

MARICOPA-STANFIELD IRRIGATION & DRAINAGE DISTRICT

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August 20, 2020

Thomas Buschatzke, Director
Arizona Department of Water Resources
1110 W. Washington St., Suite 310
Phoenix, AZ 85007

Re: Comments Concerning the Pinal Active Management Area Draft 4th Management Plan

Dear Director Buschatzke:

Maricopa-Stanfield Irrigation & Drainage District (MSIDD) thanks you for the opportunity to review and submit comments concerning the Arizona Department of Water Resources' (ADWR) current draft Pinal Active Management Area (AMA) 4th Management Plan (4MP). The draft 4MP includes a number of worthwhile proposals and useful analyses, and MSIDD appreciates the effort required to prepare the plan within the ambitious timeframe established by ADWR to draft the 4MP. Nonetheless, although MSIDD understands ADWR's desire to expedite the adoption of the Pinal AMA 4MP to try to catch up with management period dates in the Groundwater Code, the compressed schedule deemed necessary to achieve that goal unfortunately limited the opportunity for stakeholders to meaningfully participate in the development of the 4MP before drafts became available for review. MSIDD regrets that more time was not available for stakeholders and ADWR to exchange ideas and questions throughout the drafting process, which MSIDD believes could have improved 4MP proposals and resolved critical issues raised in MSIDD's comments.

The enclosed comments identify important issues, corrections, and clarifications, and MSIDD respectfully requests that ADWR carefully consider those comments and incorporate them into the final 4MP. MSIDD wishes to highlight two fundamental issues, however, both of which are discussed in greater detail throughout the enclosed comments. First, notwithstanding ADWR's response to prior comments about its understanding of the management goal in the 4MP and outward assurance that "[t]he Pinal AMA Management Goal is defined in A.R.S. § 45-562(B), and ADWR has not recommended any changes to this goal at this time," it remains apparent from the face of the current draft 4MP that ADWR's interpretation of A.R.S. § 45-562(B) differs materially from the interpretation underlying previous management plans, as commonly understood by Pinal AMA stakeholders. As explained in more detail in the enclosed comments, overall, the issues, regulatory proposals, and objectives described in the draft 4MP, the singular focus on preserving future non-irrigation supplies without regard for other express goals in A.R.S. § 45-562(B), and ADWR's concession that it had to correct an "erroneous mention of safe-yield in the initial draft [4MP]" reveal that striving to achieve "safe yield" in the Pinal AMA effectively is the aim of ADWR's new characterization of the management goal in the 4MP.

The Groundwater Code directs and authorizes ADWR to manage groundwater in the Pinal AMA only to achieve the purposes set forth in A.R.S. § 45-562(B). MSIDD recognizes that certain aspects of



Thomas Buschatzke, Director

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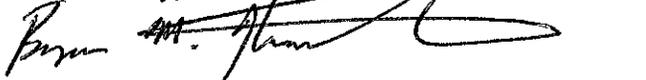
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A.R.S. § 45-562(B) leave room for interpretation, but it is beyond dispute that achieving safe yield in the Pinal AMA is not a goal prescribed by statute. Although ADWR may prefer a different water management approach and use terms other than “planned depletion” to describe the management goal, ADWR cannot change or depart from the substance of the statutorily defined management goal. Because A.R.S. § 45-562(B) remains unchanged, ADWR cannot adopt new regulatory measures based on a new interpretation of the management goal without providing substantial justification confirming that the previously shared understanding of the management goal was not correct. Clarifying the proper interpretation of the Pinal AMA management goal is a fundamental issue that ADWR must address before implementing any proposed new regulatory measures that are based on ADWR’s new characterization of the management goal in the 4MP.

Second, the draft 4MP’s primary emphasis on reducing overall agricultural water demand to preserve future non-irrigation supplies and achieve ADWR’s reinterpreted Pinal AMA management goal appears to lead ADWR to mistakenly conclude that more robust management of irrigation grandfathered rights (IGFR) may be justified. Preserving agricultural economies is an express goal of A.R.S. § 45-562(B). The unique management goal defined by A.R.S. § 45-562(B) partially reflects the reality that preserving agricultural economies and the exercise of IGFR rights may render safe yield unattainable in the Pinal AMA. In addition, ADWR has no authority to manage IGFR water usage except by establishing irrigation water duties and alternative conservation programs in accordance with the express terms of the Groundwater Code. Any proposal to adopt different rules for IGFR water usage would exceed ADWR’s statutory authority, whether or not ADWR believes that any such proposal might preserve groundwater for future non-irrigation uses. As stated in the enclosed comments, MSIDD rejects any express or implied assertion that ADWR’s stated interest in preserving future groundwater supplies supersedes IGFR rights or justifies new regulatory proposals that would impose additional constraints on IGFR water usage.

MSIDD appreciates the opportunity to comment on the Pinal AMA draft 4MP, and wishes to thank you for your consideration of the enclosed comments. MSIDD would welcome further collaboration with ADWR to improve the 4MP and ensure its successful implementation. If you have any questions, please do not hesitate to let us know.

Respectively,



Bryan Hartman,
President, MSIDD

Chapter 1

Page 1-1, Paragraph 1

This paragraph states that the Groundwater Code “does not specify the quantity of water that must be preserved for non-irrigation uses, nor does it list any criteria by which to determine how long agricultural economies should be preserved.” Although ADWR states that it interprets preserving future non-irrigation supplies as ensuring long-term, reliable M&I supplies, there is no similar statement regarding ADWR’s interpretation of preserving agricultural economies. To evaluate the effectiveness of the management plan, regulatory proposals, and progress towards achieving the Pinal AMA management goal, it is equally necessary to understand the preservation of agricultural economies, which is an express requirement of the management goal under A.R.S. § 45-562(B).

This paragraph implies that ADWR interprets the Pinal AMA management goal as simply preserving water for future non-irrigation uses. A.R.S. § 45-562(B), however, clearly strikes a balance among current development, preserving agricultural economies, and preserving future water supplies. Moreover, later sections of the document, such as those describing the need to eliminate overdraft and ADWR’s departure from the “planned depletion” concept used to describe the management goal in prior plans, indicate that ADWR has reinterpreted the Pinal AMA management goal to be functionally equivalent to “safe yield.” Had the Arizona Legislature intended for the Pinal AMA to have a “safe yield” goal, it would have said so expressly in the Groundwater Code as it did in A.R.S. § 45-562 for the other AMAs.

