



State Legislative  
Water Policy  
Resolutions  
of the  
Board of Directors  
of the  
Arizona Municipal  
Water Users  
Association

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**RESOLUTION**

**A RESOLUTION OF THE BOARD OF  
DIRECTORS OF THE ARIZONA MUNICIPAL  
WATER USERS ASSOCIATION REGARDING**

**THE 1980 GROUNDWATER MANAGEMENT ACT, SAFE-YIELD AND  
THE GROUNDWATER TASK FORCE**

**WHEREAS**, the Arizona Municipal Water Users Association represents the Cities of Chandler, Glendale, Goodyear, Mesa, Peoria, Phoenix, Scottsdale, Tempe, and the Town of Gilbert in the development of urban water policy for Maricopa County; and

**WHEREAS**, the 1980 Groundwater Management Act established the goal of safe-yield---a long-term balance by 2025 between the amount of groundwater withdrawn and the amount replenished---for the Phoenix Active Management Area; and

**WHEREAS**, safe-yield will not be achieved so long as groundwater mining or residual pumping continues in the Phoenix Active Management Area; and

**WHEREAS**, the Arizona Department of Water Resources has projected that the Phoenix Active Management Area will not be at safe-yield in 2025; and

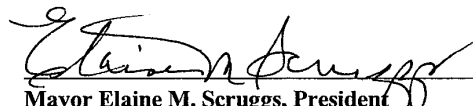
**WHEREAS**, a Groundwater Task Force will be established to, among other things, review the issues associated with ways to maximize the likelihood of achieving safe-yield, the tools needed to manage water on a more localized basis and the appropriateness of developing additional regulatory incentives.


**NOW, THEREFORE, BE IT RESOLVED** by the Board of Directors of the Arizona Municipal Water Users Association that the Association urges the Arizona State Legislature to recognize that all efforts to repeal or amend, directly or indirectly, the safe-yield management goal for the Phoenix Active Management Area is premature until the recommendations of the Groundwater Task Force can be considered; and

**BE IT FURTHER RESOLVED** that the Arizona State Legislature require that those who propose changes to the 1980 Groundwater Management Act prior to consideration of the recommendations of the Groundwater Task Force **must** address the following:

1. What might the proposed change do in terms of groundwater mining or residual pumping? Will it be increased? Decreased? Or will the proposed change have little or no impact on the level of groundwater mining or residual pumping?
2. What might the proposed change mean for the achievement of safe-yield? Will it be more difficult? Easier? Or will the proposed change have little or no impact on the achievement of safe-yield?
3. If groundwater mining or residual pumping will be increased and the achievement of safe-yield made more difficult by the proposed change, why is that justified? Are any mitigation measures proposed?
4. Will other persons or water users be affected by the proposed change, and if so, how?

**DATED THIS 13TH DAY OF JANUARY 2000**

  
\_\_\_\_\_  
Mayor Elaine M. Scruggs, President  
Arizona Municipal Water Users Association

**ATTEST:**  
  
\_\_\_\_\_  
Roger S. Manning, Executive Director  
Arizona Municipal Water Users Association

**RESOLUTION**

**A RESOLUTION OF THE BOARD OF  
DIRECTORS OF THE ARIZONA MUNICIPAL  
WATER USERS ASSOCIATION REGARDING**

**AGRICULTURAL WATER CONSERVATION AND FLEXIBILITY ACCOUNTS**

**WHEREAS**, the Arizona Municipal Water Users Association represents the Cities of Chandler, Glendale, Goodyear, Mesa, Peoria, Phoenix, Scottsdale, Tempe, and the Town of Gilbert in the development of urban water policy for Maricopa County; and

**WHEREAS**, the Arizona Department of Water Resources establishes a maximum annual groundwater allotment for each farm in the Phoenix Active Management Area; and

**WHEREAS**, the 1980 Groundwater Management Act provides each farm with a Flexibility Account to smooth out the vagaries of agricultural market conditions and the vagaries of weather by allowing the unlimited accumulation of groundwater credits which the farmer can then use to exceed, without penalty, his assigned maximum annual groundwater allotment; and

**WHEREAS**, many farmers have accumulated large amounts of groundwater credits in their Flexibility Accounts by letting the land lie fallow; and

**WHEREAS**, many farmers have also accumulated large amounts of groundwater credits in their Flexibility Accounts because the maximum annual groundwater allotment for some farms was higher than the average annual historical water use on those farms; and

**WHEREAS**, all water users should be concerned that rather than implement water conservation measures, many farmers may simply use up their accumulated credits or sell them to another farmer in the same irrigation district or groundwater subbasin; and

**WHEREAS**, many farmers may have accumulated more groundwater mining credits in their Flexibility Accounts than they can ever use or sell for agricultural use; and

**WHEREAS**, some farmers, therefore, want the right to market for non-agricultural use the groundwater mining credits in their Flexibility Accounts, which in the Phoenix Active Management Area alone now totals over 6.3 million acre feet of groundwater; and

**WHEREAS**, the sale of groundwater mining credits in Flexibility Accounts for non-agricultural use will increase groundwater mining, make the achievement of safe yield more difficult and deplete the Active Management Area's drought reserves because these credits represent groundwater that was not used in the first place, not groundwater that would otherwise have been withdrawn and used like that in an in lieu recharge project.

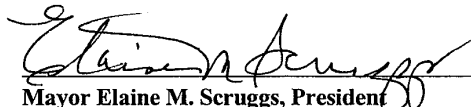
**NOW, THEREFORE, BE IT RESOLVED** by the Board of Directors of the Arizona Municipal Water Users Association that the Association urges the Arizona State Legislature to:

1. Disallow the accumulation of Flexibility Account groundwater credits when land is left fallow.
2. Limit the amount of credits that may be accumulated to fifty per cent of the farm's maximum groundwater allotment so that the Flexibility Account will not be a mechanism that provides a farmer with the ability to avoid water conservation.
3. Refuse to amend the Groundwater Code to allow the sale of Flexibility Account groundwater mining credits for any non-agricultural use, including demonstrating assured water supplies and fulfilling replenishment obligations, or meeting a non-agricultural water conservation requirement because groundwater mining will increase, the achievement of safe yield will be made more difficult and the drought reserves of Active Management Areas will be depleted.

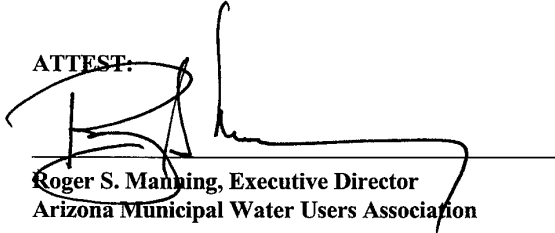
**AND BE IT FURTHER RESOLVED** by the Board of Directors of the Arizona Municipal Water Users Association that the Association, absent any meaningful statutory changes in the structure and operation of Flexibility Accounts, recommends that the Legislature:

1. Allow the Arizona Department of Water Resources to significantly reduce its efforts in agricultural water conservation in the Phoenix Active Management Area based on groundwater allotments and irrigation water duties since the Arizona Department of Water Resources has indicated that the number of Flexibility Account credits accumulated so far will likely mean that the majority of farmers will not need to implement any conservation measures to meet the water conservation requirements of the 1980 Groundwater Management Act; and
2. Require the Arizona Department of Water Resources, in cooperation with the Arizona Department of Agriculture and the Arizona Department of Environmental Quality, to develop a voluntary, alternative agricultural conservation program for inclusion in the Third Management Plan based on the use of best management practices in agricultural water conservation.

**DATED THIS 13TH DAY OF JANUARY 2000**

  
\_\_\_\_\_  
**Mayor Elaine M. Scruggs, President**  
**Arizona Municipal Water Users Association**

**ATTEST:**

  
\_\_\_\_\_  
**Roger S. Manning, Executive Director**  
**Arizona Municipal Water Users Association**

**RESOLUTION**

**A RESOLUTION OF THE BOARD OF  
DIRECTORS OF THE ARIZONA MUNICIPAL  
WATER USERS ASSOCIATION REGARDING**

**GROUNDWATER WITHDRAWAL FEE: ADMINISTRATION AND ENFORCEMENT**

**WHEREAS**, the Arizona Municipal Water Users Association represents the Cities of Chandler, Glendale, Goodyear, Mesa, Peoria, Phoenix, Scottsdale, Tempe, and the Town of Gilbert in the development of urban water policy for Maricopa County; and

**WHEREAS**, the groundwater withdrawal fee or pump tax is set and levied by the Director of the Arizona Department of Water Resources on each acre foot of groundwater withdrawn and beneficially used in an Active Management Area; and

**WHEREAS**, one of the purposes of the withdrawal fee is to raise fifty percent or one-half of the revenues required by the Director to exercise his administration and enforcement responsibilities under the 1980 Groundwater Management Act; and

**WHEREAS**, legislation passed in 1996 delayed imposition of the administration and enforcement withdrawal fee until 2017 and set the fee at a maximum of \$1 per acre foot; and

**WHEREAS**, the amount needed today to cover fifty percent of DWR's expenses for groundwater code administration and enforcement in the Phoenix Active Management Area is probably closer to \$4 per acre foot; and

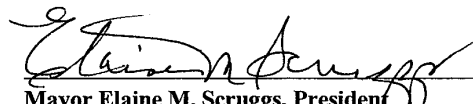
**WHEREAS**, the Director's administration and enforcement responsibilities will continue to grow, not shrink; and


**WHEREAS**, the withdrawal fee is a method to reduce groundwater mining or residual pumping because the higher the cost of groundwater the more efficient the use; and

**WHEREAS**, the withdrawal fee provides an incentive to use renewable water supplies like Central Arizona Project water because to the extent the fee increases the cost of groundwater, use of an alternative supply becomes more economically attractive.

**NOW, THEREFORE, BE IT RESOLVED** by the Board of Directors of the Arizona Municipal Water Users Association that the Association urges the Arizona State Legislature to authorize the Director of the Arizona Department of Water Resources to set the administration and enforcement withdrawal fee each year for each Active Management Area at an amount sufficient to finance half the estimated costs for administering and enforcing the 1980 Groundwater Management Act for that Active Management Area.

**DATED THIS 13TH DAY OF JANUARY 2000**

  
\_\_\_\_\_  
**Mayor Elaine M. Scruggs, President**  
**Arizona Municipal Water Users Association**

**ATTEST:**  
  
\_\_\_\_\_  
**Roger S. Manning, Executive Director**  
**Arizona Municipal Water Users Association**

**RESOLUTION**

**A RESOLUTION OF THE BOARD OF  
DIRECTORS OF THE ARIZONA MUNICIPAL  
WATER USERS ASSOCIATION REGARDING**

**GROUNDWATER WITHDRAWAL FEE: AUGMENTATION AND CONSERVATION ASSISTANCE**

**WHEREAS**, the Arizona Municipal Water Users Association represents the Cities of Chandler, Glendale, Goodyear, Mesa, Peoria, Phoenix, Scottsdale, Tempe, and the Town of Gilbert in the development of urban water policy for Maricopa County; and

**WHEREAS**, the groundwater withdrawal fee or pump tax is set and levied by the Director of the Arizona Department of Water Resources on each acre foot of groundwater withdrawn and beneficially used in an Active Management Area; and

**WHEREAS**, one of the purposes of the withdrawal fee is to raise revenues in order to provide all water users in the Phoenix Active Management Area with financial and technical resources and assistance in the development and implementation of conservation programs, augmentation programs, and programs designed to monitor hydrologic conditions and to assess water availability; and

**WHEREAS**, providing financial and technical resources and assistance in the development and implementation of conservation and augmentation programs for water users in the Phoenix Active Management Area will reduce groundwater mining or residual pumping and facilitate achievement of the safe-yield management goal; and

**WHEREAS**, the Director of the Arizona Department of Water Resources has included a Water Management Assistance Program for conservation and augmentation assistance in the Third Management Plan covering the decade 2000-2010; and

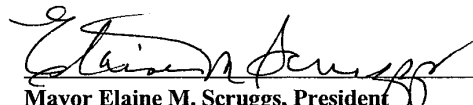
**WHEREAS**, the augmentation and conservation assistance withdrawal fee is statutorily limited to a maximum of only \$.50 per acre foot and in the Phoenix Active Management Area it is set at only \$.25 per acre foot; and

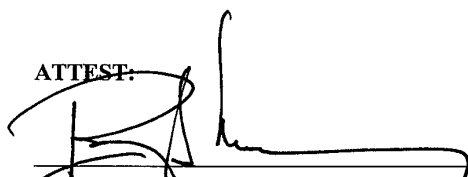
**WHEREAS**, the withdrawal fee is a method to reduce groundwater mining or residual pumping because the higher the cost of groundwater the more efficient the use; and

**WHEREAS**, the withdrawal fee provides an incentive to use renewable water supplies like Central Arizona Project water because to the extent the fee increases the cost of groundwater, use of an alternative supply becomes more economically attractive.

**NOW, THEREFORE, BE IT RESOLVED** by the Board of Directors of the Arizona Municipal Water Users Association that the Association urges the Arizona State Legislature to authorize the Director of the Arizona Department of Water Resources to set the augmentation and conservation assistance withdrawal fee for the Phoenix Active Management Areas at an amount not less than \$2 and not greater than \$5 per acre foot.

