

THE TAXABLE SURPLUS IN WATER RESOURCES

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ABSTRACT: Taxes or rental charges for water use are bearable, legal, and would spur economy of water. Fallacies that impede perception of those ideas are identified and refuted. One fallacy is that water rights are real property. A second is that a charge on water would be passed through to consumers. A third is that the cost of water is just the cost of developing it. A fourth is that markets solve most problems if property rights are firm. A fifth error is that only consumptive use is a social cost; a sixth that common rights must spell tragedy.

INTRODUCTION

Five major problems of water economy may be ameliorated by imposing a package of severance and other taxes on water withdrawals and power drops. This would: 1) Spur holders of surplus water to sell; 2) Foster conservation; 3) Convert water from a sink to a source of state funds; 4) Offset the concentrated possession of water; 5) Integrate the economies of ground and surface water. A severance or net proceeds tax can be viewed as a price charged by the owner of water (the state) for using its property. The rationale is like that for an effluent charge on polluters, a familiar proposal.

A virtue of taxation, properly tuned, is that it puts a uniform constraint on use of both ground and surface waters. Today, pumping is less constrained than surface withdrawals. While California rations and prices surface water, landowners in the San Joaquin Valley drill more wells and pump up unpriced water the State is recharging at high cost. In the drought of 1976-77, 10,000 new wells were drilled in the San Joaquin Valley (Weatherford *et al.*, 1982, p.1031). It is a treadmill: subsidized water supply followed by overdraft followed by State rescue projects followed by new overdrafts, etc. ad inf.

Several fallacies impede appreciation of the tax approach. The method of this paper is to state and dispel the fallacies.

I. FIRST FALLACY: "WATER RIGHTS ARE REAL PROPERTY"

Water is public domain. Most state constitutions read that water belongs to the state (in trust for the people). (Here we focus solely on intrastate waters.) California Water Code Section 102 reads, "All water within the State is the property of the people of the State, ..." (emphasis mine). Private parties have possessory interests. A water license is a privilege, like

that of an airline to occupy its time slots; of a cab to work the streets; of a broadcaster to use a frequency; or of a rancher to graze public lands. It is subject to conditions, and invasion.

Water licenses are not recorded with title deeds to real property. Only rarely are they on property tax rolls (if listed, it is usually as personal property, although this situation is confused, ambiguous, and neglected [LaBahn, 1971]). Owners' lawyers often call permits "real property," but not when the subject is property taxation (the resulting "double-talk" has been discussed in Gaffney, 1962a). "Appurtenancy" is a supple legal term used to reconcile such contradictions favorably for owners. Water licenses are "appurtenant" to specific lands. The effects are: a) To reserve original water claims in proportion to landholdings; b) To bolster water claims under color of real property; c) To shelter water claims from taxation; and finally d) To let surplus water claims be cashed out separately. "The appropriative right is ... separable and alienable from the land to which it became initially appurtenant; ..." (Wright v. Best, 1942, cited in Hutchins, 1977, Vol. III, p.191.) A water license may be taxed indirectly, it is true, through the value of taxable land it serves. However, unused and misused water surpluses, the problem at hand, do not much raise the value of any land. Thus they escape taxation in whole or part.

The upshot is that legislatures have great latent power. The public purpose of water licenses is to get water put to the best use, not to serve as "property-for-its-own-sake." In Oregon, a leading decision reads, "... water use in this country (never) rose above the dignity of a mere privilege over which the state had complete control" (In re Hood River, 1924, 190-91). In *Ivanhoe v. McCracken* (1958) the U.S. Supreme Court stingingly rejected the doctrine that the U.S. Bureau of Reclamation holds water in trust only for landowners. The implied or constructive trust is on another principle: "The project was designed to benefit people, not land" (Ivanhoe, pp. 296-97). Law professors like Harrison Dunning (1982) and Joseph Sax (1990) help lay citizens know their legislatures' power. This power may be used to tax as well as regulate. As water licenses are not real property, they would seem to be exempt from limits imposed by California Proposition 13. So are benefit assessments levied by irrigation and other water districts (American River case, 1982).

