

TOP 26 Priority Issues
Governor's Blue Ribbon Water Panel
August 17, 2010

| | <i>Focus Area Issue</i> | <i>Priority Ranking</i> | <i>Comments</i> | |
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| | TOP 26 | | | |
| #1 | (RP) - Jurisdictional/duplication issues exist between ADEQ, ADWR, ACC, counties, and other entities. <ul style="list-style-type: none"> • Terms should be standardized • Reporting requirements should be examined for duplication • Fees should be examined for duplication between entities | 165 | - Jurisdictional issues are both critical and consequential. | |
| #2 | (CREEN) - Arizona-specific information is needed about how much water is embedded in energy and how much energy is embedded in water | 163 | - For all intents and purposes this is known (see Pasqualetti research). Regardless of the exact answer we know in general terms – it's a lot. So reducing water consumption and supplanting high-energy-cost waters (eg CAP, desalination etc) with low-energy waters (eg recycled water) is an IMPERATIVE. - This information is important to have, but will most likely be compiled in the course of other research | |
| #3 | (CREEN) - Water resource availability and associated development costs establish the role of water efficiency and demand curtailment programs in addressing growth and drought. This interrelationship must be incorporated in water resource planning at all levels | 163 | - Utility-scale water conservation is the most cost effective and most efficient. Water utilities can encourage conservation through appropriate pricing, and ensuring that regional scale Demand Side Management programs are implemented - This is a key first step and thus meets the criteria for a consequential issue | |
| #4 | (RP) - Data collection needs to be streamlined to reduce the administrative burden on reclaimed water providers. ADEQ and ADWR should initiate a review process of data collection requirements, monitoring requirements, and reporting requirements for permit and non-permit information. <ul style="list-style-type: none"> • Data should be collected in an efficient manner, avoid redundancies, where possible and reflect a comprehensive picture of reclaimed water use • Permit requirements should be reviewed for frequency, consistency, and applicability of monitoring • Consider the expertise/capabilities developed by the regulated community to electronically report and manage data; and accept electronic signatures | 162 | - Consideration should be given to developing statewide standards for electronic reporting. Directly feeding regulatory agencies from validated SCADA data forwarded from utilities would be beneficial. Utilities should be encouraged to provide a "Regulatory Layer" to their data architectures. - This issue is both critical and consequential. | Suggest looking at Agencies ability to implement. |
| #5 | (PPA) - The need to create and expand public confidence that reclaimed water is safe for reuse through an understanding of how the water is treated and the types of potential uses for reclaimed water AND #39 – The need to build a constituency for increased use and acceptance of reclaimed and recycled waters for beneficial purposes through education, outreach and other strategies | 156 | - The most effective interventions: <ul style="list-style-type: none"> • combine several policy tools (e.g., information, • persuasive appeals, and incentives) to address multiple barriers to behavior change; • use strong social marketing, often featuring a combination of mass media appeals and participatory, community-based approaches; • address multiple targets (e.g., individuals, communities, and businesses) It is important to align this with operational | ADD #39 |

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| | | | <p>excellence, transparency and ??</p> <ul style="list-style-type: none"> - The number one issue. Easy and inexpensive to achieve. | |
| #6 | (GREEN) - To develop support for programs that protect and enhance sustainability of Arizona water supplies, a firmly-grounded and fact-based awareness of the relationship of water availability, conservation, the economy, the environment and desired quality of life among the public, business community and governmental leaders is necessary | 152 | <ul style="list-style-type: none"> - Agreed. The evidence is clear – Lake Mead is at its lowest level since 1956. We are talking curtailments and rationing while “hoping” that we’ll see a wet year. The facts are clear in our opinion. Choosing to ignore them is folly. - Critical – some duplication here of Public Perception issues. | |
