

Welcome to today's webinar
Bienvenida al seminario web de hoy

Water Savings and Beyond: Insights from Colorado Turf Replacement Studies

*Informe: Conclusiones clave del grupo de trabajo para
la conservación del paisaje urbano de Colorado*

What is Colorado WaterWise?

¿Qué es Colorado WaterWise?



Colorado WaterWise Land Acknowledgement

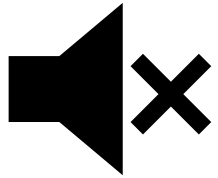
I would like to begin by acknowledging the Indigenous Peoples of all the lands that we are on today. While we meet today on a virtual platform, I would like to take a moment to acknowledge the importance of the lands, which we each call home.

- Interested in knowing the lands on which you reside?

[Click here.](#)

Additional details

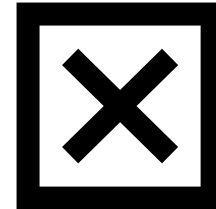
Detalles adicionales



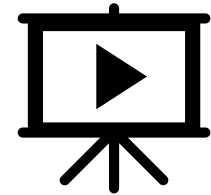
Muted
silenciado



Q&A



Chat



Recording
registro

Water Savings and Beyond: Insights from Colorado Turf Replacement Studies

Ahorro de agua y más allá: perspectivas provenientes de los estudios de reemplazo del césped en Colorado

Speakers/ Oradoras:

Melanie Stolp, Resource Central

Katie Butler, Resource Central

Victoria Arling, WaterNow Alliance

Lindsay Rogers, Western Resource Advocates

Moderator/ Moderadora:

Elisabeth Bowman, Conservation Engagement Manager, Resource Central

Garden In A Box

Impacto de Garden In A

Impact

PRESENTATION

An evaluation of the Garden In A Box program

Una evaluación del programa de Garden In A Box



Presentation Outline

Índice de la presentación

- 01 Introduction/ *Introducción*
- 02 Program Overview/ *Resumen del programa*
- 03 Community Survey/ *Encuesta comunitaria*
- 04 Landscape Preferences/ *Preferencias del Jardín*
- 05 Impact Analysis/ *Análisis del impacto*
- 05 Key Takeaways/ *Conclusiones claves*



Program Overview

Resumen del programa

“I love this program and how easy it makes creating a novice xeriscape garden so that anyone can do it!”

-Garden In A Box Participant

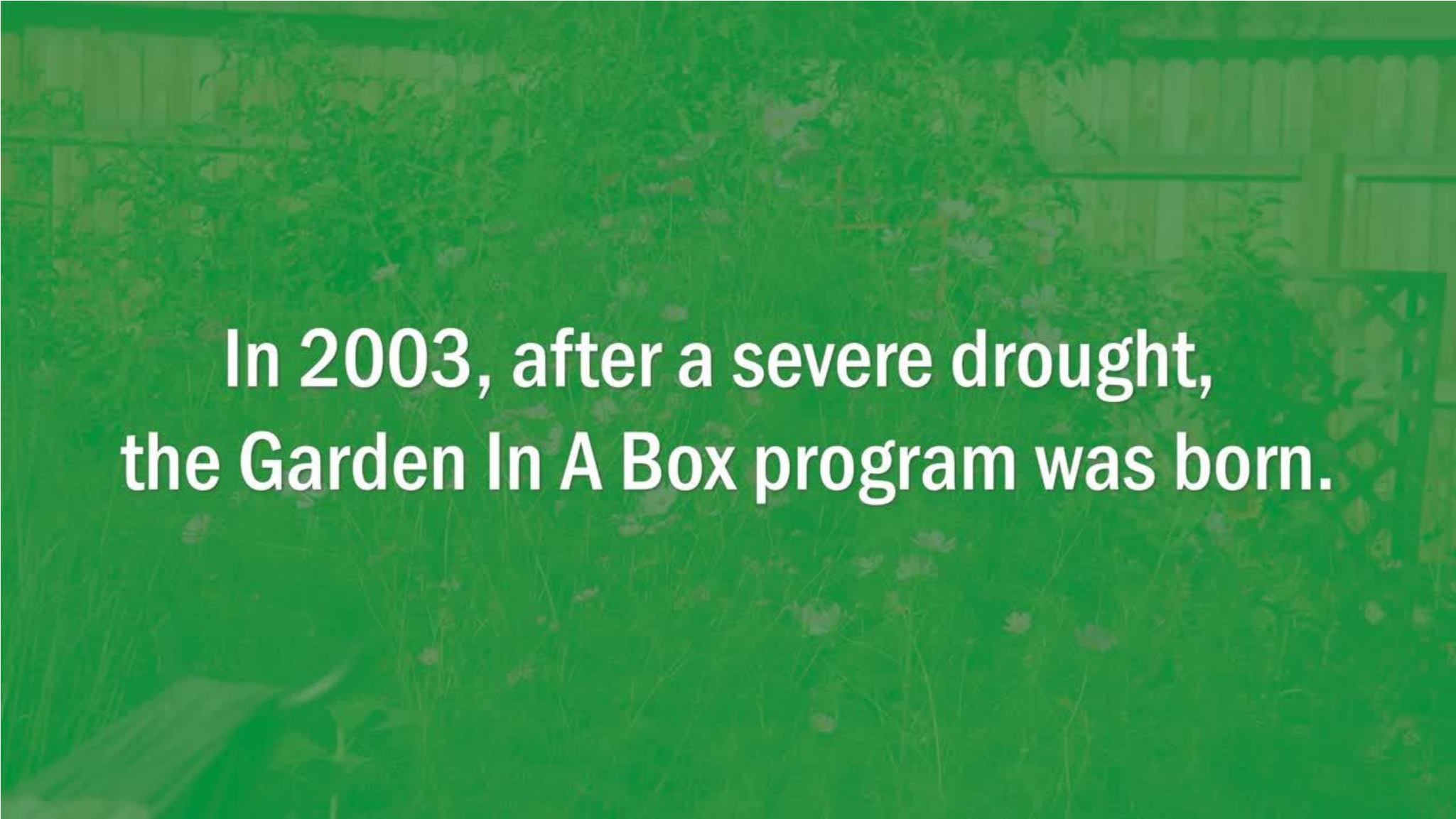
“¡Me entusiasma este programa y la facilidad con la que permite crear un jardín de xeriscape para principiantes, de manera que cualquier persona pueda llevarlo a cabo!”

