

Water Allocation and Transfer

Issue Definition

Within an increasing number of regions in the State, the existing or future water demands can not be met by the existing water supplies as traditionally developed to serve historical demands. To meet future demands some water providers are looking to water resources outside their respective regions. In some regions the water supply may indeed be limited and resources from outside the region may be a consideration; however, in other regions part of the problem may be an inefficient geographic distribution and allocation of the water supplies in the area that could be resolved through voluntary redistribution/transfer of water supplies within the area. While such “transfers” are allowed by state law after the need for the transfer is proven, the political and social backlash caused by even the mention of a possible transfer has rendered the process nearly unworkable. However, if the state is to meet future water demands an environmentally sound, economically equitable and regionally collaborative transfer process is needed. To be successful, that process must address both the needs of the water user and those of the area of potential withdrawal to be successful.

Background

Florida has an abundance of water resources with average annual rainfall in excess of 50 inches, one the world’s most productive aquifers, many lakes, streams, and rivers, as well as the Gulf of Mexico and the Atlantic Ocean. Early in Florida’s development water supply was believed to be unlimited and early Florida water law promoted draining lands. As the need for water supply increased and limitations to the availability of supply became better known through the protection of lakes, streams, wetlands and estuaries, especially over the past 40 years, that view of water changed. Today, with the increasing demands of public supply in combination with the existing significant existing demands of agriculture and industry the limits of existing traditional water resources have been reached in some areas. Despite this situation, Florida may not have a water supply problem but a water storage, distribution and cost of water production problem. With the proximity of Atlantic Ocean and Gulf of Mexico as sources there is ultimately a substantial water supply available.

When the existing developed resource becomes scarce, competition for the resource among users increases, often resulting in legal and political confrontations. The list of regional “water wars” in the Tampa Bay area, in the Osceola/Brevard area, and most recently in central Florida is indicative of public supply users looking outside of their areas to other areas in which the local residents believe they are solely entitled to the local water resource and are concerned about potential resultant limitations on regional growth. These water wars have generally been costly in both economic and political capital. Interestingly, these conflicts are often resolved through some form of regulatory or politically brokered partnering involving transfers and allocations of the available water imposed at some level of acceptability by the parties. In many cases Florida water law allows transfer and provides or outlines specific requirements to be considered for those transfers including the future needs of the source (donor) area and protection of the natural resources of the source however there is no specific statutory authority to reallocate water which could be transferred from one permit holder to another. In practice the existing statutory provisions have not prevented conflicts when transfers are proposed. A refined approach would avoid the unnecessary conflict and subsequent waste of resources and time by

providing incentives and a regulatory structure that facilitates mutually beneficial inter and intra regional cooperation; such cooperation could involve assessing and developing water resources on a regional basis. There are limited examples within the state where water transfers are presently occurring successfully on a local regional basis. Tampa Water Authority is the most recent example of a water supply agency that plans and manages water resources across multiple jurisdictions serving two counties and several municipalities. JEA (electric, water and sewer) also provides water resources within three counties and to several municipalities. These local regional examples should be studied, applied and expanded across the state as part of an overall water transfer strategy.

Issue Criticality for Water Supply

Without a well-defined transfer and voluntary trading process the state will see repeated and intensifying regional and inter-regional water wars. The ability to transfer water from areas of availability to areas of need, the protection of the economic interests of the areas of availability, and the protection of the environment in both areas is crucial to providing a framework to address the state's long term water supply.

Florida 2030 Vision

The water supply vision of Florida in 2030 and beyond is one in which reasonable water demands are addressed through a combination of growth management policies, water use efficiency, and collaborative regional and inter-regional water supply efforts. The Florida water wars are a historical backdrop for moving ahead. Interconnected supply systems utilizing a diversity of traditional and alternative sources efficiently managed and distributed meet the demand while a high level of water use efficiency curbs demand and the need for new supplies. Incentives and/or mutually beneficial agreements encourage areas with available water to partner with areas of need to share resources. Areas of availability (donors) are assured that their needs and concerns are met and will continue to be met. Natural systems have been restored in areas affected by water supply and new supply development is accomplished without harm to the environment and maintains protections to ecologically sensitive areas.

Development and implementation of an acceptable water transfer process is intended to be conducted within the existing statutory and regulatory water use permitting framework. For a transfer process to be acceptable it must function in concert with the existing minimum flows and levels program and satisfy the statutory three part test; reasonable beneficial use, be in the public interest, and protect existing legal users. However, there are two regulatory areas which require consideration for modification to assist in developing a successful transfer program. They are the establishment of an accepted and consistent common methodology for establishing water demands and consistent water use permitting criteria for transfers between Water Management Districts (WMD).