| #7 | (GREEN) - Ways to facilitate collaboration between water and energy planners should be developed to ensure the most efficient use of water and energy | 144 | <ul style="list-style-type: none"> - A critical issues and one that should be addressed early. - Agreed. This could be facilitated by the ACC as they regulate APS, TEP etc and the water companies that will be seeing the growth (of homes and power plants). | |
| #8 | <p>(RP) - Policy and rule changes are needed to encourage use of new water sources (reclaimed water, gray water, rainwater, stormwater, and remediated water).</p> <ul style="list-style-type: none"> • ADEQ in conjunction with ADWR policy should clearly address comingling of remediated waters with reclaimed water • BMPs need to encourage “green” infrastructure development such as rainwater harvesting • Aquifer Protection Permit and Reclaimed Water Permit Rules should emphasize protection of public drinking water sources from contamination to maintain public support for use of reclaimed water, gray water and other alternate water sources • #26 - Refine Arizona policies and regulations governing the accrual of groundwater credits to provide incentives for conversion to reclaimed water from groundwater pumping for groundwater turf and irrigation users-proximate to reclaimed lines. • #40 - Make changes to state statutes to grant full recharge credit to the Secretary of the Interior for effluent used to sustain the flows in riparian corridors. | 141 | <ul style="list-style-type: none"> - An overarching State-wide Water Policy is required. - Some of these issues are not yet at the critical stage. | <p>Add #26 & #40 as bullet points under this issue</p> <p>#26 – Would entity be willing to waive credit accrual?</p> <p>#26 - Consider location of recovery, timing and physical availability</p> |
| #9 | <p>(RP) - Interactions and inconsistencies between the AZPDES Permit Program, Surface Water Quality Standards, Reclaimed Water Quality Standards and Aquifer Protection Permits need to be resolved.</p> <ul style="list-style-type: none"> • A flowchart/matrix will assist in clarification. This should have the impact of removing impediments to reuse and recharge where what is allowed by one program might be inadvertently blocked by another. The flowchart should identify what each program covers and where one program ends and the next program starts. The working group believes it is beyond their scope to develop this matrix and it should be an effort of ADEQ | 129 | <ul style="list-style-type: none"> - This is a critical issue, and one that should be resolved early on. - Add source water approval | |
| #10 | (IR) - Develop definitions and guidance for Indirect Potable Reuse (IPR) in aquifers in association with drinking water source approval and local and state agency permitting requirements to facilitate a standardized and efficient approach to design, permitting, and operation of such projects | 127 | <ul style="list-style-type: none"> - The Australia CSIRO organization recently published a report on aquifer recharge with recycled water and concluded through Quantitative Microbial Risk Assessments and Screening Human Health Risk Assessments that the risks to potable water quality is very low. - This is a good idea, but one that properly should be addressed by the Regulations & Permitting group. | <p>Suggestion to explore feasibility first –</p> <p>BRP committed to developing definitions/guidance</p> |

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| #11 | (RP) - Title 18, Chapter 11, Article 3 Reclaimed Water Quality Standards need review and updating to take into account experience and knowledge learned from reclaimed water use in Arizona. <ul style="list-style-type: none"> • New candidates for general permits • Type 3 gray water system design standards based on on-site treatment • New gray water uses • Definitions, amendments, signage requirements • Review of outstanding issues • Coliform monitoring issue (e.g. <i>E. coli</i> vs. fecal coliforms) • Gray water usage limitations (quantity) • Accommodate de minimus uses of alternate water sources • Type 3 gray water system design standards review | 112 | - This covers a broad array of issues, some of which are critical and consequential. | |
| #12 | (CREEN) - Efforts should be made to manage water supplies to optimize the matching of water quality to intended uses <ul style="list-style-type: none"> • | 108 | - Definitely. - This issue is important and consequential; should be addressed early. | Crosses multiple areas/issues |