-Participante de Garden In A Box

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**In 2003, after a severe drought,
the Garden In A Box program was born.**

Benefits Beyond Water

Beneficios más allá del agua

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Instant curb appeal

Un atractivo exterior instantáneo



Professional design without the cost

Un diseño profesional sin el costo



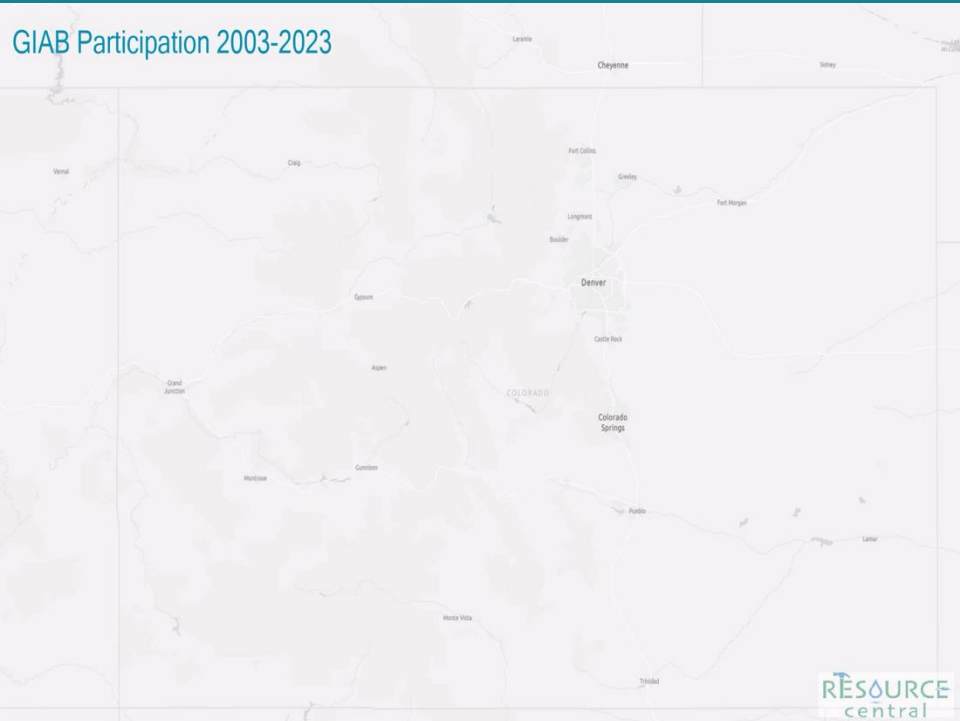
Attract pollinators

Atracción a polinizadores

Research Overview

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GIAB Participation 2003-2023



Community Survey/ *Encuesta comunitaria*

- Qualitative analysis of program benefits, motivators, and barriers
- *Análisis cualitativo de los beneficios del programa, motivadores y barreras*



Impact Analysis/ *Análisis del impacto*

- Quantitative analysis of water savings for program participants
- *Análisis cuantitativo de los ahorros en el agua para los participantes del programa*



Story Map & GIS/ *Historial del mapa y GIS*

- Visual deliverable
- *Resultados visuales*



Community Survey

Encuesta comunitaria

“A benefit of Garden In A Box is that it gets people in conversation about saving water and planting pollinator habitat and that effect has a positive impact on an ecosystem.”

-Andrea Montoya of Pollinator Advocate Program

“Un beneficio de Garden In A Box es que facilita la conversación sobre la conservación del agua y la creación de hábitats para polinizadores, lo cual tiene un impacto positivo en el ecosistema”.

-Andrea Montoya del programa de abogacía para polinizadores



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Survey Methods

Métodos de la encuesta

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Software/Sharing

Software/Compartiendo

- SurveyMonkey/ *SurveyMonkey*
- Shared via link and email/ *Compartido por medio de un enlace o por correo electrónico*
- Resource Central community & water conservation partners/ *Comunidad de Resource Central y colaboradores para la conservación del agua*

Split Respondent Groups

Grupos de encuestados divididos

- Program participants/ *Participantes del programa*
- Non-participants/ *No participantes*