To achieve the vision described above will require developing options or alternatives utilizing creativity and engaging all stakeholders in cooperation with thoughtful consideration and open discussion of the options/alternatives proposed. Modifications to statutory and rule language may be required more specifically to facilitate achieving the vision described above. The following scenarios are illustrative of the options/alternatives for water resource transfers either directly or through credits and/or some type of resource trading:

Regional Utility Grid - Two or more utilities within a local region could, through interlocal agreement, establish multiple interconnections to create a regionally interconnected water distribution system. The system would have the capability to move or transfer water from one area of a region to another area of a region to match localized supply and demand requirements within the region, subject to meeting the environmental constraints of the water resource(s). Through a regional utility grid, water resources could move routinely back and forth across WMD boundaries and county jurisdictional boundaries to manage supply and demand regionally. Establishment of a Regional Utility Grid in some areas could provide a means to effectively manage multiple water resources including wellfields, surface water supplies, reclaimed water supplies, and other supplemental water supplies across a region to optimize performance and respond to variations in demand and climate patterns. While existing statutes and rules do not prohibit developing a Regional Utility Grid, they do not facilitate this scenario and in some areas inhibit its development. To facilitate the consideration of Regional Utility Grids statutory language and a consistent regulatory framework could be provided that would encourage their consideration and facilitate their permitting. The “Local Sources” language of Chapter 373, Florida Statutes (F.S.), should be evaluated to insure it is not a barrier to developing Regional Utility Grids through regional cooperative agreements or multi-jurisdictional water entities.

Resource Trading - This option encompasses several possible scenarios that could be classified or labeled as source trading, resource re-distribution, permit transfers, and voluntary transfers. For each of these scenarios there are some common characteristics: each involves agreement or partnership between two or more utilities or partners and within the agreement or partnership one or more partner receives some form of compensation, trade or share of cost savings in exchange for the other partner receiving some portion or form of a water resource.

Source Trading - Two or more utilities could be utilizing a common water supply source such as groundwater that is limited in some manner requiring the utilities to seek and develop an alternative water supply (AWS). Under this scenario the AWS would be located geographically in proximity to one utility but more distant from the other utility. Instead of the utilities developing and managing the AWS through some partnership, a more efficient alternative solution could involve the utility in proximity developing and using the AWS and subsequently reducing their use of the limited groundwater water supply thus allowing the other utility to increase their use of the groundwater supply source. By agreement between the participants the utilities developing and using the AWS would be paid by the other utilities that continued and increased their use of the existing groundwater supply and thus not incur significant infrastructure costs associated with transmitting the water from the AWS. Source trading in this scenario could occur across WMD boundaries as well as across county boundaries. While existing statutes and regulations do not prohibit this type of transaction, they do not facilitate or encourage its consideration. Present statutes would permit this scenario provided, the requirements of Chapter 62-40, Florida Administrative Code (F.A.C.) are met and there is not a conflict with the “local sources first” criteria of Chapter 373, F.S.

Source trading, established as outlined above, could have a number of variations using the same basic elements. Two or more utilities could engage in trading a variety of different quality water resources to meet a variety of demands or needs at different times. For example different demands such as potable, landscape irrigation, and environmental mitigation, industrial process and agricultural could be met, with the exception of potable demand, in some cases by a variety of water sources and quality. Additionally, these demands/needs could vary in time, duration, and location across or between the utilities engaged in this source trading scenario. A regional utility grid for each of the water demands would be incorporated

with source trading in this scenario for it to function. What has been described is an extremely dynamic and flexible source trading cooperative on a local regional level. For source trading to evolve to this level of sophistication, the appropriate legal and regulatory environment would have to be established to encourage and permit water suppliers to engage in the exploration, evaluation, and subsequent negotiation of developing source trading alternatives.

Resource Re-distribution - Two or more utilities within a region utilizing groundwater as their source of water supply could have the alternative of being able to potentially increase their total overall groundwater production without harm to the environment by shifting or re-distributing their wells. Groundwater supplies have been historically developed in proximity to the development and customers. Some urbanized regions may have significant areas of rural undeveloped land surrounding or outside the urban developing core. Moving wells from areas of concentration and/or areas of environmental impact could provide the potential to increase or continue pumping without harm or by mitigating some existing harm. This scenario could also be titled regional wellfield management. To implement or consider this as a water supply management alternative would require the agreement of two or more water supply entities including agreement relative to the costs of re-distributing groundwater withdrawals and the distribution of the resulting benefits. This scenario could involve the same considerations as outlined in Source Trading above involving multiple WMDs and counties with the same statutory and regulatory issues and potential solutions.

Permit Transfers - This form of resource trading essentially involves one entity with a water use permit/allocation transferring all or a portion of that permitted allocation to another entity. From a water supply perspective the entity transferring the water use permit or allocation is not necessarily another utility though it may be. Some typical examples of permit transfers include the transfer of the water use permit or allocation associated with an agricultural property to a utility when the property is transitioned to residential or commercial use. Another example could involve the acquisition of all or a portion of a water use permit allocation by a water supplier from another permit holder typically an agricultural, commercial, or industrial user. These transfers could occur as a result of a change in use or from improvements in water use efficiency that sometimes could be financed by the acquiring water supplier. Permit transfers are presently not specifically prohibited by existing statutes and have been allowed by regulation within one WMD, Southwest Florida WMD, on a limited scale. A study by the Southwest Florida WMD indicates that permit transfers have been beneficial to both the participating permittees and the environment. While the permit transfers included in the study are no longer allowed, another type of transfer has been adopted by the District. The present program allowed within a portion of the Southwest Florida WMD subject to a minimum flows and levels (MFLs) recovery strategy allows a water supply entity to increase its ground water withdrawals provided the increase is offset by a reduction in withdrawal by 110% from another water supplier within the program area, providing the additional 10% for the environment. Within this limited permit transfer program all other District permit criteria must be met. Adopting a permit transfer program consistently across all WMDs incorporating the criteria and lessons learned from the Southwest Florida WMD program should be possible based upon the experience of the existing program.