Farmers in the District possess IGFRs under A.R.S. § 45-465, which entitle them to withdraw groundwater to irrigate their lands in perpetuity. Those farmers intend to continue exercising those rights for generations to come, particularly if faced with limited access to surface water in the future. The Pinal AMA always has been predominantly agricultural in nature, and its unique management goal under A.R.S. § 45-562(B) recognizes the reality that achieving safe yield may not be feasible given the need to preserve agricultural economies. The District strongly objects to ADWR’s apparent reinterpretation of the Pinal AMA management goal and any proposal to manage IGFR usage that may jeopardize agricultural economies in conflict with A.R.S. § 45-562(B).

Page 1-2, Paragraph 1

This paragraph states that the assured water supply (“AWS”) program was created to preserve groundwater resources and promote long-term water supply planning. Elsewhere in the draft 4MP, ADWR describes the AWS program as primarily a consumer protection measure. Although the AWS program might result in preserving groundwater resources, it is not clear that groundwater preservation is a primary purpose of the program. ADWR should not imply that the AWS program is a potential regulatory tool for groundwater preservation measures outside of the context of the subdivision/consumer protection purposes of the AWS program.

Page 1-5, Paragraph 1

ADWR should clarify that the 2019 AWS model run relates specifically to challenges in satisfying the physical availability criterion of the AWS rules. As currently written, this paragraph can be read to suggest that wet water will not exist for current uses and AWS determinations during the 100-year projection period, which is misleading. In Section 11.2.1, ADWR acknowledges the potential for confusion regarding the different assumptions and results of model projections generated for planning purposes and for AWS regulatory purposes. Failing to properly identify AWS program projections and challenges as such feeds into that confusion.

Page 1-5, Paragraph 2

This paragraph describes conditions such as an agricultural market downturn, CAP repayment obligations, distribution system debt, and CAP subcontract costs that led to irrigation districts filing for

bankruptcy protection in the early 1990s. In several sections later in the document, ADWR compares agricultural demand from this period to current demand and states that current agricultural demand remains high despite reduced IGFR acres, which appears to raise questions as to current agricultural water usage. The market downturn, debt, and CAP cost issues described in this paragraph explain why agricultural demand during the late 1980s and early 1990s was not markedly higher than current demand despite greater IGFR acreage. Thus, comparing current demand to demand from that time period not only fails to convey useful information, but also is misleading. ADWR's improper and out of context comparisons of agricultural demands during different periods create the misperception that new measures to manage IGFR usage may be necessary, which is neither factually nor legally justifiable. ADWR should eliminate all such comparisons in the final 4MP, as noted below.

In addition, this paragraph states that the Ag Pool is scheduled to diminish over time, until it terminates starting in 2031. Consider clarifying that the end of the Ag Pool in 2031 does not mean that CAP water will no longer be available for agriculture, but rather eliminates the priority pool of reduced-cost CAP water that currently exists. The CAP Excess Water that formerly made up the Ag Pool still will be available except during shortages, however. Agriculture's continued use of CAP Excess Water supplies will be essential to achieving and maintaining the Pinal AMA management goal.

Page 1-5, Paragraph 3

The final sentence of this paragraph states that potential agricultural withdrawal increases in response to LBDCP shortages may result in water level declines and "reduced groundwater supply for future uses." The quoted language seems to reflect ADWR's reinterpretation of the Pinal AMA management goal, and implies that agricultural withdrawal increases during shortages would be inconsistent with the management goal. Increased agricultural withdrawals would be consistent with farmers' IGFR rights and the Pinal AMA management goal under A.R.S. § 45-562(B), whether or not those withdrawals result in water level declines or reduce groundwater supplies for future uses. While it may be appropriate to acknowledge the reality of potential agricultural withdrawal increases during LBDCP shortages, ADWR should rephrase this sentence to remove the improper suggestion that such withdrawals may conflict in any way with the Groundwater Code or management goal.

Page 1-6, Conclusion

This paragraph states that continued commitment is necessary to "reduce dependence on groundwater and to achieve the statutorily established water management goals." Although the District generally agrees that efforts to reduce groundwater dependence are worthwhile, ADWR and stakeholders lack a clear and consistent understanding of the statutory management goal and the types of commitments that are necessary to achieve it. Interpreting the goal as preserving future water supplies as suggested in Section 1.1 significantly departs from prior understandings of the intended purpose of A.R.S. § 45-562(B), and arguably cannot be achieved because there always will be a future for which to preserve water supplies. As noted above, the District strongly opposes ADWR's apparent reinterpretation of the Pinal AMA management goal as requiring measures to achieve or surpass "safe yield," with a singular focus on preserving future water supplies for non-irrigation uses. Before implementing new measures to manage water use in the Pinal AMA, it is imperative that ADWR engage stakeholders to clarify the proper meaning of A.R.S. § 45-562(B).

Chapter 2

Page 2-10 to 2-11, Section 2.5.1

The first paragraph of this section is confusing and appears to be internally inconsistent. Moreover, although the second sentence currently indicates that annual groundwater pumping remained at peak levels through the late 1980s, Figure 2-7 shows that total annual groundwater pumping was less than half the reported 1953 peak each year starting in at least 1985. ADWR should rephrase the second sentence to

accurately reflect the data presented, e.g., “Annual groundwater pumping increased beginning in the 1930s, peaked at approximately 1.4 million AF in 1953, and remained at levels of approximately [xxx,xxx] AF through the 1980s.”

The second paragraph of this section describes deliveries of CAP water to GSFs for use in lieu of groundwater. Throughout the document, it is unclear whether agricultural groundwater usage numbers reported by ADWR include water delivered to GSFs. ADWR should clearly state whether ADWR accounts for in lieu water delivered to GSFs separately from physical groundwater withdrawals for purposes of the 4MP. ADWR also should ensure that it accounts for GSF deliveries and groundwater usage in a consistent manner throughout the document.

The third paragraph of this section states that it is unlikely that all acres shown on historic University of Arizona agricultural maps were cropped in any given year, which may explain why the total area covered by irrigation districts is larger than the total cropped acres listed in agricultural statistics in most years. The District agrees that it is unlikely that all potential crop acres shown on any such maps from any period actually were cropped in any single year. In addition to the market downturn, debt, and cost issues described above, this fact helps explain why ADWR cannot draw meaningful inferences about agricultural water demand trends simply by comparing the relative numbers of active IGFR acres during separate periods. ADWR’s comparisons of current and historic agricultural demands and IGFR acres are fundamentally flawed, inappropriately question the legitimacy of current agricultural water usage, and should be removed entirely from the final 4MP.

