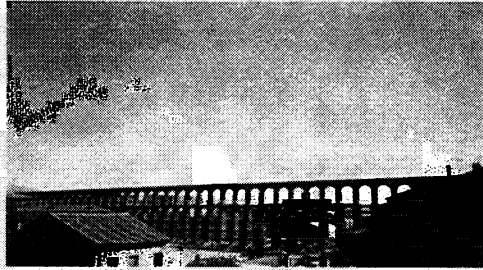
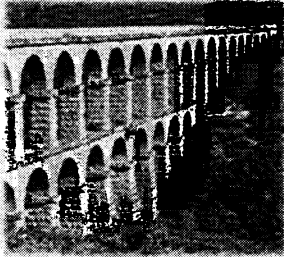
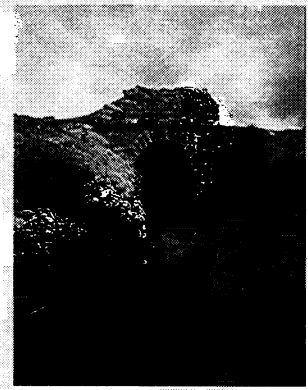
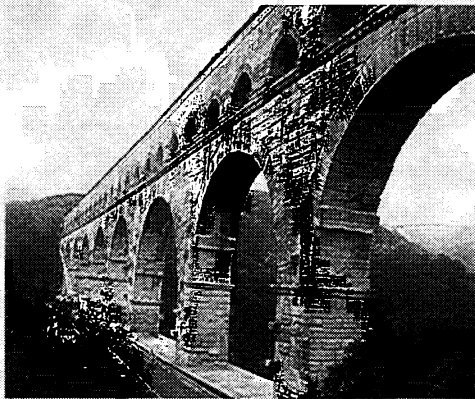

FLORIDA PUBLIC SERVICE COMMISSION



Water Allocation Markets



"Ancient Aqueduct" Copyright 1992 Ireland Michael Fattoro

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Introduction

During the 2000 Legislative Session, bills were introduced in the Senate and the House that would have allowed some trading of consumptive-use permits. The Senate Natural Resources Committee passed SB 1698 which provided language creating a pilot project allowing for a market-based approach to water allocation in the Southern Water Use Caution Area (SWUCA) of the Southwest Florida Water Management District (SWFWMD). The bill was very controversial, with substantial debate occurring prior to Committee vote, and eventually died prior to reaching the full Senate. While similar legislation was not introduced in 2001, it is likely that such legislation may be introduced in the future.

To put the issue of a market-based approach to water allocation in Florida in the proper context, one must turn to Chapter 373, Florida Statutes. Specifically, Chapter 373.0831(2)(a), states:

It is the intent of the Legislature that sufficient water be available for all existing and future reasonable-beneficial uses and the natural systems, and that the adverse effects of competition for water supplies be avoided.

Clearly, the legislature realized that water resource development and allocation would become prevalent, and acknowledged that care should be taken to protect the public interest. By its nature, a market-based approach establishes a direct relationship between seller and buyer. However, the impact on third-parties is of equal importance. Third-party impact has been and continues to be at the forefront of the water market allocation debate based on the potential for adverse impacts on the economic and social viability of the water-exporting area.

It is important to look ahead to determine how a water market would impact water utilities under this Commission's jurisdiction and whether our present regulatory structure can accommodate these transactions. A concern is if reallocating a portion of its consumptive use permit (CUP) might place a utility in jeopardy of being unable to adequately serve its customers or be in violation of its CUP if water demand increased within its territory.

Defining a Water Allocation Market

A water allocation market exists when water-use permittees have the freedom to enter into agreements to sell all or part of their permitted water allocation. There are two distinct types of water transfers encompassed in a water allocation market. A transfer may involve physically moving water from one location to another, or it may involve a nonphysical transfer whereby a water permittee transfers his or her withdrawal rights to another. This paper focuses primarily on the transfer of permitted water withdrawal rights. However, we do provide some limited analysis on physical water transfers.

A market-based approach is driven by three primary goals.

- ◆ Maximizing efficiency in allocating water to permittees.
- ◆ Improving the efficiency of water use by permittees.
- ◆ Promoting the development of economically feasible alternative water sources.

It is important to point out that not only have water allocation markets been established in the Western United States, but applicable water transfers have also been implemented by physically moving water from one location to another. Water allocation markets have not been established in Florida to date, and most of the discussion regarding a transfer mechanism has been limited to the transfer of permitted water withdrawal rights. We will discuss market-based approaches in the Western United States and Florida in further detail later in this paper.