| #13 | (RP) - A strategic research plan is needed that supports new directions in policy and rule development (emerging contaminants, direct potable and full body contact reuse). <ul style="list-style-type: none"> • Direct potable reuse • Research efforts coordinated similar to those under the prior Arizona Water Institute • Technology based standards development process • Human health impacts for existing, traditional reuse applications • Human health impacts of PCPs in gray water | 107 | - Much of this research is being conducted in places like Australia. - This issue is critical and consequential.- | Needs to include specific mentions of pharmaceuticals |
| #14 | (RP) - Recharge, Reuse, and AZPDES permits do not adequately address unique situations. More flexibility is needed so that reclaimed water use opportunities can be taken advantage of. <ul style="list-style-type: none"> • De-chlorination requirements for riparian and recharge projects should be case by case • Lake management plans could substitute for narrative nutrient standards • Permits need to be consistent (APP BADCT/Reclaimed Water Quality Standards) • General permits should be more widely offered | 96 | - Some of these items will be fairly easy to implement. | |
| #15 | (IR) - Identify issues and develop approaches to operator training/certification for reclaimed water utility distribution systems to ensure consistent and safe management of this resource and its associated infrastructure. Based upon the analysis, develop recommendations on operator certification for the BRP | 91 | - Does not seem to be directly related to infrastructure. Not a critical issue during tough budget times. - Certification is a critical element of public acceptance. | |
| #16 | (PPA) - The need for the public, community leaders, water treatment professionals, businesses and industry to understand and be aware of water quality issues and how their actions, including disposal of pharmaceuticals and personal care products, can influence water quality | 90 | - Important issue, but not ripe for solution. | |
| #17 | (PPA) - The need for consistency in the use of common and positive terminology to convey effective messages about water sustainability | 84 | - Easy, inexpensive. - Words matter. The message needs to be understandable by the layperson while remaining correct from a technical point of view. | |
| #18 | (EF) - Provide technical support and a Clearinghouse for assistance to Arizona communities. AND #29 Continue and expand WIFA grant and loan programs targeted to Green Infrastructure such as aquifer recharge, and stormwater capture/rainwater harvesting. | 83 | - As much of the future development in the state will likely be outside of traditional municipalities, the ACC may be the most logical agency for this role. - While this may be beneficial, it comes at a high | ADD #29 |

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| | | | cost; not sure if current state budget will allow creation of a new agency. | |
| #19 | (RP) - Current state statutes have created a jurisdictional issue with regards to control of gray water systems and need to provide incentives for continued/expanded use of alternate sources of water supply. <ul style="list-style-type: none"> • Tax credits for gray water systems • Provide financial and regulatory incentives for conversions • Local control of gray water systems | 82 | <ul style="list-style-type: none"> - Gray water use for rural areas may be acceptable. Water quality is not maintained or monitored in gray water systems. In an urban environment this is a potential problem. - Not a high priority, given other concerns; some items fairly easy to implement. | |
| #20 | (PPA) - The need for a better public understanding of the overall water picture and the role of reclaimed water in the water cycle | 82 | <ul style="list-style-type: none"> - We need to move to a new water delivery model. One which uses a spectrum of waters of various qualities (all safe) for the right use. Humans have only had piped water for 100 years – 3 generations (if). We can develop a new water reality. - Critical issue, but duplicated by other groups. | |
| #21 | (IR) - Compile a matrix of State, regional, and local specifications and infrastructure standards and use it to identify similarities, inconsistencies, and gaps. Use the matrix to develop recommendations to the BRP on a suite of standards that will provide a common foundation of safety and good engineering practice for reclaimed water distribution systems | 81 | <ul style="list-style-type: none"> - Standards drive both acceptance and adoption. Without statewide standards areas of the state will not benefit from water reuse. - Many standards exist already from California, Florida, Australia etc. - Consideration of mandating certain infrastructure might be a benefit – for example a “no-regrets” policy of dual reticulation. Even if recycled water is not used, such a system saves power, consumables and reduces the requirement for treating ALL the water to a potable standard. - Problematic. Arizona does not need a “one size fits all” solution. Instead, flexibility should be the key approach. May increase barriers. | |