Purpose

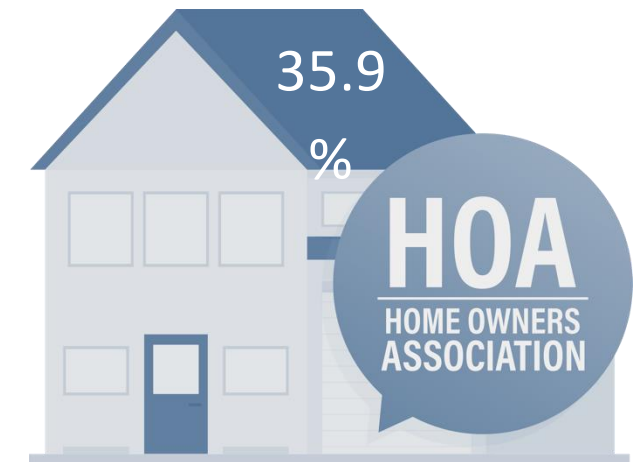
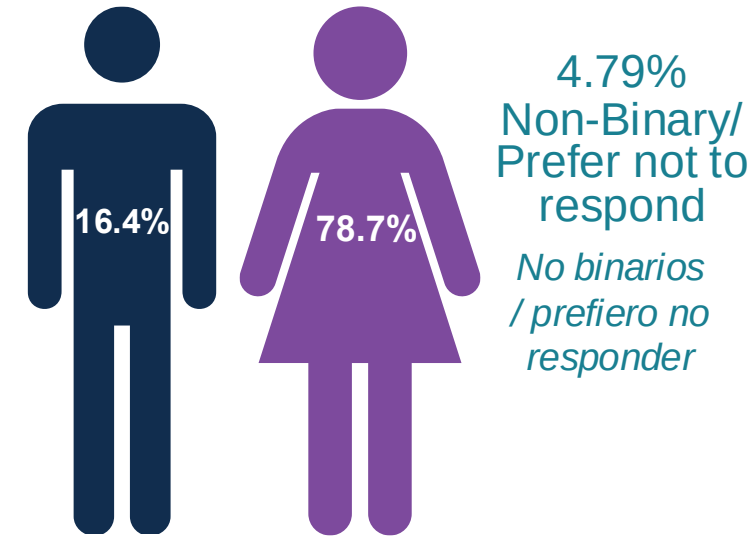
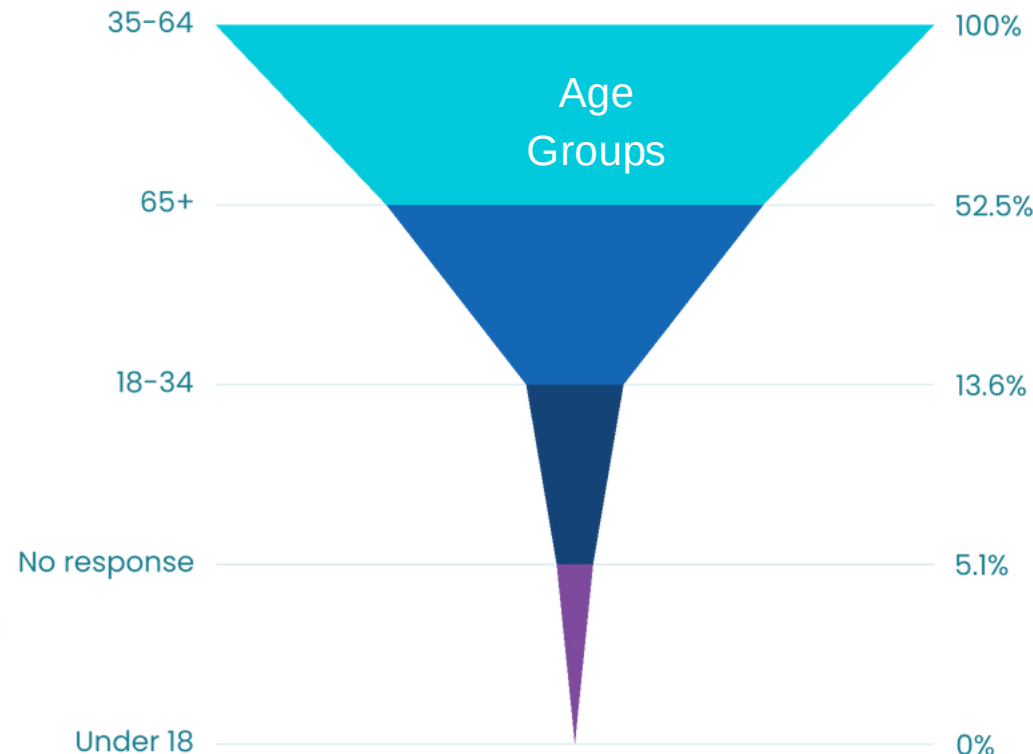
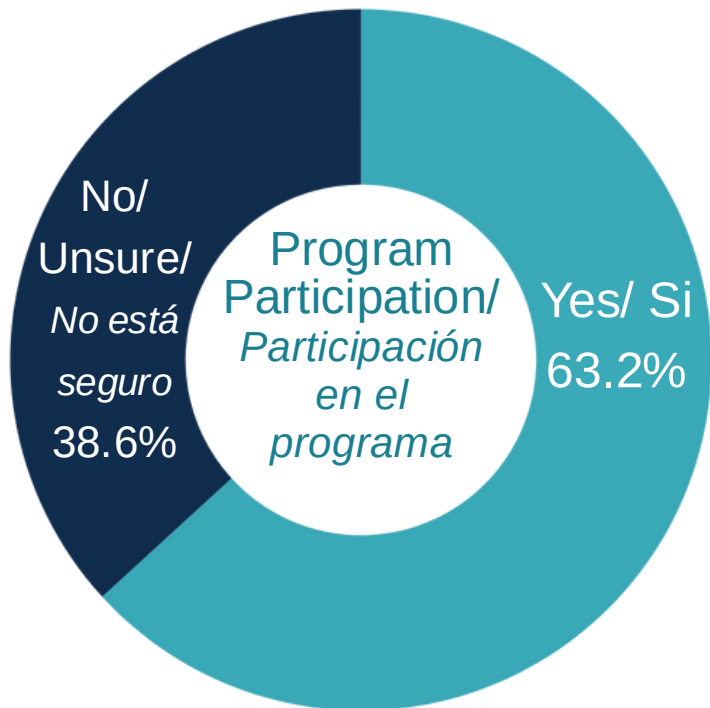
Propósito

- Attitudes & beliefs on landscapes/ *Actitudes y creencias sobre los paisajes*
- Perceptions & opinions on program/ *Percepciones y opiniones sobre el programa*

Survey Breakdown

Desglose de la encuesta

2,938
Responses/
Encuestados



Overall Results - Landscape Values

Resultados en general - valores de los jardines



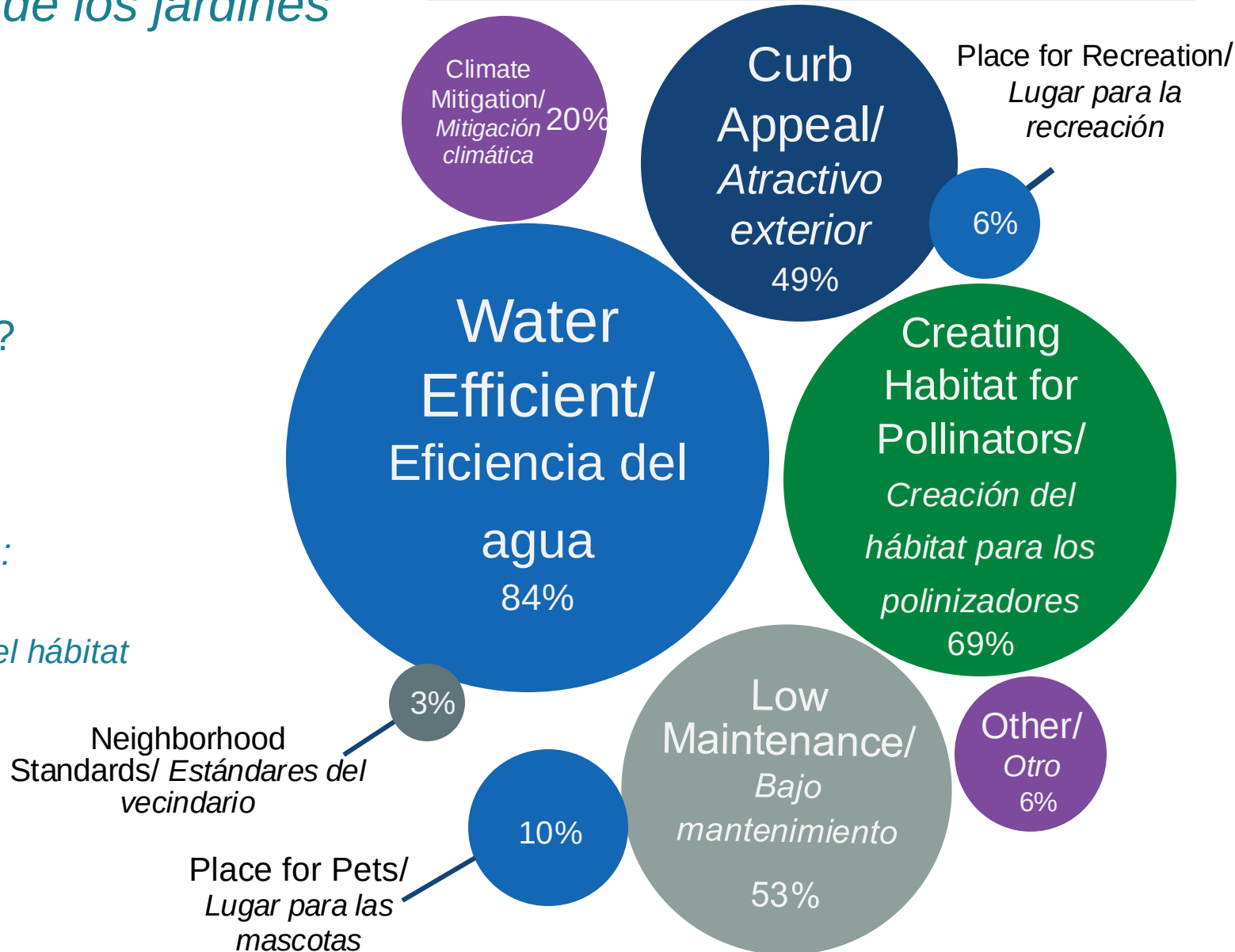
79%

How important is your landscape to you?
¿Qué tan importante es el jardín para usted?

