



Willcox AMA Management Plan Development: Industrial Conservation Program Workshop

November 13, 2025

Agenda

1. Welcome, Introductions, & Meeting Logistics
2. Part 1: Willcox AMA Management Plan Development Updates
 - Roundtable Discussion
3. Part 2: Industrial Conservation Programs Background
 - Roundtable Discussion
4. Closing

Welcome and Introductions

November 13, 2025



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

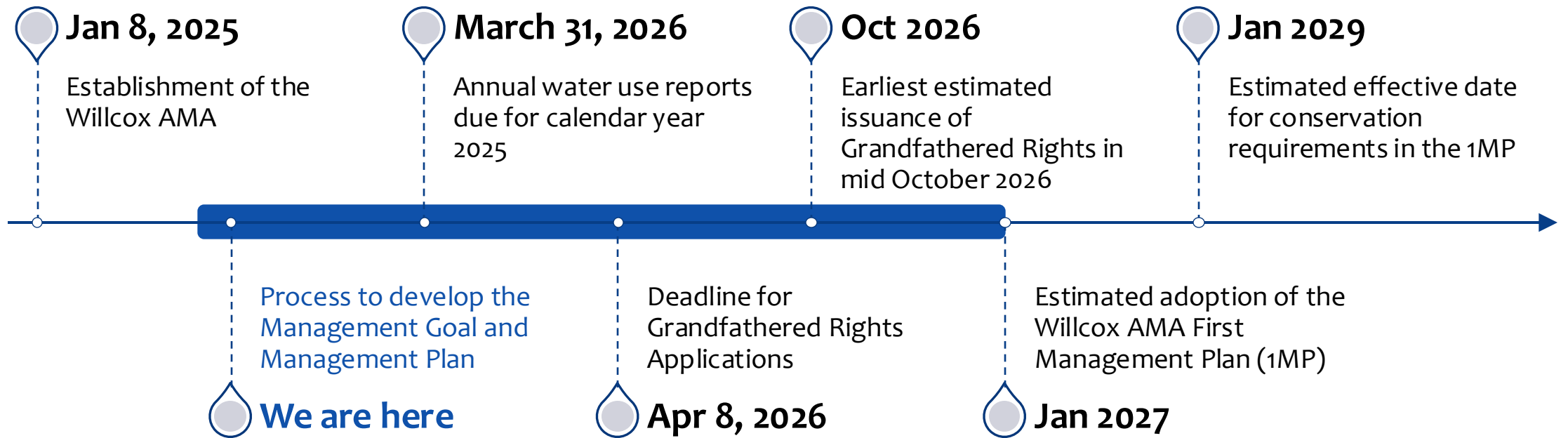
Remember:

- * 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.

Part 1: Willcox AMA Management Plan Development Updates



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.”

Does the Management Goal propose to cut 50% of groundwater withdrawals?

NO.

The Draft Management Goal proposes to reduce overdraft. Overdraft is not the same thing as the amount of water that is withdrawn from the aquifer or used by any one user.

What is Overdraft?

Remember, “overdraft” is a net change in aquifer storage where outflows exceed inflows. This is not the same thing as water in storage.

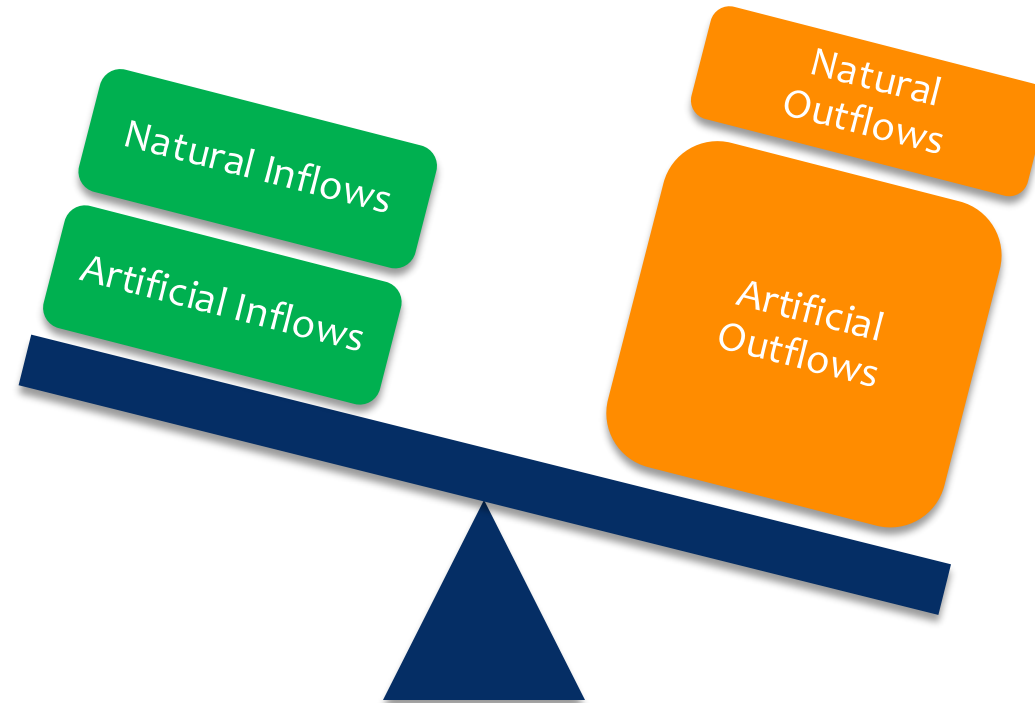
For the purposes of the First Management Goal, “overdraft” will mean the volume of natural and artificial outflows of water from the aquifer that exceeds the amount of natural and artificial inflows of water into the aquifer.

What is Overdraft?

Inflows

Natural: Groundwater inflow, streambed recharge, and mountain-front recharge.

Artificial: Groundwater recharge, including incidental agricultural, municipal, and industrial recharge.

