congress changed from Democrats to Republicans.

EIR: Was that the famous "Conservative Revolution" shift?
Peterson: Yep, sure was. And interestingly enough, that money never got restored.

So, the fact is, over the last 10 years, or close to that, we've been dealing with probably one-third of the national needs for this rural, upstream watershed program. One-third of the funds that were needed. And that condition still exists today, and that was before we started addressing the [dam structure] rehabilitation needs. That has nothing to do with rehabilitation; that's just the need to continue working in rural upstream watersheds in this country.

EIR: Meaning work of different kinds—planning, and so on?
Peterson: Yeah. The planning and implementing. Many of the projects don't contain any kind of structures. They are basically just good land management projects.

The rehabilitation needs—as I told you before, we have estimated that need to be $600 million. And if you made a conscious decision as a nation to attack that, and did it over a ten-year period of time, you'd need about $60 million a year. And that's how we crafted the first of the rehab bills that we got Frank Lucas to introduce in the House.

We've never had $60 million a year for rehabilitation. In recent years, even with the passage of the Act, we've now been approaching $10-11-12 million for rehab. . . . But it doesn't address the needs, though.

EIR: So you have downsizing all the way around, while the need is increasing, because the aging is going on.
Peterson: Correct.

Contour farming is a basic part of the work of the USDA-assisted Soil Conservation Districts and watershed basins—one of many land- and water-preservation measures which are done before the district implements the "last resort," building a dam, if necessary.

EIR: Besides the obvious merits of having well-maintained, safe working dams and water control systems, there is the huge benefit of creating jobs through the rehabilitation of dams. We are in a very serious economic crisis.

Peterson: There is a tremendous job creation component to this. Here's the thing that worries me the most, I guess. You're dealing with one small aspect of our nation's infrastructure, and this gets back to that whole business—we're a developed country. Everything that we've done, though, was done to help us live. And to make our lives more livable, and raise the standard of living, which was done marvelously.

But all of this stuff that we placed on our landscape, needs to be looked at and attended to, and maintained. And unfortunately, we haven't spent the money over time, to do the job of maintenance that's needed. And we certainly haven't established the sinking funds, and the other kinds of accounts that would provide that funding. And what we're going to find, if we haven't already found in some instances, is some tremendous needs, and needs to address things that we absolutely depend upon; and the money isn't there.

And we did a study in the early part of the Reagan Administration—an infrastructure study. The Federal government did it. It addressed every aspect of our nation's infrastructure. It looked at roads and bridges and sewage treatement plants, and buildings and the sanitary sewers and waste treatment facilities, and things like dams. And I was part of the taskforce that dealt with them.

It was a very good assessment of virtually every part of our nation's infrastructure. But unfortunately—and I don't think that there is any one political party that's to blame for this, maybe the numbers were just so staggering, that people didn't know how to deal with it. But we haven't really done much with that.

And the dam part of it, that I am interested in, for the most part, is just one small aspect of it; it happens to be the aspect that I've spend my life with. But we're not doing very well. I'm not talking necessarily only about these 11,000 dams that you and I have been discussing. It's all of them.

EIR: What can you say about R&D? For example, there is an Army Corps experiment with replacing a dam on the locks on the Monongahela, where they have three modules of the dam built off-site, then they float them into place.

Peterson: I'm going to mention some things that I feel very good about, and I'm going to tell you that they are success stories. You mentioned, "Lake Iowa."

People who looked at what happened in Iowa after that flooding, were amazed at what they saw. If you took a look at where the flooding occurred, and if you overlaid on the map, where watershed projects of the type I'm talking about, were actually installed and in place, you find a couple of very interesting things.

First of all, in areas where watershed projects were completed, the flood damages were remarkably less. And the need for Federal emergency assistance was far less. The projects really paid for themselves.