Top 3 landscape considerations:
3 consideraciones principales sobre jardines:

- Water Efficient/ *Eficiencia del agua*
- Creating Habitat for Pollinators/ *Creación del hábitat para los polinizadores*
- Low Maintenance/ *Bajo mantenimiento*

Most important categories when considering
your landscape/ Las categorías más importantes
cuando está pensando sobre su jardín



Overall Results: Landscape Opinions

Landscaping Opinions: Disagree (-) or Agree (+)
 Opiniones sobre los jardines: No está de acuerdo (-) o de acuerdo (+)

Key Takeaways

Conclusiones clave

- Most respondents do not use chemical treatments on their landscapes/ La mayoría de los encuestados no utilizan químicos para el tratamiento de sus jardines
- Most preferred to remove, change, or maintain their landscape themselves/ La mayoría prefiere el remover, cambiar o mantener sus jardines por ellos mismos

My neighborhood has mostly turf landscapes/ Mi vecindario se caracteriza principalmente por tener jardines de césped.

I know how to maintain turf grass/ Tengo el conocimiento de cómo mantener el césped.

I know how to maintain perennial plants/ Tengo el conocimiento de cómo mantener plantas perineales

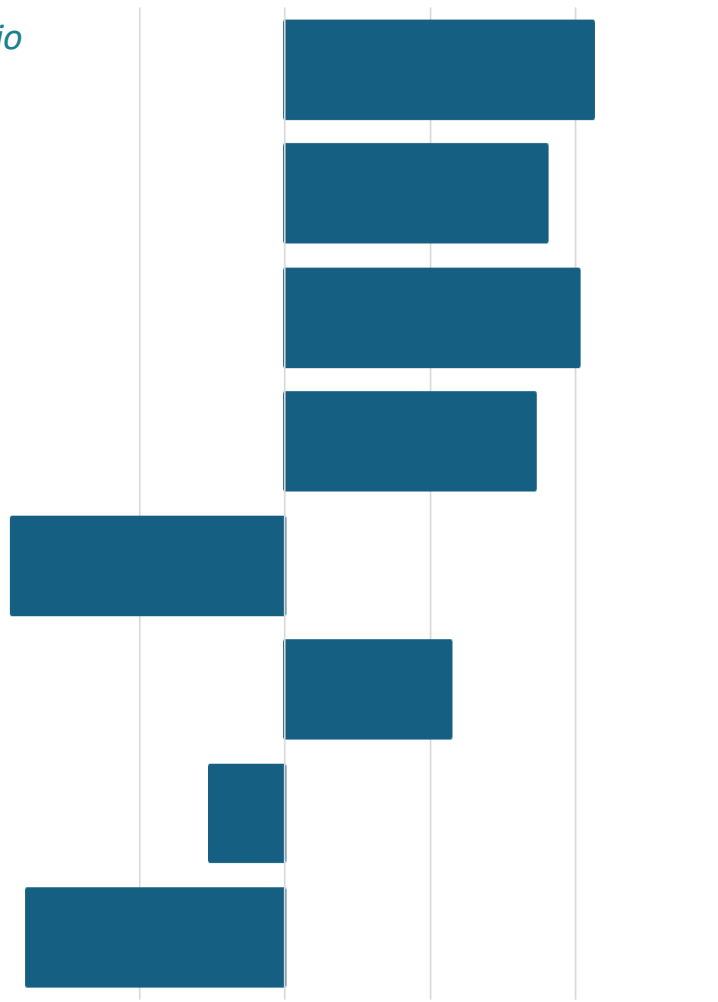
I know how to navigate my HOA's policies/ Yo sé cómo navegar las políticas de mi HOA

I prefer to hire a professional to maintain my landscape/ Yo contratar a un profesional para prefiero darle mantenimiento a mi jardín

I know how to change my landscape myself/ Yo sé cómo cambiar cómo luce mi jardín por mí mismo

I prefer to hire a professional to change my landscape/ Yo prefiero contratar a un profesional para cambiar mi jardín

I use chemical treatments on my landscape/ Yo utilizo tratamientos químicos en mi jardín

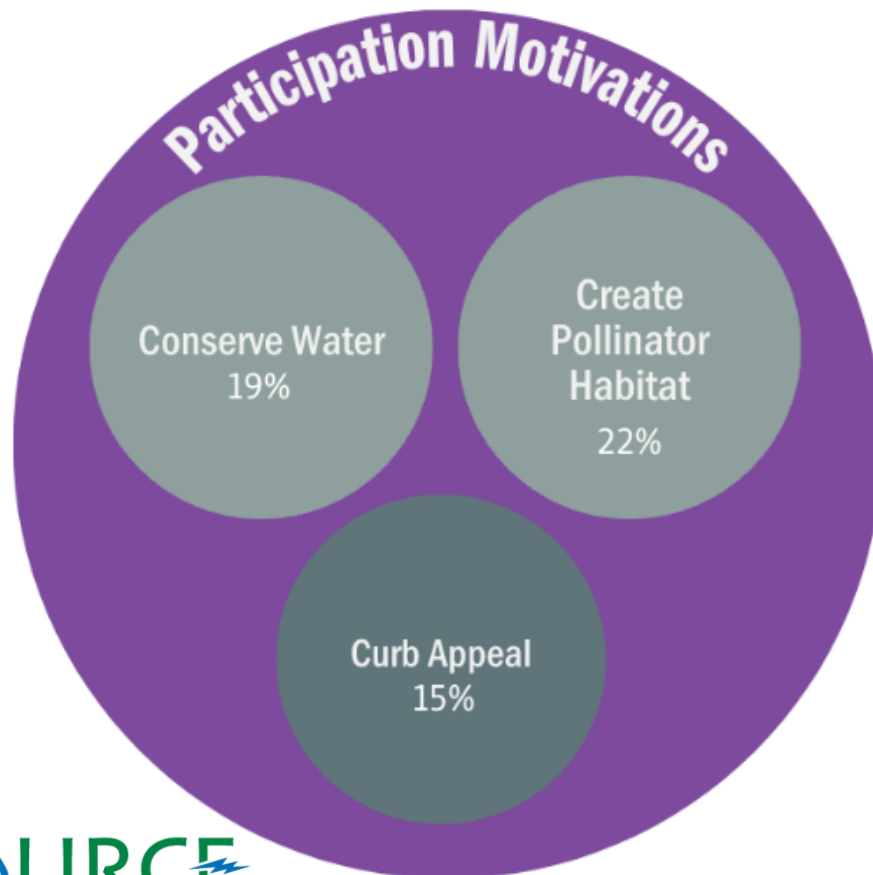


Strongly Disagree (-) Strongly Agree (+)
 Fuertemente en desacuerdo (-) Fuertemente de acuerdo (+)

Program Participation Results

Resultados de la participación del programa

Participant/ *Participante*



Non-Participant/ *No Participante*



Landscape Preferences

Preferencias del Jardín

“I am a huge Garden In A Box advocate. The suggested planting maps have been a lifesaver!”