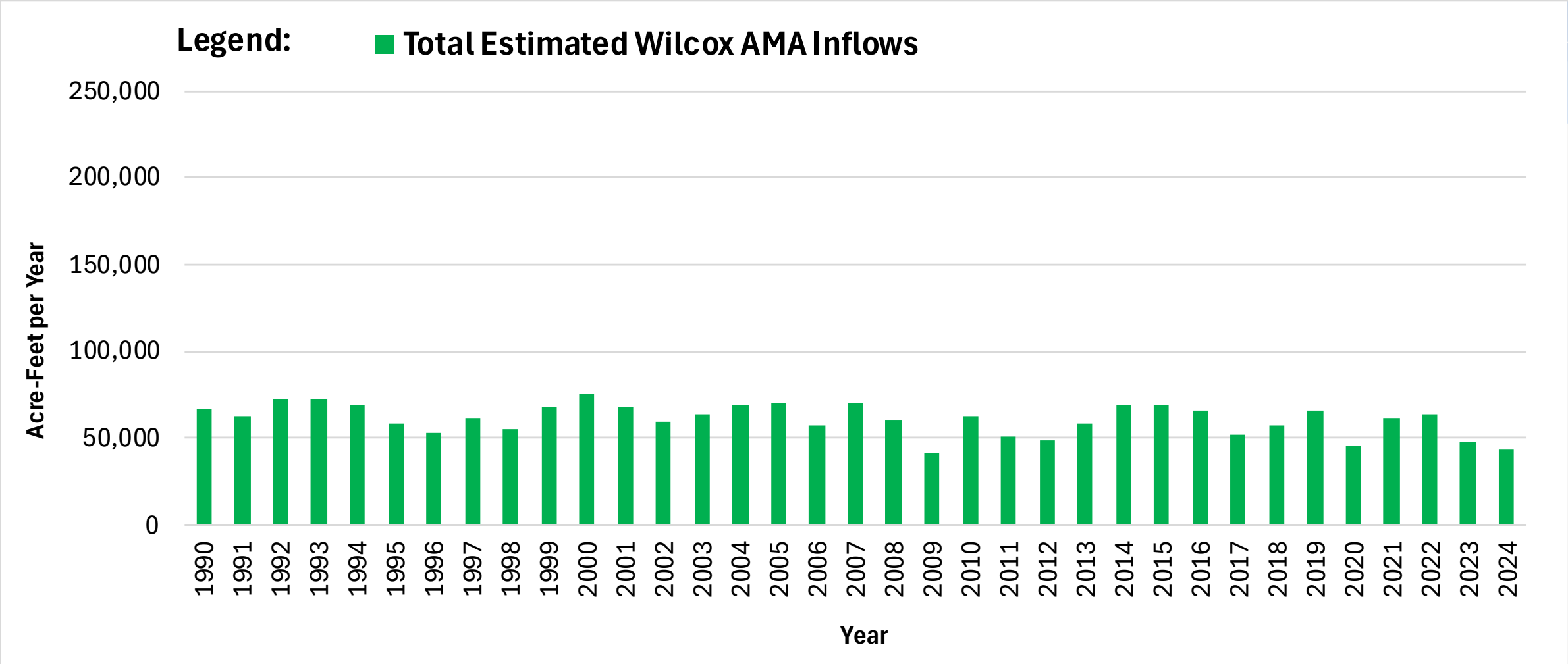


Outflows

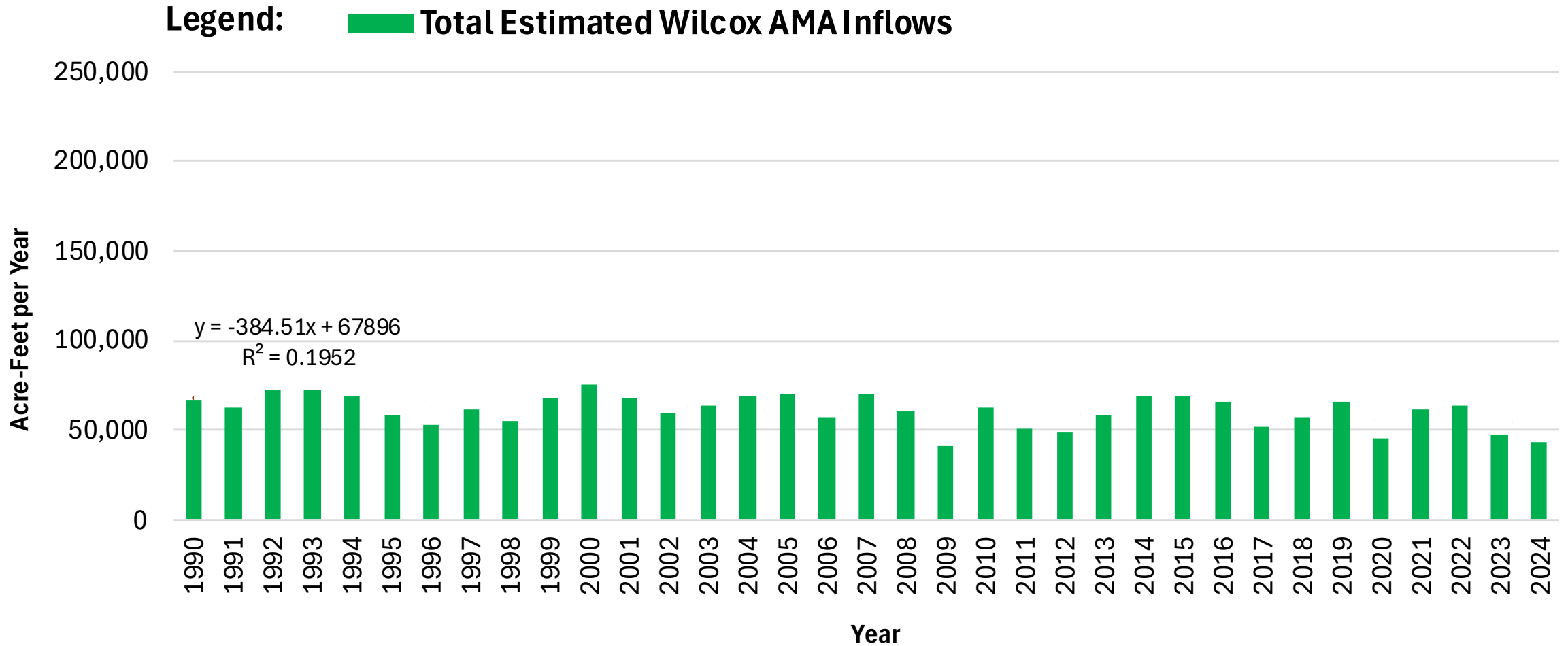
Natural: Groundwater outflows and riparian demands.

Artificial: Agricultural, municipal, industrial, and domestic pumping.

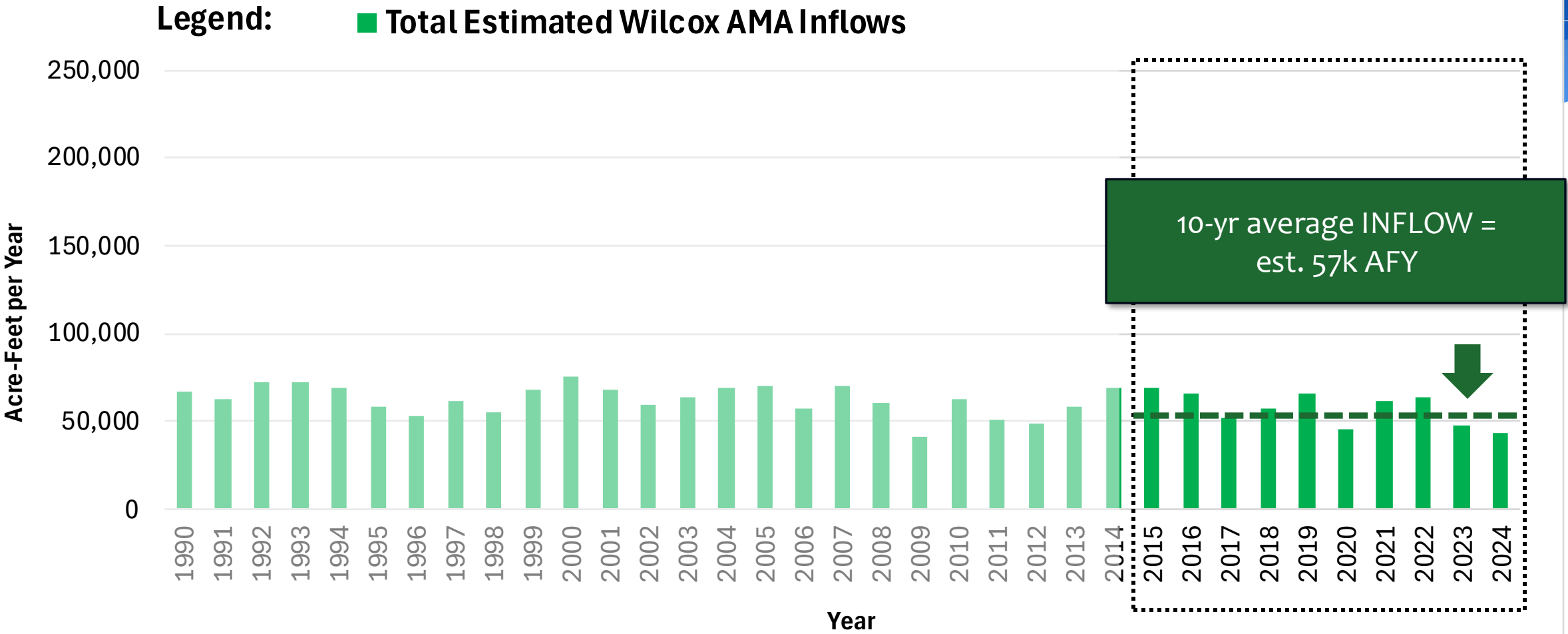
Estimated Willcox AMA Overdraft 1990-2024



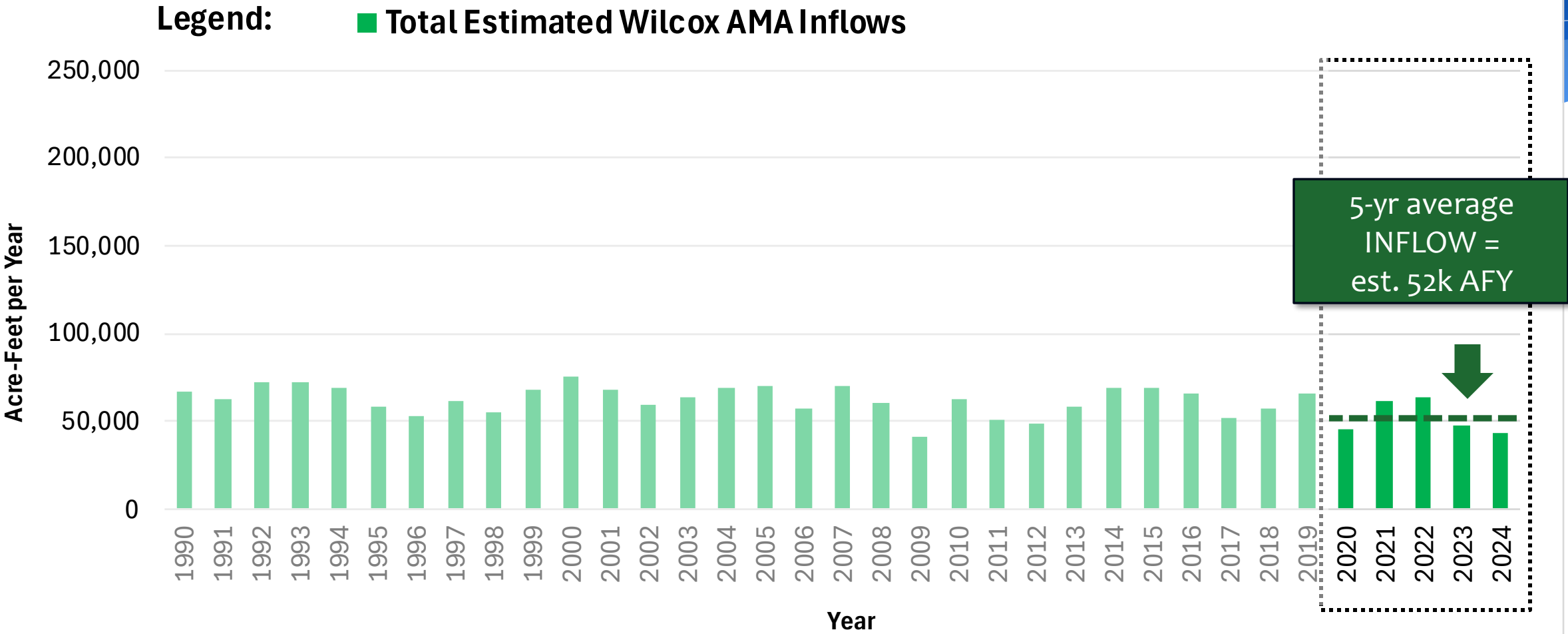
Estimated Willcox AMA Overdraft 1990-2024



