WATER REALLOCATION IN GEORGIA: IF NOT A MARKET, THEN WHAT?

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Abstract. There has been considerable debate over whether Georgia should create a market for water withdrawal permits. In areas where the Georgia Environmental Protection Division (EPD) has imposed a moratorium on new withdrawal permits, a mechanism for water rights transfers could enable reallocation of water to higher valued uses. Water market proponents argue that under existing law Georgia lacks the tools to efficiently reallocate water and sustain continued economic growth. Opponents argue that a market is an inappropriate way for Georgia to introduce economic incentives into water management. But if not a water market, then what?

This Paper presents a range of water reallocation mechanisms and argues that water supply solutions should be tailored to meet specific problems and objectives. Such an approach emphasizes the need for regional planning and management and a clearly developed interbasin transfer policy as part of the comprehensive statewide water management plan. Georgia would be best served by moving cautiously in introducing any new system for water rights transfers.

INTRODUCTION

The recent dispute over water marketing highlighted one of the as yet unsolved problems of a water permit allocation system: reallocation to higher valued uses when additional supply is no longer available. Because permits are allocated to new users as uses arise—in effect, a first come first serve basis—the initial allocation is unlikely to be optimal in the long run. As long as additional water capacity remains available, the administering agency can continue to issue permits to new users, and conflicts will not develop. This approach has worked well for Eastern states in general, where until recently, supply almost always exceeded demand (Dellapenna, 2001).

Once the resource becomes fully allocated, as it may already be in parts of Georgia, there will be a need to reallocate water rights to the highest valued uses in order to obtain the most efficient use of a scare resource. In Eastern permit states, however, there is usually no mechanism for existing permits to be transferred to other uses in situations where additional permits can no longer be issued. While this problem in Georgia may have been partly solved by the end of the drought in 2003, continued growth throughout the state, and in Eastern states in general, will make this a recurring issue.

Too often, the debate has been framed as a dichotomous choice between either having a water market or not having a water market. This Paper argues that this is an improper lens through which to view the issue, because there are a range of institutional mechanisms for facilitating reallocation. Georgia must identify problems and consider mechanisms in light of specific regional supply objectives. Such an approach underscores the need for regional planning and management.

REALLOCATION MECHANISMS

After a water resource is fully allocated, existing uses must be reduced before allocation to new users can occur. Since a user will not voluntarily surrender a valuable permit without incentive to do so, there are three basic ways to accomplish the surrender of an existing permit. First, the state agency could impose an involuntary reduction on a water user, by either revoking the permit or modifying the withdrawal capacity. Second, a new permit applicant could provide an incentive for an existing permit holder to voluntarily surrender the permit or reduce withdrawal. Third, the state could provide an incentive to the user to reduce withdrawal for the purpose of reissuing that water capacity to someone else.

I. Reallocation by the Administering Agency

Georgia law already provides EPD—the state's administering agency—with limited authority to free up water for reallocation among permit holders or to new applicants. There are three possible mechanisms under the current statutes: nonrenewal, revocation for nonuse, and modification of existing permits. One major impediment to the effective use of these procedures is the exemption of farm uses from many of the relevant provisions in the statutes. Additionally, EPD must be careful not to engage in overly aggressive regulatory action that infringes on the rights of productive water users.

Nonrenewal. First, EPD can reallocate water supply by declining to renew existing permits upon expiry, thereby increasing available water capacity for subsequent reallocation to new permit applicants. EPD has discretion to decline to renew a permit application based on the same criteria for issuing new permits (O.C.G.A. §§ 12-5-31(j), 97(b)). If EPD determines that a proposed use is more necessary or beneficial than an existing use, EPD has implied authority to reallocate the water capacity to a new user.

Revocation for Nonuse. Second, EPD has authority to revoke non-farm permits for nonuse by the permittee (O.C.G.A. §§ 12-5-31(k), 96(c)). In theory, revocation of such permits would free up permit capacity for reallocation to new users. Any new allocation, however, must be dependent upon stream flow and hydrologic capacity. To the extent that EPD estimates total withdrawals based on acreage under irrigation, allowing revocation of unused farm permits would take acres out of irrigation estimates. This would enable EPD to determine with increased certainty the maximum permitted capacity and to issue new permits if capacity is available (DNR, 2001).

Modification. Third, EPD has authority to modify existing permits in order to free up water for reallocation to new uses. Georgia law goes further than other Eastern states in this regard. The Georgia Code states, "The director may suspend or modify...a permit if he should determine that the quantity of water allowed under the permit is greater than that needed...for the particular use or would prevent other applicants from reasonable use of surface waters...." (O.C.G.A. § 12-5-31(k)) When two "users or applicants qualify equally," the director has authority to modify existing permits on a "prorated or other reasonable basis" (O.C.G.A. § 12-5-31(f)). It is significant that the statute refers to "applicants" in addition to users, because this authorizes EPD to modify permits not only to protect current uses but also to allow new uses.