-Garden In A Box Participant

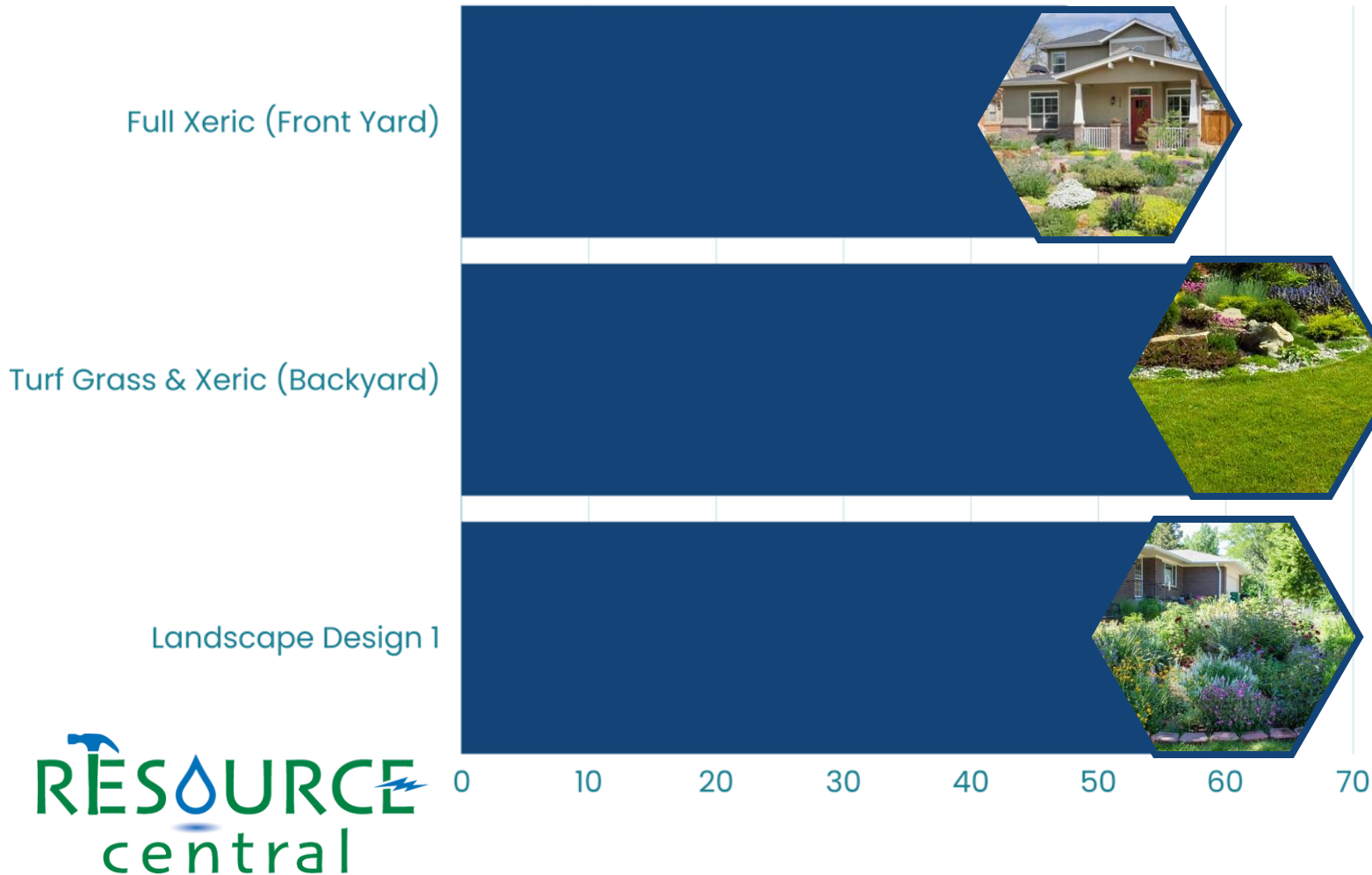
“¡Soy un gran defensor de Garden In A Box. Los mapas de plantación sugeridos han sido de gran ayuda para mí!”

- Participante de Garden In A Box



Preferred Landscape: All Respondents

Preferencias del jardín: todos los encuestados



Key Takeaways/ Conclusiones clave

- Overall, a full xeric plant landscape is preferred for the front yard/ *En general, se prefiere un jardín completamente xérico para el patio de enfrente*
- Some turf is still desired for the backyard, but not an entire turf grass lawn/ *Todavía existe el deseo de tener algo de césped en las áreas del patio trasero, pero no necesariamente un patio completo de césped*
- The fully xeric plant landscape design was preferred by all respondents/ *Los encuestados prefirieron el diseño de un jardín completamente xérico*

Impact Analysis

Análisis del impacto

“It's a win-win type of agreement. I get to help conserve water, plant Colorado native plants, and help the pollinators!”

-Garden In A Box Participant

“¡Es un acuerdo en el que todos se benefician. Puedo contribuir a la conservación del agua, a la plantación de especies nativas de Colorado y al apoyo de los polinizadores!”

