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Former USGS official tries to help bridge water communication gap

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PRESCOTT - In their quest for a better understanding of the [Verde River](#) Basin's hydrology and geology, multi-agency members of the Yavapai County Water Advisory Committee and their federal partners have spent millions on scientific studies.

Some of those members admitted Wednesday that when they hear scientific presentations about the results of the studies, they are not sure how to connect the results to their real-life questions.

Nick Melcher, retired Arizona chief of the U.S. Geological Survey, tried to improve communication between the scientists and policymakers Wednesday by providing a PowerPoint presentation to the Water Advisory Committee.

Policymakers and scientists "view the world in totally different ways," Melcher said.

Scientists use a specialized language while policy-

makers speak to a more general audience, Melcher added. Scientists are interested in the approach to problems and solutions, while policymakers are interested in the outcome. Scientists work in long time frames, while policymakers want quick responses. Scientists look at incremental inferences, but policymakers look at broad implications.

In the case of the USGS, the agency also directs scientists to avoid offering political opinions, Melcher noted.

He advised policymakers to ask scientists questions, ask for executive summaries of studies and offer feedback.

"If you dig around a little bit, you'll find out that scientists know more than they're saying," Melcher said.

Melcher noted that the latest huge USGS study of the Verde River Basin mapped the bedrock geology of the basin, and that information will be useful forever.

"It's going to be a legacy," he said.

Water committee member and Jerome Vice Mayor Jane Moore said when people attend presentations about the study, they often want to know the answer to a long-standing question: How much groundwater can people pump from

the Big Chino aquifer without hurting the Verde that the aquifer feeds?

The latest USGS study will not answer that question, Melcher said.

"We just provide a description of the system," Melcher said.

Sometimes it is a case of a mismatch in expectations, said Bill Meyer, another retired USGS official who happened to be in the audience. Policymakers expect more from a study than they will get, because no one did a complete job of explaining the anticipated results in advance.

Scientists are never comfortable with yes-or-no answers, added Leslie Meyers, who is the study manager for a new U.S.

Bureau of Reclamation study that will look at future water needs in the Verde River Basin. The water committee just commissioned that study.

"They feel like they are being judged by their peers," Melcher said of scientists. But they need to realize that they ultimately answer to the public, he added.

The possibility of answering Moore's age-old question is on the horizon, however.

Right now the USGS is working on a computer model of northern Arizona's geology and hydrology that includes the Verde Basin.

When it is done, a group such as the water committee could hire someone to use that information to create a "nested model" of the Verde and then of the Big Chino.

Policymakers then could insert various population growth and groundwater use scenarios into the model to better understand how those scenarios might affect the upper river's flow.

They also could use the models to help analyze how various locations for Prescott-area communities' large Big Chino wells might affect the river differently.

It remains to be seen, however, whether those communities will wait for such computer models to be complete before choosing final well sites, building pipelines and pumping the water south.

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