Limitations. There are a number of practical problems that limit the effectiveness of these agency tools. First, farm permits are exempt from the renewal process, cannot be revoked for nonuse, and are mostly exempt from modification. Second, EPD operates with minimal funding, which is a major limitation on the ability of the agency to provide adequate regulatory oversight. If EPD were to take a more active role in reallocation through its existing regulatory powers, it would need additional resources to perform effectively (DNR, 2001). Third, effective agency action would require more precise knowledge of usage if EPD is to revoke permits for nonuse or reduce permits for waste.

There are also larger institutional problems with relying on these methods if extensive reallocation is necessary. While revocation of a permit after an extended period of nonuse is good management policy, forced transfers brought about by arbitrary or excessive permit modification would threaten economic growth by creating investment insecurity and inhibiting long-term planning by water users (Dellapenna, 2001). While pursuing a policy of revocation for nonuse or waste, the state must be careful not to act in ways that unfairly burden productive holders of water rights.

II. Reallocation Through Private Incentives

The primary mechanism for voluntary transfers of water rights between users is a market. A water market can take various forms, depending upon the conditions on transfers and the role of the administering agency. The primary problem with water markets is that high transaction costs and externalities may result in either inefficient or socially undesirable transfers.

Regulation of a water market is essential to protect third parties and the public interest from the externalities of individual transfers. Any change in the location, time, duration, or character of a use has the potential to impact other water users. A transfer from a less consumptive use to a more consumptive use will cause a net loss of water from the hydrologic system. A sale of a water right that involves an interbasin transfer removes water from the transferor basin and adds water to the transferee basin, with the potential for adverse effects in both basins. These external effects will not be taken into consideration by the transacting parties, and if the externality is greater than the gains to the transacting parties, then the sale will result in a net societal loss.

If Georgia is to consider market mechanisms for reallocation of water rights, the state must impose limitations on transfers that are sufficient to protect the public interest. First, the state must ensure that property rights in water remain usufructory rights, so that the state maintains authority to manage water resources and prevent export. Second, the state must adopt an appropriate set of standards for approving transfers. Third, to prevent an increase in total usage, water rights must be adequately quantified prior to transfers. Quantification should include not only a maximum amount per day, but also the seasonality of the use and the consumptive nature of the use. Fourth, the state must adopt a comprehensive strategy for monitoring and limiting interbasin transfers. Fifth, any system of reallocation should be open to the public, so that third parties potentially affected by transfers can seek review.

Such protections are necessary to ensure that the externalities of transfers do not outweigh the economic gains from trade. But providing such protection to third parties and the public interest increases transactions costs

and decreases the efficiency of a market. Therefore, despite the claims of some market proponents that market transfers are a panacea for reallocation issues, high transaction costs are often a barrier to efficient reallocation through a market system.

III. Reallocation Through State-Based Incentives

A third basic mechanism for initiating reallocation of water rights is through incentives generated by the state. The highly praised 1991 California Drought Emergency Water Bank provides the most direct example of such incentives. As an emergency response to a five-year drought, the California Department of Water Resources purchased 820,000 acre-feet of water from farmers in the north and resold it to urban water providers in the south. The transfers were temporary and were prioritized based on "critical need." The advantages of using state-brokered transactions to reallocate were the reduction in transaction costs and the coordination of transfers with other water movements in the state. Due to emergency conditions, however, no environmental impacts reports were required, and state agencies provided almost blanket approval to transfers without consideration for third-party effects. Additional concerns arose with respect to economic impacts in the transferor regions. Overall, however, the 1991 Water Bank was considered a successful emergency policy response to severe drought conditions (Israel & Lund, 1995).

The Flint River Drought Protection Act offers a precedent for state-based incentives for water rights modifications in Georgia (O.C.G.A. §§ 12-5-540 to 550). The Act created an economic incentive program to reduce withdrawals for the purpose of maintaining minimum in-stream flow in the Flint River during drought years. Using funds from the state's tobacco settlement money, a 2001 auction reduced surface water irrigation on 33,101 acres. In its current form, the Act merely decreases water usage among existing users and has no provisions for transferring or reallocating water to new uses. It could, however, signal a willingness by Georgia to consider state-based incentives to influence allocation.

Tax incentives and user fees are other examples of government incentives designed to change patterns of water use. In Georgia, such tools might be used to help solve the problem of unused permits. Rather than revoking such permits for nonuse, it may be cheaper and easier to recover these permits if the state were to offer a tax incentive to permit holders who returned excess capacity to the state. Nonusers would have a financial incentive to surrender their permits to the state, and actual users would have an incentive to take advantage of cost effective conservation methods.

Such incentives would be strengthened by providing a fixed period in which the tax savings could be realized by voluntarily surrendering unused permits, followed by a period in which EPD would begin to revoke permits for nonuse administratively. This would provide permit holders with a window in which to realize a benefit from turning over a permit, after which the unused permit could be revoked without compensation. Given the vital need to bring unused permits back into the system, a system of tax incentives, as compared to administrative revocation, would be better for farmers and may be more cost effective for the state.