Ground water, too, is subject to legislative power. In coastal areas, pumping is limited and/or taxed to stop salt water intrusion, and pay for fresh-water recharge. Pumping is also regulated to control movement of toxic plumes. Pumping is controlled to stop "export" of water (continued on page 8)

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from lands overlying an aquifer, under the "correlative rights" doctrine (Katz v. Walkinshaw, 1903). If that does not suffice, pumping is controlled to prorate water among surface owners, and shorten pump lifts (Pasadena-Alhambra case, 1949). Pumping near streams is stopped to prevent indirect diversion of surface water (Tulare-Lindsay case, 1935). Arizona authorized a pump tax in 1980 (for later implementation), and set about retiring farmlands to reserve groundwater for higher uses (Dunning, 1982, pp. 41-43). Meantime, Arizona is relying on direct regulations to conserve groundwater (Brown and Ingram, pp.23-24).

An ancillary error has it that the appropriative doctrine of water licensing ("first in time, first in right") originated with the 'Forty-niner miners, to use water with possessory placer mining claims. The 'Forty-niner fallacy subtly reinforces The First Fallacy by intimating that extant appropriators are the real "people" for whom the Constitution reserves water, part of California's folkish heritage. As history, however, that is romancing. Placer mining claims were narrowly limited in space and time. They were just "ten feet square" in the good locations (Robinson, p.137), making the mines ant-heaps. According to one former miner, "... no one might ... hold (gold-bearing land) for a longer time than he continued to use it" (George, 1879, p.286). Water, however, flows on forever, its scarcity value rising. Perpetual ownership of water, for thousands of acres per owner, is not in the 'Forty-niner tradition.

To secure a good water license one need have been at the right place and time, free and white. Shotguns were the basis of some claims, a matter of common boast today. Above all, one need have owned land whereto to make the water "appurtenant." Landownership in the southwest has been highly concentrated from an early time (Gates, 1978; Worster, 1985, pp. 98-111). It remains so today (Worster, 1985, pp. 243-47, 291-302; Villarejo, 1982; Fellmeth, 1973, pp. 3-25, 163-80; U.S. Census of Agriculture, 1987, pp.16, 36, 84, 120). Major doctrines of water law (riparian, appropriative, and correlative rights) restrict control of water to those with prior landownership. One also needed front money to win the claim-staking race by appropriating water prematurely.

II. SECOND FALLACY: "THE COST OF WATER IS SHIFTED TO CONSUMERS"

If one sells in a world, national, or competitive local market, one is a price-taker, regardless of cost. That is standard doctrine. In addition, water is an unusual input -- an un-reproduceable resource, whose higher price will raise production. When one pays more for water, one often switches to higher-valued crops. One substitutes capital and labor for water on the same land, raising monetary yields per acre, releasing surplus water to serve more lands. Conversely, the effect of cheap water was seen in the rural populations of Fresno, Kings and Tulare Counties. Having soared with dear

water, 1940-50, these stagnated with cheap water, 1951-77 (Ballard, p. 30).

With dearer water one uses less by controlling it better, switching from furrow irrigation to drip. Some growers plant avocados on steep hillsides formerly barren, yielding more dollars of product for less water. These facts point to a portentous corollary: we can raise public revenue from water and stimulate, not parch out farm production and employment.

III. THIRD FALLACY: "WATER IS WORTH WHAT IT COSTS TO DEVELOP IT"

Even a century ago, water supplied freely by nature at the source was worth shooting people for. Today, it costs \$20/a.f. to develop and distribute water through The Gage Canal from the Santa Ana River, used to grow citrus in Riverside, Southern California. Meantime, the State is wholesaling imported water just over the city line for twelve times as much, \$240 per acre-foot. Because of hidden and cross subsidies, the true social cost of developing and delivering it (at the outer and upper margins of the system) may run up to \$2,000/a.f., or 100 times the total price (fixed and variable) charged for Gage Canal water.

The social cost of withdrawing water is the highest cost imposed on any others by preempting it: in this case, \$2,000 rather than \$20. "Avoided cost" is the familiar regulatory concept; "opportunity cost" the theoretical one. This Third Fallacy, reinforcing the Second, conceals the central truth that water like Santa Ana water, arising naturally where demand exceeds supply, bears rent. It should command the same price as water imported from 600 miles away. When so priced, users will economize it, and it will yield a taxable surplus.