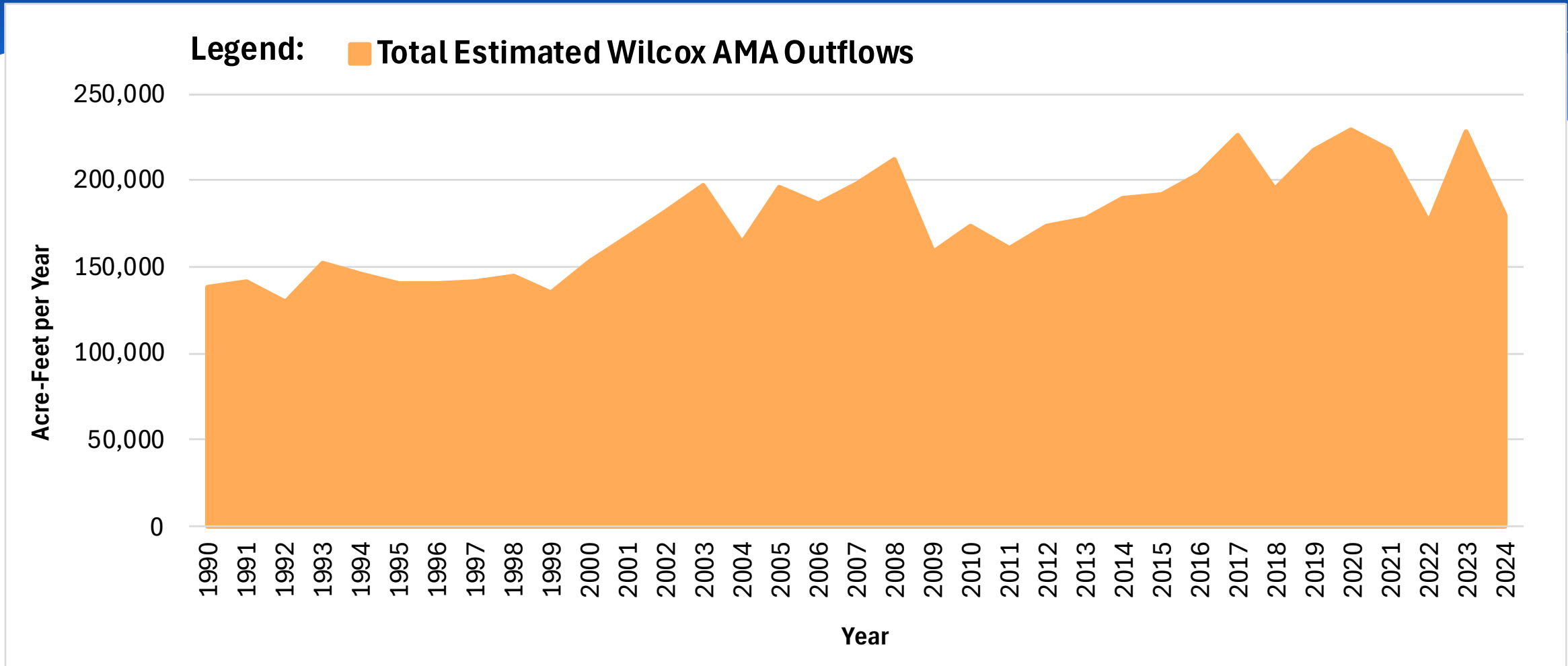
Estimated Willcox AMA Overdraft 1990-2024



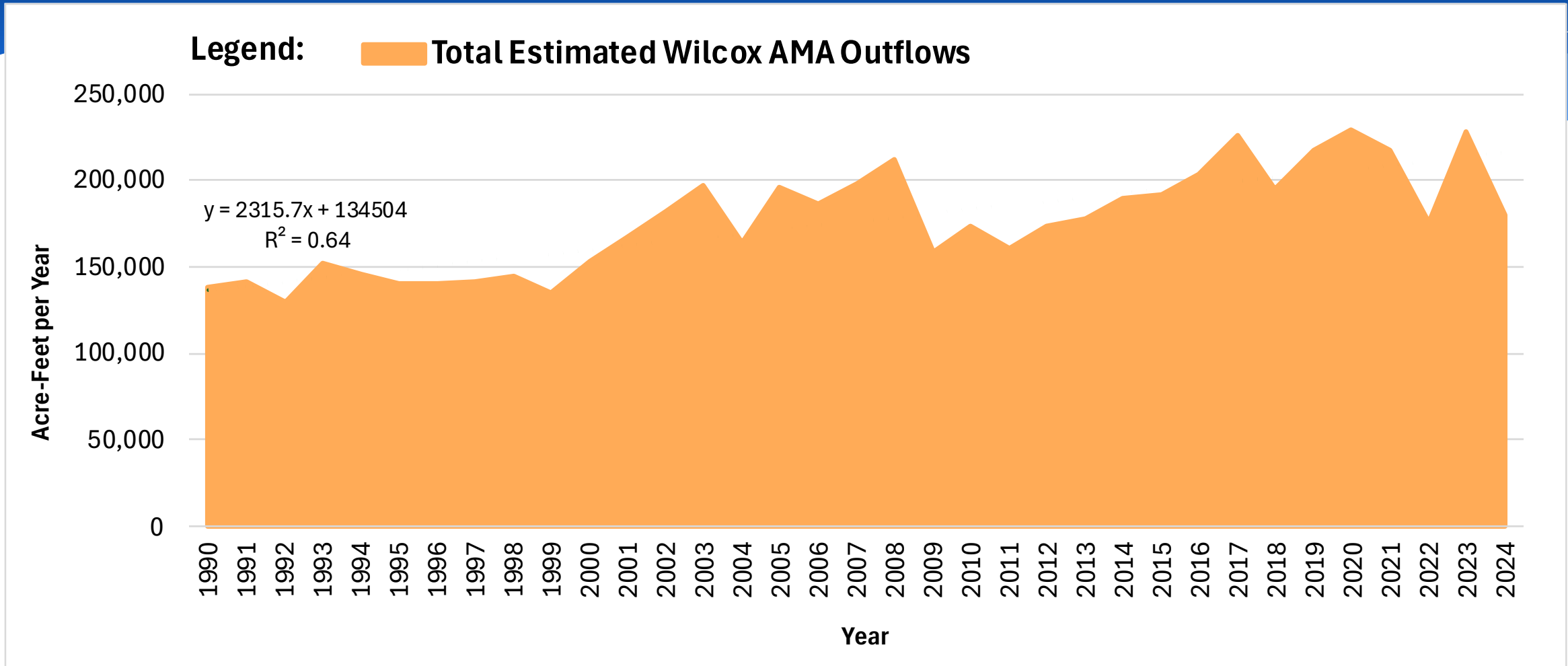
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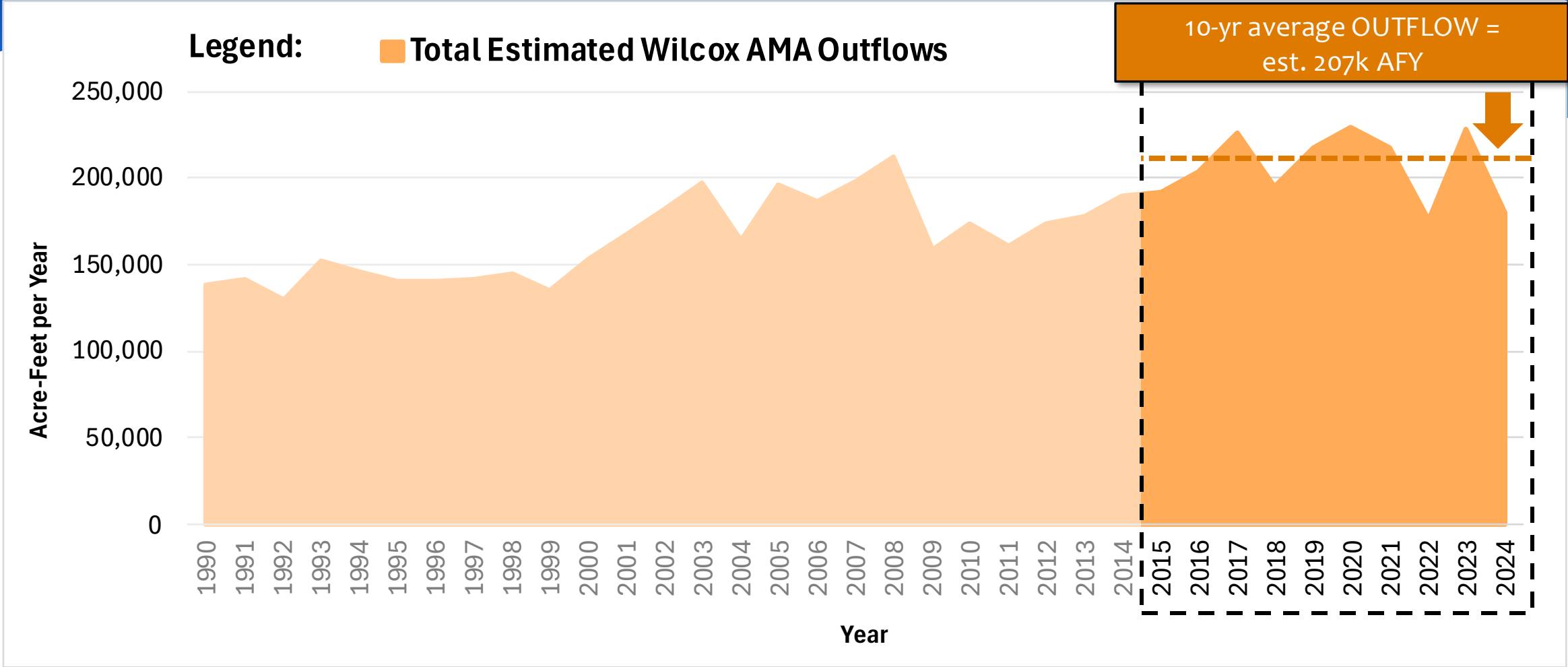
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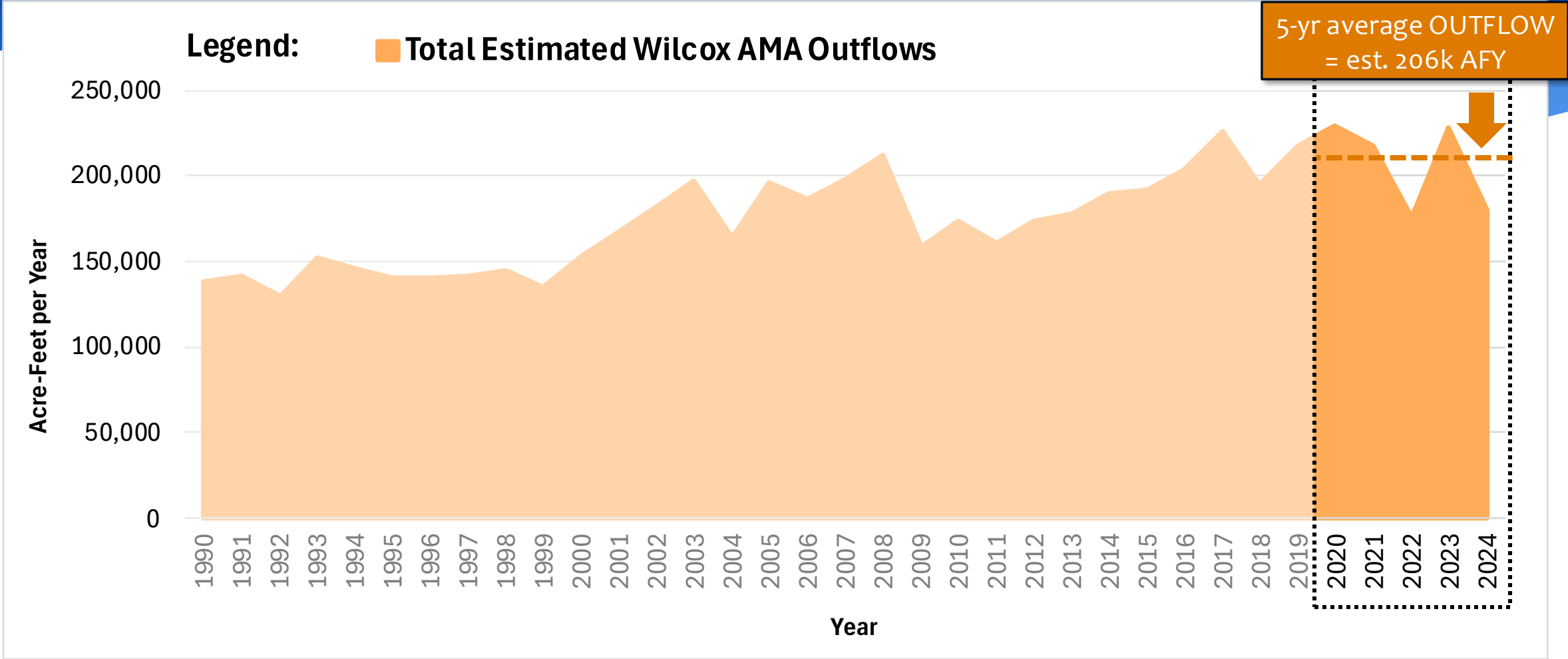
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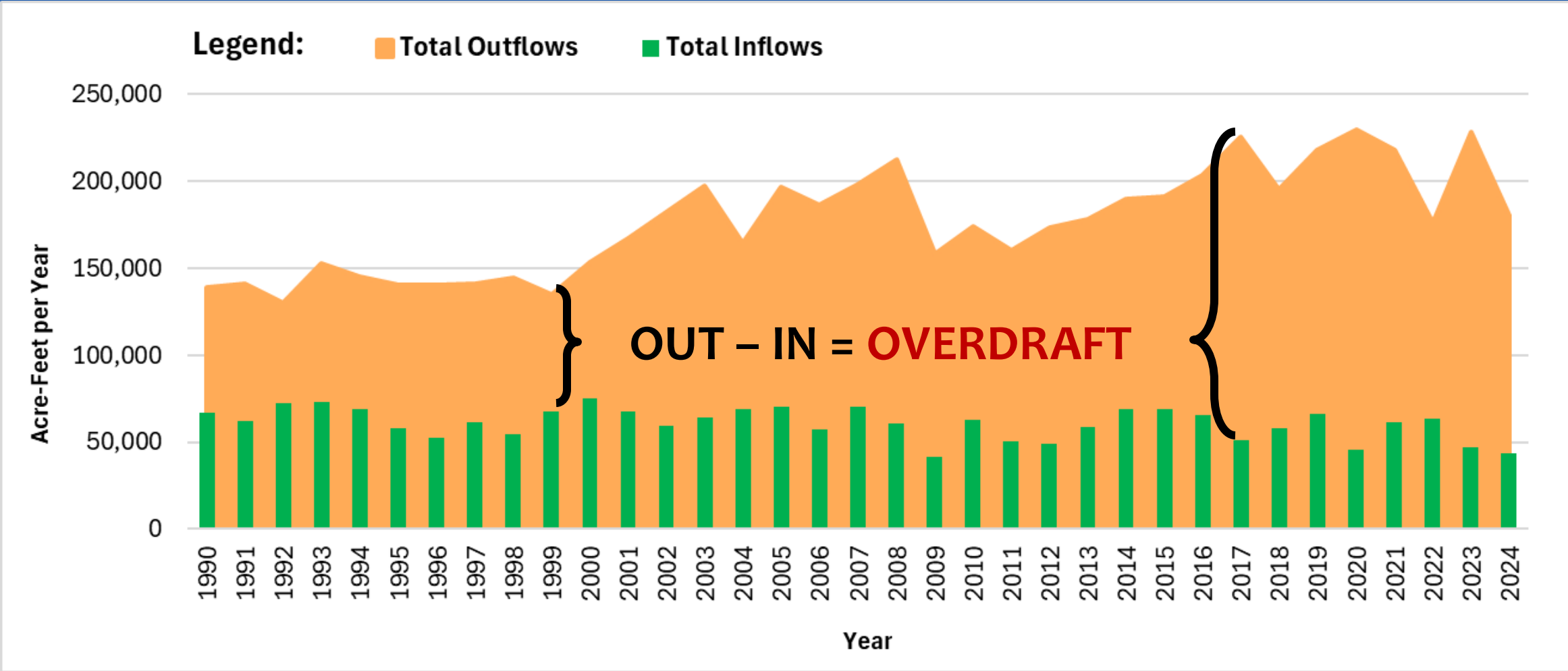
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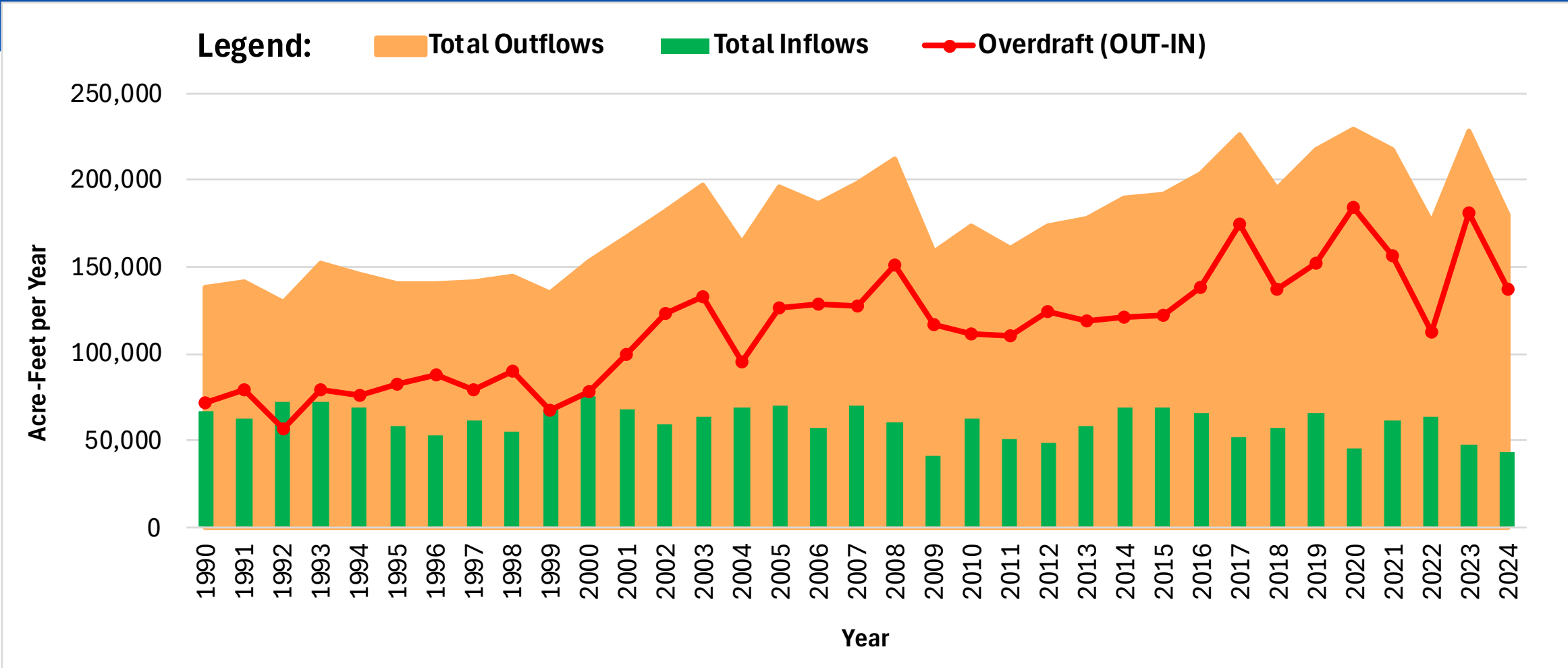
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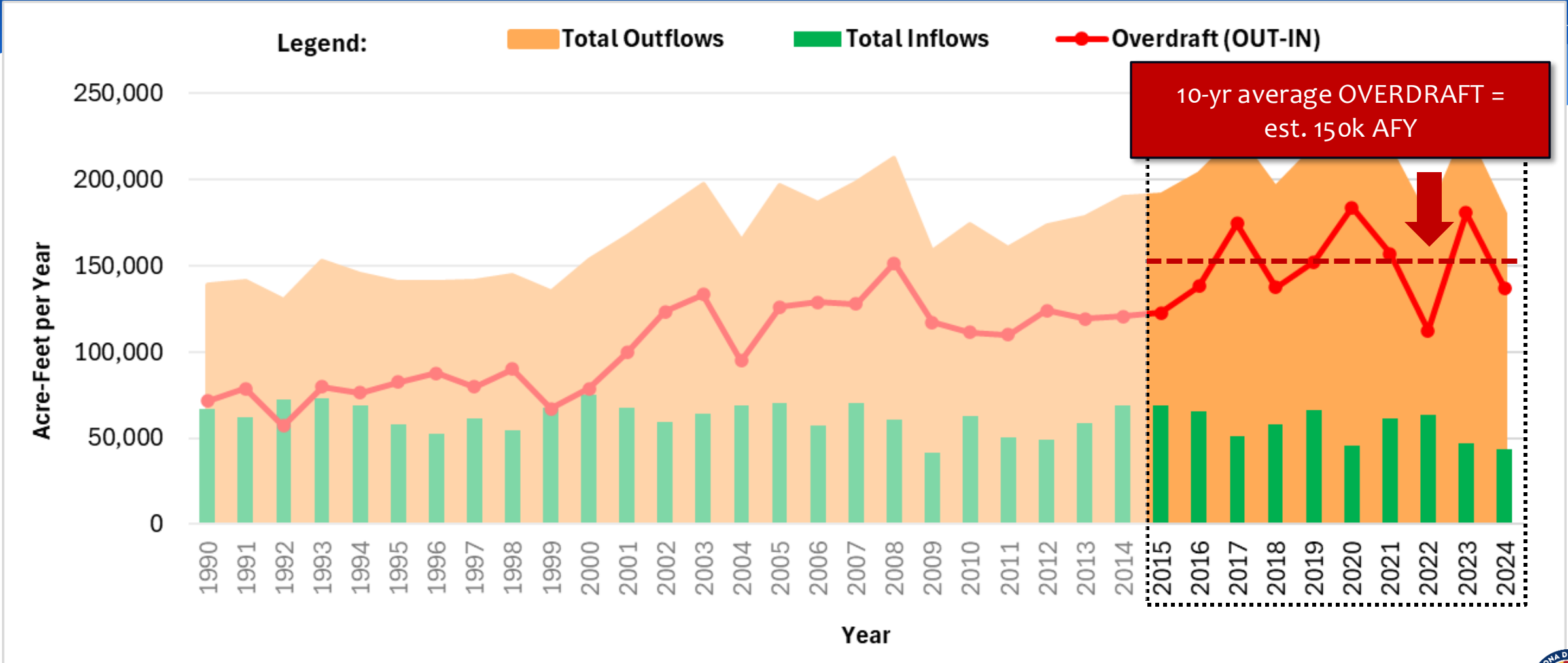
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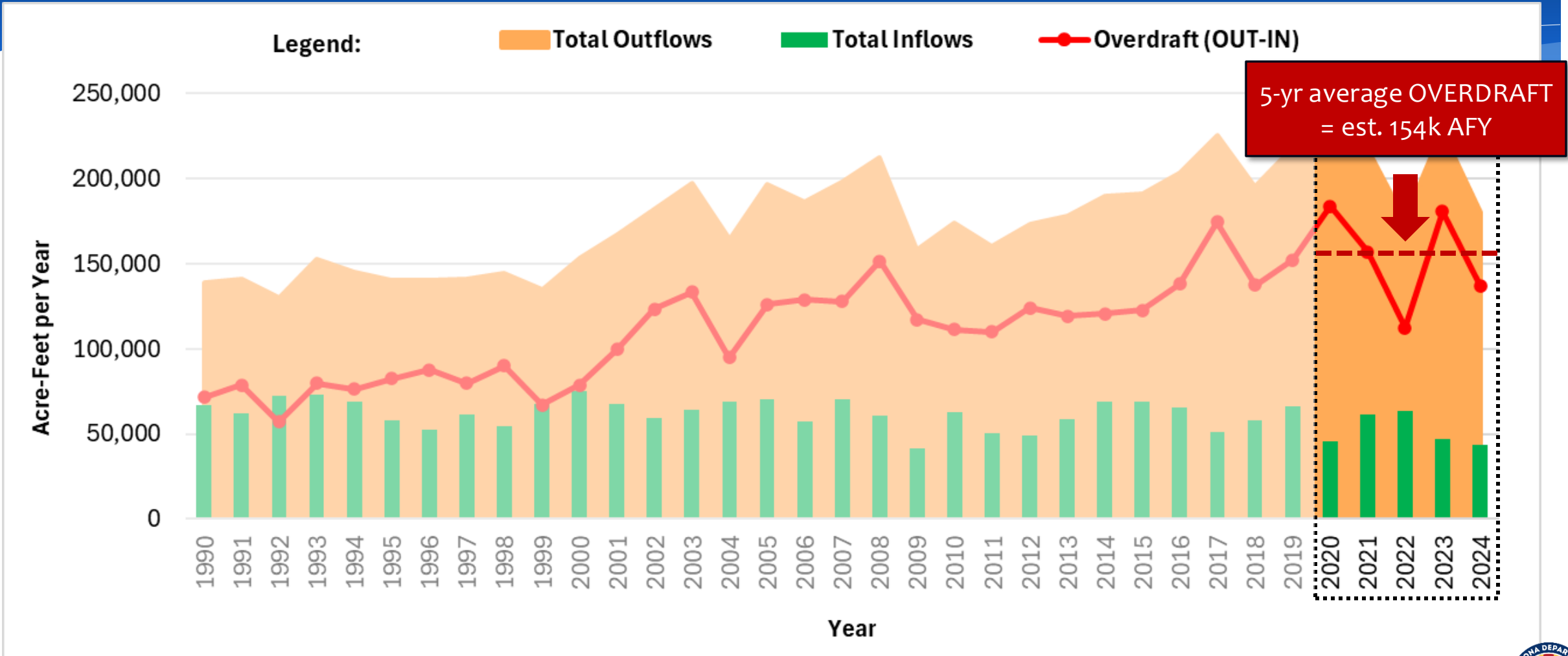
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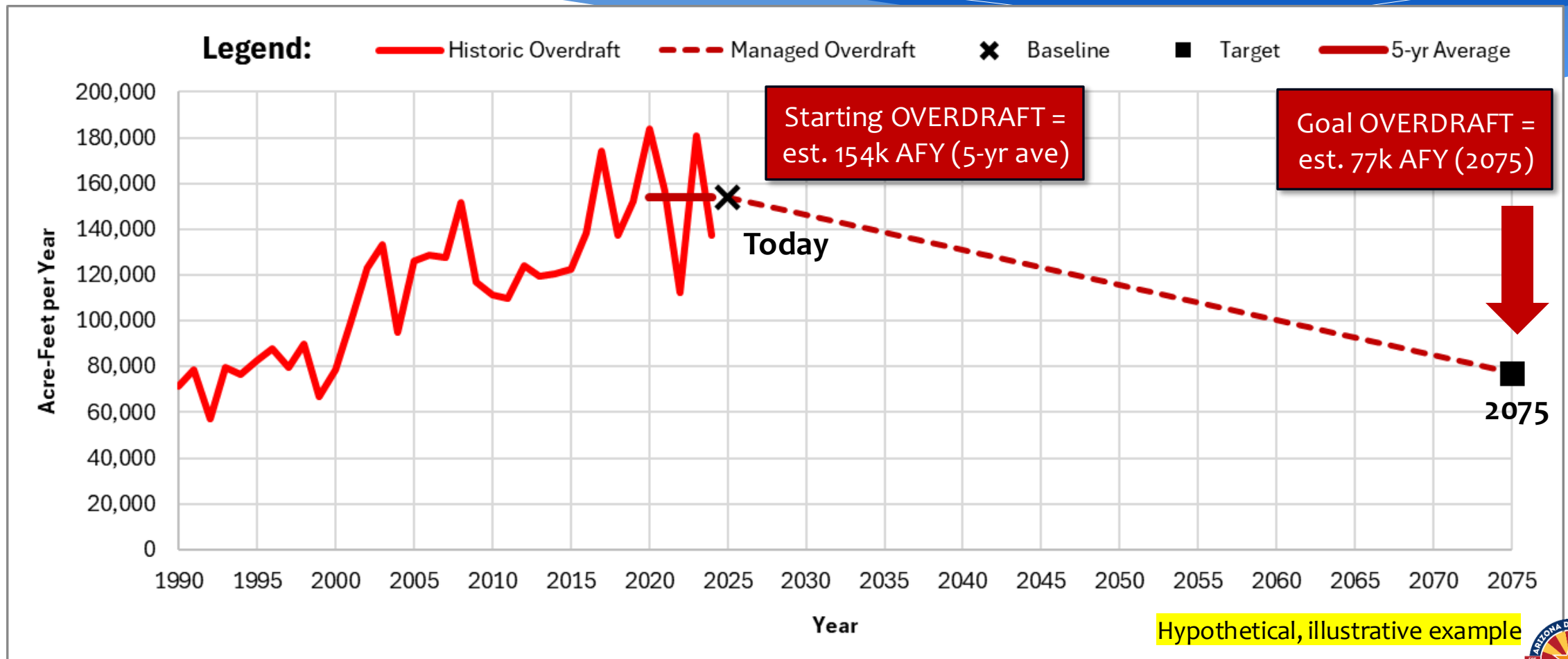
Estimated Willcox AMA Overdraft 1990-2024



Estimated Willcox AMA Overdraft 1990-2024



Illustrating Overdraft Reduction Over Time Under the Draft Management Goal:



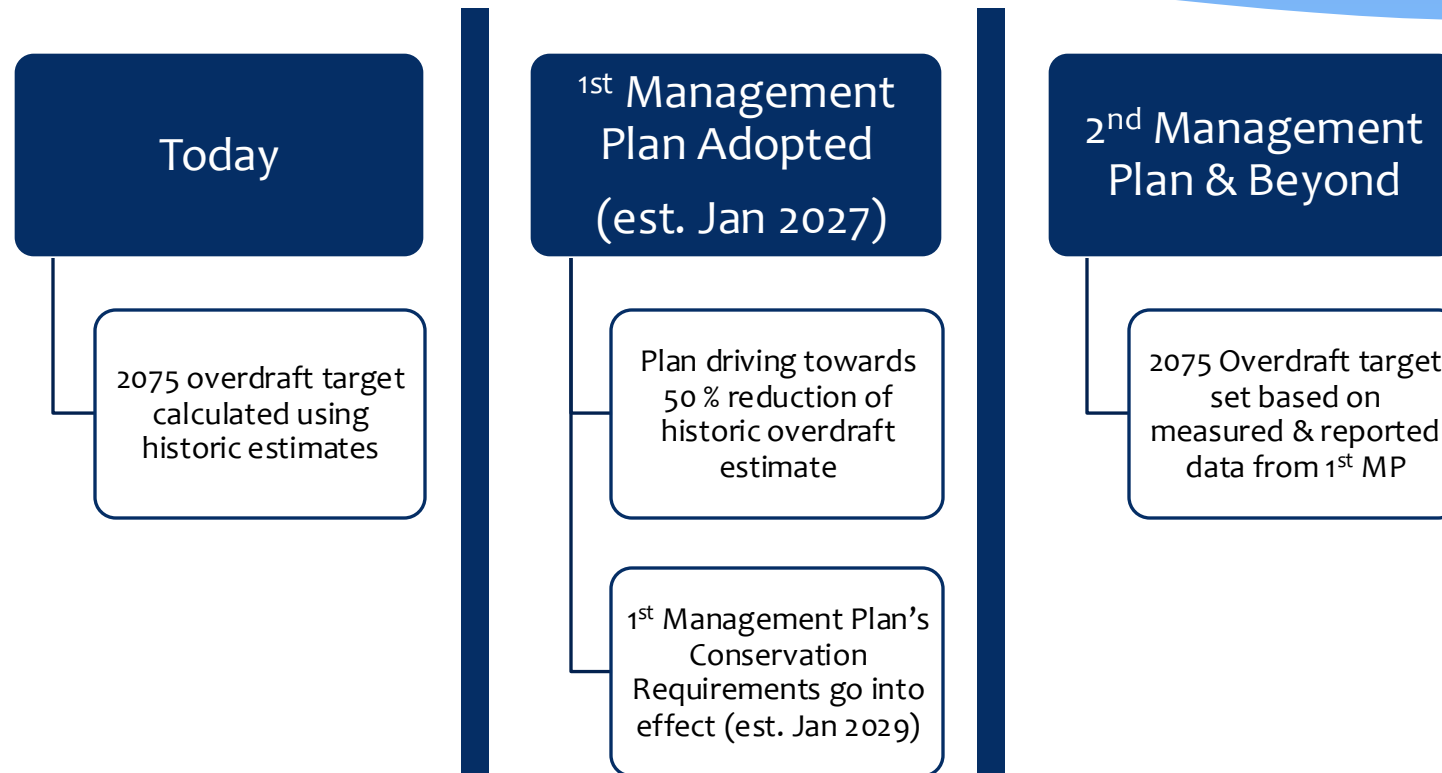
Reducing Overdraft

- * Willcox AMA's draft management goal calls for incremental progress towards a 50% reduction of annual overdraft by 2075.
- * There are two options to reduce overdraft:
 - * increase supply
 - * decrease demand
- * Willcox does not have access to reliable surface water supplies and has limited potential for effluent supplies. The realistic option is to decrease demand.

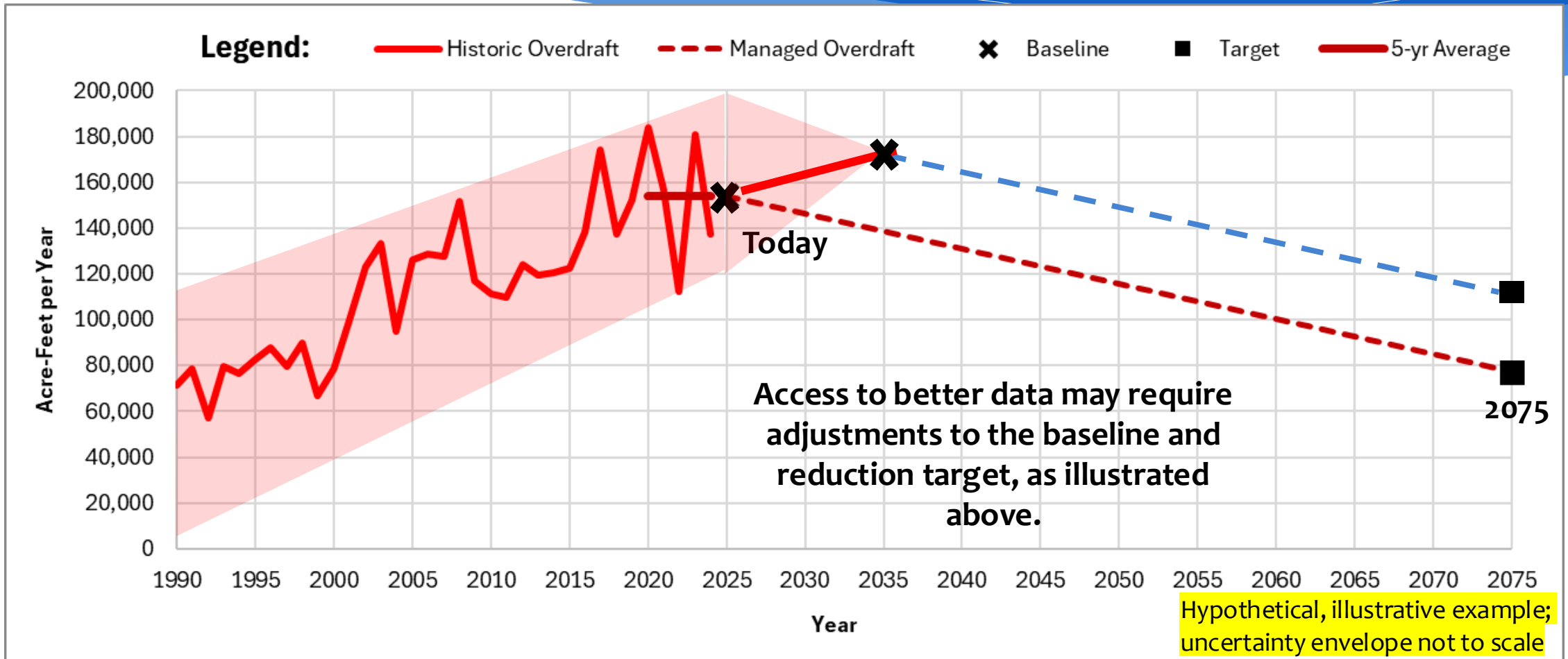
Proposed Transitional Plan - Overdraft and Management

- * The First Management Period for the Willcox AMA will be a “Transitional Period”:
 - * We will **transition from estimated groundwater use and overdraft, to measured and reported data.**
- * ADWR will begin with *estimated* overdraft baseline & reduction target numbers during the First Management Plan – i.e., decreasing current estimated 154k AFY of overdraft to 77k AFY by 2075.
 - * IGFRs will be issued based on historic acreage and crops, as well as substantial capital investment, as applicable.
 - * Conservation requirements during First Management Period will be based on initial overdraft estimates.
- * The overdraft baseline and reduction target will be recalculated before the Second Management Plan based on reported and measured data from annual reports submitted during the First Management Plan period.
 - * Water use by SCI Grandfathered Rights will be added to this updated baseline.
- * These recalculated baseline and reduction targets will go into effect in the Second Management Period.
 - * Conservation requirements during the Second Management Period *and each Management Period thereafter* will be based on these same baseline and reduction targets.

Proposed Transitional Plan - Overdraft and Management



Transitional Plan - overdraft and management



Roundtable Discussion

We welcome questions and comments.

Part 2: Willcox AMA Industrial Conservation Programs Background



Why are we here today?

- * A.R.S. § 45-569 (B) requires ADWR to promulgate an initial management plan for Willcox AMA no later than 2 years after the AMA's designation (i.e. no later than January 2027).
- * Because the Willcox AMA was created to protect groundwater supplies for future uses and to protect against subsidence and fissuring, the Management Plan must include measures to reduce groundwater withdrawals.
- * This is what brings us here today – **to gather local perspectives on how to design industrial conservation programs that make sense in the Willcox AMA.**

Our approach & timeline

Today is one of several workshops that we will hold to talk about Industrial Conservation Programs design.

Today

- * Today is about making sure everyone in the room has access to the same information on who these programs will apply to, what these programs entail, and what they need to accomplish.
- * We will also take your questions and comments:
 - * We're listening for constructive ideas about how industrial water conservation could work in Willcox.
 - * We're also listening for any points of clarification or information we need to bring to the next meeting.

Next Time

- * We'll build on what we heard today to start to flesh out what these programs will look like for the first management plan.

Your input is invaluable – these workshops are opportunities to directly contribute to shaping the form of Industrial Conservation Programs for the Willcox AMA.



Conservation Programs 101

“... the director, in developing the plan or plans, shall include measures for reducing groundwater withdrawals.” (A.R.S. § 45-569(B))

Conservation Programs reduce groundwater withdrawals for three sectors:

- * Agricultural
- * Municipal
- * Industrial

Conservation Programs include regulatory requirements related to water use, including:

- * Reporting requirements
- * Conservation targets
- * Flexibility provisions
- * Compliance provisions

Will the same conservation requirements apply to all types of water users?

- * **No.** Conservation requirements are set by sector: agricultural, municipal, and industrial.
- * Within sectors, we can establish a solution that works for the Willcox Basin.

Industrial Water Use

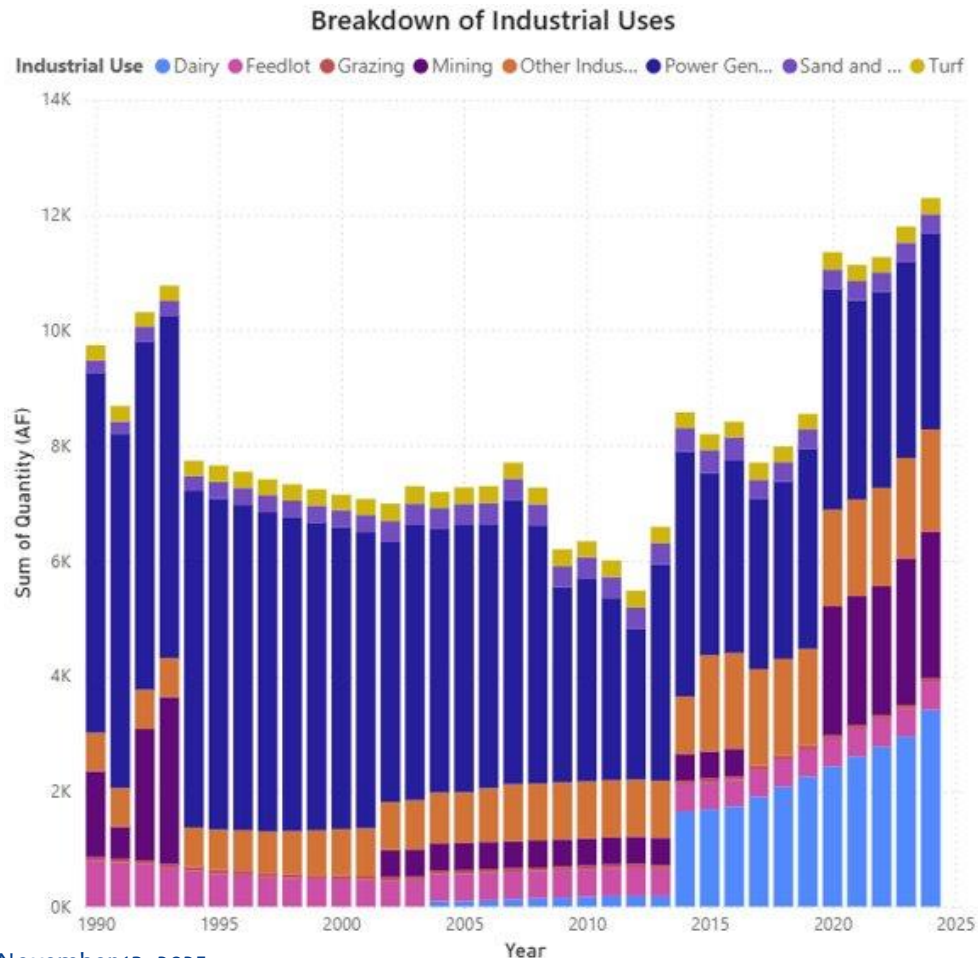


Who is Considered an Industrial User?

- * An industrial user is a person who uses groundwater withdrawn pursuant to a Type 1 or Type 2 non-irrigation grandfathered right (GFR) or a withdrawal permit for an industrial use.
- * An industrial water user may receive groundwater from an irrigation district.
- * Other groundwater users exist that, although served by a municipal water provider, are subject to industrial conservation program requirements through the Municipal Conservation Program. These users include turf-related facilities, public rights-of-way, and large-scale cooling facilities that are not part of a large-scale power plant. These users are referred to in the Municipal Conservation Program as "individual users."



Historic Estimates of Willcox Industrial Water Use



Types of industrial water users in Willcox AMA:

- * Power generation
- * Dairy
- * Mining
- * Feedlot
- * Sand & gravel
- * Turf
- * Grazing
- * Other industrial (compressor stations, greenhouses, manufacturing, meat processing)

What will industrial water users in the Willcox AMA be required to do?

What?	When?
<p>Apply for water rights (Type 1 & Type 2)</p>	<p>For Type 1 & Type 2 rights, submit application by GFR application deadline, April 8, 2026.</p>
<p>Monitor & Report water use via annual reports (A.R.S. § 45-632)</p>	<p>First annual water use reports are due March 31st, 2026.</p>
<p>Participate in relevant conservation program(s) (general industrial + use-specific, if applicable)</p>	<p>Once conservation program requirements go into effect, January 2029.</p>



Types of Industrial Rights

Type 1

- Created by converting irrigation grandfathered rights to industrial use.
- Total allowable groundwater use is reduced at the time of conversion of the IGFR to a Type 1 Grandfathered Right.

Type 2

- Issued based on amount withdrawn for non-irrigation purposes during the 5-year period before Jan 8, 2025 (designation of Willcox AMA).
- Include uses such as:
 - Construction
 - Sand & Gravel facilities
 - Parks, Golf Courses, School Fields

General Industrial Use (GIU) Permit

- Issued if:
 - water service cannot be secured from a municipal provider, **AND**
 - The use of surface water or effluent, or purchase or lease of a GFR is not economically feasible.
- GIU Permits expire after a specified period of years.

Industrial Conservation Programs

Industrial Conservation 101

- * Industrial Conservation Programs aim to achieve reductions in withdrawals of groundwater to contribute to the AMA's Management Goal.
- * Two types of conservation requirements:

General Conservation Requirements

These apply to all industrial users and include:

- avoiding waste and single-pass cooling
- using low-flow plumbing fixtures, and
- using low water use plants for landscaping.

Use-specific Conservation Requirements

Specific uses are:

- Turf-related facilities
- Sand and gravel facilities
- Large-scale power plants
- Large-scale cooling facilities
- Dairy operations
- Cattle feedlot operations
- Metal mining facilities
- Large landscape users

Industrial Conservation - Applicability

Who do Industrial Conservation Program Requirements apply to?

- * Industrial water right holders who:
 - * Hold a Type 1 or Type 2 non-irrigation grandfathered right or an industrial groundwater withdrawal permit in an amount **more than 10 acre-feet** per year.
 - * Hold more than one such right or permit in the aggregate amount of more than 10 AF per year and withdraws **more than 10 AF** of groundwater during the calendar year pursuant to those right or permits.

Who is *exempt* from these requirements?

- * Industrial users who holds a Type 1 or Type 2 non-irrigation grandfathered right or a groundwater withdrawal permit in the amount of **10 or fewer AF per year.**



Industrial Program – Initial AMAs

Components of the Industrial Conservation Program:

* **Industrial Water Users**

- * General conservation requirements for all industrial users
- * 1MP specified conservation requirements for the following subsectors
 - * Metal mines, turf-related facilities, electric power plants, sand and gravel facilities, and other industrial users
 - * Subsequent MPs included dairies, cattle feedlots, large-scale cooling facilities, new large landscape users, and new large industrial users

* **Flexibility Accounts in Initial AMAs**

- * Turf-related facilities have a **flexibility account** in which they can accrue credits or debits based on annual water use.

Industrial Program – Douglas AMA

Components of the Industrial Conservation Program:

* **Industrial Water Users**

- * General conservation requirements for all industrial users
- * 1MP specified additional conservation requirements for the following subsectors:
 - * Turf-related facilities, large-scale power plants, sand and gravel facilities, large-scale cooling facilities, dairies, cattle feedlots, metal mining, new large landscape users, and new large industrial or commercial users.

* **Effluent Incentive**

- * Turf-related facilities can partake of an effluent incentive, which counts each acre-foot of effluent used as 0.6 AF when compliance with the maximum annual water allotment is determined.

* **Flexibility Accounts**

- * Turf-related facilities have a **flexibility account** in which they can accrue credits or debits based on annual water use.

Industrial Program – Douglas AMA

* General conservation requirements for all industrial users:

- * **Avoid waste;** use only the amount of water from any source, including effluent, reasonably required for each industrial use; and **make diligent efforts to recycle water.**
- * **Do not use water for non-residential single-pass cooling or heating purposes unless the water is reused for other purposes.**
- * **Use low-flow plumbing fixtures** as required by Title 45, Chapter 1, Article 12, Arizona Revised Statutes, or any applicable county or city code, whichever is more restrictive.
- * **Use plants from the ADWR Low Water Use & Drought Tolerant Plants Lists** for the DAMA for landscaping to the maximum extent feasible and to **utilize a water efficient irrigation system.** Turf-related facilities and new large landscape users are exempt from this requirement.
- * For landscapes planted on or after January 1, 2022, **groundwater may only be used to water landscaping plants within any publicly owned right-of-way if those plants are listed on ADWR's Low Water Use & Drought Tolerant Plants Lists for the DAMA.** If the industrial user demonstrates that plants listed in ADWR's Low Water Use & Drought Tolerant Plants Lists for the DAMA cannot grow in the publicly owned right-of-way because of high elevation or low-light conditions, such as a freeway underpass, the industrial user may request that the Director consider waiving this requirement.
- * **Do not serve or use groundwater for the purpose of maintaining water features,** including fountains, waterfalls, ponds, water courses, and other artificial water structures, installed after January 1, 2022 **within any publicly owned right-of-way.** This requirement does not apply to any portion of a residential lot that extends into a publicly owned right-of-way.

Industrial Program – Douglas AMA

Components of the Industrial Conservation Program (1st Management Plan, Douglas AMA):

- * **Subsector-specific conservation requirements for large-scale power plants (>25 MW):**
 - * Three types of electric power plants are regulated in the 1MP:
 - * Steam electrical plants, combustion turbine plants, and combined-cycle plants.
 - * Steam electric and combined-cycle power plants are required to achieve an annual average of 15 cycles of concentration in cooling towers.
 - * Combustion turbine plants with 250 tons or more of cooling capacity must achieve certain water quality criteria in recirculating water before blowing down; alternative blowdown standards can be granted to cooling towers utilizing effluent for 50% or more of their water use.
 - * All large-scale power plant facilities are required to submit a water conservation plan. The plan must outline the water management practices and technologies the facility will utilize to maximize water use efficiency.
 - * For all types of power plants regulated in the 1MP, the Department encourages the use of zero liquid recharge and beneficial reuse of wastewater.

Industrial Program – Douglas AMA

Components of the Industrial Conservation Program (1st Management Plan, Douglas AMA):

* **Subsector-specific conservation requirements for dairy operations:**

- * Applies to dairy operations that annually house a monthly average of 100 or more lactating cows per day.
- * All regulated dairies are required to submit a water conservation plan. The plan must outline the water management practices and technologies the facility will utilize to maximize water use efficiency.
- * Dairies must comply with water use allotments, set forth by ADWR.
 - * In consideration of weather variability, a 3-year averaging provision incorporated into the 1st MP. The water use of 3 consecutive years can be averaged to determine compliance with allotment.

Industrial Program – Douglas AMA

Components of the Industrial Conservation Program (1st Management Plan, Douglas AMA):

- * **Subsector-specific conservation requirements for metal mining facilities:**
 - * Applies to facilities that mine and process ores and use, or have the potential to use, more than 500 AF of water per year.
 - * In-situ mine facilities required to submit long-range conservation plan, minimize water use to extent practicable, and comply with monitoring & reporting requirements.
 - * Mining facilities can participate in an Alternative Mining Conservation Program (AMCP) for mining facilities. The AMCP is best management practice (BMP) based and will require mining facilities to choose two BMPs from a list of approved BMPs.

Industrial Program – Douglas AMA

Components of the Industrial Conservation Program (1st Management Plan, Douglas AMA):

- * **Subsector-specific conservation requirements for new large industrial & commercial users:**
 - * Applies to new industrial users that use over 100 AF per year and commence use after January 1, 2027.
 - * In addition to the requirements that apply to all industrial users, new large industrial users must prepare and submit a water conservation plan to the Director.
 - * The water conservation plan must show how much water conservation can be achieved at the facility. It must identify how water is used at the facility and what can be done to conserve it in major water use areas. The plan must also detail an employee water conservation education program at the facility and describe when conservation measures will be implemented.

Prompting Questions

- * Discussion:
 - * What is practicable, when it comes to industrial water use conservation in Willcox, to achieve the draft management goal?
 - * Are there any other considerations you want to share with the Department regarding industrial water use in Willcox, that we didn't cover today?

Roundtable Discussion

We welcome questions and comments.

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.

Willcox AMA Management Plan Development

Next Steps

- * Additional comments should be submitted to managementplans@azwater.gov by **November 21, 2025**.
- * 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>.

Homework for next time

If you'd like to read ahead and gather ideas for conservation programs, please feel free to do so!

Chapter 6 of the Management Plans contain the Industrial conservation programs that are within each initial AMA and the Douglas AMA (available at <https://www.azwater.gov/ama/ama-management-plans>).

Providing Comments and Input to ADWR

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