| #22 | (CREEN) - It is important to consider a continuing role for research and incentives which will transition worthy technologies into mainstream markets | 80 | <ul style="list-style-type: none"> - Not that critical – research being conducted by private sector; little money available for incentives from government | <p>Look at what other entities are doing - customize to be AZ specific</p> <p>Look at cost-effectiveness – “total societal cost test” used in energy, could be adopted here.</p> |
| #23 | (EF) - Establish financial and rate-making guidelines for the ACC regulated water utilities that mirror the programs currently in effect for the power utilities. | 80 | <ul style="list-style-type: none"> - Agreed. The ACC should also consider decoupling as a rate setting vehicle as well as conservation oriented rate structures. The ACC should also consider providing alternative funding methodologies (separate from AIAC and CIAC) that can provide regionally-scaled integrated water infrastructure while shielding consumers from the risks associated with development and the carrying costs of regionally- | Will also look at Public Sector |

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| | | | scaled infrastructure. - This is an important issue, as long as it is confined to ACC-regulated utilities; municipal providers have other regulators. - Not sure of the ramifications – but worth a look. | |
| #24 | (IR) - Compile a matrix of O&M best management practices (BMPs) that are applicable to reclaimed water distribution. Use the matrix to develop recommendations to the BRP on a menu of BMPs appropriate for use in Arizona | 76 | - Operations organizations should be modeled as high reliability organizations (HROs) to facilitate public trust and mitigate the potential for any system failures. - Not a critical issue at the moment. | |
| #25 | EF CREEN - Look at opportunities for efficiency in the water and energy nexus including water-less solar facilities and dry cooling towers | 76 | - Recycled water is the least power intensive water available. It is already highly treated and is on the surface. Maximum use of this water for all non-potable uses must be a fundamental aspect of the state's water policies. - An important issue; critical and consequential. | Move to CREEN Working group |
| #26 | #27 - Provide incentives for emphasizing water harvesting as a preferred Best Management Practice (BMP) for stormwater management. AND #36 - Further research is needed regarding regulatory barriers, costs and benefits, quality issues and avenues for increasing utilization of stormwater and rainwater at the regional, community and homeowner/property owner level. | | | CREEN – Look at education side of stormwater issues RP – Look at regulation side of stormwater issues |

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| | REMAINING ISSUES | | | |
| #26 | <i>(EF) – Refine Arizona policies and regulations governing the accrual of groundwater credits to provide incentives for conversion to reclaimed water from groundwater pumping for groundwater turf users irrigation proximate to reclaimed lines.</i> | 75 | <ul style="list-style-type: none"> — A very specific issue; does not have broad application. — Should focus on irrigation users instead of turf users. | Put under #8 -Will the entity be willing to wave? -(IR) will take over this issue |
| #27 | <i>(EF) – Provide incentives for emphasizing water harvesting as a preferred Best Management Practice (BMP) for stormwater management.</i> | 72 | <ul style="list-style-type: none"> — May tend to create more barriers, not eliminate them. | |
| #28 | <i>(RP) - Education and outreach need to be stronger components of regulatory programs. Regulations need to encompass these issues so the public better understands the benefits and safety of the use of alternate sources of water supply.</i> <ul style="list-style-type: none"> • Design guidelines are needed for persons considering and installing gray water systems • Reclaimed water use can offset and help conserve potable water sources | 63 | <ul style="list-style-type: none"> - This issue is duplicated by the Public Perception group. | |
| #29 | <i>(EF) – Continue and expand WIFA grant and loan programs targeted to Green Infrastructure such as aquifer recharge, and stormwater capture/rainwater harvesting.</i> | 61 | <ul style="list-style-type: none"> — Comparable to what is available for larger utilities. | Add to #18 -Private companies can apply for WIFA Funds |
