

# 5<sup>th</sup> Management Plans Municipal Subgroup

March 9, 2020



# Agenda

- I. Welcome
- II. Overview of Municipal Non-Per Capita Conservation Program
- III. Discussion of Individual Best Management Practices (BMPs)
- IV. Review of Stakeholder Proposals for the 5<sup>th</sup> Management Plans  
Municipal BMPs
- V. Closing Remarks

# Overview of Municipal Non-Per Capita Conservation Program

# Non-Per Capita Conservation Program (NPCCP) Recap

- \* BMP Program for Large Providers
- \* Default option for non-designated large providers
  - \* Designated providers may elect to be regulated under this program

Total number of service connections (includes both residential and non-residential)	Required number of Best Management Practices points
Tier 1 - 5,000 or fewer connections	3
Tier 2 - 5,001 to 30,000 connections	8
Tier 3 - Over 30,000 connections	15



# BMP Categories Recap

1. Public Awareness/Public Relations
2. Conservation Education and Training
3. Outreach Services
4. Physical System Evaluation and Improvement
5. Ordinances/Conditions of Service/Tariffs
6. Rebates/Incentives
7. Research/Innovation Program

# Recap of Previous Municipal Subgroup Meeting

- \* Evaluated Municipal BMP Categories 1-3
- \* Items discussed during the previous meeting:
  - \* **BMP 1.2:** Number of events required could be different depending on the provider's tier
  - \* **BMP 1.3:** Include other data gathering methods (example: focus groups)
  - \* **BMP 2.1:** Split this BMP into Residential/Non-residential, different number of points given for residential vs. non-residential
  - \* **BMP 2.3:**
    - \* "Packet" could be better defined
    - \* This BMP could be moved to category 1, combined with another BMP (such as 1.1), or removed
    - \* Change this to a new homeowner education program (when they call in to turn on their water service, spend time explaining water conservation options)
  - \* **BMP 2.4:** Model homes required to have xeriscape demo landscaping
  - \* **BMP 3.1 & 3.2:** Combine these two BMPs because they are intertwined, but then split the combined BMP into residential/non-residential
  - \* **BMP 3.3:** Explore making this BMP part of a sequential process with points increasing through each step and possible extra point added for doing all three steps (example: (1) Phone audit (2) In-person audit (3) Water budget)

# Discussion of Individual BMPs and Review of Stakeholder Proposals for the 5<sup>th</sup> Management Plans

# Category 4: Physical System Evaluation and Improvement



## 4.1 Distribution System Leak Detection Program (2 points)

The water provider implements a systematic evaluation of its water distribution system to identify and fix leaks. The provider must implement this program throughout its service area unless the provider can demonstrate that targeting certain portions of its water service area is likely to yield the highest water savings potential. A description of the program and its results must be noted in the provider's CER.

## 4.2 Meter Repair or Replacement Program (2 points)

The water provider implements a program to systematically assess the meters or submeters in its water service area to identify malfunctioning meters and to repair or replace them. The number of meters repaired or replaced each year must be noted in the provider's CER.

## 4.3 Approved Comprehensive Water System Audit Program (3 points)

The water provider conducts a systematic water loss or non-revenue water audit following an established methodology and utilizing best loss control techniques. The audit program may include a review of the water provider's water distribution system, systems control equipment, and water records to identify and quantify water losses and shall develop a plan for corrective measures. The audit can be a precursor to a leak detection program or meter repair/replacement program. The provider must submit documentation with its CER that describes the audit, its objectives, methods, and results. Credit for this BMP is limited to only one year unless the provider can provide justification for an ongoing or multi-year program. In subsequent years, the provider must replace this BMP with another BMP from categories 1 through 7 that is appropriate for its service area.