IV. FOURTH FALLACY: "FIRM UP PROPERTY; THE MARKET WILL PROVIDE"

This writer has a long track record promoting water marketing (Gaffney 1962a, b; 1977). Now it is stylish, however, he is embarrassed by the uncritical dogmatism of zealots. The market solves many problems; here are four it cannot solve.

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A. Some Human Rights Are Unalienable.

No one may pledge or sell a child. It follows we may not collectively alienate their birthrights. Water belongs to the states, as trustees for all citizens. That has to include citizens yet unborn, an ongoing obligation.

The birthright may be a right of access, where feasible. Often access must be limited, to manage the resource efficiently. This has been seized by some as the occasion to extinguish common rights, but it need not be so. We need merely replace the common right of access with a state duty to collect revenues to serve common needs and replace other taxes. A right of revenue means a state would charge licensees for withdrawing its water to use on private lands, instead of subsidizing them to do it, as now. It would turn financial sinkholes into sources, and "Negabucks into Megabucks" for state treasuries and their trustees, at the same time promoting efficient use of water.

B. Water Distribution Is A Natural Monopoly.

Most big water projects are multi-purpose and require centralized integration. Many appropriators, acknowledging and exploiting that fact, have gained huge political rents by getting Congress to overpay for "non-reimbursable" features of multi-purpose river-basin projects. Water conveyance, even single-purpose, is marked by strong economies of scale (to volume, not distance) [Gaffney, 1961, 1962b, 1966, 1969], so there is no place for parallel, competing lines. Rights-of-way are acquired by eminent domain, imposing a public servitude on the owner. Accordingly, water supply, conveyance and distribution are almost everywhere public, cooperative, or regulated.

Water markets will not work by faith. There must be a central conveyance and integrating agency, regulated or administered in the public interest at a high level of economic and financial sophistication, doing what a market would do if a market would work. That is not a dream: it is what regulatory commissions do for power, gas, and communications. Commissions will not work by faith, either. It takes hard work, sound thinking, and dedication to keep them honest and capable. My plea is to accept that necessity and keep it a central concern of the profession.

C. Markets Require Motivated Sellers.

In 1961 I saw great promise in ridding water of legal barriers to alienability, making it merchantable. Now, I blush as "new resource economists" make a panacea of the pink-slip. ("Pink-slip" is a metaphor for alienable property rights in wa-

ter.) Put pink-slips on water, they write, declare a free market, and watch the magic work (Anderson, 1983; Moore, 1991). California Assemblyman Richard Katz carried a statute in 1982 (AB 3491) to let public agencies help individuals sell water. The Environmental Defense Fund has become a water broker. In 1986 a new Katz bill (AB 2746) let water transferors use conveyance facilities of public agencies. Water marketing is all the rage.

The results are disappointing, considering the pent-up needs. Many deals are wanted; few are done. Something else is obviously wrong. A major obstacle to marketing is that sellers are undermotivated. Water flows are perpetual, demand keeps growing, there is no cash drain and no hurry. The broker's delight, the motivated seller, is a family moving, or anyone with surplus land subject to debt and property taxes. Farm water districts are the broker's despair. Most water permits are free of debt (banks don't lend on them), and free of property tax. The real estate market works because hundreds of thousands of deeds are recorded every year. The water market has only dozens of transfers. To get this market working we need a device for imposing a cash drain on holders of surplus waters so they will actively seek out buyers.

D. "Rent-seeking" Perverts The Market.

The prior appropriation doctrine for establishing water claims ("first in time, first in right") is the locus classicus of "rent-seeking": distorting present investment to secure future rents. The motive is to divert, develop and half-use water before its economic time, to lay claim to its future. Surface waters have been thus preempted and misallocated for over a century. In 1949 the California Supreme Court extended the system to groundwater. It triggered a "race to the pump house" (Krieger and Banks, 62) when it proclaimed the doctrine of "mutual prescription" for groundwater basins (Pasadena-Alhambra, 1949). This ruling "encouraged defensive ground water overdrafting by pumpers in other basins who anticipated ground water adjudication" (Gleason, 709). Claims to water are constantly being made, expanded and firmed up; any giveaway process violates the virtues of the market. The rule for prior appropriators and adverse possessors is "Waste today, want not tomorrow." There are as many examples as there are licenses. For one, in 1962, The Orange County Water District sued every upstream diverter on the Santa Ana. In the 1969 judgement, "each water agency's allotment is based on historical use" (Patterson, 1991). Think about that incentive structure.