Mechanics of a Water Allocation Market

Water allocation markets are designed to assist in moving water from lower-valued uses to higher-valued uses while promoting water conservation and alternative source development. For a market-based approach to work, a limit to supply must be established. If water is readily available and cheap, a market will not develop because potential customers will not be willing to pay for water above the cost associated with obtaining a water use permit and developing their own source.

Generally, Governing Boards require that three criteria be met before water transfers occur.

- ◆ Transfer is reasonable and beneficial.
- ◆ Transfer will not interfere with any presently existing legal use of water.
- ◆ Transfer is consistent with the public interest, including environmental protection.

Below are some of the key elements of an effective water allocation market.

- ◆ A voluntary reallocation mechanism should be established. This may or may not include compensation to existing permittees, which would be a private decision.
- ◆ The water to be reallocated must be permitted and historically used.
- ◆ In order to prevent existing permittees from using groundwater just to establish a historic use for possible reallocation, Governing Boards should set a specific previous time period within which use must have been documented.
- ◆ Water withdrawals are prevented from being reallocated to stressed areas (i.e., where current water withdrawals are beyond safe levels).

- ◆ The source permit should be reduced by the amount of water reallocated up to the historical use limit.
- ◆ All historically unused quantities should be removed from the source permit to prevent total withdrawals from increasing.
- ◆ The reallocated permit quantity should require the same permit as any other withdrawal. It could be withdrawn or modified by the Governing Board at any time and would have to be periodically renewed.
- ◆ The reallocated permit quantity should have to meet the same environmental criteria as any other water use permit in the area.

The Case for a Water Allocation Market

There are two primary benefits associated with a water allocation market.

- ◆ It provides an efficient process of moving permitted water from one user to another, in an equitable manner.
- ◆ Through establishment of a market price, it provides an incentive for permittees to conserve water so that they can transfer the saved water to other water users in exchange for monetary compensation.

Some argue that in a water allocation market environment, water permittees use their permitted water allocation more efficiently while allowing other permittees and new applicants access to water for beneficial use. The thinking is that because the buyer is purchasing the permitted water withdrawal, he or she is better off obtaining the least amount of water necessary for profitable use. It is further argued that markets, when well designed, can process technical and economic information regarding the relative marginal value of water in different uses under different conditions and encourage existing and potential water users to consider water conservation and alternative source development. The thinking follows that alternative water sources will be developed when their costs are below the cost to obtain water through the voluntary reallocation process. It is also argued that such approaches would relieve Governing Boards of a significant and controversial burden of deciding which competing uses should use the limited water sources from an efficiency standpoint.¹

The Case Against a Water Allocation Market

¹Water Allocation Under Scarcity (WAUS), Grace M. Johns, Ph.D., Associate and Economist, Hazen and Sawyer, October 1, 1998.

Critics of water allocation markets argue that they have not lived up to their expectations in the United States and have resulted in significant negative third-party impacts. A 1992 report by the National Research Council identifies three primary reasons why this has occurred.²

- ◆ In the western United States, public interest considerations in the reallocation of water resources are largely subordinated to vested property rights in water.
- ◆ Existing laws, policies, and procedures concerning water market transactions and other transfers often fail to ensure either that third parties are protected from negative effects or that they share the benefits of reallocation.
- ◆ In California, the lack of clear rules and procedures pervades the water transfer process which results in relatively high transactions costs and relatively few water transfers.

However, unlike water marketing arrangements in the West, Florida's water laws and its water use permitting system protect the public interest, including the environment, and allow for the consideration of third party impacts prior to Governing Board approval of the transfer. In fact, some have argued that Florida may be one of the few states in which market approaches to allocating water may work the best.³

Water Allocation Markets in Florida

Today, the state owns all the water and grants non-transferable permits to farms, industries, utilities, and others to consume certain amounts. The idea of using market-like approaches to reallocate water supplies was introduced in Florida in 1994 by the SWFWMD Governing Board. During that year, the SWFWMD made revisions to Chapter 40D-2, F.A.C., "Water Use Permitting," providing support for water use permittees in the SWUCA to voluntarily transfer all or a portion of their permitted and historically used water rights. This became known as the SWUCA Rule and the concept was termed "voluntary reallocation." The proposed rule was silent on the subject of whether and how much someone might be compensated for reallocation and prohibited the transfer of permitted withdrawal quantities to specific highly stressed areas.⁴

²National Research Council, "Water Transfers in the West," National Academy Press, Washington, D.C., 1992, pages 191, 230 and 253.

³WAUS

⁴Southwest Florida Water Management District, "Notice of Proposed Rulemaking, Chapter 40D-2, Florida Administrative Code, Water Use, OGC File No. 03293" In "Florida Administrative Weekly, December 2, 1994," Department of State, Bureau of Administrative Code, Tallahassee.