- Participante de Garden In A Box



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Impact Analysis

Análisis del impacto



Peer-Reviewed Methodology/ *Metodología evaluada por compañeros*

- Adapted from Slow the Flow study/ *Adaptado del estudio Slow the Flow* (Shimbaku et.al. , 2016)
- Weather adjusted/ *Ajustado por el clima*
- Worked with two expert consultants/ *Trabajo con dos consultantes expertos*

Water Records 2017 - 2022 *Registros del agua del 2017 - 2022*

- 2018 - Year of Garden In A Box Purchase/ *2018 - Año de adquisición de Garden In A Box*
- Includes 2020: pandemic; very hot, dry weather/ *Incluye el 2020: pandemia; mucho dolor, clima árido*

Additional Factors *Factores adicionales*

- Multiple garden purchases/ *Adquisiciones múltiples de jardines*
- Repeat customers/ *Clientes frecuentes*



Water Use Records

Registros del uso de agua del
2017 - 2022



Data Request/ *Solicitud de datos*

- **1,689** Participants in **6** cities
1,689 Participantes en 6 ciudades



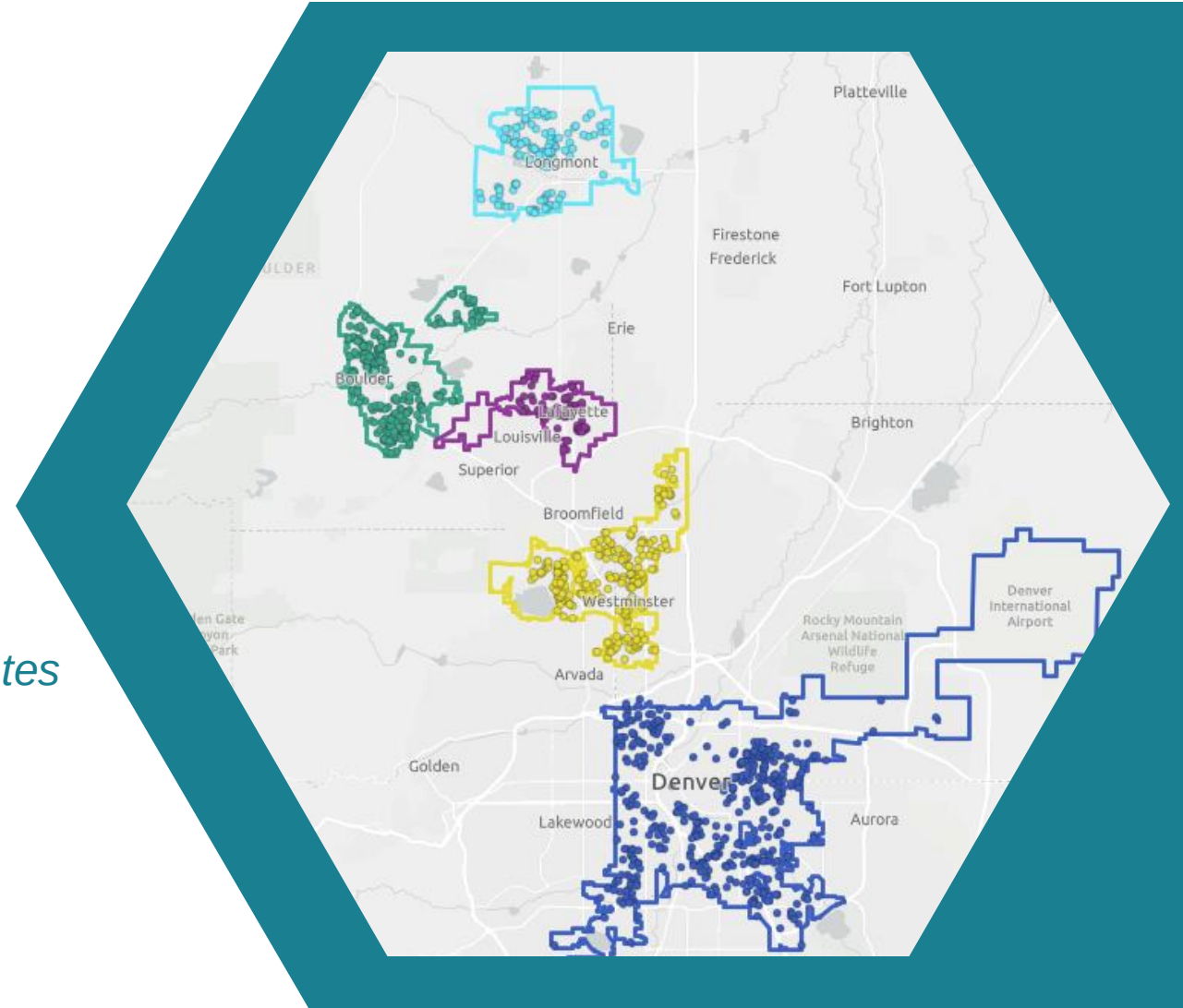
Data Received/ *Datos recibidos*

- **1,275** Participants in **5** cities
1,275 Participantes en 5 ciudades



Participating Cities/ *Ciudades participantes*

- Longmont
- Boulder
- Lafayette
- Westminster
- Denver



Impact: 5,000 Gallons/Year Water Savings



Sample Size/ *Tamaño de la muestra*

- **1,031** number of participants
1,031 número de participantes



Annual average savings/ *Promedio anual de ahorros*

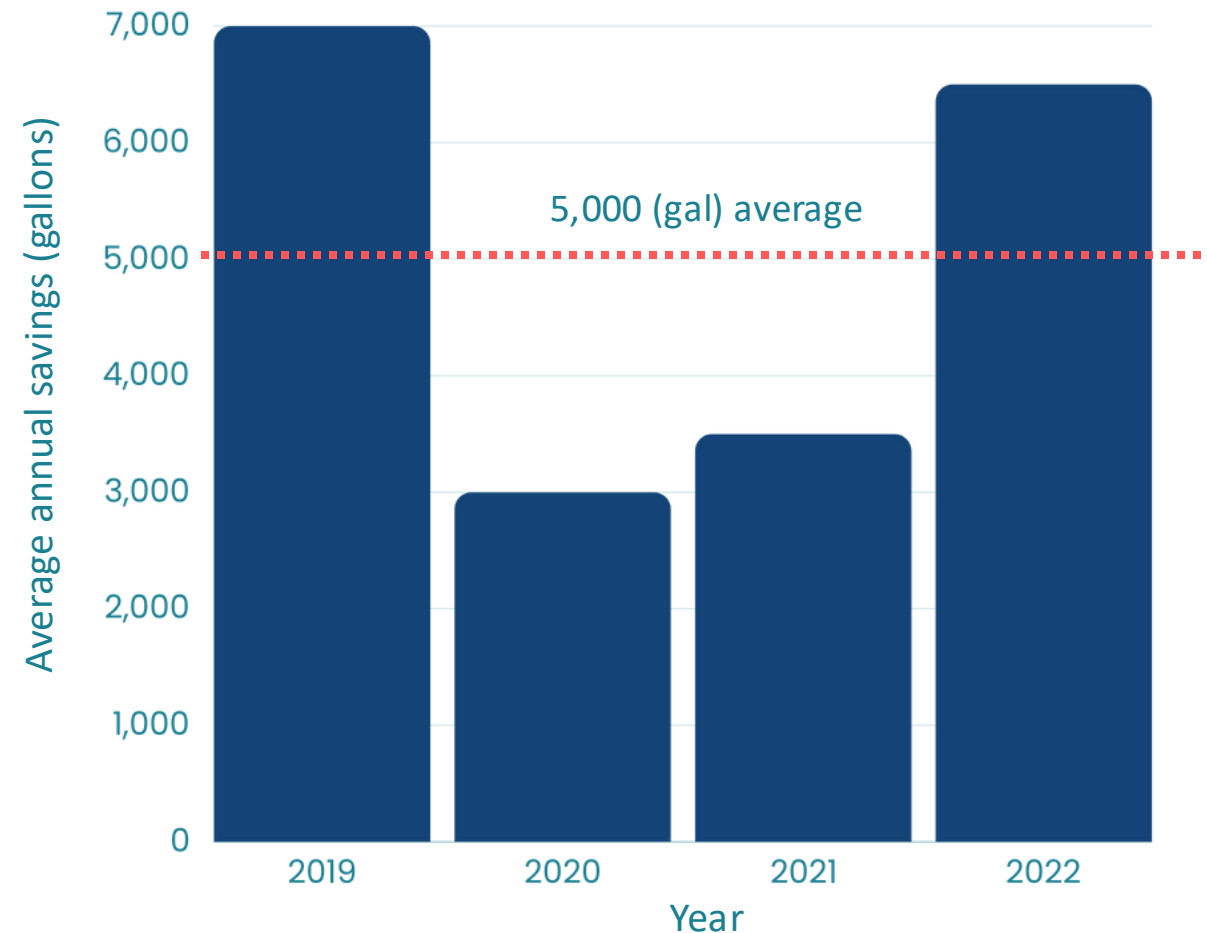
- **5,000** gallons per year
5,000 galones por año



