Willcox AMA Management Plan Development: Agricultural Conservation Program Workshop

February 18, 2026

Agenda

1. Welcome, Introductions, & Meeting Logistics
2. Willcox AMA Management Plan Timeline & Development
3. Agricultural Conservation Program Development Updates
4. Roundtable Discussion
5. Closing

Welcome and Introductions

Meeting Logistics

ADWR is holding this presentation and answering questions to provide public information and to receive public feedback. ADWR is facilitating a collaborative roundtable discussion for the development of the First Management Plan.

ADWR does not intend to provide comprehensive guidance and cannot give legal advice. If you have legal questions about your specific circumstances, you should consult with an attorney.

Meeting Logistics

- Except for clarifying questions, please hold questions and comments until the public discussion portion.
- Specific questions about individual circumstances should be addressed separately via phone/email.
- Please be respectful to staff and to fellow attendees.

Providing Comments and Input to ADWR

Send comments regarding Management Goal & Plan:

managementplans@azwater.gov

Willcox AMA information & applications:

https://www.azwater.gov/ama/willcox-ama

Other AMA questions:

AMA Customer Service email: earp@azwater.gov

AMA Customer Service phone: 602.771.8585

Applications for Grandfathered Rights

Remember:

* Applications for grandfathered rights **must** be submitted by **April 8, 2026.**
* Failure to apply by this date will waive and relinquish the right to use groundwater from a non-exempt well. A.R.S. 45-477.01.
* Applications are available at www.azwater.gov/ama/willcox-ama.

Annual Withdrawal and Use Reporting

2026 ANNUAL REPORTING DEADLINE

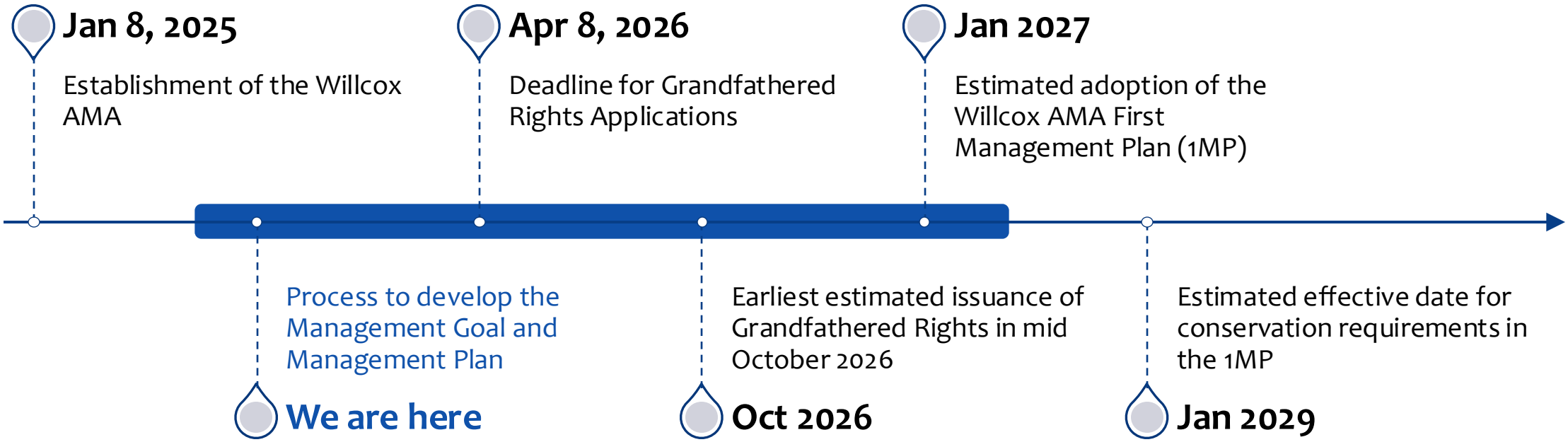
Persons who have received a withdrawal authority and a notice of annual reporting requirements are expected to file an annual report by March 31, 2026; failure to do so is subject to enforcement actions under A.R.S. § 45-632.

Persons who have not yet received a withdrawal authority by January 2026 were not sent a notice of annual reporting requirements.

For each person required to report water use in the Willcox AMA, annual reporting requirements will begin March 31st the year following ADWR's issuance of a withdrawal authority, and enforced thereafter.

Willcox AMA Management Plan Timeline & Development

Where are we now in the Willcox AMA Development Process?



How do Management Goals and Plans work?

The Management Goal sets the objective of the AMA.

The Management Plans establish policies and requirements to achieve the Management Goal over a set timeline, including Conservation Programs.

Draft Willcox AMA Management Goal

"To support the long-term viability of the regional economy, mitigate land subsidence, and extend the life of the aquifer by reducing groundwater overdraft by at least 50% by 2075."

Agricultural Conservation Program Development Updates

Today's Agenda

1. Conservation Workshops: Approach & Timeline
2. Irrigation Rights Overview: IGFRs, Irrigation Water Duty, Water Duty Acres, and Water Allotments
3. Water Duty Calculations + Preliminary Data & Assumptions
4. Allotment Calculation Method & Examples

Conservation Program Workshops: Approach & Timeline

Today is one of several workshops that ADWR is holding to talk about the design of Agricultural Conservation Programs for the Willcox AMA 1st Management Plan.

