THE REASONABLE USE DOCTRINE
&
AGRICULTURAL WATER USE EFFICIENCY

A Report to the State Water Resources Control Board
and
the Delta Stewardship Council

by

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INTRODUCTION

The Reasonable and Beneficial Use Doctrine (Reasonable Use Doctrine) is the cornerstone of California's complex water rights laws. All water use must be reasonable and beneficial regardless of the type of underlying water right. No one has an enforceable property interest in the unreasonable use of water.

Water use has been found to be unreasonable in a variety of circumstances. However, the application of the Reasonable Use Doctrine tends to be a cumbersome, multistep process and has largely been reactive, where someone claims another person's use of water is unreasonable and uses a judicial or administrative forum to resolve the complaint.

The purpose of the report is to review the breadth of the Reasonable Use Doctrine, which can affect all water uses, including urban, hydropower, recreation, environment, and agriculture, and then to focus on how the Reasonable Use Doctrine can be used promote efficient use of water in the agricultural sector.

The underlying premise of this report is that the inefficient use of water is an unreasonable use of water. Accordingly, the Reasonable Use Doctrine is available prospectively to prevent general practices of inefficient water use. Indeed, the Reasonable Use Doctrine, as set forth in the State Constitution and California Statutes is broad and inviolate in scope. As interpreted by case law and administrative decisions and used to its full potential, it can comprehensively address the inefficient use of water in California.

The focus on agriculture in this paper is grounded in two principles: small changes in agricultural water use efficiency can produce significant amounts of "wet" water and California's agricultural sector, which has tested and proven many conservation practices, is in a position to identify economically justified and locally cost effective water management techniques that retain the value of return flows to both downstream users and other environmental beneficiaries.

Maximizing the efficient use of water by projects that reduce consumptive water use is particularly important for the Sacramento/San Joaquin Delta. More efficient use of water upstream of the Delta can increase water flows into the Delta. More efficient water use within the Delta can increase Delta outflows. Reducing the amount of agricultural return Delta flow, both upstream of and in the Delta, has important water quality benefits.

THE LAW

Collectively, the State Constitution, California Statutes, case law, and administrative decisions, give the State Water Resources Control Board (State Water Board) ample authority to broadly implement the Reasonable Use Doctrine to promote more efficient water use.

A. The State Constitution

California Constitution
Article 10 Water

SEC. 2. It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that **the waste or unreasonable use or unreasonable method of use of water be prevented,** and the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare. The right to water or to the use or flow of water in or from any natural stream or water course in this state is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and **such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water.** Riparian rights in a stream or water course attach to, but to no more than so much of the flow thereof as may be required or used consistently with this section, for the purposes for which such lands are, or may be made adaptable, in view of such reasonable and beneficial uses; provided, however, that nothing herein contained shall be construed as depriving any riparian owner of the reasonable use of water of the stream to which the owner's land is riparian under reasonable methods of diversion and use, or as depriving any appropriator of water to which the appropriator is lawfully entitled.

This section shall be self-executing, and the Legislature may also enact laws in the furtherance of the policy in this section contained.

B. California Statutes

Water Code Section 100. It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which are capable, and that the **waste or unreasonable use or unreasonable method of use of water be prevented,** and that the conservation of such water is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare. **The right to water** or to the use or flow of water in or from any natural stream or watercourse in this State is and **shall be limited to such water as shall be reasonably required** for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water.

Water Code Section 275. The department and board shall take all appropriate proceedings or actions before executive, legislature, or judicial agencies to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of water in this state.

Water Code Section 1050. This division is hereby declared to be in furtherance of the policy contained in Section 2 of Article X of the California Constitution and in all respects for the welfare and benefit of the people of the state, for the improvement of their prosperity and their living conditions, and the board and the department shall be regarded as performing a governmental function in carrying out the provisions of this division.

Water Code Section 1051. The board for the purpose of this division may:

1) Investigate all streams, stream systems, portions of the stream systems, lakes, or other bodies of water.
2) Take testimony in regard to the rights to water or the use of water thereon or therein.
3) Ascertain whether or not water heretofore filed upon or attempted to be appropriated is appropriated under the laws of this State.

Water Code Section 1825. It is the intent of the Legislature that **the state should take vigorous action** to enforce the terms and conditions of permits licenses, certifications, and registrations to appropriate water, to enforce state board orders and decisions, and **to prevent the unlawful diversion of water.**

Water Code Section 10608. The Legislature finds and declares all of the following:

…

(f) Improvements in technology and management practices offer the potential for increasing water efficiency in California over time, providing an essential water management tool to meet the need for water for urban, agricultural, and environmental uses.

Water Code Section 10608.4. It is the intent of the Legislature, by enactment of this part, to do all of the following:

(a) Require all water suppliers to increase the efficiency of use of this essential resource.

Water Code Section 10801 (g). Significant opportunities exist in some areas, through improved irrigation water management, to conserve water or to reduce the quantity of highly saline or toxic drainage water.

Water Code Section 85023. The longstanding constitutional principle of reasonable use and the public trust doctrine shall be the foundation of state water management policy and are particularly important and applicable to the Delta.

C. Case Law

Peabody v. City of Vallejo (1935) 2 Cal.2d 351

> The limitations and prohibitions of the constitutional amendment now apply to every water right and every method of diversion. Epitomized, the amendment declares:
>
> 1. The right to the use of water is limited to such water as shall be reasonably required for the beneficial use to be served.
> 2. Such right does not extend to the waste of water.
> 3. Such right does not extend to unreasonable use or unreasonable method of use or unreasonable method of diversion of water.
> 4. Riparian rights attach to, but to no more than so much of the flow as may be required or used consistently with this section of the Constitution.
>
> The foregoing mandates are plain, they are positive, and admit of no exception. They apply to the use of all water, under whatever right the use may be enjoyed.

(*Id.* at p. 367.)

National Audubon Society v. Superior Court (1983) 33 Cal.3d 419.

> All uses of water … must now conform to the standard of reasonable use.

(*Id.* at p. 433.)

Environmental Defense Fund, Inc. v. East Bay Municipal Utility District (1980) 26 Cal.3d 183.

> What constitutes reasonable water use is dependent upon not only the entire circumstances presented but varies as the current situation changes.

(*Id.* at p. 194.)

In re Water of Hallett Creek Stream System (1988) 44 Cal.3d 448.

> [The State Water Board] is not powerless to assert the state's interest in the conservation and efficient use of water [by a riparian right holder] absent the assertion of a private claim. . . . [T]he Board's and the state's interest in the conservation and efficient use of water does not depend upon the fortuitous filing of claims by private parties, but may be asserted, and adequately protected, by initiative of the state itself or of concerned citizens.

(*Id.* at p. 472 fn. 16 [italics omitted].)

City of Barstow v. Mojave Water Agency (2000) 23 Cal 4th 1224.

> The constitutional amendment therefore declares the basic principles defining water rights: that no one can have a protectible interest in the unreasonable use of water, and that holders of water rights must use water reasonably and beneficially.

(*Id.* at p. 1242.)

Imperial Irrigation District v. State Water Resources Control Board (1986) 186 Cal App. 3d 1160.

> [S] ection 275 is not to be construed as a limitation of the Board's adjudicatory authority, but rather as a statute granting separate, additional power to the Board.

(*Id.* at p. 1170.)

California Trout, Inc. v. State Water Resources Control Board (1989) 207 Cal.App.3d 585.

> We find no preclusion in article X, section 2 of legislative power to make rules concerning what uses of water are reasonable, at least so long as those rules are not themselves unreasonable.

(*Id. at p.* 622.)

Imperial Irrigation District v. State Water Resources Control Board (1990) 225 Cal.App.3d 548

> We conclude the Board had jurisdiction to rule on the question of whether irrigation practices… were reasonable or wasteful.

(*Id.* at p. 561.)

United States v. State Water Resources Control Board (1986) 182 Cal App. 3d 82

> All water rights … are subject to the overriding constitutional limitations that water use must be reasonable.

(*Id.* at p. 129.)

> To that end, the Board is empowered to institute necessary judicial, legislative or administrative proceedings to prevent waste or unreasonable use.

(*Id.* at p. 124.)

> We perceive no legal obstacle to the Board's determination that particular methods of use have become unreasonable …

(*Id.* at p. 130.)

> We conclude, finally, that the Board's power to prevent unreasonable methods of use should be broadly interpreted …

(*Ibid.*)

> [The board has] the separate and additional power to take whatever steps are necessary to prevent unreasonable use or methods of diversion.

(*Id.* at p. 142.)

D. Water Board Strategic Plans

1) Strategic Plan 2008 – 2012
Objective 3.1. Promote Implementation of Best Management Practices (BMPs) and improve compliance with requirements for water conservation consistent with the Strategic Workplan for Activities in the San Francisco Bay/Sacramento-San Joaquin Delta Estuary and other relevant State and Regional efforts.

2) Delta Strategic Workplan (2008)
Water Use Efficiency Goal: The goal of this project is to promote the efficient use of water supplies and the protection of beneficial uses of water from the Bay-Delta and areas throughout the State. (P-85)

Objective: Water conservation will reduce the demand for water throughout the State, thus assisting in the protection of beneficial uses in the Bay-Delta and promoting the reasonable and efficient use of the State's limited water resources in the Bay-Delta and statewide. (P-85)

Background: The California Constitution, article X, section 2, and Water Code section 100 prohibit the waste, unreasonable use, unreasonable method of use, and unreasonable method of diversion of water. The State Water Board has broad authority under these provisions and under Water Code section 275, which directs the State Water Board to "take all appropriate proceedings or actions" to prevent waste or violation of the reasonable use standard. The State Water Board can exercise its broad authority where the implementation of water conservation measures or water recycling would prevent waste and unreasonable use, thus resulting in reduced diversions from the Delta or increased flows into the Delta. (P-90)

PRIOR IMPLEMENTATION OF THE REASONABLE USE DOCTRINE

The State Water Board and the courts have used the doctrine to find unreasonable water uses in a variety of settings:

1) Excessive use of water by riparians in light of new, competing appropriations for municipal water supply;
2) Wasteful conveyance losses to supply senior appropriative rights;
3) Simultaneous, aggregate diversions by riparians and appropriators that created critical shortages of water needed to protect wine grapes;
4) Maintenance of unexercised riparian rights at full priority in an overappropriated watershed;
5) Inefficient conveyance and production of excessive runoff by pre-1914 appropriators, which caused flooding of adjacent lands;
6) An upstream point of diversion that threatened recreational and other instream uses downriver;
7) The storage and diversion of water that jeopardize compliance with water quality standards, the public trust, and other in situ beneficial uses; and
8) Excessive use of groundwater by overlying landowners in an overdrafted basin.

(Gray, B.E., Hastings Law Journal, Vol. 45, 1994, pp. 249-308; Public Policies Institute of California, Calif. Water Myths, p.19).

Although issues of wasteful or inefficient water delivery and use, including failure to employ appropriate water conservation measures or make use of recycled water when available, are at the heart of the Reasonable Use Doctrine, it applies broadly to issues concerning diversion, delivery, and use of water. In particular, the doctrine may apply to an unreasonable method of diversion, even in the absence of any assertion that diverted water has been wasted or unreasonably used. For example, the Shasta Temperature Order (State Water Board Order 90-5) effectively required the construction of an $80 million temperature control device at Shasta Dam so that appropriate temperatures could be maintained downstream of the dam to protect the fishery.

A common theme of these proceedings before the State Water Board and the courts is their adjudicative nature. They are typically proceedings involving disputes between parties, where one is claiming an injury due to an unreasonable use of water. However, as can be seen from the authorities cited above, the Reasonable Use Doctrine may be used more broadly to promote the efficient use of water.

PROMOTING EFFICIENT AGRICULTURAL WATER USE

California is one of the most productive agricultural regions in the world. Many, if not most, of the state's farmers are engaging in efficient water use. Because the agricultural sector accounts for a large portion of the state's developed water, efficiency improvements on a relatively small percentage of farms can result in significant water use reductions. Practices that reduce consumptive water use can result in true water savings. There are proven measures and technologies available now to make agricultural water use more efficient. Many are already being employed in California and studies have shown that they work to reduce water use. Persons who do not employ some or all of these technologies, where they are economically justifiable, locally cost effective and not harmful to downstream agriculture and other environmental needs, are simply using water unreasonably.

1) More Efficient Water Practices Are Available Now

While the relationship between on-farm irrigation efficiency and true basin-wide water conservation is complex, it is clear that employment of the right mix of efficiency improvements will result in water savings, especially if such efficiency practices are employed basin-wide. There are many ways to deliver and use water more efficiently in widespread use today. Efficient agricultural water use and delivery practices include: weather-based and deficit irrigation scheduling, water distribution systems that can supply water to farmers "on-demand", and improved irrigation methods, such as substituting drip and sprinkler irrigation for flood irrigation. Employing a mix of such measures on just a fraction of additional irrigated land could save substantial amounts of water.

The benefits of more efficient water use are many, to include:
1) Reduced water use
2) Increased yields
3) Reduced return flow which enhances water quality
4) Reduced energy use
5) Reduced need to purchase more expensive water

2) Water System Improvements at the Water Delivery Stage

There are common water delivery practices that appear to fail the Reasonable Use Doctrine. Once such practice is the inefficiency of many of the state's water delivery systems. Such delivery systems can present obstacles to on-farm conservation efforts. Many such systems are older and lack the flexibility to provide "on-demand" irrigation deliveries at the times water can be used most efficiently. Without such flexibility, farmers are unable to make best use of irrigation scheduling to reduce water use.

A grower who can obtain irrigation district water whenever he or she wants it with good service has the flexibility to employ more efficient water use practices. In fact, farmers may be unable to even use a more efficient irrigation method, such as drip

irrigation, if there is not flexibility in the irrigation delivery by the irrigation district. Many farmers must continue to use a gravity type irrigation method such as flood irrigation because water can only be delivered rotationally (e.g. every 2 weeks or other arranged delivery schedule). Other farmers who switch to drip have chosen to use groundwater from wells to ensure "on-demand" delivery. In many cases, more flexible delivery service to the fields is the key to improved efficiency. Irrigation delivery modernization should therefore be promoted as part of a reasonable water use program.

3) More Efficient Irrigation Practices Can Reduce Consumptive Water Use

Some say that more efficient agricultural water use will result in little overall conservation because of losses in return flow and percolation to groundwater that can be used by downstream users. Because "wasted" water is often reused downstream, there are limits to true water savings that can be achieved. However, if there are widespread conservation efforts on a basin-wide basis, there is less reliance on return flows.

To make water available for additional use or transfer, there must be a net savings, not just a reduction in gross diversions. However, many efficiency practices can be employed in ways to reduce consumptive (irretrievable) water use. More efficient water use will result in reductions in return flows. Water can be saved by reduced evapotranspiration (ET) from crops themselves, and from soil. To determine consumptive water savings from efficiency improvements, a comparison of the amount of water applied, reductions in ET, and amounts of runoff and percolation must be performed on a pre and post project basis.

It is important to "follow the water" to determine what the true water savings are. By measuring how much of the applied water is consumed by the crops (crop ET), how much is non-beneficially consumed (weeds & soil evaporation) and how much runs off the fields or percolates into the ground, one can calculate actual water savings.

The following efficiency practices can reduce ET by crops and evaporation from the irrigation and delivery systems:

1) Irrigating only when necessary (e.g. regulated deficit irrigation by intentionally reducing irrigation of crops during stress-tolerant growth stages)
2) More efficient scheduling of water applications (use of weather data to decide when and how much to irrigate)
3) Irrigation systems which reduce ET from soil moisture (e.g. subbing drip irrigation for flood irrigation)
4) Better management of existing irrigation delivery systems (e.g. methods to reduce water sitting in the systems or the fields)
5) Switching to varieties of crops that consume less water (e.g. there are varieties of cotton or almond trees that use less water). Switching to different crops that use less water while having the potential to save water, is heavily dependent on market conditions and, as such is not considered in this report.

All of these practices are being employed in California today, more often in areas where water is expensive. They are reasonable and should be used more widely in areas where water is less expensive and where reductions in return flows do not cause unreasonable basin-wide impacts.

4) Water Quality Benefits Derive From More Efficient Water Use

Other benefits to improved agricultural efficiency are significant. Chief among them is the water quality benefit of reducing agricultural return flows. Agricultural runoff contains pollutants such as salts, pesticides, and selenium. Leaving water instream will lower the amount of pollutants coming off fields. Another benefit of reduced return flows is the increased instream flows in the area between where water is diverted and where it returns to a watercourse via return flow. These benefits must be balanced against the non-crop benefits associated with agricultural water use, including the wildlife habitat benefits of flooded fields. The benefits of return flow in reducing salts from certain areas must also be recognized.

5) Encouraging Transfers Of Conserved Water

In addition to employing the Reasonable Use Doctrine to promote more efficient water use, more efficient water use can be encouraged by making the transfer of conserved water easier. California has statutory measures to promote the transfer of conserved water. Water Code secs. 1011 et seq. protect the water rights of persons who conserve water and authorize the transfer of conserved water. The opportunity to sell conserved water may provide a financial incentive for more efficient water use and should be encouraged. Of course, transfers should not be considered where the water user is subject to a waste or unreasonable use proceeding. Otherwise, the user would be rewarded for wasting water. One way to encourage conserved water transfers is to facilitate the demonstration of water conservation. Development of standard methods of calculating savings from water conservation practices would serve both to simplify the processing of transfer petitions and to improve incentives to conserve.

In 2009, a study was conducted to calculate the water savings obtained by fallowing a 4,000 acre tract of land on the Delta. (2009 WebbTract Water Transfer Pilot Study.) The study concluded that a substantial amount of water had been conserved. Based on this study, a petition to transfer up to 4,500 acre-feet was filed with the State Water Board. While the petition was withdrawn because of a physical inability to transfer the water, the matter demonstrates the potential for the transfer of conserved water.

It may be beneficial to conduct an additional pilot study or studies regarding how much water is saved in the following situations:

1) Converting a field to more efficient irrigation practices (e.g. flood irrigation to drip or sprinkler irrigation)
2) Switching to a different variety of a crop type that uses less water
3) Irrigation delivery system improvements
4) Irrigation Scheduling Programs

A goal of such studies would be to develop a streamlined way to calculate any savings, thus easing the burden of supporting a transfer request.

To conclude, more efficient and reasonable agriculture practices have the potential to enhance flows, reduce contaminants, and minimize fish losses. The Reasonable Use Doctrine can be used to promote such practices. Easing requirements on the transfer of conserved water can also encourage more efficient water use.

THE REASONABLE USE DOCTRINE AS AUTHORITY TO REQUIRE MORE EFFICIENT USE OF WATER: RECOMMENDATIONS

A. The State Water Resources Control Board Should Convene A Reasonable Water Use Summit

It is recommended that the State Water Board conduct a hearing(s) regarding the best ways to use the Reasonable Use Doctrine to promote more efficient use of water in the agricultural sector. Review and comments on the recommendations listed below would be a focal point of the hearing(s). Some of the recommended measures may be appropriate for "early action" employment ahead of such hearing(s). Legislation or regulation may be needed for others.

It may be beneficial to break the Summit into separate discussion topics (e.g. one on delivery system improvements and one on on-farm improvements).

B. Specific Recommendations

1) Create a Reasonable Water Use Unit Within the State Water Resources Control Board's Division Of Water Rights

The Budget Act of 2009 included funding for 25 permanent positions in support of water rights enforcement (Item 3940-001-0439 of Section 2.00). A sizable portion of these positions should be used to create a Reasonable Water Use Unit. The mission of the new unit would be to enforce the prohibition against the waste or unreasonable use of water. Its focus should be on using the Reasonable Use Doctrine to promote more efficient use of water in a wide variety of settings.

2) Streamline the Procedures for Enforcement Actions Against Waste and Unreasonable Use

Current law encompasses a cumbersome multi-step process before anyone could be fined for wasting or unreasonably using water:

1) An initial investigation
2) A hearing to determine, if misuse has occurred
3) Issuance of an order requiring correction of the misuse
4) Violation of the order on misuse
5) A hearing for a Cease and Desist Order (CDO)
6) Issuance of a CDO
7) Violation of the CDO
8) A hearing for Administrative Civil Liability (ACL)
9) Issuance of an ACL Order

Current regulations or statutes should be amended to start with the issuance of a Cease and Desist Order.

3) Conduct One or More Adjudicatory Proceeding(s) Regarding Inefficient Agricultural Water Use

As called for in the Delta Strategic Workplan, an enforcement action should be commenced to address an unreasonable agricultural use of water where such use is higher than similar uses in similar locations or circumstances. As called for in the Workplan, a case would be identified and pursued where excessive agricultural water use is lost through evaporation or flows to a saline sink.

4) Employ The Reasonable Use Doctrine To Promote More Efficient Agricultural Water Use Or Methods Of Use

a) Water Delivery System / Irrigation Scheduling Improvements

Operators of irrigation water delivery systems should be required to develop and implement plans to enable farmers to receive irrigation water "on-demand." While Water Code sec. 10608.48, subdivisions (c)(5) apply such a requirement to large systems, smaller systems would be included. Such plans could include expansion of distribution systems and construction of regulatory reservoirs. Financial incentives, in the form of grants to irrigation districts for modernization, should be developed. The goal is to enable irrigation districts to update their infrastructure and operation so that more efficient water use may take place.

b) Diverters Of Water For Agricultural Use Should Be Asked To Evaluate And Implement Appropriate Conservation Practices

There are existing laws which encourage more efficient agricultural water use. Water Code secs. 10520-10523, 10608.48, 10800. One program, The Agricultural Water Conservation and Management Act of 1992, applies to the state's Department of Water Resources and other public agencies that supply water for agricultural use. Water conservation or efficient management programs are voluntary. Water Code sec. 10522. More recent provisions, enacted as part of the 2009 Water Reform Legislation, require agricultural water suppliers to develop efficient water management plans. Water Code secs. 10608.4, 10608.48, 10802. Agricultural water suppliers are defined as water suppliers, either publicly or privately owned, providing water to 10,000 or more irrigated acres. There are limitations to this new program which will be overseen by the Department of Water Resources (DWR): individual farmers are not required to evaluate and implement more efficient practices, DWR does not have authority to disapprove or criticize agricultural water management plans, and, except for larger suppliers, plans do not even have to be implemented unless outside funding is provided.

Consistent with the Reasonable Use Doctrine, individual farmers should also look at their agricultural activities to evaluate whether more efficient practices are appropriate. Many farmers have already done so. To validate such efforts

and to encourage all farmers to look at more efficient water use, persons who are required to submit Statements of Diversion and Use pursuant to Water Code secs. 5100 et seq. should be asked to submit an addendum regarding efficient water use. The request for an addendum could include review of a checklist of potential efficiency practices that the diverter would evaluate for possible application at the "on-farm" level. Such a checklist could include an evaluation of practices as: changing the variety of crops grown, changing the type of irrigation method, and use of scheduling and/or deficit irrigation practices. The checklist would allow for recognition of diverters who are already employing efficient irrigation practices and give credit for prior investments in such conservation efforts. Standard conditions contained in State Water Board permits and licenses already require a minimal evaluation of conservation measures. This evaluation can be made more comprehensive and applied to all diverters.

5) A Pilot Study(s) Regarding Conserved Water Transfers Should Be Encouraged

Similar to the 2009 Fallowing Studies discussed above, a pilot project(s) could be performed to calculate how much consumptive water savings results from changed irrigation practices and/or changed cropping patterns on a given tract of land. Use of State Water Board bond funds should be considered for such a Pilot Study. The purposes of such a study would be to determine how much water is conserved and to develop a streamlined method for calculating such savings.

6) Applicable Statewide Plans Should Be Revised To Include Provisions Regarding The Efficient Use Of Water

It is recommended that the Delta Stewardship Council's Delta Plan, the Delta Protection Commission's Land Use and Resource Management Plan and the State Water Board's Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay Delta Plan) all contain provisions supporting the efficient use of water.

7) Maximize Use Of State Water Resources Control Board Bond Funds And Other Funding Programs For Agricultural Efficiency Projects

The State Water Board should maximize the use of its Agricultural Drainage and Agricultural Water Quality Funding Programs (Props. 204, 40, and 50) to promote agricultural efficiency projects that have water quality benefits.

Additional funding opportunities for agricultural water efficiency projects are available at the federal level. For example, the United States Bureau of Reclamation and the Natural Resources Conservation Service have recently announced they are working together to leverage federal monies for Bay-Delta Agricultural Water Conservation and efficiency Projects under the WaterSMART program.

CONCLUSIONS

1) Inefficient Water Use is unreasonable water use.

2) The State Water Resources Control Board should convene a Reasonable Use Summit with a focus of promoting more efficient agricultural water delivery and use.

3) Specific recommendations contained in this report should be considered at the Summit and/or employed as early actions.

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Craig Wilson

Delta Watermaster

Water Code Section 85230

(d) The Delta Watermaster shall submit regular reports to the board and the council including, but not limited to, reports on water rights administration, water quality issues, and conveyance operations.

Water Code Section 85021

- The policy of the state of California is to reduce reliance on the Delta in meeting California's future water supply needs through a statewide strategy of investing in improved regional supplies, conservation, and water use efficiency.

Water Code Section 85023

- The longstanding constitutional principle of reasonable use and the public trust doctrine shall be the foundation of state water management policy and are particularly important and applicable to the Delta.

Water Code Section 85303

- The Delta Plan shall promote statewide water conservation, water use efficiency, and sustainable use of water.

Why This Report

- Importance of Reasonable Use Doctrine
- Agricultural sector
  - Uses much water
  - Leads nation in efficiency practices
  - Incremental increases in efficiency will save water

Relevance of Report to the Delta

- More efficient use upstream can increase flows into the Delta
- More efficient use within the Delta can increase Delta outflows
- Water quality benefits of reducing agricultural return flow

The Reasonable Use Doctrine

- The Law
  - State Constitution
  - State Statutes
  - Court Decisions
  - Board Decisions/Plans
- The Doctrine
  - All water use, regardless of the type of right, must be reasonable
  - State shall take all appropriate action to prevent the unreasonable use of water

Efficient Water Use

- Again, statutes and case law require and encourage efforts to:
  - Improve efficiency
  - Improve Irrigation Management Practices
  - Reduce saline or polluted drainage water

Conclusion:

- Inefficient water use is unreasonable water use

Application of Reasonable Use Doctrine

- Historically has been reactive
- Doctrine may be used more broadly to promote efficient water use

Promoting Efficient Agricultural Water Use

- Many, if not most, of the state's farmers are engaging in efficient water use
- More efficient practices are in use, are proven and save water
- Use Doctrine to promote more widespread application

Benefits of More Efficient Water Use

- Reduced water use
- Reduced return flow (water quality)
- Reduced need to purchase more expensive water
- Increased yields
- Reduced energy use

Ways to Use Water More Efficiently

- Consumptive water use reductions are key
- Practices that reduce consumptive use by reducing evaporation and evapotranspiration (ET)
  - Improved delivery systems (water on demand)
  - Irrigating only when necessary
  - More efficient scheduling of water use
  - Crops varieties that use less water
  - Irrigation systems that reduce ET

Specific Recommendations

- Convene a Reasonable Water Use Summit
- Create a Reasonable Use Unit
- Streamline Enforcement
- Conduct Proceeding(s) regarding inefficient water use
- Promote modernization of water delivery systems
- Evaluate conservation practices at on-farm level
- Look at transfers of conserved water
- Financial Incentives

Conclusions

1) Inefficient water use is unreasonable water use

2) Convene a Summit

3) Consider recommendations at the Summit and/or employ as early actions