Considerations/ *Consideraciones*

- 2020 was an exceptionally hot and dry year/ *El 2020 fue un año excepcionalmente cálido y árido*
- COVID pandemic/ *Pandemia del COVID*

Average savings 2019-2022 per participant (gal)



Garden In A Box is Leading the Way

Garden In A Box está a la vanguardia

Garden In A Box participants use:

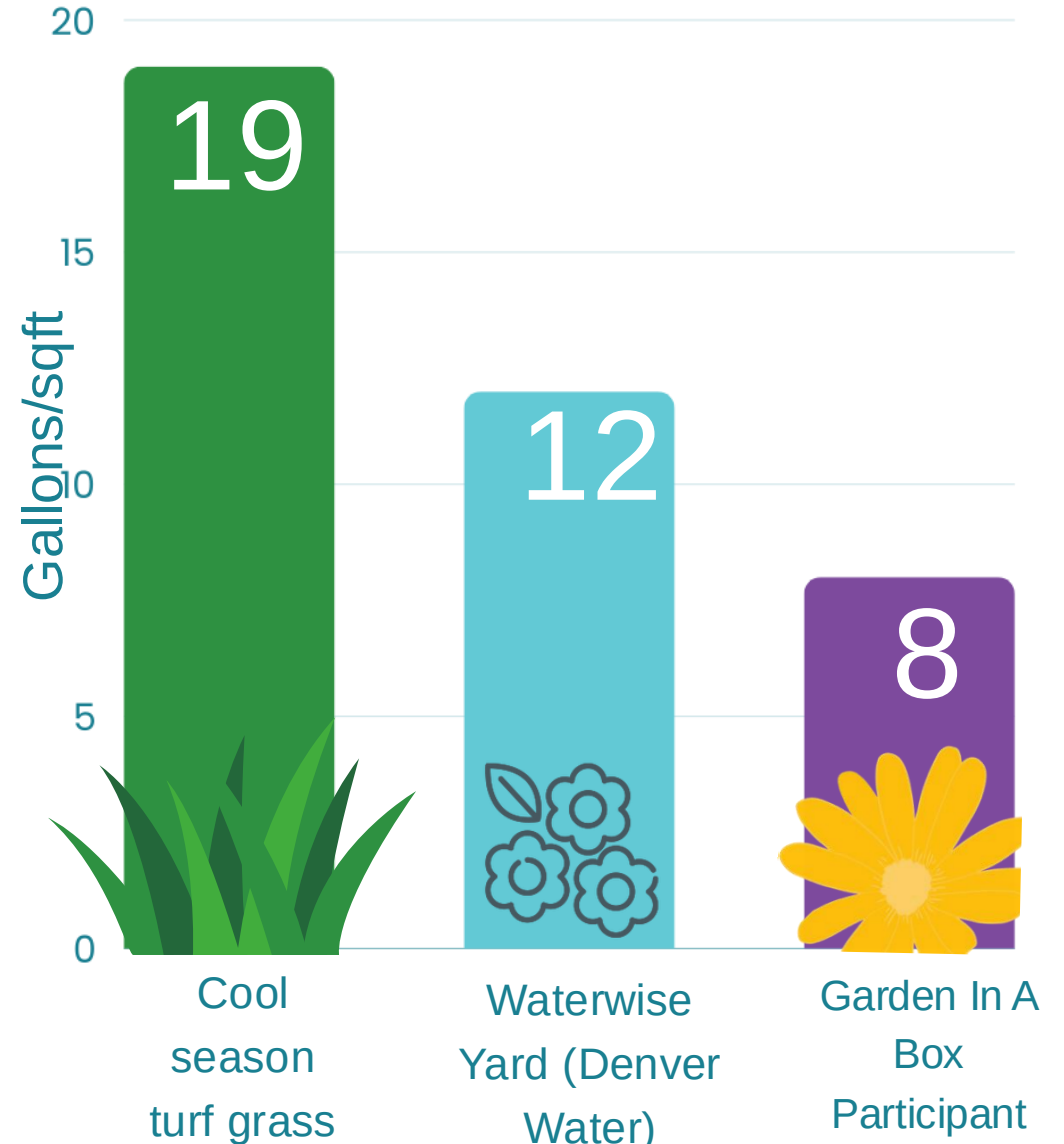
Los participantes de Garden In A Box utilizan

- **8 gallons** per square foot per year
8 galones por pie cuadrado por año

Estimated Savings

Ahorros estimados

- **11 gallons/sqft** compared to turf grass
11 galones por pie cuadrado comparados con la grama de césped



Multi-Year Participation

Participación en años múltiples



Multi-Year Participation/ *Participación de múltiples años*

- Purchased a Garden In A Box in 2018 and more than one year during study period
Adquirió un Garden In A Box en el 2018 y más cada año durante el periodo del estudio



Sample Size/ *Tamaño de la muestra*

- **856** participants/ *participantes*
- Excludes Boulder/ *Con la excepción de Boulder*