Last Time: Introduction to Agricultural Conservation Programs	**Today:** Initial Water Duties & Maximum Groundwater Allotments for IGFRs	**Next Time:** Approaches to 1MP Conservation Requirements consistent with Goal
ADWR introduced Agricultural Conservation programs: who these programs will apply to, what these programs entail, and what they need to accomplish.	ADWR will discuss how initial water duties and allotments will be calculated and share preliminary consumptive use and irrigation efficiency estimates.	ADWR will build on what was shared today to continue fleshing out what Agricultural Conservation Programs will look like in the 1MP (2027-2037).

Irrigation Grandfathered Rights

* Historical irrigation acres are determined by any acreage that was historically irrigated at any point during the five years preceding the date of notice of the initiation of designation of the AMA (October 23, 2019 – October 23, 2024).
* The Irrigation Grandfathered Right will have the physical footprint of where water can be applied.

Irrigation Grandfathered Rights & Water Duty Acres

* The Water Duty Acres are the highest number of acres which were legally irrigated during any one year in the five years preceding the date of notice of the initiation of designation of the AMA (October 23, 2019 – October 23, 2024).

* Each Irrigation Grandfathered Right issued will have an Irrigation Water Duty attached separately that is determined through an equation set in the Management Plan.

* The Irrigation Water Duty calculates the amount of water that can be applied to the physical footprint of the Irrigation Grandfathered Right.

Setting the Water Duty

The irrigation water duty is determined by the amount of water that is reasonably required per acre to annually irrigate the historic crops grown on a farm unit.

The irrigation water duty is calculated by dividing the total water required to produce the historically grown crops by the assigned irrigation efficiency:

$$\frac{\text{Total Irrigation Requirements per Acre}}{\text{Assigned Irrigation Efficiency}} = \text{Irrigation Water Duty}$$

Setting the Water Duty: Calculations and Formula Components

* **Total Irrigation Requirements** refer to the amount of water that is needed to grow the kinds of crops historically grown. *for almost all cases the total irrigation requirements will be the consumptive use value
* **Assigned Irrigation Efficiency** is a way for the Department to account for water that is needed to grow that historic crop but is not consumptively used by the crop (e.g., evaporative loss, soil intake rates, and other factors requiring water not consumptively used by the crop).

$$\frac{\text{Total Irrigation Requirements per Acre}}{\text{Assigned Irrigation Efficiency}} = \text{Irrigation Water Duty}$$

Irrigation Efficiency

Using USGS data, ADWR identified an average irrigation efficiency percentage across the Willcox basin for all non-idle fields included in the crop survey. The 2024 basin-average efficiency based on irrigation method type was 85%.

^Read, A.L., Kahler, A.J., Porter, T.J., and Potteiger, S.E., 2025, Estimated crop irrigation water use withdrawals in Willcox Groundwater Basin, Arizona for 2024: U.S. Geological Survey data release, https://doi.org/10.5066/P1ZU6T5N.

ADWR is proposing to set one standard assigned irrigation efficiency of 85% for calculating irrigation water duties for the Willcox 1MP:

$$\frac{\text{Total Irrigation Requirements per Acre}}{\text{Assigned Irrigation Efficiency (85\%)}} = \text{Irrigation Water Duty}$$

Draft Consumptive Use

Crop	Consumptive Use (AF/A)
Alfalfa	4.64
Apples, Cherries, Pears(with groundcover)	4.89
Apples, Cherries, Pears(without groundcover)	4.25
Barley	3.53
Beans (dry)	3.39
Corn	2.50
Cotton	2.93
Grapes	1.99
Millet	2.17
Oats	2.97
Pasture	2.64
Pecans (with groundcover)	4.68
Pecans (without groundcover)	4.19
Peppers	2.18
Rye	2.50
Small Vegetables	2.18
Sorghum	3.52
Soybean	3.39
Stone fruit (with groundcover)	4.68
Stone fruit (without groundcover)	4.19
Sudan grass	3.39
Wheat	2.67

ADWR relied on local weather data and Food and Agriculture Organization of the United Nations (FAO) crop coefficients to calculate crop consumptive use estimates for the Willcox AMA.

Request for Feedback: Once finalized, this table will be used to establish IGFR water duties; please notify ADWR if other crops, historically grown, are missing from this list.