However, the SWUCA Rule was challenged by various parties through the Florida Administrative Procedures Act. A hearing officer subsequently ruled that the voluntary reallocation provision of the Rule exceeded the scope of the District's delegated authority under Chapter 373.⁵

During the 2000 Legislative Session, bills were introduced in the Senate and the House that would have allowed some trading of consumptive-use permits. The Senate Natural Resources Committee passed SB 1698 which provided language creating a pilot project allowing for a market-based approach to water allocation in the SWUCA of the SWFWMD. The bill was very controversial, with substantial debate occurring prior to Committee vote, and eventually died prior to reaching the full Senate. The House version of the bill was abandoned prior to committee vote. Both the Senate and the House slated the issue for interim projects; however, no formal action has been taken.

The SWFWMD expressed concern about some elements of the pilot project, while acknowledging that it supports market-based approaches as one option among many to help solve Florida's water problems. The SWFWMD points out that severe water shortages exist in the region even though less than half the permitted water supply is used.⁶

The Florida Department of Environmental Protection (DEP) has also gone on record stating that it is intrigued with the idea of market-based approaches and established four priorities on the issue.⁷

- ◆ Water must remain a public resource.
- ◆ The environment must be protected.
- ◆ Conservation and efficiency must be promoted.
- ◆ Market-based approaches must be fair and transparent to citizens.

Water Allocation Markets in Other States

The development of water allocation markets in the Western United States far exceeds development in the Eastern United States. In the western states, temporary transfers are becoming increasingly common to respond to short-run fluctuations in supply and demand. Transfers among farmers within the same irrigation district are common and relatively easy to arrange because third-party impacts are likely to be small and positive when the water stays within the community.

⁵State of Florida, Division of Administrative Hearings, Case No. 94-5742RP, Final Order.

⁶Florida Trend, Making Waves, Florida is seeing the first salvos in what likely will be a decade-long war over privatizing the state's most precious resource - water, By Cynthia Barnett, September 2000 Issue.

⁷Florida Trend

However, irrigation districts resist the notion of farmers selling water to cities, fearing the loss of agricultural jobs and income.

Water banks are used to provide a clearinghouse to facilitate the pooling of surplus water rights for temporary rental. If well defined, its rules and procedures can reduce the costs and uncertainties associated with a transaction and increase the opportunities for both buyers and sellers.

California established emergency Drought Water Banks in 1991, 1992, and 1994 to reallocate water between willing buyers and sellers. Water purchased primarily from farmers willing to idle land or pump groundwater rather than divert surface water for irrigation was sold to cities and farms or used to protect water quality in the state's delta region. Sales exceeded \$68 million in 1991 and averaged less than \$11 million in latter years when drought conditions subsided. Idaho and Texas have established permanent water banks and other states are now considering establishing them as well.

The key debate in the Western United States is primarily centered around the benefits of temporary water transfers versus permanent transfers. Temporary transfers have proven to be useful in addressing short-run changes attributable to such things as climate variability. The debate continues with regard to the effectiveness of water transfers in dealing with long-term supply and demand imbalances resulting primarily from changing demographic and economic factors, and the potential adverse impact of transfers on third-parties located in the water transferring region.⁸

Florida Public Service Commission Role

Legislation regarding establishing a pilot program for transferring water use permits failed in 2000. While similar legislation was not proposed in 2001, we can assume that similar legislation may be proposed in the future. Therefore, it is important to look ahead to determine how such a market would impact water utilities under this Commission's jurisdiction and whether our present regulatory structure can accommodate these transactions. Since almost all of the water utilities under this Commission's jurisdiction use groundwater for their water source, we are addressing aquifer transfers in this paper, although the Commission's concerns would be equally applicable to surface water.

As previously noted, water markets would benefit Florida in moving scarce water resources from lower value to higher value uses while promoting water conservation and alternate source development. The markets would provide for the transfer of time-limited water use permits, not the right to own the water, and would be voluntary. Since the market would center on the reallocation of all or a portion of water use permits previously granted by Water Management Districts, market oversight should rightly be with the districts that are charged with overseeing the state's water resources. The proposed 2000 legislation would have evaluated aquifer transfers by evaluating the transferee's proposed use as it relates to: impacts on existing users, localized impact to the

⁸Resources, Marketing Water, The Obstacles and the Impetus, Kenneth D. Frederick, Summer 1998, Issue 132.

environment, and whether it is a reasonable-beneficial use. If these criteria are met, the transfer is deemed to be in the public interest and would be approved by the district. By this process, third party impacts are considered at the district level. The need for district regulation of groundwater markets is self-evident. The two fundamental elements in such regulation are adequate aquifer information and limitation of water rights according to the quantitative and qualitative limits of the aquifers. Each district has distinct and unique water resource problems throughout their respective areas.