**DATED THIS 13TH DAY OF JANUARY 2000**

  
\_\_\_\_\_  
**Mayor Elaine M. Scruggs, President**  
**Arizona Municipal Water Users Association**

**ATTEST:**  
  
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**Roger S. Manning, Executive Director**  
**Arizona Municipal Water Users Association**

**RESOLUTION**

**A RESOLUTION OF THE BOARD OF  
DIRECTORS OF THE ARIZONA MUNICIPAL  
WATER USERS ASSOCIATION REGARDING**

**GROUNDWATER WITHDRAWAL FEE: ARIZONA WATER BANK**

**WHEREAS**, the Arizona Municipal Water Users Association represents the Cities of Chandler, Glendale, Goodyear, Mesa, Peoria, Phoenix, Scottsdale, Tempe, and the Town of Gilbert in the development of urban water policy for Maricopa County; and

**WHEREAS**, the groundwater withdrawal fee or pump tax is set and levied by the Director of the Arizona Department of Water Resources on each acre foot of groundwater withdrawn and beneficially used in an Active Management Area; and

**WHEREAS**, one of the purposes of the withdrawal fee is to raise revenues to assist the Arizona Water Banking Authority in storing excess Central Arizona Project water to help meet the water management objectives of the Groundwater Code and implement the settlement of water rights claims by Arizona Indian communities; and

**WHEREAS**, the withdrawal fee for the Arizona Water Banking Authority is statutorily set at \$2.50 per acre foot; and

**WHEREAS**, a withdrawal fee for the Arizona Water Banking Authority set at only \$5 per acre foot would produce funds to purchase about 100,000 acre feet of excess Central Arizona Project water which is about twenty-five percent of the current overdraft in the Phoenix Active Management Area; and

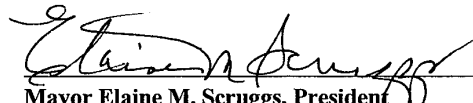
**WHEREAS**, all funds raised by the withdrawal fee for the Arizona Water Banking Authority may be used only for the benefit of the Active Management Area in which they were collected; and


**WHEREAS**, the withdrawal fee is a method to reduce groundwater mining or residual pumping because the higher the cost of groundwater the more efficient the use; and

**WHEREAS**, the withdrawal fee provides an incentive to use renewable water supplies like Central Arizona Project water because to the extent the fee increases the cost of groundwater, use of an alternative supply becomes more economically attractive.

**NOW, THEREFORE, BE IT RESOLVED** by the Board of Directors of the Arizona Municipal Water Users Association that the Association urges the Arizona State Legislature to authorize the Director of the Arizona Department of Water Resources to set the withdrawal fee for the Arizona Water Banking Authority at an amount not less than \$5 and not greater than \$10 per acre foot.

**DATED THIS 13TH DAY OF JANUARY 2000**

  
\_\_\_\_\_  
**Mayor Elaine M. Scruggs, President**  
**Arizona Municipal Water Users Association**

**ATTEST:**  
  
\_\_\_\_\_  
**Roger S. Manning, Executive Director**  
**Arizona Municipal Water Users Association**

**RESOLUTION**

**A RESOLUTION OF THE BOARD OF  
DIRECTORS OF THE ARIZONA MUNICIPAL  
WATER USERS ASSOCIATION REGARDING**

**GROUNDWATER WITHDRAWAL FEE: PURCHASE AND  
RETIREMENT OF GRANDFATHERED GROUNDWATER RIGHTS**

**WHEREAS**, the Arizona Municipal Water Users Association represents the Cities of Chandler, Glendale, Goodyear, Mesa, Peoria, Phoenix, Scottsdale, Tempe, and the Town of Gilbert in the development of urban water policy for Maricopa County; and

**WHEREAS**, the groundwater withdrawal fee or pump tax is set and levied by the Director of the Arizona Department of Water Resources on each acre foot of groundwater withdrawn and beneficially used in an Active Management Area; and

**WHEREAS**, one of the purposes of the withdrawal fee is to raise revenues to purchase and retire from use grandfathered groundwater rights in Active Management Areas; and

**WHEREAS**, the purchase and retirement of grandfathered groundwater rights reduces groundwater mining or residual pumping and facilitates achievement of the safe-yield management goal for the Phoenix Active Management Area; and

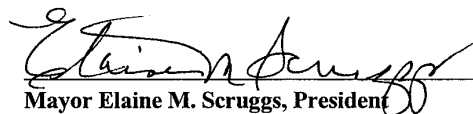
**WHEREAS**, the initial purchase and retirement withdrawal fee may not be levied before 1 January 2006 which reflects the belief in 1980 that urbanization of farmland might so significantly reduce the overdraft that waiting until 2006 to purchase and retire grandfathered groundwater rights was an acceptable risk; and


**WHEREAS**, in the Phoenix Active Management Area increased population projections and reduced estimates of the rate of farmland urbanization indicate that the achievement of safe-yield may require a significant purchase and retirement program and that waiting until 2006 to levy the purchase and retirement withdrawal fee may no longer be an acceptable risk; and

**WHEREAS**, the purchase and retirement withdrawal fee is statutorily limited to a maximum of only \$2 per acre foot which would not provide the funds necessary for a meaningful purchase and retirement program.

**NOW, THEREFORE, BE IT RESOLVED** by the Board of Directors of the Arizona Municipal Water Users Association that the Association urges the Arizona State Legislature to authorize the Director of the Arizona Department of Water Resources to set the purchase and retirement withdrawal fee at an amount not less than \$10 and not greater than \$20 per acre foot.

**DATED THIS 13TH DAY OF JANUARY 2000**

  
\_\_\_\_\_  
**Mayor Elaine M. Scruggs, President**  
**Arizona Municipal Water Users Association**

**ATTEST:**  
  
\_\_\_\_\_  
**Roger S. Manning, Executive Director**  
**Arizona Municipal Water Users Association**

**RESOLUTION**

**A RESOLUTION OF THE BOARD OF  
DIRECTORS OF THE ARIZONA MUNICIPAL  
WATER USERS ASSOCIATION REGARDING**

**GROUNDWATER WITHDRAWAL FEE: BENEFICIAL USE**

**WHEREAS**, the Arizona Municipal Water Users Association represents the Cities of Chandler, Glendale, Goodyear, Mesa, Peoria, Phoenix, Scottsdale, Tempe, and the Town of Gilbert in the development of urban water policy for Maricopa County; and

**WHEREAS**, the groundwater withdrawal fee or pump tax is set and levied by the Director of the Arizona Department of Water Resources **only** on each acre foot of groundwater withdrawn and **beneficially used** in an Active Management Area; and

**WHEREAS**, groundwater withdrawn for purposes of drainage or dewatering (non-beneficial uses) is thus exempt from the groundwater withdrawal fee; and

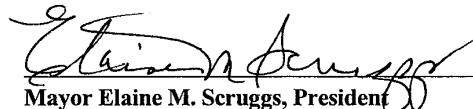
**WHEREAS**, it is unclear whether the Arizona Department of Water Resources considers all groundwater withdrawals, irrespective of beneficial use, as groundwater mining or residual pumping and thus as debits in the calculation of safe-yield; and

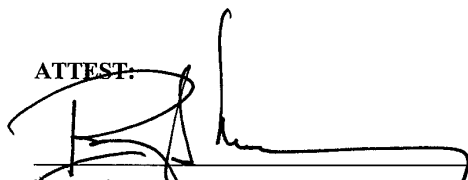
**WHEREAS**, the withdrawal fee facilitates the achievement of the safe-yield management goal; and

**WHEREAS**, it is extremely unlikely that groundwater withdrawn for non-beneficial purposes will ever be subject to the withdrawal fee.