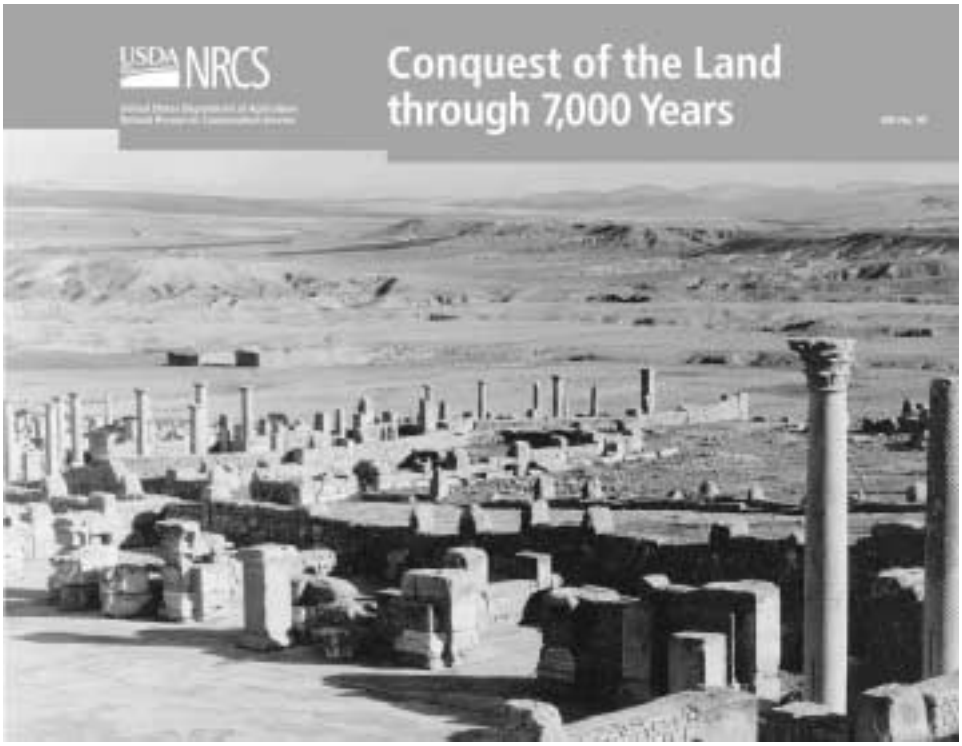
So Iowa is kind of a good case in point.

EIR: You have referred several times to the principle of: You do what's in the interest of humankind, including thinking ahead to the future.

Peterson: And that isn't the same as saying, now, that you deliberately go about doing damage to things that are not human. As a matter of fact, one of the things that we've always said is, while we do advocate the building of dams, it's usually—structural things are usually your last resort. And that's why I so much like this upstream watershed approach, because it starts—the first increment of planning is the proper land management and land use.

A lot of people don't like you to use the term, "land use." We still advocate it being done, on a voluntary basis by private inviduals.

We suggest that, hey, even if flooding is your problem,



This short but fundamental study done in 1938-39 by Prof. Walter Clay Lowdermilk, a predecessor of John Peterson at the USDA, measured the success of societies at water management and land management over seven millennia, and its direct contribution to their survival.

first of all, let's make sure we are doing everything that we know how to do, and the best way we know how to do it, to manage the land to protect itself from water and flooding as best we can. And then if we still have a problem, as a last resort, we may have to resort to structures. But even when you build them, you take the environment into account.

I think that's just the responsible approach. There are others who would say, "Well, shoot, if there's flooding, so be it. It's just natural; it's supposed to be there. So just get things out of the way."

EIR: Yes, for example, the *New York Times*, during the Flood of '93, in their *Science* section, ran coverage saying, "You must let rivers *run free*. Don't build levees, dams, water control." What is behind this, of course, is the premise that man is completely separate; and there is such a thing as nature separate from mankind.

Look at the major projects under way in China.

Peterson: I was in China last year. I was first in China in '93. That was when Clinton was President, and we were getting ready for the Asian-Pacific Economic Cooperation Summit that they held in Seattle. So I went over with the Secretary of Agriculture, who was a gentleman named Mike Espy. I was part of that team, and we went over to negotiate things on that Summit; then I stayed for a couple of weeks. We started in Beijing, as most everybody does. Then we went down to Zhangdou in Szechuan Province, and ended up at Quangdong, at old Canton, and Guangzou. But at any rate, at Zhangdou in Szechuan Province, we went out to a dam that had been built 2,400 years ago, or something like that. It had a big sediment problem. But what was fascinating to me is that here's this old structure that's still in service. Still doing its job.

EIR: Was it all stone?

Peterson: Stone and a whole bunch of things—concrete and wood, and logs. But the interesting thing to me is: The way they handled the sediment then, and those crude methods that they were using years ago, are still in use. We talk about dams in our country, and we're worried about dams that are 50 years old. And here they got one over there—and probably more than one, that's 2,500 years old that's still in service and still doing it's job.

I don't want to get into a big long discussion of Three Gorges [Dam] and all, but that you know, they're still working on those kinds of things. Of course, they feel they need to to support their people.

The other thing is, I went back to China last May and June, with the International Erosion Control Association. I was presenting a paper to one of the International Soil Conservation Association conferences. Each year they have a conference. This one happened to be in China.

The thing I found, is that on my last trip to Beijing—the two trips were, like, ten years apart—it was almost like Beijing was re-built. Day and night.