The last paragraph of this section states that double cropping has become a common practice, resulting in demand increases in areas where it occurs. Although it may be reasonable to discuss double cropping in the context of describing agricultural demand generally, suggesting that double cropping raises issues warranting ADWR management, that it should be discouraged, or that it conflicts in any way with the Groundwater Code or management goal is improper. ADWR’s simple references to double cropping and water demand lack context regarding the numerous economic, agronomic, and practical reasons underlying such practices. Double cropping allows farmers to maximize output while minimizing the acreage required for agriculture. Maximizing production on a limited overall footprint is crucial for preserving agricultural economies in the Pinal AMA due to the fixed amount of farmland and the year round feed requirements of the dairy and beef cattle industries. Double crop rotations help alleviate pest issues, have beneficial soil impacts, and enable farmers to adopt maximally efficient practices that reduce overall water use relative to growing the same crops on separate acres, such as planting a second crop in stubble remaining after harvesting the first crop in the rotation.

Additionally, disincentivizing double cropping would not automatically reduce agricultural demand, and could have unintended consequences that exacerbate water management issues in the Pinal AMA. Farmers likely would crop more acres each year, particularly given the need for consistent feed production. Increasing cropped acreage could increase agricultural pumping in areas where agricultural pumping currently is minimal or nonexistent. Likewise, the inability to implement highly efficient practices on double cropped farms may increase overall agricultural water usage. Therefore, while ADWR should encourage efficient agricultural water usage, ADWR should not portray specific farming practices such as double cropping in simplistic ways that lead ADWR and readers to infer that the practice inhibits progress towards achieving the Pinal AMA management goal. Double cropping is an efficient, modern farming practice and withdrawing water to irrigate double-cropped farms is a proper exercise of farmers’ IGFR rights that is consistent with the management goal.

Page 2-12, Section 2.5.4.1

The first paragraph of this section identifies the recharge components in the Pinal AMA, which do not include GSF storage activities. Although GSF deliveries represent CAP water used in lieu of

groundwater that otherwise would have been pumped, it is unclear why GSF storage is materially different than storage in constructed or managed USFs in the context of describing aquifer conditions. In addition, GSF storage includes a cut to the aquifer, which reflects a net addition to the aquifer that would not exist if agricultural users instead pumped groundwater. ADWR should explain how GSF storage fits into the recharge discussion and acknowledge the benefits of GSF deliveries on groundwater supplies.

The second paragraph of this section states that table 2-2 lists rates of “natural incidental recharge and natural discharge.” “Natural incidental recharge” is not used elsewhere in the draft 4MP, and it is unclear what it means.

Page 2-14, Paragraph 2

This paragraph states that the components of incidental recharge include agricultural recharge, urban irrigation recharge, artificial lake recharge, artificial recharge, and effluent recharge. This definition is more inclusive than the recharge components described on Page 2-12, which distinguish incidental recharge and artificial recharge. It also is unclear what ADWR means by “effluent recharge.” It would be helpful to clarify how ADWR views effluent recharge, whether it occurs via underground storage, discharge into streams, agricultural use, or any other applicable means.

Page 2-14, Paragraph 4

This paragraph states that ADWR applies a 15-20 year lag time for agricultural incidental recharge to account for the time it takes for water to percolate through the unsaturated zone, during which time that water cannot be measured as part of the total water in storage. This statement suggests that water known to exist is not accounted for in any way during the lag period. Consider explaining how, if at all, ADWR accounts for incidental recharge during the lag time and how it affects water management decisions.

Page 2-14, Paragraph 5

This paragraph describes seepage from unlined SCIP canals from 1985-2014. SCIP canals are being lined, and much of the lining work likely will be complete during the 4th management period. BOR’s 2017 Final Environmental Assessment for the ongoing phase of the lining project explained that incidental recharge from seepage in the unlined canals instead will occur over a broader area through irrigation use. To the extent that the expected shift in the location of incidental recharge is relevant to ADWR’s 4MP discussion, consider addressing.

Page 2-14, Paragraph 6

This paragraph describes small amounts of incidental recharge from other sources, including seepage from Picacho Reservoir. Although Picacho Reservoir was designed to be a regulatory reservoir, it no longer functions as a water delivery facility and water that enters Picacho Reservoir today generally does not come out. To the extent that ADWR has not done so already, consider revisiting the estimated amount of recharge from Picacho Reservoir in light of current operations.

Page 2-27, Section 2.8.2, Paragraph 2

This paragraph describes the storage of CAP water at GSFs, and explains that the storer receives a credit that can be used in the future. A portion of the water stored at GSFs cannot be used in the future due to the cut to the aquifer, however. ADWR should acknowledge the net benefits to groundwater in storage that result from GSF deliveries.

Chapter 3

Page 3-1, Section 3.1

The second paragraph of this section concludes by stating that “[a]lthough the use of Colorado River water delivered through the CAP infrastructure (CAP water) increased and groundwater decreased from

1985 through 1993, overall water demand has increased in the municipal, industrial, and tribal use sectors, and agricultural demand continues to fluctuate.” It is unclear why this observation is significant, or why ADWR has framed it as posing an issue. Increased municipal, industrial, and tribal water demand as described in this statement should come as no surprise given the growth in each sector. Likewise, fluctuating agricultural demand is a normal feature of the agricultural sector. The statement indicates that the use renewable water supplies increased and the use of groundwater decreased over the period, which reflects the successful achievement of Groundwater Code objectives. The statement implies that ADWR seeks to reduce overall water demand in the Pinal AMA from all sources of supply, which is beyond the scope of the Groundwater Code and ADWR’s statutory authority.

The third paragraph of this section states that groundwater “remains the primary source of water supply for the PAMA agricultural, municipal, industrial and tribal water use sectors.” Although groundwater will continue to be a significant source of supply for agriculture during the 4th management period, Table 3-1(B) indicates that groundwater typically has constituted approximately 50% or less of the total agricultural water supply since CAP water became available. ADWR should conform its statements about agricultural groundwater usage to the data presented in the 4MP.

Pages 3-4 to 3-5

The last paragraph on page 3-4, which runs to page 3-5, states that in lieu deliveries count as groundwater overdraft in ADWR’s calculations. ADWR should clarify whether it includes in lieu water in agricultural groundwater numbers depicted in all sections of the 4MP, and should ensure that it accounts for such water supplies consistently throughout the document.