**NOW, THEREFORE, BE IT RESOLVED** by the Board of Directors of the Arizona Municipal Water Users Association that the Association urges the Arizona State Legislature to support legislation that would remove from the calculation of safe yield all withdrawals of groundwater that are exempt from the withdrawal fee.

**DATED THIS 13TH DAY OF JANUARY 2000**

  
\_\_\_\_\_  
**Mayor Elaine M. Scruggs, President**  
**Arizona Municipal Water Users Association**

**ATTEST:**  
  
\_\_\_\_\_  
**Roger S. Manning, Executive Director**  
**Arizona Municipal Water Users Association**

ISSUE A. 1980 GROUNDWATER MANAGEMENT ACT: SAFE YIELD, THE THIRD MANAGEMENT PLAN AND THE GROUNDWATER TASK FORCE

The 1980 Groundwater Management Act

Responding to the hazards associated with groundwater overdraft or mining, i.e., withdrawing more groundwater than is recharged or replenished, and to federal policy linking continued funding of the Central Arizona Project (CAP) to effective and comprehensive groundwater regulation, the Arizona State Legislature enacted the 1980 Groundwater Management Act (Groundwater Code).

The Groundwater Code's declaration of policy states that, "The Legislature finds that...withdrawal of groundwater is greatly in excess of the safe annual yield and that this...is threatening to do substantial injury to the general economy and welfare of this state and its citizens....It is, therefore, declared to be the public policy of this state that...it is necessary to provide a framework for the comprehensive management and regulation of...groundwater in this state."<sup>1</sup> (emphasis added)

The framework for the comprehensive management and regulation of groundwater is found in a set of five groundwater management plans. "The plans shall include a continuing mandatory conservation program...designed to achieve reductions in withdrawals of groundwater."<sup>2</sup> (emphasis added)

These sections of the 1980 GMA encompass the basic objectives of AMWUA's **municipal** groundwater management philosophy---the achievement of safe yield and an end to groundwater mining or residual pumping in the Phoenix Active Management Area (AMA).

Safe Yield

Safe yield is a hydrologic management goal which aims to achieve by 2025 a long-term balance between the amount of groundwater mined and the amount of water artificially, naturally and incidentally recharged or replenished. Under safe yield conditions, groundwater users in the Phoenix AMA can normally depend upon withdrawing only that amount of groundwater which has been or will be replenished. Groundwater in excess of that which has been replenished can be mined only when the renewable portion of the total water supply is inadequate to meet the then existing level of demand. To employ a banking metaphor, safe yield means that Phoenix AMA's capital (groundwater) is saved for emergencies (drought) and only the interest earned (amount of groundwater

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<sup>1</sup> A.R.S. Section 45-401.

<sup>2</sup> A.R.S. Section 45-563.

replenished) may be routinely spent. The achievement of safe yield means that future growth and development in the Phoenix AMA cannot rely on groundwater mining in the Phoenix AMA. Groundwater can be used, but only to the extent it is or will be replenished.

### Third Management Plan

On December 13, 1999 the Arizona Department of Water Resources (DWR) finally adopted its Third Management Plan (TMP) for the Phoenix AMA for the third management period, 2000 to 2010. The TMP is significant because the third management period constitutes the midpoint in the state's effort to achieve its groundwater management goal of safe-yield by 2025 for the Phoenix AMA. In the TMP, DWR provides evidence that "groundwater use in the Phoenix AMA currently exceeds the rate of natural and incidental recharge resulting in an overdraft of over 387,000 acre-feet per year."<sup>3</sup> And, " ...based on current projections of water demand and supply, the Phoenix AMA will not be at safe-yield in 2025."<sup>4</sup>

The main reasons for current and projected overdraft conditions are residual pumping, i.e., continued groundwater mining by all water using sectors, and underutilization of renewable water resources.

#### *Residual Pumping*

According to DWR, "...the contribution to overdraft by the non-Indian agricultural sector will remain substantial despite a decline in cropped acres. Additionally, groundwater use and the contribution to overdraft by the industrial sector will increase and become a greater relative concern. Significant improvement is found in the municipal sector, as municipal providers take steps to convert to largely renewable supplies in accordance with the Department's requirements under the AWS [Assured Water Supply] Rules. It is apparent that safe-yield cannot be achieved so long as the "residual pumping" by agricultural water users, industrial water users, and municipal demand not subject to assured water supply requirements...remains.<sup>5</sup> (emphasis added)

It is clear that the burden of reducing mined groundwater or residual pumping does not apply equitably to all water-using sectors. Nor, does it apply equitably within the municipal sector. "In the Phoenix AMA...approximately 139,000 acre-feet is associated with municipal users that have not applied for a Designation of Assured Water Supply. It will not be possible to reach safe-yield if this demand continues to be entirely with mined groundwater."<sup>6</sup>

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<sup>3</sup> Arizona Department of Water Resources. Third Management Plan for the Phoenix Active Management Area. Chapter 12, page 1.

<sup>4</sup> Ibid. Chapter 11, pages 18-24.

<sup>5</sup> Ibid. Page 25.

<sup>6</sup> Ibid. Chapter 5, page 5. A Designation of Assured Water Supply means that over time the water demand for both existing and new customers must be met with water supplies other than mined groundwater.

## *Underutilization of Renewable Water Resources*

Insofar as the concern is the underutilization of renewable water resources, the concern is justified, but AMWUA believes the future shows promise. For 1995, DWR estimated that about 35% of the effluent produced in the Phoenix AMA was reused.<sup>7</sup> AMWUA believes that today the percentage is closer to 50. It is probable that very few, if any, of the other major metropolitan areas in the country approach that level of reuse. Nevertheless, Phoenix AMA municipal effluent producers can and will do better.

With respect to the other major, underutilized renewable water resource, Central Arizona Project (CAP) water, the projected 1995-99 average annual use in central Arizona will be close to 1.16 million acre-feet out of a 1.5 million acre-feet annual supply. This 77% use rate after only about 10 years of water delivery is a major accomplishment of which the State should be justifiably proud. The municipal sector in the Phoenix AMA expects to fully use its CAP allocation well before 2025. Still, the Arizona water community can and must do better, especially since we want to do everything in our power to assist California to live within its entitlement.