## 4.4 Installation of Advanced Metering Infrastructure (AMI) (2 points)

The water provider or designated representative (e.g. contractual work overseen by water provider) plans, installs, and monitors advanced metering infrastructure (AMI) throughout its service area. Providers may also retrofit advanced meter reading (AMR) to an AMI system. The number of units installed and/or retrofitted per year must be reported in the provider's CER. The water provider can receive credit for this measure a maximum of 5 years or until the AMI system is fully installed, whichever is less.

# Category 5: Ordinances/Conditions of Service/Tariffs



## 5.1 Low-Water-Use Landscaping Requirements (1 point)

Single-family, multi-family, non-residential facilities or common areas are either required to include low-water-use landscapes in all or part of their property or have limitations on water-intensive landscaping or turf.

## 5.2 Water Tampering/Water Waste Ordinances (1 point)

Water waste or water tampering are prohibited on residential or non-residential properties.

## 5.3 Plumbing Requirements Stricter than Current Arizona Code (1 point)

Plumbing requirements for new residential or non-residential properties are stricter than those currently in the Arizona code or include restrictions not currently in the Arizona code.

## 5.4 Limitations on Water Features (fountains, waterfalls, ponds and other artificial water structures) (1 point)

Residential or non-residential properties have limitations on or water conservation requirements for water features.

## 5.5 Requirement for Water-efficient Landscapes in Model Homes (1 point)

Landscaping at model homes in new residential developments is required to be water-efficient, is limited as to the size of water-intensive landscaped areas or requires water-intensive landscaping to be used for functional areas only.

## 5.6 Requirements for Graywater or Rainwater Systems (1 point)

Residential or non-residential facilities are required to have on-site plumbing or systems for collecting and utilizing graywater or rainwater.

## 5.7 Conservation Requirements for Car Washes (1 point)

Commercial car washes are required to recycle water and to implement additional measures to increase water use efficiency and reduce water consumption. Examples of additional measures include using low flow nozzles, repairing leaks, watering landscape with reclaimed water, installing low-water-use landscapes or using automatic shut-off valves on hoses and faucets.

# Category 5: Ordinances/Conditions of Service/Tariffs (cont.)



## 5.8 Landscape Watering Restrictions (1 point)

The watering of landscapes is restricted to certain times of day. (This may be seasonal.)

## 5.9 Requirements for Water-efficient Hot Water Devices or Systems (1 point)

Water-efficient plumbing design, “on-demand” hot water recirculation devices or other devices or designs for providing hot water efficiently are required in new residential and/or non-residential buildings.

## 5.10 Retrofit on Resale (1 point)

Owners of single-family homes, multi-family home complexes or non-residential facilities are required to replace or retrofit all indoor plumbing fixtures (e.g., toilets, showerheads, faucets) that do not conform to current water efficiency standards. This could be implemented by the seller prior to sale or by the buyer subsequent to the sale.

## 5.11 Landscape Water Use Efficiency Standards for Non-residential Customers (1 point)

New or rehabilitated non-residential facility landscaping of a particular size is required to meet specified standards for maximum water allowance, plant selection, irrigation design, grading or other components that result in improved landscape water use efficiency.

## 5.12 Requiring a Water Use Plan for Non-residential Users (1 point)

All new commercial, industrial, and institutional customers with projected annual water use of 10 acre feet (AF) or more per year are required to submit a water use plan that identifies all anticipated water uses by the customer and the water efficiency measures associated with the uses. The water use plan must include at least five of the following: (1) Statement of water efficiency policy, (2) Water conservation education/training for employees, (3) Identification of on-site recycling and reuse strategies, (4) Total cooling capacity and operating total dissolved solids or conductivity for cooling towers, (5) Identification of best available technologies used for process, cooling, and domestic water uses, (6) Landscape watering system distribution uniformity and landscape water budget, (7) Total annual water budget for the facility.