Page 3-5, Paragraph 2

This paragraph states that agricultural demand has fluctuated over time, but that groundwater has remained the predominant supply. This appears to significantly overstate the data shown in Table 3-1(B), unless ADWR counts in lieu water as groundwater. ADWR should clarify what specifically counts as groundwater for purposes of the 4MP and avoid hyperbolic statements about agricultural groundwater demand that exaggerate the data and stoke undue concern about agriculture’s continued use of groundwater for irrigation. Although the District recognizes the importance of describing realistic agricultural demand in the 4MP, the District disagrees unequivocally with any contention that the current or projected amount of groundwater in the overall agricultural water supply is inconsistent with IGFR rights or the Groundwater Code.

Page 3-11, Paragraph 3

This paragraph describes factors that could affect dairy water use. Based on the preceding paragraph, ADWR appears not to consider population growth to be a factor that could affect dairy water use. Future population growth could affect dairy water use, however, through development on land currently used to grow feed and urban encroachment. ADWR should better acknowledge the interconnectedness of different water use sectors, which would improve ADWR’s planning and water management decisions.

Page 3-12, Table 3-4

This table indicates that groundwater constituted approximately 46% of the total agricultural water supply in 2017. Like Table 3-1(B), Table 3-4 seems to conflict with previous statements that groundwater has remained the predominant agricultural water supply. ADWR should correct those statements to accurately reflect the data presented in Tables 3-1(B) and 3-4.

Page 3-13, Paragraph 1

This paragraph states that more than 160 IGFRs have been partially or fully extinguished since 1996. ADWR should clarify whether that total represents IGFRs that were extinguished to create

extinguishment credits, or whether it includes all IGFRs that were extinguished or otherwise retired from production.

Page 3-13, Paragraphs 2 to 4

These paragraphs describe water usage by CAIDD, MSIDD, and HIDD, and distinguish CAP water usage from groundwater and in lieu water usage. ADWR should be clear and consistent throughout the document as to whether reported agricultural groundwater numbers include in lieu water. ADWR also should acknowledge the beneficial impacts of in lieu water usage, including additions to aquifer storage resulting from the cut to the aquifer.

Page 3-13, Paragraph 5

This paragraph states that “[i]n 2017, SCIDD used about 150,330 AF of water including loss and use by IGFRs within the district who used their own wells for groundwater. SCIDD provided 125,187 AF of surface water in 2017. The remaining demand was met mostly with groundwater” These statements are confusing. Does ADWR mean that 150,330 AF of water was used within SCIDD, including surface water, groundwater, and CAP water delivered by SCIDD and groundwater pumped by IGFR owners who operated their own wells? Consider rephrasing to clarify.

Page 3-13, Paragraphs 7 to 8; Page 3-14, Table 3-5

These paragraphs and Table 3-5 contend that agricultural demand has not decreased over time despite the retirement of nearly 27,000 acres, and compare irrigation acres and water demands in the 1MP with those in 2017. As stated above, these observations and comparisons are based on fatally flawed premises, are deceptive, and should be removed from the 4MP. The 1MP demands on which ADWR relies coincide with the extreme market downturn, debt, water cost, and bankruptcy issues that ADWR describes in previous sections, which substantially limited agricultural production during that period. In the proper context, the comparison shows that those issues deflated agricultural demand during the 1MP, not that current farming practices may inflate current demands. For the same reasons, the fact that more irrigation acres existed during the 1MP is irrelevant and sheds no light on potential issues with current agricultural demands worthy of investigation or management by ADWR.

ADWR’s decision to raise questions about current water usage in this chapter based on a simplistic, out of context comparison of 1MP and 2017 demands and IGFR acres is particularly puzzling given the fact that ADWR already described severe economic challenges during the 1MP sufficient to explain ADWR’s observations. In light of that obvious historical explanation, comparing 1MP and 2017 demands and IGFR acres reveals nothing of interest warranting discussion in the 4MP. The District strongly objects to any implication that, based on 1MP demands, ADWR reasonably should expect current agricultural demand to be lower, that ADWR has grounds to impose new regulatory measures designed to reduce agricultural demand, or that current agricultural water usage is in any way improper. The District fails to see what purpose is served by ADWR’s comparison of 1MP and 2017 conditions, other than to sow unjustifiable suspicion about the legitimacy of agricultural water usage. The comparison is fallacious, inflammatory, and should be eliminated entirely from the 4MP.

Chapter 4

Page 4-3, Paragraph 1

This paragraph states that agricultural demand does not appear to have decreased despite the loss of approximately 20,400 irrigation acres since 2002, and asserts that increased double cropping might be the reason why demand has not decreased. ADWR fails to justify its focus on double cropping practices as the likely explanation for the lack of demand decreases that ADWR apparently believes should have occurred since 2002. There are numerous potential reasons why merely retiring irrigation acres might not immediately yield proportionate demand reductions, particularly ADWR’s prior observation that not all

acres are cropped in any single year. Because farmers do not crop all available irrigation acres each year, retiring irrigation acres will not automatically reduce the amount of acres that are actively cropped on an annual basis unless the total remaining inventory of irrigation acres is equal to the number of actively cropped acres. The fact that cropped acres and agricultural demand may remain stable despite the retirement of some irrigation acres reveals no disconnect or deficiency in achieving Groundwater Code objectives. Rather, by cropping less than all available irrigation acres each year, farmers use less groundwater than they are entitled to use under their IGFRs, which significantly benefits the Pinal AMA as a whole.

ADWR should not base planning or management decisions on speculative analyses that target, without adequate justification, one of many potential factors to explain ADWR's observations about agricultural water use patterns. Moreover, as a threshold matter, ADWR must ensure that perceived water management issues genuinely exist before contemplating regulatory measures to address the perceived issue. In this case, the District disagrees that ADWR reasonably should expect the retirement of approximately 20,400 irrigation acres in the AMA to meaningfully reduce agricultural demand, if at all. ADWR's concerted focus on double cropping practices, which implies that discouraging the practice could yield demand reductions that ADWR mistakenly believes should have followed the retirement of irrigation acres, is unwarranted. Furthermore, adopting regulatory measures intended to discourage specific farming practices such as double cropping for the purpose of reducing overall agricultural water demand is beyond the scope of the Groundwater Code and ADWR's authority. Please see the comment above for additional context regarding double cropping practices.

Page 4-3, Paragraph 2

This paragraph describes agricultural use of CAP and in lieu water. Please clarify whether ADWR counts in lieu water usage as groundwater usage in numbers presented throughout the 4MP, and ensure that ADWR consistently accounts for those resources throughout the document.

Page 4-3, Paragraph 4

This paragraph states that CAP Excess Water supplies are likely to diminish, and therefore GSF CAP water is not anticipated to remain a significant agricultural water supply. Although CAP Excess Water historically has been a large source of GSF water, GSFs also receive significant quantities of CAP long-term subcontract water. The District anticipates that those deliveries will remain a significant agricultural water supply.