AMWUA would be remiss to fail to note that the municipal sector is the only sector required to utilize renewable water supplies.<sup>8</sup> The majority of the municipal sector is required, through the AWS Rules, to develop and use renewable water supplies to meet significant percentages of demand and to sustain its future growth. Neither the industrial sector nor the agricultural sector nor certain existing water users within the municipal sector have such responsibilities. Current authorities do not allow DWR to require these residual pumpers to convert to renewable resources or assume a replenishment obligation for the groundwater they mine. A wide spectrum of Phoenix AMA water users have indicated that what is needed may not be more "requirements" but, instead, an effective program that provides positive incentives for all sectors to convert to renewable sources of water.

### Groundwater Task Force

In the TMP, DWR argues that "although safe-yield is an attainable goal, it is apparent that sufficient progress has not been made toward this goal, nor have the statutory and institutional structures necessary to succeed been fully established."<sup>9</sup> Furthermore, DWR contends that "the problems associated with achieving safe-yield, the need to educate the community on water issues, as well as the emergence of serious water management problems in certain localized areas within the AMA have led to the need to reassess the goals and tools available to attain them."<sup>10</sup>

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<sup>7</sup> Ibid. Chapter 12, page 4.

<sup>8</sup> Ibid. Page 2.

<sup>9</sup> Ibid. Page 1.

<sup>10</sup> Ibid. Page 2.

"Task forces may be established to review the issues associated with ways to maximize the likelihood of achieving safe-yield, the tools needed to manage water on a more localized basis, and the appropriateness of developing additional regulatory incentives. It may be necessary to develop both legislation and modifications to the management plan to adopt a comprehensive strategy that addresses these various concerns."<sup>11</sup>

AMWUA agrees that an examination of the Groundwater Code's regulatory framework is appropriate and timely. AMWUA, in concordance with the recommendation of the Auditor General,<sup>12</sup> strongly recommends that the Director initiate procedures to identify and establish a study commission or Groundwater Task Force to provide the public process and independent forum within which the AMAs' critical water management issues will be identified, addressed, consensus achieved and, as a result, new and improved policies, solutions and strategies eventually implemented.

In the meantime, AMWUA recognizes that efforts will, perhaps necessarily so, continue to amend the Groundwater Code. Until any Groundwater Task Force finishes its work and provides its recommendations, AMWUA and its members strongly believe that those who propose changes to the Groundwater Code must address the following:

1. What might the proposed change do in terms of groundwater mining or residual pumping? Will it be increased? Decreased? Or will the proposed change have little or no impact on the level of groundwater mining or residual pumping?
2. What might the proposed change mean for the achievement of safe yield? Will it be more difficult? Easier? Or will the proposed change have little or no impact on the achievement of safe yield?
3. If groundwater mining or residual pumping will be increased and the achievement of safe yield made more difficult by the proposed change, why is that justified? Are any mitigation measures proposed?
4. Will other persons or water users be affected by the proposed change? If so, how?

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<sup>11</sup> Ibid. Chapter 5, page 13.

<sup>12</sup> State of Arizona. Office of the Auditor General. Performance Audit of the Arizona Department of Water Resources. April, 1999. Report No. 99-8.

ISSUE B. AGRICULTURAL WATER CONSERVATION AND FLEXIBILITY ACCOUNTSAgricultural Water Conservation Requirements

The Groundwater Code limits agricultural water use in Active Management Areas (AMA) in two ways---it prohibits the development of new irrigated acreage and mandates compliance with conservation requirements. The Code requires that DWR "...assume the maximum conservation consistent with prudent long-term farm management practices within areas of similar farming conditions, considering the time required to amortize conservation investments and costs."<sup>1</sup> To implement this requirement DWR assigns each farm in an AMA a maximum annual groundwater allotment.

A farm's maximum annual groundwater allotment is calculated by multiplying the farm's irrigation water duty by its water duty acres. The irrigation water duty, expressed in acre feet per acre, is equal to the annual irrigation requirements of the crops grown on the farm between 1975 and 1980, divided by the farm's assigned irrigation efficiency. The water duty acres correspond to the highest, not the average, number of acres on the farm which were legally irrigated during any one year between 1975 and 1980. This figure is a constant. The maximum groundwater allotment (water duty x water duty acres) can then be used to irrigate any acres on the farm which were irrigated with any water at any time between 1975 and 1980. These acres are known as irrigation acres.

Farmers are required to manage their irrigation water in a manner that allows them to stay within their annual groundwater allotments. The Code, however, does not require them to install any particular conservation technologies such as laser leveling of fields or drip irrigation systems. Alternatives for staying within the annual groundwater allotment include: growing crops requiring less water than those historically grown, planting fewer acres, deficit irrigation and following more efficient irrigation water management practices. In addition, and perhaps most significant, the annual groundwater allotment can be met through the adroit management of the farm's "flexibility account."

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<sup>1</sup> A.R.S. Sections 45-565.A.1, 45-566.A.1.

## Flexibility Accounts

Based on the assumptions that agricultural market conditions and the vagaries of weather could affect the ability to farm within the annual groundwater allotment set by DWR, the Code established a flexibility account for each farm in an AMA.<sup>2</sup> A flexibility account allows a farmer to accrue groundwater credits whenever less water than the annual groundwater allotment is used. If the annual groundwater allotment is exceeded, debits are registered. While the debit balance may not exceed more than 50% of the annual groundwater allotment at any time, the amount of groundwater credits that may be deposited in the flexibility account is unlimited. Flexibility credits may be used at any time without regard to the annual groundwater allotment. Furthermore, any balance in the flexibility account is transferred from one year to the next and from one management period to the next.

In 1991, the Legislature amended the flexibility account statutes to provide limited marketability of flexibility account credits for agricultural use within irrigation districts. Only the amount of credits registered in the preceding calendar year could be sold by a farmer, and then only to another farmer within the same irrigation district thereby preserving, in some semblance, the doctrine of appurtenancy and the presumption of a common water supply. This limited marketability between farmers was extended in 1998 to farmers whose lands are not within an irrigation district but are within the same groundwater subbasin. Last session, the flexibility account statute was amended to clarify that flexibility account credits may not be transferred between AMAs but that credits registered in the previous two years, not just the preceding year, could be sold.

What information or data is available with respect to the magnitude and potential significance of flexibility account groundwater credit balances in the Phoenix AMA?

- As of the end of reporting year 1998, approximately 6.3 million acre feet of groundwater credits have been deposited in flexibility accounts in the Phoenix AMA.<sup>3</sup> It appears that the major reason for this accumulation is that the maximum annual groundwater allotment for many farms has exceeded the average annual historical water use on those farms. For various reasons, farmers have, on the average, so far annually used only about 60% of their allotment. Indeed, the average annual use in Phoenix AMA irrigation districts averages less than the maximum annual amount of groundwater those districts are allotted for use in 1999, the last year of the second management period.

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<sup>2</sup> A.R.S. Section 45-467.

<sup>3</sup> Arizona Department of Water Resources. 1998 Flexibility Account Balances.