# Category 6: Residential Rebates/Incentives



## 6.1 Customer Assistance Program (1 point)

The water provider offers residential customers in its service area free services or no interest or low-interest loans to repair inefficient equipment or leaks. Repairs include replacing parts, performing maintenance, or installing new fixtures. The number of customers assisted, type of repair (part replacement, maintenance, or replacement), and actual water savings one year pre- and post-repair per type must be reported in the provider's CER.

## 6.2 Toilet Rebate or Incentive Program (1 point)

The water provider offers residential customers in its service area a financial rebate or other incentive for the purchase and installation of toilets that are more efficient and use 1.6 gallons of water per flush or less. The number of toilets rebated, the total amount rebated, and actual water savings one year pre- and post-rebate must be reported in the provider's CER.

## 6.3 Smart Irrigation Technology Rebate or Incentive Program (1 point)

The water provider offers residential customers in its service area a financial rebate or other incentive for the purchase and installation of smart irrigation technology (e.g. irrigation controllers, nozzles, flow sensors, etc.). Documentation of the technology's benefits, the number and type of technology rebated, the total amount rebated per type of technology, and actual water savings one year pre- and post-rebate per type of technology must be reported in the provider's CER.

## 6.4 Rebate for Water-efficient Hot Water Devices or Systems (1 point)

The water provider shall offer a financial rebate or incentive to single-family or multi-family customers for water-efficient plumbing design, "on-demand" hot water recirculation devices, or other devices or designs for providing hot water efficiently. A description of the program and its results must be noted in the provider's CER.

**Stakeholder Proposal: Remove this BMP because it underperforms in saving water compared to outdoor use rebates or other indoor rebates**

# Category 6: Residential Rebates/Incentives (cont.)



## 6.5 Water-Efficient Appliance Rebate or Incentive Program (2 points)

The water provider offers residential customers in its service area a financial rebate or other incentive for the purchase and installation of water efficient appliances (e.g. clothes washer). The type and number of appliances rebated, the total amount rebated per type of appliance, and actual water savings one year pre- and post-rebate per appliance must be reported in the provider's CER.

**Stakeholder Proposal: Reduce BMP points to 1**

## 6.6 Graywater Retrofit Rebate or Incentive Program (1 point)

The water provider offers residential customers in its service area a financial rebate or other incentive for the installation of graywater systems, fixtures, or retrofits along with related educational material that includes information on the benefits of using graywater. The type and number of retrofits rebated, total amount rebated, and actual water savings one year pre- and post-rebate must be reported in the provider's CER.

## 6.7 Rainwater Harvesting Retrofit Rebate or Incentive Program (1 point)

The water provider offers residential customers in its service area a financial rebate or other incentive for the installation of active or passive rainwater harvesting systems (e.g. gutters, downspouts, landscape designs, containers, etc.) along with information about water-harvesting techniques. The type and number of rebates provided, total amount rebated per type, and actual water savings one year pre- and post-rebate must be reported in the provider's CER.

## 6.8 Landscape Conversion Rebate or Incentive Program (2 points)

The water provider offers residential customers in its service area a financial rebate or other incentive for the conversion of landscape to reduce water usage. Examples include replacing grass with xeriscape or converting a high-water-use landscape to a low-water-use landscape. Educational information about landscape conversions must be provided to customers. The type and number of rebates provided, total amount rebated per type, square feet of grass removed (if applicable), and actual water savings one year pre- and post-rebate per type of rebate must be reported in the provider's CER.

## 6.9 Installing Xeriscapes in New Landscapes Rebate or Incentive Program (1 point)

The water provider offers residential customers in its service area installing new landscapes a financial rebate or incentive for installing a xeriscape landscape. The type and number of rebates provided and total amount rebated per type must be reported in the provider's CER.