Page 4-3, Paragraph 5

This paragraph explains that the Ag Pool volume reduces over time, and reaches zero after 2030. The Ag Pool is a priority pool of reduced cost CAP Excess Water for agricultural users. Except during shortages, the CAP Excess Water that currently makes up the Ag Pool still will be available after 2030. Agriculture's continued use of at least some of the available CAP Excess Water after 2030 will significantly benefit Pinal AMA groundwater supplies, will be essential for achieving the management goal, and should be acknowledged and openly encouraged.

Page 4-8, Paragraph 2

This paragraph states that BMP farms applied about 29% more water per irrigation acre than non-BMP farms in 2017. Comparing water use per total irrigation acre on BMP and non-BMP farms in this manner is misleading and presents no useful analysis. As ADWR acknowledges, this observation can be explained by numerous factors, including that fewer irrigation acres are actively cropped on non-BMP farms in a given year. The District profoundly disagrees that ADWR's comparison indicates any failure of the BMP program to meet statutory requirements to design BMPs to achieve conservation equivalent to the Base Program. The comparison fails to recognize that BMP and non-BMP farmers are self-selecting groups with significant differences in farm operations, soils, and cropping patterns, among other things.

The comparison also makes no attempt to acknowledge the extent to which BMP farms previously depended on flexibility credits, and the likelihood that those farms would continue to rely on flexibility credits if regulated under the Base Program. A.R.S. § 45-567.02(G) clearly requires ADWR to design BMPs to achieve conservation at least equivalent to the conservation required under the Base Program for particular IGFRs. The District is aware of no statute that directs ADWR to evaluate the effectiveness of BMPs and the Base Program by comparing water use by entirely different IGFRs. Thus, even assuming that ADWR was correct that current BMP farms use more water per acre than current non-BMP farms, ADWR's comparison fails to show that conservation achieved by the current BMP Program is insufficient to satisfy the requirements of the Groundwater Code. Moreover, obviating the need for flexibility credit usage and transactions offers relief from administrative burdens for ADWR and users, which is consistent with the intended purposes of adopting the BMP program.

To evaluate the effectiveness of the BMP program and agricultural conservation requirements, ADWR should instead compare (1) total agricultural water use by Base Program and BMP farms to the total use allowed if all farms were regulated by the Base Program, or (2) BMP farm water use to pre-BMP water use or projected use by those same farms under the Base Program. If total agricultural water use is equal to or less than the total use that would be allowed if all IGFRs remained in the Base Program, or if individual BMP farms use water quantities at least equivalent to expected water use on those same farms under the Base Program, the BMP program successfully achieves conservation at least equivalent to the Base Program as required by the Groundwater Code. ADWR has not performed the proper analysis to determine whether the BMP program satisfies the Groundwater Code as currently designed. Accordingly, ADWR has no basis to recommend or adopt substantive changes to the BMP program in the 4MP intended to reduce BMP farm water use. The District opposes ADWR's proposals to modify the BMP program at this time and urges ADWR to refrain from adopting any such changes pending further analysis to evaluate the effectiveness of current BMPs.

Page 4-9, Figure 4-4

For the reasons described above, Figure 4-4 presents misleading analysis based on ADWR's improper comparison of water use on entirely different IGFRs. ADWR lacks authority to mandate conservation equivalency across separate IGFRs. Therefore, Figure 4-4 provides no justification for ADWR's regulatory proposals and appears to serve no purpose other than to negatively portray BMP farms relative to non-BMP farms. Figure 4-4 should be removed from the final 4MP.

Chapter 5

Page 5-6, Paragraph 4

This paragraph describes extinguishment credit generation and AWS rule modifications relating to groundwater allowances. Consider clarifying what an extinguishment credit is and how such credits are used.

Section 5.3.1

This section describes the NPCCP, which ADWR states is designed to achieve efficiency equivalent to the Total GPCD Program. To evaluate the overall effectiveness of Pinal AMA management plans and conservation requirements, and to clarify ADWR's interpretation of statutory requirements for designing BMP-type conservation programs, ADWR should explain how it analyzes the relative efficiencies achieved under the NPCCP and Total GPCD Programs.

Chapter 6

Page 6-8, Section 6.2.2.5

This section describes dairy water use demand, and states that “ADWR continues to identify new dairies in PAMA.” What does ADWR mean that it “continues to identify new dairies?” Is this meant to indicate that new dairy operations have commenced since the ADWR completed the draft 4MP, that ADWR anticipates growth in the dairy sector during the 4th management period, or something else?

Chapter 7

Page 7-8, Section 7.4.4.2

The first paragraph of this section states that the AWS program is a consumer protection program that ensures that new subdivisions will have secure water supplies for at least 100 years. This statement better describes the purpose of the AWS program than the description on page 1-2, in which ADWR contends that the purpose of the AWS program is to preserve groundwater. ADWR should focus on the purpose of the AWS program as described in this section rather than characterizing the program as a general groundwater preservation measure. ADWR’s description on page 1-2 can be construed to suggest that the AWS program is a regulatory tool that could, or should, be used to achieve groundwater preservation in all water use contexts, including those that are not subject to AWS requirements such as agricultural water use.

Section 7.7

The first paragraph of this section identifies human activity as a cause of groundwater quality degradation in three consecutive sentences. Consider striking the fourth sentence, which begins with “[c]ontamination of groundwater in the PAMA,” to reduce repetition and improve reading.

Chapter 8

Page 8-1, Section 8.1

Paragraph 2 of this section defines “augmentation” and “recharge.” The first sentence is unclear as to whether ADWR intends to include deliveries to GSFs in the “augmentation” definition. If ADWR does not intend for GSF deliveries to count as “augmentation,” consider using language other than “in lieu of groundwater” to define “augmentation,” since “in lieu of groundwater” is commonly used to describe GSF operations specifically.

Page 8-1, Section 8.2

The first paragraph of this section states that recharge is an effective tool to mitigate local water supply problems, “depending where storage and recovery activities occur?” Please explain why ADWR believes that the effectiveness of recharge in mitigating local water supply problems depends on where activities occur, and how its effectiveness could be improved. The District agrees that recharge is an important tool to mitigate local water supply and AWS physical availability issues, and further discussion of effective ways to address those issues through recharge would help guide efforts during the 4th management period.