| #30 | <i>(EF) - Gray water incentives should be provided to the commercial and municipal sector.</i> | 56 | <ul style="list-style-type: none"> - This issue is a duplicate of one that is being addressed by the Regulations and Permitting group. | |
| #31 | <i>(EF) - Incentivize Green Infrastructure by introducing simplified ADWR and ADEQ regulatory and permitting programs which save time and effort for smaller communities.</i> | 49 | <ul style="list-style-type: none"> - The need for simplified and non-duplicative programs has been addressed by several of the working groups. - And large communities | |
| #32 | <i>(CREEN) - There is need for better awareness and education campaigns that target groups such as the public, decision makers and policy makers in all areas of discussion</i> | 44 | <ul style="list-style-type: none"> - This duplicates an issue in the Public Perception group and should rightfully be addressed there. - This duplicates an issue in the Public Perception group and should rightfully be addressed there. | |
| #33 | <i>(CREEN) - There is a need for improved data, research and better definition of terms in all areas of discussion</i> | 42 | <ul style="list-style-type: none"> - This duplicates an issue in the Public Perception group and should rightfully be addressed there. | |
| #34 | <i>(IR) - Coordinate with the Regulations/Permitting Working Group to analyze an array of approaches needed to implement the recommendations of Issues 1, 2, and 3 above in a manner that will eliminate current impediments</i> | 39 | <ul style="list-style-type: none"> - Innovation will drive the regulatory environment. - These items should be addressed, if needed, by the Regulations & Permitting group. The Infrastructure group should concentrate on infrastructure. | |
| #35 | <i>(RP) - Items identified that should remain on the radar for future consideration, but currently work well.</i> <ul style="list-style-type: none"> • Enhance education efforts to promote reuse that currently already have standards and framework in place by statute and rule • Local control of salinity requirements • Local control of water softeners • The definition of effluent | 39 | <ul style="list-style-type: none"> - It is important to reinforce what Arizona is already doing well. | |
| #36 | <i>(CREEN) – Further research is needed regarding regulatory barriers, costs and benefits, quality issues and avenues for increasing utilization of stormwater and rainwater at the regional, community and homeowner/property owner level.</i> | 36 | <ul style="list-style-type: none"> — Residential stormwater management could be considered spotty (in terms of availability) and a risk in terms of storage of untreated water | |

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| | | | (microbial growth and vector attraction); — Not a critical issue. | |
| #37 | <i>(CREEN) - The cost and benefits of all recommendations must be considered</i> | 35 | - Not really an issue, per se. | |
| #38 | <i>(CREEN) - Recommendations must reflect that each area of the state has unique circumstances</i> | 31 | - Agreed. However, without an overarching water policy for the state, there will be no impetus for changing the current paradigm. Indeed much of the growth will be happening outside established municipalities and we have the opportunity to encourage sustainable thinking through policy. - A key point to remember for all issues: one size of solution does not fit all situations. | Suggest this is a Guiding Principle for ALL Issues |
| #39 | <i>(PPA) – The need to build a constituency for increased use and acceptance of reclaimed and recycled waters for beneficial purposes through education, outreach and other strategies</i> | 26 | Key elements of acceptance are: • Trust • Transparency • Best Management Practices and Risk Management • Education — Important, but not so easy to build a constituency. | — ADD to #5 |
| #40 | <i>(EF) – Make changes to state statutes to grant full recharge credit to the Secretary of the Interior for effluent used to sustain the flows in riparian corridors.</i> | 26 | — If based on measured/quantified physical availability — not an arbitrary percentage — A very specific issue; does not have broad application. — Suggest changing Secretary of Interior to “treating entity” — In addition to sustain the flows in riparian corridors add “or that may be diverted pursuant to a recognized diversion right” | Add to #8 — Credit would go to treating entity |
| #41 | <i>(CREEN) - Identify what is needed to further encourage use of stormwater</i> | 13 | - Not a critical issue. | |
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