Example:

$$\frac{\text{CU for Wheat} = 2.67 \text{ Acre Feet/Acre}}{\text{Assigned Irrigation Efficiency of 85\%}} = 3.14 \text{ Acre Feet per Acre Irrigation Water Duty}$$

$$\frac{\text{Total Irrigation Requirements per Acre}}{\text{Assigned Irrigation Efficiency}} = \text{Irrigation Water Duty}$$

DRAFT Water Duties, per Crop

Crop	Water Duty (AF/A)		Consumptive Use (AF/A)	Irrigation Efficiency
Alfalfa	**5.46**	=	4.64	
Apples, Cherries, Pears(with groundcover)	**5.75**	=	4.89	
Apples, Cherries, Pears(without groundcover)	**5.00**	=	4.25	
Barley	**4.15**	=	3.53	
Beans (dry)	**3.98**	=	3.39	
Corn	**2.94**	=	2.50	
Cotton	**3.45**	=	2.93	
Grapes	**2.34**	=	1.99	
Millet	**2.56**	=	2.17	
Oats	**3.49**	=	2.97	
Pasture	**3.11**	=	2.64	÷85%
Pecans (with groundcover)	**5.51**	=	4.68	
Pecans (without groundcover)	**4.93**	=	4.19	
Peppers	**2.57**	=	2.18	
Rye	**2.94**	=	2.50	
Small Vegetables	**2.57**	=	2.18	
Sorghum	**4.15**	=	3.52	
Soybean	**3.98**	=	3.39	
Stone fruit (with groundcover)	**5.51**	=	4.68	
Stone fruit (without groundcover)	**4.93**	=	4.19	
Sudan grass	**3.98**	=	3.39	
Wheat	**3.14**	=	2.67	

The Water Duty will then be multiplied by Water Duty Acres attached to the Irrigation Grandfathered Right.

Maximum Annual Groundwater Allotment

* The Maximum Annual Groundwater Allotment represents the annual groundwater use cap (acre-feet per year) which an IGFR holder must comply.
* For each IGFR, it is calculated by multiplying the irrigation water duty (acre-feet per acre) by the number of water duty acres in the IGFR:

$$Groundwater\ Allotment = Irrigation\ Water\ Duty \times Water\ Duty\ Acres$$

* This is the volume of groundwater that can be used to irrigate any of the irrigation acres associated with the IGFR.

* The irrigation acres are the acres in the farm that were legally irrigated at any time during the five years preceding the date of the notice of the initiation of designation procedures.
* The number of irrigation acres can exceed the number of water duty acres. See A.R.S. 45-465(B).

Water Duty & Allotment Calculation Examples

Example #1: Double Cropping

Q: What if I double-cropped during the 5-year historic period?

A: The consumptive use values for each crop would be summed.

Example: If a farm unit of 100 acres double-cropped corn and wheat on all 100 acres each year, the overall annual allotment of the farm unit would be based on the summing of each crop's consumptive use:

$$\frac{\text{CU Alfalfa 4.64 Acre Feet + CU Wheat 3.14 Acre Feet}}{\text{Assigned Irrigation Efficiency of 85\%}} \times \text{100 Acres}$$

$$= \text{915 AF Maximum Annual Allotment}$$

Water Duty & Allotment Calculation Examples

Example #2: Crop Rotation/Year-to-Year Variation

Q: If I changed crops over time, which crop will my water duty be based on?

A: The highest-use crop would be used to set the water duty and allotment.

A: If a farm unit of 100 acres has farmed 100 acres of alfalfa in year 1, 100 acres of corn in year 2, 100 acres of wheat in year 3, and 100 acres of corn in years 4-5… The highest-use crop (in this hypothetical case, alfalfa) would be used to determine the water duty and allotment:

$$\frac{\text{CU for Alfalfa 4.64 Acre Feet}}{\text{Assigned Irrigation Efficiency of 85\%}} \text{ x 100 Acres = 546 AF Maximum Annual Allotment}$$

Water Duty & Allotment Calculation Examples

Example #2: Mixture of Crops/Acre-by-Acre Variation

Q: What if I had split my acreage to grow two or more crops side by side?

A: The overall allotment would be prorated based on each crop's acreage.

Example: If a farm unit of 100 acres farmed 50 acres of alfalfa and 50 acres of corn consistently over the span of the historic five-year period, the overall annual allotment of the farm unit would be prorated based on each crop's acreage:

$$\frac{4.64\ \text{AF}}{85\%} \times 50\ \text{Acres} + \frac{2.5\ \text{AF}}{85\%} \times 50\ \text{Acres} = 420\ \text{AF Maximum Annual Allotment}$$

Next Steps

Today: Initial Water Duties & Maximum Groundwater Allotments for IGFRs	**Next Time:** Approaches to 1MP Conservation Requirements consistent with Goal
ADWR discussed how initial water duties and allotments will be calculated and share preliminary consumptive use and irrigation efficiency estimates. The calculation today will be the foundational piece for the next workshop's concepts.	ADWR will build on what was shared today by presenting approaches to additional conservation requirements that are designed to reduce the withdrawals of groundwater.

Closing

- Meetings are open to anyone who would like to participate.
- We are looking for ideas, feedback, and to learn from participants' expertise.
- We are expecting an open and collaborative process, including opportunity to challenge ideas in a transparent manner.
- Reminder, please be respectful of ADWR staff and fellow participants.

Questions?

Roundtable Discussion

Willcox AMA Management Plan Development Next Steps

* Additional comments should be submitted to managementplans@azwater.gov by **February 27, 2026**
* ADWR will use input gathered through the workshop and comments to begin to develop initial conservation program concepts to be discussed at future meetings.
* All documents and information will be posted at https://www.azwater.gov/ama/willcox-ama.

Providing Comments and Input to ADWR

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