ANALYSIS

Georgia must improve its water management system before instituting mechanisms for transfers or reallocation. First, the state must improve its existing structure of water management by implementing a comprehensive statewide water management plan that better coordinates existing law and administration and improves knowledge about current usage and supply. Second, the state should only introduce new means for reallocation in light of specific problems and clearly defined objectives. Any new institutions should be narrowly crafted to meet those objectives. Such an approach underscores the need for regional planning and management in meeting supply needs.

1. Develop a Comprehensive Statewide Water Management Plan

Prior to considering mechanisms for reallocation, the state should develop and implement a comprehensive statewide water management plan. Under this plan, Georgia should begin to manage surface water and groundwater conjunctively and develop sustainable usage plans for each region of the state. Ideally, the legislature would provide additional funding to EPD to improve its oversight of water resources.

Georgia should attempt to bring farm withdrawals fully within the permit system. First, the state should introduce provisions for forfeiture for nonuse of farm permits (DNR, 2001). To account for periodic crop rotation in agriculture, it may be appropriate to impose less stringent conditions for forfeiture on farm permits than the two years provided to non-farm uses. In general, however, permits that are unused for lengthy periods of time should be surrendered to the state. Second, all permits should have specific quantity and duration limitations. These requirements will clarify water rights and bring farm permits in line with municipal and industrial permits.

It is also imperative that Georgia improve its knowledge of usage and supply before considering mechanisms for reallocation. Accurate and reliable information on water use and supply is needed to help understand the scope of specific supply problems. Georgia must determine how much water is being used and how much should remain in

the rivers and aquifers before making drastic changes to the law of water allocation.

2. Clearly Define Reallocation Problems and Objectives.

Institutions for water rights transfers should be considered only after identifying regional water supply problems. Recent water market proposals were designed specifically to address the problems of the Flint River Basin, but the legislation introduced in 2003 would have enacted one market system for the entire state without consideration for the differing conditions in each region. In addition, the 2003 legislation was disjointed from the problem, because it proposed permanent transferability as a solution to a temporary moratorium on new permits.

In the future, discussions on transfer mechanisms should consider specific problems on a regional basis. In additional to increasing knowledge gaps about supply and current usage, the state must also decide what it hopes to achieve through transfers. Who needs additional water supply? Who is offering to cut usage to give up water that is currently allocated and in use? How much reallocation is necessary? Is there a need for reallocation between similar uses or between different types of uses? Is there a need for reallocation within a narrowly defined hydrologic distance, or a demand for increased interbasin transfers? The scope of regional reallocation objectives should dictate the discussion of the mechanisms available as an appropriate solution.

3. Consider Mechanisms in Light of Objectives.

Unlike arid Western states, Georgia is blessed with abundant rainfall, which may give the state more options in meeting water supply needs. Many supply problems may be solved through conservation and better management, and bringing farm uses fully within the permit system will improve the effectiveness of existing regulatory tools. Where possible, the state should seek to meet supply objectives without introducing new mechanisms for transferability.

If water supply objectives call for reallocation within agriculture and within a narrowly defined hydrologic distance—farmer-to-farmer transfers within a single river basin—then a limited mechanism for voluntary transferability may be an appropriate solution for reallocating existing supply. Under such circumstances, transferability is less problematic, because the type of use remains the same with only a reasonable change in location of use. If transactions are adequately monitored by EPD, some form of voluntary transferability could possibly enable potential gains from trade with manageable transactions costs and externalities. Where reallocation is in response to short term drought conditions, allowing temporary transfers or leasing of water rights may be more appropriate than permanent transfers.

Reallocation between different types of uses must be more strictly regulated. Reallocation that involves a change in usage introduces new variables into the transaction, increasing transaction costs and potential externalities. A change from a less consumptive use to a more consumptive use will, by definition, consume more water even if the amount diverted remains constant. Seasonality of use is potentially problematic for transfers out of agriculture, because while agricultural irrigation occurs mostly in summer months, municipal or industrial use continues year-round. In addition, large scale transfers out of agriculture could have negative economic impacts on rural communities that depend on farm economies (Israel & Lund, 1995). While these added complications of inter-sector transfers do not mean that such reallocation should not occur, they do suggest that a more active state role is required to ensure that such transfers do not have adverse impacts on water resources and local communities. A market with minimal regulation is probably not sufficient for managing such transfers.

Reallocation that involves an interbasin transfer of water is an even more problematic type of transfer. While interbasin transfers may be necessary in certain circumstances, an effective management policy would limit movement of water between basins whenever possible. Such transfers must involve a high degree of administrative oversight. Unregulated market transfers between private parties that also involve interbasin transfers should have no place in Georgia's system of water allocation.

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