

Testimony
August 16, 2010
North Dakota Department of Health

Good morning. My name is L. David Glatt, chief of the Environmental Health Section for the North Dakota Department of Health. Our department is responsible for the implementation of many state and federal environmental protection programs. Through primacy agreements with the U.S. Environmental Protection Agency (EPA), we implement major elements of the Clean Water, Clean Air, Safe Drinking Water and Hazardous Waste Acts.

From a water quality perspective, the Department of Health is aware of the issues associated with Devils Lake flooding and in cooperation with other local, state and federal agencies, has developed an extensive water quality database for the Sheyenne and Red rivers, as well as Devils Lake. This ongoing data collection effort has enabled the department to (1) anticipate potential downstream water quality changes due to the operation of the Devils Lake outlet and (2) estimate downstream impacts from various flood mitigation options. This data has proven extremely valuable in the department's decision to pursue an alteration to the sulfate water quality standard for a portion of the Sheyenne River. It is important to note that the alteration to the standard continues to protect the applicable designated uses in the Sheyenne River.

As state and federal agencies continue to evaluate additional flood mitigation options, it is clear that any option will change water quality downstream of Devils Lake. National Weather Service reports of a continued wet cycle for the foreseeable future raise concerns that a "do-nothing" scenario significantly increases the potential for a natural outlet to occur along Tolna Coulee. Based upon the existing water quality in Stump Lake, a natural outlet through Tolna Coulee would result in significant water quality changes downstream in the Sheyenne and Red rivers. A natural discharge through Tolna Coulee would have a major impact on all downstream designated uses which include municipal, aquatic life, agricultural, industrial and recreational uses.

Therefore, the challenge is to identify an effective flood mitigation alternative that will lower the lake level, reduce the potential for a natural outlet and minimize impacts on downstream water quality. In evaluating the potential flood mitigation alternatives, the department has partnered with the U.S. Geological Survey to model water quality changes resulting from the following options: (1) doing nothing, (2) increasing the window of operation for the west end outlet, (3) doubling the flow from the west end, (4) combining a west end and east Devils Lake outlet, (5) developing only a Stump Lake outlet and (6) combining a west end and Stump Lake outlet.

Preliminary modeling results for the above options indicate designated beneficial uses are protected for aquatic life, agriculture, industry and recreation in the Sheyenne and Red rivers for all scenarios except those that include a Stump Lake discharge. The river waters could still be used for municipal supplies and comply with Safe Drinking Water Act standards, but sulfate

concentrations could be anticipated to exceed the standard of 450 milligrams per liter (mg/l) in the lower reaches of the Sheyenne River and a portion of the Red River. The co-mingling of Sheyenne River and Red River water results in a sulfate concentration which only slightly exceeds or is below the 450 mg/l limit. In some cases, the concentration is below the 250-mg/l sulfate standard for the Red River. A report clearly defining the model results should be available by the end of September.

It is important to note that, due to the level of the lake (currently around 1451.90 feet mean sea level) and the projected continued wet cycle, an emergency exists where additional efforts to lower the lake level should be implemented as soon as possible. We believe this action is needed to avoid a natural overflow discharge through Stump Lake. It is our opinion that any lake discharge would be considered temporary until a lake water level is reached which would prevent a natural overflow through Tolna Coulee. With selection of the right flood mitigation alternative, water quality changes downstream of Devils Lake would be temporary and not result in adverse human health impacts.