- As of the end of reporting year 1998, only 27 out of the 3,273 IGFRs regulated in the Phoenix AMA had a positive debit balance. Of these 27, only 7 had accumulated debits in excess of the maximum permitted, for a total of 258.42 acre feet of debits.<sup>4</sup>

- As of the end of reporting year 1998, over 510,000 acre feet of credits were available for sale to farmers.<sup>5</sup>

- Credit accumulation will continue. The Phoenix AMA credit balance may approach 7 million acre feet by the end of 1999.

### Discussion

What implications can be drawn from this situation with respect to the Code's agricultural water conservation requirements and DWR's agricultural water conservation program? Clearly, it appears that the adroit management of a flexibility account has provided an enormous conservation loophole, i.e., flexibility accounts have been managed to provide de facto, permanent exemptions from the Code's agricultural water conservation requirements. In other words, rather than implement water conservation measures to meet the requirements of the Code, some farmers have simply drawn upon accumulated groundwater credits in their flexibility accounts or purchased such credits to keep within their individual maximum annual groundwater allotment. DWR agrees: "The Department has observed that some right holders buy flexibility account credits rather than make on-farm physical improvements to their fields to meet conservation requirements. The ability to accumulate and buy flexibility account credits enables a right holder to exceed the farm's annual groundwater allotment while remaining in compliance with the Agricultural Conservation Program requirements."<sup>6</sup> Indeed, DWR has estimated that the level of current agricultural use in the Phoenix AMA could be maintained for at least twenty years after the year 2000 by drawing upon the flexibility credits expected to be available by the end of 1999.

No other conclusion can be drawn than that after nearly 20 years of the Groundwater Code, agricultural water conservation as a consequence of the Code's requirements and DWR's management plans has been miniscule. To be sure, the agricultural sector is certainly using less water since 1980. For one thing, there are fewer acres being irrigated in the Phoenix AMA. For another, AMWUA believes that farmers are indeed saving water by practicing water conservation simply because doing so makes good economic sense. Wasting water is a waste of money. But there is

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<sup>4</sup> Ibid.

<sup>5</sup> Ibid.

<sup>6</sup> DWR. Third Management Plan for the Phoenix Active Management Area, Chapter 4, page 18.

scant evidence agriculture is using less water because of the Code's conservation requirements.

As for the future, agricultural conservation requirements in the Third Management Plan (TMP), 2000–2010, are the Second Management Plan's (SMP) final conservation requirements; the TMP embraces the status quo.<sup>7</sup> "As in the Second Management Plan, the Department is incorporating a Base Program under which the...final water duties assigned in the Second Management Plan are being carried forward into the third management period based on assigned irrigation efficiencies of 85 percent for most farms. For the Third Management Plan, the Department is also including an Irrigation Distribution Systems Conservation Program, which is essentially identical to the one established for the Second Management Plan. Unique to the Third Management Plan is the Historic Cropping Program, which is....similar to the Base Program, except that water duties are calculated using lower irrigation efficiencies [75%], and flexibility account provisions are limited."<sup>8</sup> DWR also believes that most farms will be able to remain within their maximum annual groundwater allotments during the third management period. "Accumulations of flexibility account credits are expected to continue but may be at a slower rate. Of the few farms that might experience problems, most could rely on the use or purchase of existing flexibility account credits to remain in compliance with their conservation requirements. For those having difficulty...the Historic Cropping Program...would be available under certain conditions."<sup>9</sup>

Farmers, unsurprisingly, disagree with DWR's data, analyses, projections, findings, and conclusions. First of all, they argue that complying with the TMP's water duties and maximum annual groundwater allotment is simply infeasible, as evidenced by Salt River Project's (SRP) recent filing of 792 requests for an administrative review of the SMP's final conservation requirements.<sup>10</sup> Because of extraordinary circumstances, primarily economic, SRP argues that the SMP's final maximum annual groundwater allotments (and, by implication, the TMP's as well) should be recalculated based on a

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<sup>7</sup> Maybe less than the status quo. The adopted TMP does not include the base agricultural 85% program. The Director of DWR decided to delay adopting this portion of the TMP in response to concerns raised by the agricultural community and a letter agreement between DWR and agricultural interests in the Phoenix and Pinal AMAs to focus their mutual efforts on developing workable agricultural conservation programs over the next two years. In the meantime, DWR will limit its enforcement actions to those cases that constitute violations of the second intermediate water duties that were established in the SMP, those that were set assuming an irrigation efficiency of, in most cases, 75%.

<sup>8</sup> Ibid., Chapter 4, page 22.

<sup>9</sup> Ibid., Chapter 4, page 19.

<sup>10</sup> As part of the letter agreement with DWR delaying adoption of the base program for the TMP, agricultural interests agreed to stay any pending requests for administrative review or variance proceedings with respect to SMP water duties. The farmers also agreed not to file any other challenges to conservation requirements until the base program for the TMP is adopted nor will they sponsor or support any major agricultural conservation program legislation without DWR's concurrence until the 2002 legislative session or the adoption of the base program.

maximum irrigation efficiency of 75%, not 85%.<sup>11</sup> Many farmers believe the future water conservation potential for agricultural users is extremely limited. If an agricultural water conservation practice is shown to make farming more profitable, then that practice would have already been widely adopted. But the economically viable conservation practices that exist today have already been put in place. Moreover, farmers object that nothing in the Code allows DWR to justify the economic achievability of water duties and maximum annual groundwater allotments based on flexibility account balance status. The economic reasonableness of water duties and maximum annual groundwater allotments should stand or fall on their own.

The agricultural community also contends that DWR's concern over the flexibility account credit balances is counterproductive, excessive and misdirected. Farmers admit the possibility that with an aggressive flexibility account bank and transfer program, they may be able to achieve the conservation requirements of the TMP but farmers "...and the Department will spend many, many hours administering this program, shuffling paper from one area to another to ensure that the columns and rows of data match and to ensure that farmers are in compliance..." all the while taking "...resources away from proactive processes and programs that could aid water users in reducing their actual use of groundwater."<sup>12</sup>

Farmers also assert that a significant portion of flexibility account groundwater credits were accrued on land fallowed because of federal programs and land fallowed awaiting sale for development. Significant amounts of groundwater credits are still being accumulated by farmers who have, for any number of reasons, quit farming. Credits tied to these lands will not be used and are really no more than paper credits, not wet water credits. In addition, it appears that the availability and use of spill water has been a major factor in the amount of credits earned on farms within SRP's water service area. It should be noted that credits for spill water use are very likely to decrease substantially because of the construction of Modified Roosevelt Dam.