Inter-Regional Transfer - Within local geographic regions most potential water resource transfers can occur within the framework of the transfer scenarios outlined previously. However, once the concept of transfer moves from within a local region to between different local regions, resource trading becomes more complicated because of the controversial and often contentious local sentiments. Despite the fact that the natural water resources are a state resource managed by the state for the benefit of the public, most local regions ignore

that fact and react with an ownership attitude towards their local water resources. For that reason any mention or proposal for considering an Inter-Regional Transfer will elicit emotional debate. Because water supply needs within the state may evolve to a point where Inter-Regional Transfers could provide an economically and technically viable alternative, the concept should be discussed in this paper. This paper will present one concept of Inter-Regional Transfer as a basis for further discussion on developing a rational and cooperative approach to considering this alternative for the future. Inter-Regional Transfer involves the transfer of water resources from an area where water resources can be developed cost effectively and are substantially in excess of existing and projected future demands (including ecological and environmental needs), to an area that is deficient in water resources to meet its future demands that can be obtained affordably. The key element required for this type of water resource transfer to be workable and acceptable is that the donor area (water rich area) and the receiving area (water deficient area) have achieved an agreement between themselves and the corresponding WMD(s) in a co-operative manner. Obviously, without the basis of agreement between the two regions to permit the transfer, there will be conflict and the expenditure of valuable resources in an unproductive litigation and other conflict. These types of disputes divert attention from developing cooperative solutions and leave scars within communities, inhibiting future regional cooperation in this and other areas. To avoid conflict and facilitate consideration of "Inter-Regional Transfers", as defined herein, a framework for collaboration should be developed to guide the discussions/negotiations between communities in this area and provide criteria for an acceptable transfer agreement to guide the evaluation of the feasibility of a proposed resource transfer. One element of an agreement between two communities or regions that would be critical to agreement would be the compensation based on savings to the receiving community to be received by the donor community or region. The savings achieved by the receiving area (relative to an extremely high cost water resource alternative) would be shared with the donor area – promoting win-win outcomes, since those savings could be devoted to variety of community enhancements including acquiring sensitive lands or protecting aquifer recharge areas. Payment, in whatever form, would be market driven, but with appropriate governmental oversight because water resources are a critical component to the health of both communities.

Having a system/mechanism for Inter-Regional Transfers could provide an environment that would provide an incentive to communities and regulatory authorities to explore regional intra-state alternative solutions to water supply issues in a rational and logical method that could mitigate local community concerns.

Specific recommendations for the development of the framework to guide discussions/negotiations and the government oversight needed is beyond the scope of this paper. Though development of an Inter-Regional Transfer mechanism/system would be beneficial, presently there could be substantial resistance to pursuing such an innovative alternative. The public, regulatory and government representatives, and utilities themselves should evolve their understanding and acceptance of water transfers through experience with the more straightforward transfers described above before attempting to engage in Inter-Regional Transfers. Having a system/mechanism for Inter-Regional Transfers could provide an environment that would provide an incentive to communities and regulatory authorities to explore regional intra-state alternative solutions to water supply issues. The state should establish a strategy to evolve water transfers over a number of years from the relatively easy to understand, permit and implement alternatives such as the Regional Utility Grid, to the more complex and presently controversial Inter-Regional Transfers.

Issues for Consideration

This paper has attempted to outline the water transfer issue, its potential role in dealing with some of the water supply problems facing some regions, and to provide examples of some types of transfers to be considered. An exhaustive discussion and analysis of water transfers was not within the scope of this paper. Instead the discussion above was intended to outline some of the issues involved with transfers and to demonstrate that transfers can play a significant role in good management and development of water supply resources within the context of protecting the environment. All of the examples of water transfers outlined above, with the exception of the Inter-Regional Transfer, can all be implemented within the existing statutory legal framework, though not without some difficulty for some examples. One example, Permit Transfers, is being implemented in one area of a WMD with some success. There are concerns and some resistance to pursuing water transfers. One concern focuses on some of the possible scenarios because payment or some form of compensation is associated with the transfer, establishing a market characteristic to the transfer. Additionally there is uncertainty that a transfer process will adequately consider environmental protection in the evaluation and implementation process. Another issue that will influence the development of a water transfer strategy and policies is governance within the water supply community. Changes in governance in water supply development can either facilitate the evaluation of transfers or add obstacles to their consideration. These concerns and others will have to be discussed, potentially debated, and finally a resolution reached that will allow some or all of the transfer alternatives outlined herein to play a role in developing the Florida's water future for 2030 and beyond.