Page 8-2, First Full Paragraph

This paragraph identifies particular issues for which recharge could have negative or positive effects, including “physical availability.” ADWR should clarify whether it means “physical availability” in the context of AWS program requirements, actual physical water supply challenges, or both. The potential effects of recharge activities on the ability to meet AWS program requirements are not necessarily the same as effects on the overall groundwater supply physically present in the aquifer, and identifying measures to enhance the positive effects of recharge may depend on the specific issue that ADWR and stakeholders seek to address.

Page 8-2, Section 8.2.2

The first paragraph of this section describes storage permits, including USF and GSF permits. Throughout the document, it is unclear whether ADWR's discussions of underground storage/recharge relate to USF and GSF activities, or USF activities only. ADWR should clarify which storage activities are included in recharge discussions, and remain consistent throughout the 4MP.

Page 8-3, Section 8.2.3

The first paragraph of this section states that “[n]et storage’ in [Table 8-1] means water delivered to be stored minus annual recovery and does not account for physical or other losses (evaporation, cut to the aquifer, etc.).” Although the cut to the aquifer represents stored water that is not recoverable, it results in additions to groundwater in storage, not a “loss” similar to evaporation. Consider rephrasing, or explain why ADWR treats the cut to the aquifer as a “loss” rather than an addition to net groundwater in storage.

Page 8-3, Paragraph 4

This paragraph states that the total permitted capacity for Pinal AMA GSFs is 312,000 AF/year. Consider clarifying that that was the permitted volume as of the date of drafting, and that the permitted capacity may change when permits expire and/or are renewed.

Page 8-9, Section 8.3

This paragraph states that “[r]ecycling treated effluent stretches the water supply and has other benefits related to water quality.” Consider explaining what ADWR means by recycling treated effluent, and how doing so has water quality benefits.

Page 8-9, Section 8.3.1.1

The second paragraph of this section describes factors that could influence agricultural water users’ response to future CAP Ag Pool reductions. The cost of CAP Excess Water that will be available after the reduction and/or termination of the CAP Ag Pool also is a critical factor that will affect the extent to which agricultural users rely on groundwater to meet future demands. Agriculture’s continued use of available CAP water supplies over the long term to partially offset reliance on groundwater withdrawn under IGFRs will significantly benefit the achievement and maintenance of the management goal and should be a priority for ADWR and all Pinal AMA stakeholders.

Page 8-10, Paragraph 2

The first sentence states that “delivery scheduling” has implications for the use of CAP water in the Pinal AMA. It is unclear what ADWR means by delivery scheduling and implications for CAP water use. Consider explaining what delivery scheduling issues exist and any related implications for CAP water use in the Pinal AMA.

Page 8-11, Paragraph 3

This paragraph falls under the heading “Tribal Supply of Central Arizona Project Water,” but describes the total entitlement for GRIC from all sources of supply. Consider specifically describing the CAP portion of that entitlement.

Page 8-13, Section 8.5

The first paragraph defines and distinguishes “augmentation” and “recharge.” The “augmentation” definition, however, appears to include activities that also fall within the definition of “recharge.” Consider rephrasing the “augmentation” definition to avoid using “in lieu of groundwater,” to the extent that ADWR does not consider GSF deliveries to qualify as “augmentation.”

Page 8-20, Section 8.6.1.2

This section includes ADWR’s recommendations to AWBA, including a recommendation that AWBA continue to hold withdrawal fee credits in reserve because those credits may be used to meet the State’s AWSA obligations. AWBA can continue to accrue or acquire credits on an ongoing basis to meet AWSA obligations, and using credits to satisfy those obligations is likely to occur incrementally during shortages, not in a lump annual sum. ADWR should carefully analyze realistic future scenarios, and evaluate whether reserving all withdrawal fee credits is reasonably necessary to meet AWSA obligations. The potential benefits of extinguishing credits and likely impacts on AWSA obligations warrant further analysis and consideration.

Page 8-21, Paragraph 4

The third sentence appears to be missing “the storage” between “but” and “is not contributing.”

Page 8-22, Section 8.7

The third paragraph states that the “focus should not be a debate between conservation and augmentation, but rather, efficiently using water.” The District agrees. ADWR’s analysis of agricultural water use throughout the draft 4MP, however, focuses almost entirely on achieving net water use reductions, even at the expense of efficiency. Moreover, ADWR’s focus on reducing overall agricultural water demand appears to extend to all sources of supply, including surface water and CAP water, the use of which is beyond the scope of the Groundwater Code and ADWR’s regulatory authority. Prioritizing efficiency as the 4MP’s chief objective is consistent with the management goal set forth in A.R.S. § 45-562(B), which expressly seeks to preserve agricultural economies, and the reality that agricultural users possess IGFRs entitling them to withdraw groundwater for irrigation in perpetuity. ADWR should refocus its agricultural water use analyses and regulatory proposals to prioritize water use efficiency as stated in this section, rather than pursuing measures designed to achieve agricultural water use reductions at any cost, some of which likely conflict with the Groundwater Code or are beyond ADWR’s authority.

The fifth paragraph of this section indicates that ADWR may need to scale back augmentation incentives because they purportedly encourage use of alternative supplies at the expense of conservation. With the limited renewable supplies currently available in the Pinal AMA, incentivizing water users to bring in new supplies should be, and remain, a major priority.

Page 8-23, Section 8.8

The first paragraph states that available tools might not be sufficient to meet Pinal AMA “water management objectives.” To the extent “water management objectives” means something other than the Pinal AMA management goal, please explain what those objectives are, their underlying statutory and/or regulatory bases, and ADWR’s understanding of those objectives.

Page 8-24

These paragraphs purportedly are the conclusion of the 4MP’s underground storage, savings, and replenishment chapter. The discussion, however, focuses on broad water use reduction, pumping, and AWS physical availability issues, among other things. These paragraphs seem to have no relation to underground storage, savings, and replenishment. ADWR should revise these paragraphs so they relate to the rest of the chapter, strike them from the 4MP, or move them to chapters focused on more appropriate subject matter.

Chapter 9

Page 9-5, Section 9.5.2

This section describes challenges identified by the Demand and Water Supply Assessment, Pinal Active Management Area (“Assessment”). The first bullet identifies agriculture remaining the dominant sector

as the first challenge. While the District recognizes that ADWR is referring to the Assessment, preserving agriculture in the Pinal AMA is an express purpose of the statutory management goal for the Pinal AMA. Characterizing agriculture in the Pinal AMA as a “challenge” hindering achievement of the management goal conflicts with the plain language of A.R.S. § 45-562(B).

