

**Abstract Submission for 5<sup>th</sup> Canadian River Heritage Conference**

Title of Presentation:  
Cooperative Flood Planning in the Multi-Jurisdictional Red River Basin

Category: River Management

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## Abstract

The Red River flows northward from its beginning at the Minnesota/North Dakota/South Dakota boundaries, terminating some 300 miles (480 km) north at Lake Winnipeg in Manitoba. The basin is naturally “flood-prone” and extremely variable; in fact, flooding and drought can occur within months of each other, or even simultaneously in different parts of the basin (Krenz and Leitch 1993).

Because of the multi-jurisdictional constituency of the Red River Basin, cooperation and communication across the borders (state, provincial and federal) has been and continues to be crucial in the development of Flood Damage Reduction (FDR) goals for the Red River Basin. To that end, a group of experts from Manitoba, Minnesota and North Dakota have been cooperatively working toward the development of a computer model for the mainstem Red River.

The mainstem model uses MIKE-11 software to model “unsteady” (flood stage) flows on the Red, all the way from Lake Traverse to Lake Winnipeg. The model has been calibrated using 1997 flood data, and verified using 1989, 1996 and 2001 flood data. The primary purpose is to improve our ability to predict the downstream mainstem effects of hypothetical changes upstream; for example, modeling the effect on the Red River mainstem of reducing tributary daily flows by 20 percent or peak flows by 50 percent.

MIKE-11 provides a new tool for studying Red River flooding phenomena, promoting a basin-wide approach to flood control by helping to facilitate the development of local projects that provide regional benefits.

Biographical sketch:

Executive Director of the Red River Basin Commission

Born (1947) and raised in western North and South Dakota prairies. High School: Bison, SD.

Lance did his undergraduate work at Concordia College in Moorhead, MN graduating with a degree in Biology. While working toward his BA degree he received training and experience in the US Air Force in the Medical Laboratory field, acquainting him with quantitative and qualitative analytical analysis. Later, he attended Luther Theological Seminary in St. Paul, MN and received his Master of Divinity degree.

Lance has had first hand experience in water and land resource issues from a pastor's viewpoint, in a local parish with churches in the Perley, MN and rural Gardner, ND areas next to the Red River. He is familiar with the unique resource and jurisdictional problems within the Red River basin as he was an early Board member of the International Coalition for Land and Water Stewardship in the Red River Basin as well as its Board Chair and later the President/CEO.

After further experiences as the Executive Director of the Freshwater Foundation and as the pastor of a rural SD parish, he returned to the Red River Basin as Executive Director of the Red River Basin Board in 2001.

In 2002 several organizations: The International Coalition, The Red River Basin Board, and the Red River Water Resource Council merged to form the Red River Basin Commission. Lance has been the RRBC Executive Director since its formation. He has over 22 years of experience and familiarity with Red River Basin water and land resource issues.