As we segue toward a market system, speculators are moving in to acquire permits from old (continued on page 10)

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local holders. The speculators visualize commercializing and moving the water, using political influence to modify the water permits. This is new, sophisticated rent-seeking, blended with old-fashioned land speculation. It is raising great hostility and anxiety (Gottlieb, 1988, pp.261-80), causing many to oppose water marketing. There is a better way. A policy of taxing water withdrawals, based on the opportunity cost of water, will do the job without attracting alien buyers seeking unearned increments.

The fashion today, popularizing Pareto, is to boost water trades as "win-win" deals. It is only a half-truth: most water trades are "win-win-lose" deals. The loser is the general public. Every sale of licenses helps validate private seizure of public domain. Besides the common water, there are subsidies attached. In December, 1988, the U.S. Interior Department issued a water marketing policy to let recipients of subsidized water from its projects sell the water and keep the profit (Levin, 1988). The "innocent purchaser" would seem now to have secured a right to be subsidized in perpetuity. That conclusion is overtly promoted by Richard Wahl (1989), by Angelides and Bardach (1978), and by the Environmental Defense Fund.

The idea of water marketing is supposedly to get government out of the market. Wahl *et al.* would deal government in forever. Every subsidy and giveaway engineered by pork-barrel politics becomes sacrosanct, perpetual property. Wahl's central thesis is to bind taxpayers forever to incur ongoing costs of \$60/af or more to deliver water for \$3.50/af to landowners who can resell it for \$400/af. This is the absurd, unjust sequitur of condoning private seizure of public domain.

Such thinking also sends a message to future rent-seekers. Once get a subsidy or giveaway, by whatever means, and you have a right to keep getting it forever, and call that right "property." Agitation for new subsidies would soar; the state would be bankrupted. This is hardly what water marketing should achieve. Chanting "win-win" sounds constructive, but those who take public property in the name of the free market are not promoting the market. Rather, they are free-riding on and dragging down its good name for private gain. They are the market's worst enemies.

Taxation can make water trades into "win-win-win" deals: make water permits transferable, but also chargeable. Most economists acknowledge that contractors, who get subsidized water from Federal and State projects, should pay the full cost of project services. It should be equally obvious that licen-

sees taking rentable water from the public domain should pay us its full value. Severance, net proceeds, property, transfer, and gains taxes, carefully balanced and combined, could be part of the policy package. With growing demand and scarcity this is the weightier, more general issue.

An ancillary doctrine of zealous marketeers is that "bureaucrats" always fear and fight markets. In the 1940s it was otherwise. Then, the U.S. Bureau of Reclamation (USBR) tried to mobilize water along California's Friant-Kern Canal. Bureaucrats wrote of "pooling," and sending water "to whichever demand develops first" (Maass, 1952, p.546; Central Valley Basin, 1949; Taylor, 1949). The contracting local districts could and did sell surplus contract waters outside their boundaries. Water filings by the USBR were granted by the State not to certain lands, but "for the use and benefit of said Central Valley Project," to further a "general or coordinated plan ..." (California Farm Bureau, pp. 58, 60). The U.S. Supreme Court upheld the mobility of these filings decisively in *Ivanhoe* (1958). Thanks to *Ivanhoe* it is possible to market federal water today (Graham, 172-90). Arguably, it is also *Ivanhoe* that makes it possible to market State water. In the Burns-Porter Act of 1959, the State's answer to *Ivanhoe*, the State adopted utility-type contracts on the "9(e)" (Federal model (Graham, 188-90).