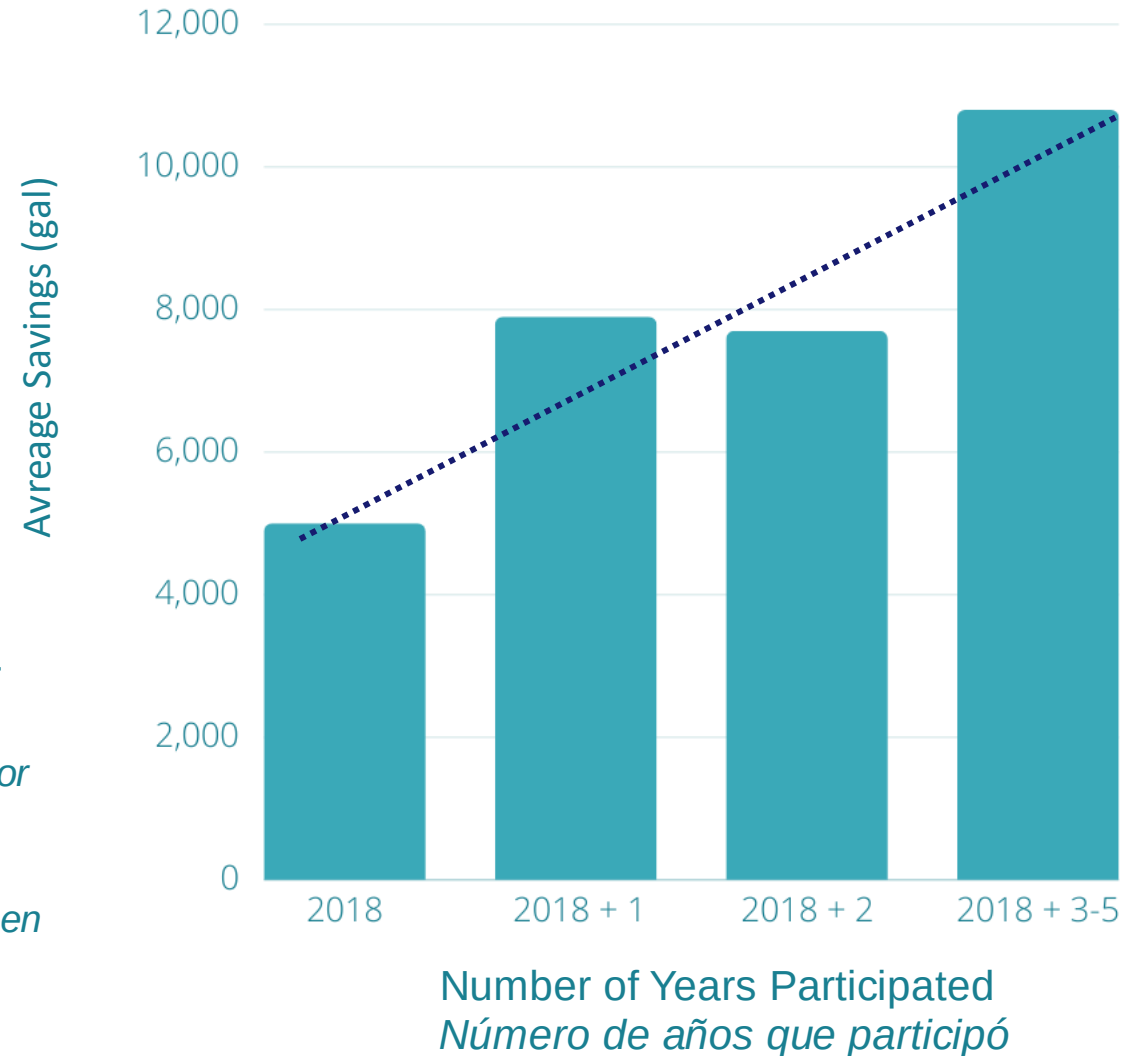


Findings/ *Resultados*

- Trend shows higher water savings for multi-year participants/ *Las tendencias demostraron que los ahorros más altos en el agua fueron experimentados por los participantes de múltiples años*
- Higher confidence in 2018 + 1 results, due to larger sample size (n=137) / *Una mayor confianza en los resultados del 2018 + 1, debido a un tamaño de muestra más grande (n=137)*

Average Savings Per Participant (gal): Multi-Year Participation

Promedio de ahorros por participante (gal): participante en múltiples años



Multiple Garden

Múltiples jardines



Multiple Garden/ *Múltiples jardines*

- Compared to those who purchased one Garden In A Box in 2018/ Comparados a aquellos que adquirieron un Garden In A Box en el 2018



Sample Size/ *Tamaño de la muestra*

- **856** number of participants/ *número de participantes*
- Excludes Boulder/ *a excepción de Boulder*



Findings/ *Resultados*

- Participants who purchased multiple gardens in 2018 saved more water on average in 2022 than those who purchased one garden/ *Los participantes que adquirieron múltiples jardines en el 2018 ahorraron más agua en promedio en el 2022 que aquellos que compraron solamente un jardín*

Average Savings Multiple Gardens *Promedio de ahorros para múltiples jardines*



Key Takeaways

Conclusiones clave

“This program inspired my gardening passion! It made gardening accessible and gave me a place to start!”

-Garden In A Box Participant

“¡Este programa inspiró mi pasión por la jardinería, facilitando su acceso y proporcionándome un punto de partida!”

- Participante de Garden In A Box

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Key Takeaways/ Conclusiones clave



Survey shows, people love Garden In A Box!
Las encuestas demuestran, que las personas aman Garden In A Box!

- Aligns with people's values and has shown significant growth over time/ *Se alinea con los valores de las personas y ha demostrado un crecimiento significativo a lo largo del tiempo*



Garden In A Box is good for the environment
Garden In A Box es bueno para el ambiente

- Creates pollinator pathways and reduces chemical usage on landscapes/ *Crea vías para los polinizadores y reduce el uso de químicos en los jardines*



Garden In A Box participants save water
Los participantes de Garden In A Box ahorran agua

- An average of 5,000 gallons per year/ *Un promedio de 5,000 galones por año*
- Increased savings for multiple gardens/years/ *Ahorros incrementados al usar múltiples jardines por múltiples años*



Garden In A Box is an invaluable program that teaches homeowners about conservation!

-Garden In A Box Participant

¡Garden In A Box Es un programa invaluable que le enseña a los propietarios de hogares acerca de la conservación!

- Participante de Garden In A Box



Thank you!

¡Gracias!

Colorado Water Conservation Board

Peter Mayer - Water Demand Management

Kate Larson - Director of Water & Energy at Resource Central

Andrea Montoya - Pollinator Advocates

Scan here to check out our StoryMap!
Escanee aquí para ver nuestro StoryMap!



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Works Cited



Shimabuku, M., Stellar, D., & Mayer, P. (2016). Impact evaluation of residential irrigation audits on water conservation in Colorado. Journal-American Water Works Association, 108(5), E299-E309.



DeOreo, W. B., Mayer, P. W., Dziegielewski, B., & Kiefer, J. (2016). Residential End Uses of Water, Version 2 : Executive Report. Water Research Foundation .



BBC Research & Consulting. (2024). Updated 2024 Exploratory Analysis of Potential Water Savings, