

The Platte River Basin Time-lapse Project - Proposal

Michael Farrell - Michael Forsberg

The Platte River, including its North and South forks, provides precious water to major portions of three western states: Nebraska, Colorado and Wyoming. The modern day Platte is the result of geologic processes caused by retreating glaciers 600,000 to 700,000 years ago and the water management activities that have taken place in the past century. The resulting dams, reservoirs, irrigation canals and power plants were built primarily as a way of promoting agriculture and settlement in arid areas of the basin and to provide for municipal water, power and flood control.

We are only now beginning to understand the complex workings of the Platte River and its tributaries. This interconnected system of surface and groundwater is the lifeblood of a natural system that supports myriad plant and animal species, and an economic system that supports hundreds of communities across the region. In the coming decades new scientific research projects will help unravel the complexities of these natural systems. Our understanding of the geologic and hydrologic histories and present day realities of these systems will evolve just as our reliance on them will increase.

Now technology exists that will allow us to visualize and understand these river systems in ways never before experienced. Customized digital SLR remote camera systems can be installed at key locations throughout the basin to record time-lapse images of the river's cycles. Recording in timeframes based on a variety of cyclically occurring natural or manmade events, we will be able to see the pulse of the Platte River and its complex "story" as it unfolds over days, months and even years - all compressed into "screen time" durations of minutes and seconds. The resulting imagery will form the core of **The Platte River Basin Time-lapse Project**.

We are proposing a project that not only will allow for this sort of compelling visualization of river processes, but also to couple these images and the metadata accompanying them to important current and future water research projects, and to public outreach and educational efforts about their meaning and importance. We will engage the broader scientific community and the general public via digital delivery systems (first through a rich and technically advanced website and later through handheld technologies) that will offer a forum for a variety of other research, journalistic and educational content.

This "digital forum" will be centered on the ability to see compelling imagery of the Platte River basin at work as water pulses through the system. Time-stamped and GPS linked time-lapse imagery can be coupled visually via metadata fields to other research and remote sensing datasets. The web delivery will also include, as appropriate, print reportage and analysis about ongoing research and water related issues, photo essays, audio casts, traditionally shot and edited videos, graphics, aerials, maps and animations.

The project will incorporate direct teaching and learning opportunities for students and grad students and professional development for faculty and staff. It will train time-lapse photo-journalists as well as writers, editors, traditional video producer/directors, graphic artists and web developers, many of whom can be students working for credit or as paid interns, or faculty wishing to hone new digital skills.

The project also offers opportunities for the development and dissemination of K-12 curriculum resources for both formal and informal education in the areas of science, natural history, geography and cultural history to be developed first in Nebraska and then duplicated in the other states.

The Platte River Basin Time-lapse Project will focus public attention on and provide a forum for discussion about the most important conservation and economic development issues related to water in the basin during the foreseeable future. It will also serve as a new framework and a testing ground to study the complex workings of watersheds at any scale, large or small, in Nebraska and around the world.

The Platte River Basin Time-lapse Project will be a cooperative venture between Michael Forsberg Photography, NET Television's Educational Division and several colleges at UN-L (Journalism and Mass Communications, CASNR's School of Natural Resources and the Agricultural Leadership, Education and Communications program, and the Hixson-Lied College of Fine and Performing Arts via the existing NET Internship Program), and potentially a variety of government agencies, private partners and federal funding sources.

Please see the PDF budget breakdown for a summary of production costs.

This budget does not as yet have a figure for web development. We are still in the discovery phase, seeking partners within UN-L and from outside.

Current committed partners include:

James Goeke, Professor
School of Natural Resources, UN-L
(Water Research and content development partner)

Jim Goeke has agreed to serve in a key role creating linkages between the core team and ongoing and future water research projects at the University of Nebraska. He will also provide advice in selecting photo points and in the interpretation of our results.

Jerry Kenny, Ph.D.
Executive Director
The Platte River Recovery Implementation Program
(Financial partner/content partner – Platte River Basin government agency access partner - see web link below)
Request for \$50,000 for this fiscal year.

Jeff Dale, President
Wireless Site Services, Inc.
(Technical camera systems design and communications systems partner)

The Cooper Foundation
Art Thompson, President
(Grant funding partner)
\$20,000 committed for this fiscal year with an invitation to address the board in March.

James Balog, Executive Director

Extreme Ice Survey

Boulder, Colorado

(Content partner, technical consultant – see web link below)

Nikon Inc.

William H. Pekala, General Manager

Nikon Professional Services

Melville, NY

Potential contributor – 30 digital SLR camera systems and support. Decision pending Jan 24 – value \$30K

For additional information see:

<http://www.platterriverprogram.org/AboutPRRIP/Pages/ProgramInformation.aspx#Background> Charged with carrying out the results of the adaptive use management plan, this organization will be key to access and success for our project.

<http://www.extremeicesurvey.org/index.php/about/> James Balog's current and ongoing effort to document the changes to the earth's ice. This website provides a model for a portion of what we'd do.

http://water.unl.edu/c/document_library/get_file?folderId=173022&name=DLFE-2927.pdf Jim Goeke's paper outlining the relationship between ground and surface water ends with this quote,

"We are at a unique point in Nebraska history, similar to the late 1880's when the installation of windmills and use of barbed wire closed the open range. Instead we are closing easy access to ground water and connected surface water. Our drought since 2000 will ease off, but our interstate agreements and legislation will mandate a higher awareness of our water resources and maximum efficiency of use to maintain some measure of sustainability of our water resources."

The Core Team:

Michael Forsberg is a conservation photographer and author whose work focuses on the Great Plains of North America. Born and raised in Nebraska, he graduated with a degree in geography with an emphasis in environmental studies at the University of Nebraska where he also worked as a staff trip leader for the Outdoor Adventures Program. From 1993 - 1999, Forsberg worked as a staff photographer and writer for NEBRASKAland magazine where he now serves as a contributing editor. In 2004, he authored and self-published his first book *On Ancient Wings - The Sandhill Cranes of North America*. In fall 2009, the University of Chicago Press published his latest book project, *Great Plains - America's Lingering Wild*, the recipient of UNL's 2010 Great Plains Distinguished Book Prize. The exhibition *Great Plains - America's Lingering Wild* is now on a national tour. Forsberg is a charter member of the North American Nature Photographers Association, and is a Fellow with the International League of Conservation Photographers. He and his wife Patty own and operate the Michael Forsberg Gallery and live in Lincoln with their two daughters Elsa and Emme and three unruly dogs. www.michaelforsberg.com

Michael Farrell is a 40 year veteran in public broadcasting, 38 years of which he has spent in Nebraska developing documentaries about the culture, history and environment of the Great Plains. His 90 minute *The Platte River Road* was selected as the best documentary of 1991 by the National Cowboy Hall of Fame. He also has had a career as a fine art still photographer specializing in large format landscape work which has taken him up river on the Platte and North Platte every summer since 1991. His 55 image one-person exhibition and essay *The North Platte Project* was installed for several months each at the Museum of Nebraska Art, the Great Plains Art Museum and the Wyoming State Museum in the last years of the 1990s. He has a Master of Science in Visual Communication and Filmmaking from The Institute of Design at I.I.T. in Chicago, 1971. From 1998 until 2009 he was Television Production Manager at NET overseeing a staff of 35 with annual operating budget of \$2.2 million. Farrell is principal investigator for *Engaging Antarctica*, a \$1.2M NSF Informal Science Education project in partnership with the University of Nebraska State Museum and WGBH's science series NOVA. He is currently Special Projects Manager and Intern Program Director for NET Television. michaelfarrell.com