Chapter 10

Page 10-10 to 10-11, No. 3

This paragraph describes incidental recharge, and concludes with a discussion of effluent discharge and potential LTSC accrual. Based on effluent/recharge discussions in other sections, it is unclear whether ADWR considers effluent recharge to constitute incidental recharge, natural recharge, artificial recharge, or some combination thereof. Consider explaining how effluent recharge occurs and how it is accounted for in calculating water budgets.

Page 10-11, Paragraph 4

This paragraph states “the volume of groundwater that can be withdrawn while preserving supplies for non-irrigation uses . . . is not a fixed amount,” and concludes that the groundwater system will remain in a state of overdraft given current trends. As stated above, A.R.S. § 45-562(B) does not define the Pinal AMA management goal as simply preserving future water supplies for non-irrigation uses, but rather seeks to balance efforts to allow current development, preserve agricultural economies, and preserve groundwater supplies for future uses. Likewise, the A.R.S. § 45-562 unequivocally does not establish a “safe yield” management goal for the Pinal AMA, as it does expressly for other AMAs. Rather, A.R.S. § 45-562(B) recognizes that agriculture will remain more significant in the Pinal AMA than in other AMAs, provides for active management of groundwater for the express purpose of preserving agricultural economies, acknowledges the reality that IGFRs entitle farmers to withdraw groundwater for irrigation in perpetuity, and, as a result, accepts that “safe yield” may not be achievable.

While describing overdraft in the Pinal AMA generally may be useful for evaluating groundwater conditions, the mere fact that the system is or may remain in a state of overdraft has no bearing on whether the Pinal AMA has achieved, or will achieve, the statutory management goal. Any determination that the existence of overdraft *per se* evidences the failure or inability to achieve the Pinal AMA management goal reflects a clear misinterpretation of A.R.S. § 45-562(B). Consequently, ADWR has no basis or authority to impose measures designed to eliminate overdraft at the expense of the express purposes of A.R.S. § 45-562(B). Likewise, the Groundwater Code grants ADWR no authority to determine what amounts of IGFR withdrawals may be permitted to suit ADWR’s other groundwater preservation targets, or to otherwise restrict IGFR water usage, beyond the statutory provisions directing ADWR to establish irrigation water duties and equivalent alternative conservation programs. Because the Pinal AMA plainly does not have a “safe yield” goal and ADWR has clearly defined, limited statutory authorities to manage IGFR water usage, any efforts to determine permissible volumes of groundwater withdrawals or reinterpret the Pinal AMA management goal in a manner that requires the elimination of overdraft to preserve non-irrigation water supplies would be inconsistent with the Groundwater Code.

Chapter 11

Page 11-1, Section 11.1

The third sentence of this paragraph is confusing. If ADWR means to say that groundwater pumping is likely to increase if less GSF and CAP Ag Pool water is available, consider revising.

Page 11-1, Section 11.2

The first paragraph of this section explains that ADWR has moved away from characterizing the Pinal AMA management goal as “planned depletion” as it did in previous plans because the “planned

depletion” concept does not represent the best water management approach. ADWR fails to explain why it has determined that the “planned depletion” concept that historically reflected the common understanding of the Pinal AMA management goal no longer represents the best water management approach. In addition, ADWR does not explain how its new characterization of the goal in the 4MP satisfies the express requirements of A.R.S. § 45-562(B). This paragraph reflects a fundamental disconnect between ADWR and stakeholders as to what the Pinal AMA management goal is, which also is highlighted in other comments above.

Because ADWR’s authorities and the AMA management goals are set by statute, ADWR’s determination that any particular characterization of the goal fails to represent the best water management approach is immaterial. ADWR only has authority to manage groundwater in the Pinal AMA in accordance with the management goal established by A.R.S. § 45-562(B), whether or not ADWR may prefer a different approach. Whatever shorthand ADWR uses to describe the management goal, the statutory definition of the goal has meaning, and that meaning cannot change from management period to management period.

Although ADWR generally avoids the term “safe yield” in the draft 4MP, on the whole, ADWR’s discussions of water management issues, the management goal, and objectives in the 4MP indicate that ADWR has effectively reinterpreted the Pinal AMA management goal as achieving safe yield, if not surpassing it, in the interest of preserving future non-irrigation supplies. As demonstrated by the express use of that term in the statutes defining the management goals for other AMAs, the Arizona Legislature would have clearly enacted a safe yield goal for the Pinal AMA had that been the intent. The District recognizes that genuine disputes may exist between ADWR and stakeholders concerning the proper interpretation of A.R.S. § 45-562(B), and urges ADWR to engage stakeholders in discussions to arrive at a common, consistent understanding of the goal. Nevertheless, based on the plain language and history of that statute, as further evidenced by the fact that “planned depletion” previously reflected the common interpretation of the goal, no reasonable reading of A.R.S. § 45-562(B) supports the conclusion that the Pinal AMA management goal is functionally equivalent to or more stringent than achieving “safe yield.” New regulatory measures that ADWR seeks to impose in the 4MP may conflict with the Groundwater Code to the extent that they are based on a misinterpretation of the statutory goal. Therefore, ADWR should not adopt potentially burdensome, new regulatory measures in the 4MP that would not be deemed necessary under ADWR’s prior interpretation of A.R.S. § 45-562(B). The District strongly objects to the imposition of any new regulatory measures that ADWR has proposed to move the Pinal AMA towards a functional safe yield goal.

Page 11-1, Section 11.2.1

This paragraph describes the importance of distinguishing projections generated for planning purposes from projections generated for AWS purposes to avoid confusion regarding their respective assumptions and results. The District agrees. As noted previously, it is imperative that ADWR clarify its intended meaning of “physical availability” throughout the 4MP to reduce the likelihood that discussions of AWS program issues may be construed to reflect determinations that water physically present in the Pinal AMA cannot support existing uses.

Page 11-2, Section 11.2.2

The fourth paragraph of this section describes potential shortage impacts to CAP water availability, and states that ADWR anticipates that AWBA will not use CAP Excess Water in the future. Whether or not AWBA uses CAP Excess Water in the future, CAP Excess Water will be available for use except during shortages, including after 2030. Ensuring that agricultural users can continue to use whatever CAP Excess Water is available, either directly or through GSF storage, will significantly benefit groundwater supplies and should be a long-term priority for the Pinal AMA.

Likewise, the fifth paragraph of this section states that ADWR anticipates that Colorado River shortages would negatively impact progress towards the Pinal AMA management goal. While this statement generally seems reasonable, ADWR should also acknowledge that shortage conditions are not permanent, that some Colorado River water realistically will be available for agriculture and other Pinal AMA users over the long term, and that incentivizing the use of those supplies in the Pinal AMA will be essential in achieving the management goal.

