

From: Bird, Mark [mark.bird@ccsn.edu]

Sent: Thursday, April 26, 2007 1:51 PM

To: strategies@lc.usbr.gov

Cc: Bird, Mark

Subject: river DEIS

Hi:

I am responding the DEIS for the Colorado River. I believe options to be considered should include:

1. The Secretary of the Interior reducing water to all river states by 5 percent.
2. Converting farm water to city water.
3. Increasing by a factor of three the amount of money for desalting research and development.
4. U.S. efforts at reducing global warming gases at a national and international level.

These options are further discussed in the following newspaper article relating to the Colorado River.

Please include a copy of this article as a part of my reply. Also, can you tell me whether or not you can include the following article?

Thanks,

Mark Bird

Is California headed toward economic collapse?

By Mark Bird
March 9, 2007

California has been using over 100 percent of its allocation of the Colorado River and over 100 percent of its annual renewable groundwater. Nearly 100 percent of the water used in metro San Diego and metro Los Angeles flows from hundreds of miles away.

There is a virtual 100 percent probability global warming is occurring and will intensify. Solutions will be thwarted by a near 100 percent certainty of litigation.

The Colorado River is the most critical water source for Southern California, Arizona and Nevada. In the next 30 years, the population of these two latter states will increase by 100 percent. Wyoming, Colorado, Utah and New Mexico will all also be using more Colorado River water in the next decade.

Lake Mead, on the Colorado River, is the largest reservoir in North America. Relative to its designed storage capacity, Lake Mead is now 15 percent silt, 37 percent water and 48 percent empty. A California economic collapse would commence if Lake Mead loses as little as another 20 percent of its storage capacity.

Additional hydrological factors include the absence of any large lake or river that is entirely within Southern California, the urban heat island effect, the tree-ring record suggesting the 20th century was a wet century, aging water infrastructure and an absence of regulations addressing shortage conditions on the Colorado River.

Additional sociological factors include water speculators buying water rights, bureaucratic inertia, an anti-science disposition relative to present trends, unfriendly relations with other states, and the complexity of approximately a thousand water districts and water-regulating entities in California. These factors are certain to intensify water scarcity in the near future.

But global warming is probably the most significant factor. In about 150 years of measurement, the 10 warmest years have all occurred after 1989. Statistically, one would not expect this pattern in over a million samples of picking 10 random years from a box.

For metro Los Angeles, 86 percent of its water derives from aqueducts supplying water from the Colorado River or the Sierra Nevada mountains in Northern California. Global warming is likely to continue to mean less snow being created, upstream soil absorbing more water, more evaporation from all reservoirs, less water entering the over 2,000 miles of concrete canals in California and more evaporation from these canals. At the same time, due to the warming, all farms will need more water to grow the same quantity of food.

It would be difficult to quantify, but perhaps the 43 non-Colorado River states and about 200 nations in the world are now annually "using," in terms of global warming evaporation, an amount of California water equal to the annual water usage of San Diego.

Over a few years, the contours of a collapse may feature a 50 percent increase in water bills, a 50 percent increase in power bills from electricity from Colorado River dams, and a 50 percent increase in the cost of food grown in Southern California. Such a scenario would send ripples of unemployment, crime and civil

unrest throughout the Golden State.

Given these trends, what are four key solutions?

Perhaps the most immediate solution is for the federal government to promptly reduce water deliveries by 5 percent for all seven Colorado River states. This could be in effect until the water level of Lake Mead reaches, say, 75 percent of capacity.

Likewise, California should institute water-based financial rewards and penalties for all farms and cities.

As there are three theoretical techniques that may each reduce desalting costs by 75 percent, the federal government should triple funds for desalting research and development, with a focus on desalting powered by solar, wind, tidal or other sources.

To further prepare for certain lean water years, the federal government should assume a far more energetic leadership role in reducing global warming gases.

Without major water policy shifts, an economic collapse of California could start as early as 2008. Otherwise, as California has eight times as many people as Louisiana in 2004, an economic collapse could be more financially devastating than Hurricane Katrina.

■ Bird, a professor at the Community College of Southern Nevada, is an author of over 30 water-related articles. He can be reached via e-mail at mark_bird@ccsn.edu.

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