**Stakeholder Proposal: Remove this BMP because most new home landscapes are xeriscapes and an additional incentive is not needed**

# Category 6: Non-residential Rebates/Incentives



## 6.10 Commercial and Industrial Rebate or Incentive Program (1 point)

The water provider identifies commercial and industrial customers in its service area with the highest conservation potential and implements a water conservation program and/or rebate or incentive program for those customers. The program may include replacements, retrofits, and audits and may focus on outdoor use (irrigation, water features, pools, etc.) or indoor use (machinery, bathrooms, cooling towers, etc.). A description of the program and actual water savings pre- and post-project must be noted in the provider's CER.

## 6.11 Toilet Rebate or Incentive Program (1 point)

The water provider offers non-residential customers in its service area a financial rebate or other incentive for the purchase and installation of toilets that are more efficient and use 1.6 gallons of water per flush or less. The number of toilets rebated, the total amount rebated, and actual water savings one year pre- and post-rebate must be reported in the provider's CER.

## 6.12 Smart Irrigation Technology Rebate or Incentive Program (1 point)

The water provider offers non-residential customers in its service area a financial rebate or other incentive for the purchase and installation of smart irrigation technology (e.g. irrigation controllers, nozzles, flow sensors, etc.). Documentation of the technology's benefits, the number and type of technology rebated, the total amount rebated per type of technology, and actual water savings one year pre- and post-rebate per type of technology must be reported in the provider's CER.

## 6.13 Water-Efficient Appliance Rebate or Incentive Program (1 point)

The water provider offers non-residential customers in its service area a financial rebate or other incentive for the purchase and installation of water efficient appliances (e.g. clothes washer). The type and number of appliances rebated, the total amount rebated per type of appliance, and actual water savings one year pre- and post-rebate per appliance must be reported in the provider's CER.

## 6.14 Graywater Retrofit Rebate or Incentive Program (1 point)

The water provider offers non-residential customers in its service area a financial rebate or other incentive for the installation of graywater systems, fixtures, or retrofits along with related educational material that includes information on the benefits of using graywater. The type and number of retrofits rebated, total amount rebated, and actual water savings one year pre- and post-rebate must be reported in the provider's CER.

# Category 6: Non-residential Rebates/Incentives (cont.)



## 6.15 Rainwater Harvesting Retrofit Rebate or Incentive Program (1 point)

The water provider offers non-residential customers in its service area a financial rebate or other incentive for the installation of active or passive rainwater harvesting systems (e.g. gutters, downspouts, landscape designs, containers, etc.) along with information about water-harvesting techniques. The type and number of rebates provided, total amount rebated per type, and actual water savings one year pre- and post-rebate per type of rebate must be reported in the provider's CER.

## 6.16 Landscape Conversion Rebate or Incentive Program (2 points)

The water provider offers non-residential customers in its service area a financial rebate or other incentive for the conversion of landscape to reduce water usage. Examples include replacing grass with xeriscape or converting a high-water-use landscape to a low-water-use landscape. Educational information about landscape conversions must be provided to customers. The type and number of rebates provided, total amount rebated per type, square feet of grass removed (if applicable), and actual water savings one year pre- and post-rebate per type of rebate must be reported in the provider's CER.

## 6.17 Installing Xeriscapes in New Landscapes Rebate or Incentive Program (1 point)

The water provider offers nonresidential customers in its service area installing new landscapes a financial rebate or incentive for installing a xeriscape landscape. The type and number of rebates provided and total amount rebated per type must be reported in the provider's CER.

## 6.18 Large Landscape Conservation Program (1 point)

The water provider implements a program to provide non-residential customers with support and incentives to improve their landscape water use efficiency. A description of the program and its results must be noted in the provider's CER.

## 6.19 No or Low Interest Loans for Implementing Water Conservation Measures (1 point)

The water provider offers assistance to customers wishing to invest in projects intended to reduce existing water use or bring new uses in at high efficiency rates. A description of the program and its results must be noted in the provider's CER.

# Category 7: Research/Innovation Program (cont.)



## 7.1 Participation in Industry or Regional Partnerships for Water Conservation (1 point)

The provider contributes financial support or in-kind services and actively participates in an industry or regional partnership that implements a collaborative program designed to increase water use efficiency or reduce water consumption. The provider must describe the partnership, program objectives, ongoing and future efforts, and submit the information in its CER.

## 7.2 Research of a New Technology or Technique (1 point)

The provider researches, contributes financial support, or provides in-kind services for the research of a new technology or technique that will enhance their conservation program decision making and development, improve water efficiency or result in water savings. The provider must submit with its CER documentation that describes the research objectives, methods, and results. Additionally, the provider must provide its involvement and methods of support and any other participatory party's involvement and methods of support. This documentation shall be made available for public distribution.

## 7.3 Pilot Plan Development for New Technology or Technique (1 point)

The provider plans, contributes financial support, or provides in-kind services for the plan development for a pilot of a new technology or technique that will enhance their conservation program decision making and development, improve water efficiency, or result in water savings. The provider must submit with its CER documentation that details the pilot plan, including but not limited to the timeline for implementation, the projected cost of the project, the customers selected (residential, non-residential, the water provider, etc.), the desired outcomes, the proposed methods of analysis, and any anticipated challenges. Additionally, the provider must provide its involvement and methods of support and any other participatory party's involvement and methods of support. This documentation shall be made available for public distribution.

## 7.4 Piloting a New Technology or Technique (1 point)

The provider pilots, contributes financial support, or provides in-kind services for piloting a new technology or technique that will enhance their conservation program decision making and development, improve water efficiency, or result in water savings. The provider must submit documentation with its CER that includes the pilot program tracking information, including but not limited to the actual timeline of implementation, the actual cost of the pilot, the actual customers selected, the actual method of analysis, and any challenges that occurred and how they were mitigated. Additionally, the provider must provide its involvement and methods of support and any other participatory party's involvement and methods of support. This documentation shall be made available for public distribution.

# Category 7: Research/Innovation Program



## 7.5 Evaluation of New or Emerging Technologies and Practices (1 point)

The provider conducts, contributes financial support, or provides in-kind services for conducting an evaluation of a new technology or technique that will enhance their conservation program decision making and development, improve water efficiency, or result in water savings. The provider must submit documentation with its CER that details the evaluation, including but not limited to the methods used to conduct the evaluation, the results of the evaluation, final conclusions of the evaluation, and any missing information that may be useful in future analysis. Additionally, the provider must provide its involvement and methods of support and any other participatory party's involvement and methods of support. This documentation shall be made available for public distribution.

## 7.6 Analyzing a Best Management Practice (BMP) for Actual Water Savings (1 point)

The provider conducts a quantitative analysis of a BMP that yields results regarding actual water savings. The provider must submit documentation with its CER stating the objectives, methods used to conduct the analysis, and the results of the investigation. This documentation shall be made available for public distribution. Credit for this BMP is limited to only one year unless the provider can offer justification for an ongoing or multi-year program. In subsequent years, the provider must analyze a different BMP to receive credit.

## 7.7 Implementation of Smart Irrigation Technology (1 point)

The provider installs smart irrigation technology and submits documentation with its CER describing the project location, implementation methods and estimates of irrigation efficiency.

Stakeholder Proposal: Convert BMP into two rebate BMPs (residential/non-residential) under Category 6. New emerging irrigation technologies can still be piloted under the scientific method outlined in the suggested Category 7 - there is no longer a need to specifically call out this type of emerging technology.

# Stakeholder Proposal – Category 7: Research/Innovation



- \* New or emerging technologies or techniques require time, energy, collaboration, and funding.
- \* Arizona is unique from other states – it warrants its own field of research.
  - \* Many papers or studies are conducted outside of the state. We need to increase our own specialized body of research and utilize the knowledge/resources in other organizations, such as universities.
- \* Pilots of new or emerging technologies or techniques may yield negative results; however the efforts should still be rewarded.
  - \* Negative results are still progress – they can inform other bodies of research.
  - \* Utilities do not want to feel like efforts are wasted if only positive results are awarded under the BMP structure – no incentive to be innovative.
  - \* Hard to convince management etc. to be on board with large, multi-year projects if there is only one year of credit.

