

Evaluating Institutional Constraints to Effective Interbasin Water Transfers

Abstract:

In the late 1970s and early 1980s, resource policy experts and economists, faced with rapid population growth in the western United States, proposed the idea that water rights could be traded in markets. However, numerous attempts at instituting such water markets have met institutional barriers that prevented their implementation. This paper will examine these failures and construct a basic framework for understanding the problems encountered in attempts to conduct market-based interbasin water transfers. This framework will be used to predict problems that may be encountered when, for example, irrigation districts and urban municipalities attempt to make agreements to transfer water from one geographic basin to another in Nevada.

Introduction: In theory, water markets can solve the problem of water scarcity by re-allocating water to those who receive the greatest benefit from it. In economic terms, this is measured in terms of their ability to pay for the water rights. Economists have long proposed that instituting water markets will lead to more efficient water use since water will move to those with the highest-value uses in society. For example, farmers may be paid to transfer water to the urban sector, where it will be bought for a price much higher than the farmer receives by using the water for agriculture. However, governments have not found it easy to create markets for water, especially in the case of large-scale inter-basin transfers, where water is transferred between geographic basins that may be hundreds of miles apart. Political opposition, environmental concerns, questions over the equity of transferring water from the agricultural to urban sectors, and transactions costs for regulating markets are just a few of the issues that have stalled implementation of interbasin transfers in recent decades.

Objective: While there is a great deal of academic literature, especially in the field of economics, that expounds the virtues of implementing water markets, very little writing explains why water markets have failed in practice. The objective of this paper is to use a political economy approach through the examination of case studies to identify the variables that hinder implementation of a market for interbasin water transfers. The issue is especially important in Nevada, where booming population growth and a lack of available water for development makes an efficient system for allocating water a necessity. This paper will use past case studies and state water engineer records to identify the characteristics of market-based interbasin transfers that have succeeded in order to create a framework for evaluating the chances a new water transfer project has for success. The recent failure of a project that would have diverted water to Las Vegas proves that there is much to be learned before water transfers to other metropolitan areas, such as the Truckee Meadows, can be implemented.

Plan of Research:

In researching the barriers to implementation of water markets, I will first start by examining the historical legal framework of water rights in the western United States. The next step will be to research the history of interbasin transfers themselves—how they have been implemented in the past, the costs and benefits of re-allocating water, the environmental externalities that may occur, and any other factors. I will review recent case studies from attempted interbasin transfers in western states to develop an understanding of how the potential costs and benefits of water markets led to preliminary opposition to implementation of market-based interbasin transfers. With this background knowledge, I will examine Nevada State Water Engineer records for case studies or attempted and successful interbasin transfers in Nevada. Finally, I will use the historical and institution background of water markets, along with individual case studies, to identify the variables that must be present (or not present) in order for a successful water market to be implemented. This framework for success can be used for predicting the viability of future water transfer projects here in Nevada, as well as for analyzing past project failures.

Timetable: This thesis will be structured similar to the format of the research listed above. I will spend the majority of the fall semester researching the institutional, historical, and theoretical background of water markets before considering individual case studies. During the Spring Semester, I will use this background knowledge to both create my own “model” for understanding successful water markets and to analyze the past water transfer failures in Nevada within this context. The paper will therefore be broken down into three sections, each roughly 10-20 pages in length: History and Theory Behind Water Markets; Summary and Analysis of Case Study Literature; A Framework for Success in Implementing Market-based Interbasin Water Transfers in Nevada.

Plans for Dissemination of Results: This thesis will be valuable for anyone involved in natural resource policy at the state and local level. This close analysis of the institutional barriers to implementing water markets will detail the practical considerations that must be made before a water transfer/market project may be attempted. Though current academic literature contains a great detail of information regarding the theory behind water markets as well as case studies of individual projects, little information exists regarding the institutional barriers that hinder implementation and success of a new water market. Results will be presented to an Honors undergraduate thesis board at the end of the 2008 Spring Semester.

Qualifications of the Student:

As a senior student with majors in both political science and economics, this political-economy approach to understanding water markets applies directly to my fields of study. I have taken multiple courses in macro and microeconomics, as well as classes in public policy and environmental resource policy. Additionally, I served as an intern during the 2007 session of the Nevada State Legislature, so I have a working understanding of how the political process may hinder implementation of new strategies for managing resources. I am hoping that writing this thesis will further broaden my understanding of how institutions, economics, politics, individual interests, and interest groups are involved in hotly-contested resource-allocation issues, especially in Nevada, where scarce water is the basis of all development.

Budget

<u>Item</u>	<u>Amount</u>	<u>Justification</u>
Faculty Mentor Stipend	\$500	Normal stipend for mentor's advisement and assistance with thesis
Student Stipend	\$500	Student stipend for two semesters' work
Printing/ Copying Costs	\$200	Paper and ink costs for printing drafts, research articles, and final thesis. Binding costs.
Books and other Research Materials	\$600	Cost of purchasing critical books and articles not available at the UNR libraries or through Inter-library loan.
Total Budget: \$1,800		