Bureaucratic-led marketing and pooling were fought by Private Property. Speaking through U.S. Senator Sheridan Downey, landowners demanded "... that the land and water should be joined together, never to be cut asunder; ... in perpetuity ... neither should be sold separately" (Downey, 1947, pp. 226-27, emphasis supplied). That did not leave much room for water marketing. Rather, it reminds us that the philosophical godparents of free markets, like Quesnay, Turgot, Smith, Ricardo and Mill, were heavily engaged in fighting landowners who wanted protected markets. Many bureaucrats today are fallen angels, but who pushed them? Bureaucrats were for marketing then; for this they were traduced and persecuted as communists (Kirkendall, 1964; Dinuba Sentinel, 1947; Kings River Water Association, 1950).

V. FIFTH FALLACY: "ONLY NET CONSUMPTIVE USE IS A SOCIAL COST"

In water law and lore, "consumptive" use is primitively construed, without reference to "The Second Law" (entropy). Much diverted water is returned to a river or aquifer for reuse, hence not "consumed," in the antique First Law sense. This usage writes off the value of elevation, purity, and other elements of negative entropy. (continued on page 14)

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Elevation is used both to generate power, and move water by gravity. British Columbia raises large revenues by taxing power drops; so might we.

To understand the meanings of "use" or "consume" in economics we must think in terms of entropy. The water user takes in pure water, at high elevation, at a time and place of his choice. He returns some of it, but at lower elevation, at other times and scattered places inconvenient for those below. As to water quality, many return flows are worse than no return at all.

On many streams the senior permits are downstream. Downstream seniors have enjoined upstream juniors from diverting water, and are dissipating the elevation drop without using it for anything (Consolidated Peoples' Ditch case, 1928, cit. Gaffney, 1961). The downstream seniors are consuming water's potential energy as much as if they withdrew it upstream and used it there (e.g. for low-head hydro, or gravity conveyance to better lands). A tax or charge based on best alternative use would include a surcharge for the loss of elevation.

VI. SIXTH FALLACY: "COMMON RIGHTS SPELL ECONOMIC TRAGEDY"

"Tragedy of the Commons" has become part of the culture, but analytically and economically it does not hit the nail on the head. Overdrafting aquifers is a tragedy, all agree. Aquifers are not a commons, however: their use is restricted to overlying landowners, on overlying lands. An observer with a different bias would ascribe overdraft to landowners' assertion of private property rights. Overuse *per se* is the tragedy; blaming it on common rights gives it a certain spin.

Asserting common rights need not imply open access and unrestricted use. It is often the opposite. Here are five examples of asserting common rights by restricting use: 1, constraining water use by taxing withdrawals; 2, constraining hunters and fishers by imposing bag limits; 3, constraining pollution of common waters by imposing effluent charges; 4, protecting watersheds by regulating timber harvest practices; 5, protecting swimmers and small boaters by limiting size and power of boats. Economists like to believe they are "value-free." If so, they will replace the "tragedy of the commons" with "the tragedy of overuse." Overuse will often be ascribed to suppressing common rights, not upholding them (Bromley, 1990; Wantrup and Bishop, 1975).

CONCLUSION

Water is public domain. A package of water taxes (severance, net proceeds, property, and gains), and/or rental charges, would improve incentives and the water economy. When one pays for water, one often shifts to higher-valued crops, substituting capital and labor for water, raising yields. We

can tax water withdrawals while improving the water economy.

We must control pumping to prevent overdraft, if any system of surface control is to work. A tax is an economic price charged by the owner of water, the state, to control the use of its property. We must charge both for net water withdrawals, and raising water entropy.

Common rights may be asserted as open access, where that is feasible; or rights of revenue, where closed-access is more efficient. The tax-price will promote efficient use, and also be progressive, water distribution being highly skewed. It will also raise money for state treasuries and their trustors, the people.

Water rising in good locations is highly rentable. The reason water markets work badly is because sellers are not motivated by any cash drain, and selling prices rise indefinitely. To overcome this resistance, we need to subject water licenses to severance and/or property taxes, or other public charges, based on their opportunity cost values. Property taxes on land, draining cash from holders of surpluses, are what make the land market work as well as it does. Taxes on water would abort rent-seeking and let water markets work without granting unearned increments to speculators in water rights.

(GroundSwell does not have room for footnotes, but they are available from Economics Professor Dr. Mason Gaffney at m.gaffney@dslextreme.com. "The Taxable Surplus in Water Resources was originally published in 1992 in Contemporary Policy Issues.) <<

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