Since these credits have been accrued by farmers that do not represent the type of farmer that will be farming in the Phoenix AMA in the years to come, the agricultural community contends that the accumulated groundwater credits mask the credit conditions of real farmers and are not the cushion against the TMP conservation requirements DWR claims. In fact, farmers argue the Phoenix AMA will no longer see flex credit accrual as in the past, but instead experience significant trends downward. Indeed, it is even possible that water use in the agricultural sector may increase and the rate of accumulation of flexibility account credits fall due to changes in market conditions and federal agricultural programs such as the 1996 Federal Agriculture

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<sup>11</sup> Letter from John F. Sullivan (SRP Associate General Manager) to Rita Pearson (DWR Director), September 23, 1999.

<sup>12</sup> Letter from John F. Sullivan (SRP Associate General Manager) to Rita Pearson (DWR Director), July 28, 1998, page 6.

Improvement and Reform Act (FAIR). FAIR represents a significant change in federal policy in that it, for example, severs production decisions from program payments and eliminates most planting restrictions. With land utilization rates rising, less credits will be accumulated. And if one is unable to farm at TMP requirements, flexibility account groundwater credits balances will fall if not disappear by the end of the third management period. SRP claims to have data which shows that as many as 64% of the farms within its water service area could exhaust all of their flexibility account credits during the third management period.<sup>13</sup>

The next few years should test the validity of the competing claims about the impact of flexibility account groundwater credits. But the fact remains that there are more groundwater credits in flexibility accounts than could ever be used under existing laws. According to the provisions of the Code, flexibility account groundwater credits may not be sold for a non-agricultural use and they literally evaporate when an irrigation grandfathered right is conveyed for a non-irrigation use. And that has now become the rub for some in the agricultural community. It is argued that flexibility account holders should have the right to market their groundwater credits for any use, including for use in demonstrating an assured water supply, fulfilling replenishment obligations or meeting TMP non-irrigation conservation requirements. To forbid such a practice, they reason, is tantamount to an unconstitutional infringement on private property rights, a "taking."

## RECOMMENDATIONS

It appears that during the third management period the majority of farmers will be able to continue to accrue more credits, be able to farm within their allotment or be able to use their accumulated credits to offset any excess water used beyond their annual maximum groundwater allotment. AMWUA harbors no illusions that the Code's flexibility account statutes will be legislatively rationalized with the SMP's or TMP's agricultural conservation requirements. The horse is long out of the barn. Flexibility account credits are likely to prove impossible to revoke and the chance of restricting the growth in flexibility account credit balances is extremely problematic. Nevertheless, AMWUA recommends that DWR, as the State's water management agency, assert its legitimacy and responsibility and urge the Legislature to:

1. Amend the Code's flexibility account statutes to limit the unbridled accumulation of groundwater credits. Flexibility account groundwater credits should not be registered when land is left fallow.
2. Resist any effort to establish a non-agricultural market in flexibility account groundwater credits. A fundamental premise of the Code is that groundwater saved is groundwater saved; groundwater not mined today is not groundwater to be sold for

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<sup>13</sup> Letter from David C. Roberts (SRP) to Mark Frank (Phoenix AMA), September 21, 1998, page 2.

mining tomorrow. If flexibility account groundwater credits are sold for assured water supply or replenishment purposes or to meet a non-irrigation water conservation requirement, groundwater mining would increase and the achievement of safe yield would be more difficult. It is important to remember that a flexibility account groundwater credit represents groundwater that was simply not withdrawn. It does not represent groundwater that would otherwise have been withdrawn and used like that in an in lieu recharge project.

3. Allow DWR, in cooperation with the Arizona Departments of Agriculture and Environmental Quality, to develop a voluntary, agricultural conservation program based on best management practices (BMP) consistent with prudent long-term farm management practices within areas of similar farming conditions, considering the time required to amortize conservation investments and financing costs. This program would be an alternative to the two existing agricultural water conservation programs, the Base Program and the Historic Cropping Program, which are both based on maximum annual groundwater allotments and irrigation water duties. Under the BMP Program, flexibility accounts would be eliminated as they would be irrelevant and unnecessary since there would be no annual groundwater allotments and irrigation water duties. Farmers who choose to enter the BMP Program would be able to grow any crop on any number of eligible acres.

ISSUE C. GROUNDWATER WITHDRAWAL FEE

The Arizona Department of Water Resources (DWR) recently adopted its Third Management Plan (TMP) for the Phoenix Active Management Area (AMA) for the third management period, 2000 to 2010. The TMP is significant because the third management period constitutes the midpoint in Arizona's effort to achieve its groundwater management goal of safe-yield by 2025 for the Phoenix AMA. In the TMP, DWR provides evidence that "groundwater use in the Phoenix AMA currently exceeds the rate of natural and incidental recharge resulting in an overdraft of over 360,019 acre-feet per year."<sup>1</sup> And, "...based on current projections of water demand and supply, the Phoenix AMA will not be at safe-yield in 2025."<sup>2</sup>

DWR argues that "although safe-yield is an attainable goal, it is apparent that sufficient progress has not been made toward this goal, nor have the statutory and institutional structures necessary to succeed been fully established."<sup>3</sup> AMWUA agrees that not only will additional legislation likely be necessary to achieve safe yield in the Phoenix AMA, but that those statutes currently in the Groundwater Code designed to assist in the achievement of safe yield are inadequate, inequitable and underutilized.

One such underutilized statutory structure in the Groundwater Code is the groundwater withdrawal fee.<sup>4</sup> The groundwater withdrawal fee or pump tax is set and levied by the Director of DWR on each acre foot of groundwater withdrawn and beneficially used in an Active Management Area (AMA). With respect to the achievement of safe yield, the pump tax is not only a method to reduce groundwater mining or residual pumping, it is an incentive to use renewable water supplies. Generally, the higher the cost of a natural resource, the more efficient the use. Moreover, to the extent the pump tax increases the cost of groundwater, use of an alternative, renewable supply like Central Arizona Project (CAP) water becomes more economically attractive. Reducing groundwater mining or residual pumping and use of renewable water supplies are obviously and indisputably important considerations in an AMA with a safe yield management goal.<sup>5</sup>

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<sup>1</sup> Arizona Department of Water Resources. Third Management Plan for the Phoenix Active Management Area. Chapter 12, page 1.

<sup>2</sup> Ibid. Chapter 11, pages 18-24.

<sup>3</sup> Ibid. Chapter 12, page 1.

<sup>4</sup> A.R.S. Section 45-611.

<sup>5</sup> If the pump tax is supposed to help achieve safe yield, then it should be levied immediately while groundwater withdrawals are relatively large. Why? Since the amount of the tax collected is directly related to the amount of groundwater withdrawn, the more successful everyone is in reducing withdrawals, the less the tax will collect to assist everyone in further reducing groundwater withdrawals to achieve safe yield. Catch 22.