Page 11-3, Section 11.2.3

The first paragraph of this section states that groundwater uses that lack replenishment requirements contribute to overdraft, and that such uses may continue or increase over time under the “current regulatory framework.” As described in the immediately following paragraphs, agricultural withdrawals do not require replenishment. On the whole, these paragraphs seem to suggest that ADWR believes there might be an alternative regulatory framework by which ADWR could prevent the continuation of unreplenished IGFR withdrawals over time. ADWR unequivocally has no authority to develop or implement any regulatory framework that could discontinue IGFR withdrawals over time or require replenishment, and ADWR should carefully avoid suggesting otherwise in the 4MP.

Likewise, as discussed above, A.R.S. § 45-562(B) plainly does not prescribe a safe yield a management goal for the Pinal AMA, and no statute directs or authorizes ADWR to manage groundwater use for the purpose of eliminating overdraft in the Pinal AMA. The District acknowledges that reducing overdraft to the extent feasible is a worthwhile objective and may be a useful metric for evaluating progress towards achieving the actual statutory management goal, but rejects any contention that eliminating overdraft is required by, or supersedes, any express requirement set forth in A.R.S. § 45-562(B), including the preservation of agricultural economies. ADWR should revise statements that conflate the existence of overdraft conditions in the Pinal AMA with a failure to satisfy Groundwater Code requirements. Please see the comments above addressing issues with ADWR’s reinterpretation of A.R.S. § 45-562(B).

Page 11-4, Paragraph 3

This paragraph references potential “physical availability” challenges for additional development based on the continuation of current pumping levels. ADWR should make clear that the “physical availability” challenges referenced in this section relate specifically to challenges in meeting AWS program requirements and not imply that those challenges reflect genuine issues concerning future wet water available in the Pinal AMA.

Page 11-5, First Full Paragraph

ADWR should clarify that the 2019 Pinal AMA Model Run and results relate specifically to the AWS program. As stated above and acknowledged by ADWR in the draft 4MP, it is important to keep all AWS model discussions in the proper, regulatory context. Inability to meet AWS physical availability criteria does not mean that groundwater physically present in the Pinal AMA is or will be insufficient to support uses.

Page 11-5, Section 11.2.4

The second paragraph states that considerably less water will be stored in GSFs as CAP subcontractors grow into allocations and shortages reduce CAP supplies. This conclusion is conjecture. Shortages will reduce CAP supplies and may reduce GSF storage during shortage periods. CAP subcontractors largely already order their full allocations, however, and store some of that in Pinal AMA GSFs. Storage in GSFs is likely to continue in the future, potentially even at initial shortage tiers.

The third paragraph states that physical availability of groundwater may increasingly affect water management decisions. If ADWR means physical availability in the AWS context, please clarify. Whether or not ADWR means physical availability in the AWS context, the significance of this statement

is unclear, as groundwater availability arguably already is the principal issue affecting Pinal AMA water management decisions.

Page 11-6, First Paragraph

The top paragraph, which begins on page 11-5, states that the benefits of recharge may be confined to areas where agricultural pumping has discontinued or lessened. Please explain the basis for this assertion. Even in areas where agricultural pumping continues, recharge likely would mitigate water level declines that otherwise would occur.

Page 11-6, Section 11.2.6

This section states that ADWR's direct management of only one water source (groundwater) may weaken conservation requirements, and that the ability to directly manage all water supplies is a logical long-term goal to work towards reliable future water supplies. The Colorado River and surface water supplies available in the Pinal AMA are subject to extensive and complex state and federal laws, rules, agreements, and court decrees. Thus, ADWR's potential ability to directly manage those resources necessarily is limited. Moreover, it is not obvious why ADWR's inability to directly manage the use of water resources other than groundwater may weaken conservation requirements in the Pinal AMA. The District disagrees that ADWR's direct management of all water resources in the Pinal AMA is feasible or a logical long-term goal.

Page 11-8, Paragraph 4

This paragraph states that BMP farms use about 57% more water per irrigation acre than non-BMP farms, and that agricultural water demand could continue to increase regardless of the source of supply if that trend continues. As explained above, ADWR's comparative analysis of BMP and non-BMP farm water usage is fatally flawed and does not justify ADWR's perceived need to modify the BMP program to restrict agricultural water use. In addition to the threshold problems described in comments above, several specific assertions in this paragraph are unsupported. For example, ADWR provides no basis for the 57% figure cited in this paragraph, which is almost twice as high as the 29% figure cited on page 4-8. Likewise, ADWR offers no support for its conclusory statement that adopting the BMP program caused a shift in agricultural water use patterns. To the extent that agricultural water use patterns have changed or will change in the future, those changes result primarily from economic considerations and changing market conditions, such as increased demand for feed crops to support growth in local dairy and beef industries. Such changes would occur whether or not ADWR adopted the BMP program. Please see the comments above regarding ADWR's improper comparison of BMP and non-BMP farm water usage.

In addition, ADWR cannot support its assertion that agricultural water demand could continue to increase regardless of the source of supply due to ADWR's misperception that the BMP program is ineffective. The two largest irrigation districts in the Pinal AMA are subject to annual groundwater pumping caps, which generally foreclose ADWR's speculative concern that total demand may continue to increase indefinitely under the BMP program. Development is likely to occur on significant acreage in HIDD and SCIDD for which AWS determinations already have been issued, which is virtually certain to reduce agricultural demand in those districts.

ADWR's misperception that the BMP program and current cropping patterns present problems requiring regulation in the 4MP or future management plans is based on fundamentally flawed analysis and an improper comparison of water use on relating to entirely distinct IGFRs. Burdensome, new regulatory measures that ADWR may seek to impose to reduce BMP farm water use are not justified and are likely to cause significant, adverse consequences for agricultural economies in the Pinal AMA, in conflict with statutory management goal. ADWR should strike this paragraph from the final 4MP, as well as all similar paragraphs in other sections purporting to draw improper inferences about ineffective agricultural conservation programs based on inappropriate comparisons of BMP and non-BMP water usage.

Page 11-9, Paragraph 5

This paragraph states that “some” feel that municipal BMP-type programs are not effective in achieving water conservation, and that further evaluation will include analyses to evaluate program effectiveness and inform future program development. The statutory requirements for designing agricultural and municipal BMP programs are substantially similar. ADWR should engage both municipal and agricultural users to develop a proper set of metrics to evaluate the effectiveness of BMP programs before (1) performing any additional analyses referenced in this paragraph, or (2) implementing any changes to existing BMP programs intended to address ADWR’s mistaken impression that current BMP programs do not satisfy Groundwater Code requirements.