Proposed BMP	Scientific Method
7.1 Participation in Industry or Regional Partnerships for Water Conservation (1 point)	Define the purpose/problem – work with other professionals to seek common challenges and identify universal solutions [7.1]
7.2 Research of a New Technology or Technique (1 point)	Construct a hypothesis – research available technologies or techniques, read existing papers, meet with other agencies/utilities who have utilized them, and select a pilot [7.2]
7.3 Pilot Plan Development for a New Technology or Technique (1 point)	Develop a methodology – develop a sound plan to pilot the new or emerging technology or technique, secure funding, and create a team of applicable personnel (i.e. meter staff, operations, public information, etc.) [7.3]
7.4 Piloting a New Technology or Technique (1 point)	Collect data – pilot the technology or technique and collect pertinent data [7.4]
7.5 Evaluation of New or Emerging Technology or Technique (1 point)	Analyze the data & draw conclusions – evaluate the water savings pre- and post- technology or technique, which may require at least one year of post- water use [7.5]
7.6 Third-Party Evaluation of Existing Best Management Practice (BMP) or New or Emerging Technologies or Techniques for Actual Water Savings (1 point)	Communicate results – provide data to an impartial third-party to independently review and test for actual water savings [7.6]

# Additional Stakeholder Proposals for Municipal BMPs

- \* Rebate programs (at two points per program) may need maximum number of points allowable or some other limitation.
- \* Require a minimum number of points per category
  - \* Future meeting topic: Category structure and points targets
- \* Structure the CER report to streamline data gathering, make sure the BMP language works with the CER.
  - \* Future meeting topic: Assess CER – What information should be gathered?
    - \* Increasing Quantitative Data Requirements
    - \* Improving Data Quality
    - \* Access to Compiled Data

# Closing Remarks



# MANAGEMENT PLANS WORK GROUP

## **A.R.S. § 45-563 (A)**

*“The director shall develop a management plan for each initial active management area for each of five management periods... and shall adopt the plans only after public hearings... The plans shall include a continuing mandatory conservation program... designed to achieve reductions in withdrawals of groundwater.”*

## **ADWR-led stakeholder forum for the development of the 5th Management Plans**

### **Goals:**

- \* Assess existing conservation programs
- \* Update existing management strategies
- \* Develop new management strategies

# 5MP Municipal Subgroup Goals & Strategies

## Goals

- \* Assess existing conservation programs
- \* Update existing management strategies
- \* Develop new management strategies

## Strategies

- \* Data Inventory and Analysis
- \* Discussion of existing programs
  - \* NPCCP
    - \* Individual BMPs
    - \* Categories
    - \* Points Targets
    - \* Reporting/CER
  - \* GPCD
- \* Discussion of potential new/additional programs

# MPWG Subgroups

{ All meeting info is available at [new.azwater.gov/5MP](http://new.azwater.gov/5MP) }

Work Group

MPWG

📅 3/19/2020

Subgroup

Ag

📅 4/6/2020

Muni

📅 5/18/2020

Industrial

📅 TBD

Safe-Yield  
Technical

📅 4/20/2020

Breakout

Turf

📅 4/27/2020

# Questions?

[managementplans@azwater.gov](mailto:managementplans@azwater.gov)

Management Plans Work Group:  
[new.azwater.gov/5MP](http://new.azwater.gov/5MP)

Full Text of Management Plans:  
[new.azwater.gov/ama/management-plans](http://new.azwater.gov/ama/management-plans)

Natalie Mast  
[nlmast@azwater.gov](mailto:nlmast@azwater.gov)  
(602)771-4646