A. Groundwater Withdrawal Fee

The withdrawal fee is comprised of four separate components:

1. Administration and Enforcement (A&E)

The purpose of the A&E pump tax is to raise revenues for DWR to use in exercising its A&E responsibilities under the Groundwater Code. The amount of the A&E pump tax fee is supposed to be set to produce an amount equal to one-half of the amount budgeted by the Director for A&E purposes in the Phoenix AMA, but in no event shall the fee exceed \$1 per acre foot per year. This rate is clearly inadequate considering that DWR's A&E responsibilities continue to grow, not shrink. Regardless, legislation passed in 1996 temporarily halted imposition of this fee until 2017.

RECOMMENDATION

AMWUA and its member cities should support legislation authorizing the Director of DWR to set the A&E fee at an amount sufficient to underwrite one-half of the Director's A&E budget. For budget year 1995, DWR estimated the amount at \$2.75 per acre foot for the Phoenix AMA. Today, the amount is probably closer to \$4 per acre foot.

2. Augmentation and Conservation Assistance (A&CA)

The A&CA pump tax funds DWR's Water Management Assistance Program (WMAP) which is designed to contribute to the achievement of the safe yield management goal for the Phoenix AMA by providing financial and technical resources and assistance in the development and implementation of conservation programs, augmentation programs, and programs designed to monitor hydrologic conditions and to assess water availability.<sup>6</sup> Conservation assistance may take the form of financial assistance to water users proposing to undertake conservation programs or planning and technical support designed to increase water use efficiencies among all water use sectors in the Phoenix AMA. Augmentation assistance may take the form of financial assistance to water users, providing them the means to study, design, and construct renewable resource facilities. Assistance may also take the form of planning and technical assistance designed to develop water management strategies. Monitoring activities include providing staff assistance and funds for water availability and subsidence monitoring studies. Generally, WMAP resources are focused on projects with the highest probability of contributing to the goal of safe yield.

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<sup>6</sup> DWR, Third Management Plan. Chapter 9.

The augmentation and conservation assistance (A&CA) pump tax may not exceed \$.50 per acre foot per year through 2016. For 2000, the A&CA pump tax is set at \$.25 per acre foot which, it is estimated, should only raise in the neighborhood of \$225,000 for the WMAP. After 2016, the A&CA pump tax may rise to \$2 per acre foot per year.

### RECOMMENDATION

AMWUA and its member cities should support legislation authorizing the Director of DWR to set the A&CA pump tax for the Phoenix AMA at an amount not less than \$2 and not greater than \$5 per acre foot. At \$2 per acre foot, DWR's WMAP could receive about \$1,800,000 annually with which to fund programs designed to achieve safe yield.

#### 3. Arizona Water Bank (AWB)

The purpose of the AWB pump tax is to assist the Arizona Water Banking Authority to achieve its purpose of storing excess CAP water in the AMA to help meet the water management objectives of the Groundwater Code and implement the settlement of water rights claims by Arizona Indian communities. The AWB pump tax is statutorily set at \$2.50 per acre foot per year and expires after 2016. In the Pinal AMA, groundwater used to irrigate lands outside of irrigation districts is assessed at a rate of \$.75 per acre foot per year beginning in 1997 rising in annual \$.25 increments until the \$2.50 rate is achieved. All funds raised by the AWB pump tax may be used only for the benefit of the AMA in which they were collected.

### RECOMMENDATION

AMWUA and its member cities should support legislation authorizing the Director of DWR to set the AWB pump tax for the Phoenix AMA at an amount not less than \$5 and not greater than \$10 per acre foot. At average Phoenix AMA pumping levels of 900,000 acre feet, a \$5 AWB pump tax would raise \$4,500,000, sufficient to purchase about 100,000 acre feet of excess CAP water which is about 25% of the current Phoenix AMA overdraft.

#### 4. Purchase and Retirement of Groundwater Rights (P&R)

The P&R pump tax was established to advance the achievement of the AMA's management goal by funding the purchase and retirement of grandfathered groundwater rights. The P&R pump tax is capped at \$2 per acre foot. However, the initial fee cannot be levied until the first year in which the Director develops and implements a program for the P&R of grandfathered rights as part of the management plan for the AMA, "but not earlier than January 1, 2006."<sup>7</sup> It must not be overlooked that P&R in this context

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<sup>7</sup> A.R.S. Section 45-611.C.4.

means retirement from use, not retirement for a transfer of use. In any event, pushing the fee forward to 2006 reflected the belief of the drafters of the Groundwater Code the urbanization of farmland might so significantly reduce the overdraft, that waiting until 2006 to P&R was an acceptable risk.

## RECOMMENDATION

AMWUA and its member cities should support legislation authorizing the Director of DWR to set the P&R fee for the Phoenix AMA at an amount not less than \$10 and not greater than \$20 per acre foot. In the Phoenix AMA, increased population projections and reduced estimates of the urbanization of farmland indicate that the achievement of safe yield may require a significant P&R program. Waiting until 2006 might not be an acceptable risk. Prudence argues that we should consider accelerating the time frame when the P&R pump tax can be levied. DWR estimates that a 20 year farmland P&R program beginning in 2006 with the P&R pump tax set at \$2 per acre foot could result in average annual groundwater savings of 24,276 acre feet.<sup>8</sup> At \$10 per acre foot, the average annual groundwater savings would be well over 100,000 acre feet.

In addition, AMWUA and its member cities should urge DWR to begin the development of a P&R program for inclusion in the TMP. The P&R program should focus on the purchase and retirement of irrigation grandfathered rights (IGFR).<sup>9</sup> At minimum, the program should be limited to those IGFRs that use only groundwater and that do not lie in the path of urbanization. Additional secondary filters such as high water duties and high groundwater decline rates should be considered in P&R program development. As always, cost-benefit concerns must be given critical attention. To that end, DWR should explore whether legal authority exists to purchase and retire IGFRs without also purchasing the land to which they are appurtenant.

### B. Beneficial Use

The pump tax is currently levied only on groundwater withdrawn for a beneficial use. Groundwater withdrawn for purposes of drainage or dewatering, for example, are thus exempt from the withdrawal fee. This is inappropriate so long as all groundwater withdrawals require administrative efforts by DWR, contribute to determining the size of the overdraft and are debits in the calculation of safe yield. Furthermore, it must be remembered that the groundwater withdrawal fee is designed to fund programs designed to reduce the overdraft and achieve safe yield. Logic would thus argue that all withdrawals should be subject to the withdrawal fee. The likelihood of that happening is, however, extremely remote. Consequently, the next best alternative may be to assume

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<sup>8</sup> DWR, Third Management Plan. Chapter 8, pages 40-41.

<sup>9</sup> Although a P&R program could also legally include Type 1 and Type 2 non-irrigation grandfathered rights, these rights are likely to be more expensive. A replenishment obligation tied to the use of Type 1 and Type 2 rights may contribute more to the achievement of safe yield.

that such groundwater withdrawals do not actually occur when calculating whether safe yield has been achieved.

#### RECOMMENDATION

AMWUA and its member cities should support legislation to remove from the calculation of safe yield all withdrawals of groundwater that are exempt from the withdrawal fee.