Because each district is unique in water resources and competing uses and each district separately allocates water within its district, it would appear that individual water markets would be confined to the districts or basins within the districts. In order for a market to work, total water withdrawals for a specified area must be limited. Absent a limit, each water user would have access to its needed withdrawals, and transferring of permits would not be needed. When a water market is established, existing and potential water users compete for available water. Water users are faced with a comparison of the economic value of their use of water to the economic value of that same water to other users, represented by the market price. For example, a farmer may forego planting certain crops or plant a less water intensive crop if more profit can be made from selling water rights than farming. Therefore, permittees with excess water will attempt to maximize profit by selling the right to that water, and parties needing water will enter the market. The price paid for water rights would be market driven and subject to negotiation, not regulation.

Since the markets would be administered by the districts and price dictated by the market, this Commission's role in water markets would center on the extent to which private, regulated utilities participate in the voluntary markets. Utilities under our jurisdiction are required to secure adequate water resources and have in place the needed infrastructure to serve their territories. While the concept of transferring water rights is new for Florida, regulatory treatment of the costs and revenues associated with such transfers can be handled with the existing regulatory framework.

Water is presently bought and sold between utilities. Through interconnections, water, as opposed to water rights, is sold on a metered basis. Water purchased by a utility for resale to its customers is a legitimate cost of doing business, with the associated costs included in retail rates. For water sold by a utility, these revenues are included in the total revenues of the utility, lessening the burden on retail ratepayers. The cost of securing or renewing a consumptive use permit (CUP) is a valid cost of a utility securing its own water source and, depending on the level of the cost and length of the permit, will be either capitalized or expensed with the costs included within water rates. Therefore, the Commission has in place the means to account for costs related to securing either water or water rights as well as any additional revenues associated with selling either water or water rights.

From the Commission's standpoint, the issues created by reallocating water rights through a water market, will be handled under existing regulation. If a regulated utility entered the market and secured additional water rights, inclusion of the associated costs in rates would be handled in the same manner as is done for CUP. As with any other market transaction, the Commission has the authority to review the transaction as to its need and to assure it was an arms-length transaction.

A regulated utility selling water rights presents some concern. As previously noted, a utility must have the needed water and facilities to adequately serve its territory. Withdrawal limits on its present CUP are based upon evaluation of need, and the CUP represents an intangible asset paid for by utility customers for their use. Any revenue derived from selling water rights should accrue to the benefit of the utility customers as would revenue derived by bulk water sales. A concern is if reallocating a portion of its CUP might place a utility in jeopardy of being unable to adequately serve its customers or be in violation of its CUP if water demand increased within its territory. While we could assume that most utilities would carefully guard their existing allocations, the public interest is at stake. Therefore, the Commission may want to consider invoking approval authority, subject to an engineering review, over utilities reallocating a portion of their existing CUP.

Conclusion

There is growing support for a market-based approach in Florida. Supporters emphasize that such an approach may be applicable, because greater efficiencies in allocation may be achieved by taking advantage of market influences that are created when water supplies become limited. In addition, supporters argue that alternatives such as competing allocations and centralized decision making may not adequately address allocation problems.

However, the applicability of permanent water transfer rights remains controversial. As previously discussed, it is commonly agreed that temporary water transfers have proven to be useful in addressing short-run water shortages due to climate variability for over a decade in the Western United States. Strong debate continues regarding the effectiveness of permanent water transfers in dealing with long-term imbalances between supply and demand resulting primarily from demographic and economic factors.

At the center of the debate is the issue of third-party impact. There is considerable concern regarding the potential adverse impact of water transfer arrangements on the economic and social viability of water-exporting areas. In the Western United States, water transfers among farmers within the same irrigation district are common and have proven to be relatively easy to arrange because the third-party impacts have primarily been small and positive when the water stays within the local community. However, farmers have experienced considerable resistance from irrigation districts when attempting to sell water to cities due to the fear that such transfers will result in the loss of agricultural jobs and income that accompany rural water use.

Water allocation markets are designed to assist in moving water from lower-valued uses to higher-valued uses while promoting water conservation and alternative source development. A properly designed market which achieves these benefits would be a valuable water resource tool. Markets would be limited geographically and based upon water resources and water uses within that area. Proper oversight of the market and evaluation of third-party impacts, should properly rest with the respective Water Management Districts which have in-depth knowledge of their areas and expertise in water resource and allocation issues.

Regulatory and accounting practices are presently in place to accommodate any utilities under FPSC jurisdiction which enter the water allocation market. However, the Commission should consider invoking approval authority, subject to an engineering review, over utilities reallocating a portion of their existing CUP. This would protect the public interest by assuring that in reallocating a portion of its CUP, a utility would not be in jeopardy of being unable to adequately serve its customers or be in violation of its CUP if water demand increased within its territory.