DNR casts doubt on freshwater diversion projects

By BOB ANDERSON
Environmental editor

After 20 years and $25 million, research indicates the Caernarvon Freshwater Diversion project won't do the intended job, especially with the operational plan being used by the U.S. Army Corps of Engineers.

The research also raises questions about two similar structures scheduled to be started in the next two years by the Corps with the state supplying millions in matching funds.

A Department of Natural Resources document said studies by its Coastal Restoration Division suggest salinity levels "will probably not be impacted by freshwater diversion at Caernarvon to the extent predicted when the project was economically justified by the Corps of Engineers. Therefore benefits are highly questionable for this project as well as all diversions adjacent to the Mississippi River."

DNR officials said the studies have examined the lack of impact on salinity of a similar structure, built by the state decades ago.

Despite the fact that structure delivers more fresh water into the bay, tests at several stations two miles and four miles from the discharge indicate "no discernible impact" on salinity.

Also, months of high rainfall representing as much excess fresh water as might be expected to be put into Bay Gardene by Caernarvon have caused no reduction in the bay's salinity, said researcher Carrol Clark of DNR.

Corps officials said they still have faith in the mathematical model they used to calculate the positive effects of the Caernarvon structure and two other structures they are planning to build with federal and state money.

But they will review the information provided by the state and they hope to run tests on the impact of the structure later this summer.

"While benefits are unlikely, there also exist potential detrimental effects," that include allowing heavy metals, fecal coliform and other pollutants to enter the bay's oyster growing waters, a DNR document indicated.

It also notes that money spent on Caernarvon and other planned projects "could be spent on other, perhaps more beneficial projects."

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Freshwater diversion structure sites

Baton Rouge
New Orleans
Bonnet Carre'
Davis Pond
Caernarvon
Morgan City
Houma

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Advocate graphic by Margaret Austin
Prior to completion, the Caernarvon project was touted by both state and federal officials as an opportunity to push back saltwater intrusion and much of the financial benefit credited to the project in cost-benefit analysis was from projected increases in oyster production in Breton Sound as a result of lowered salinity.

Lesser benefits were projected from wetland preservation and increased fisheries.

But DNR officials said there will be few such benefits if the corps sticks to its current operations plan.

Under that plan, in which the structure is opened when salinities reach a certain level in the bay, the structure would have only been open for a total of three months over the last three years, Clark said.

The structure was finished in early April, but it has yet to be used.

Not only does that limit the amount of fresh water going into the bay, but also greatly limits the amount of sediment that the surrounding marsh needs in order to keep up with sea-level rise and subsidence, state officials said.

Maybe the corps needs to change its operational plan and open the structure at certain times of the year, said Bill Good of DNR, who indicated more use of the structure is needed if there are to be significant benefits.

“We’d like to get more wetlands benefits out of it,” he said.

Corps officials said they have to be careful when they open the structure so as not to adversely affect shrimping or other activities in the area.

The operational plan for Caernarvon and its lack of use raises serious questions about how much other structures would be used, Clark said.

“If a structure is not going to operate here (Caernarvon), it’ll never operate at Bonne Carre,” where salinities are lower, Clark said.

Asked why the state had not raised questions about the project before it was spent, Dave Soileau of DNR said the state previously didn’t have people and capabilities to study the situation and had to rely on the mathematical models being used by the corps.

“So we’re beginning to examine the data ourselves and we have some misgivings,” Soileau said. “We need to take a good look at this before we invest many millions of dollars more. We’re talking about a serious investment of state and federal money.”

Soileau still thinks freshwater diversion projects can be helpful to the state’s estuaries, if properly designed and operated, and that larger, sediment diversion projects can be very useful in protecting and creating wetlands.

Though corps officials say they are still confident about the Caernarvon project, there are some things that could be done to modify it, such as enlarging the channel that runs from it into the estuary, but modifying the structure itself would be very expensive.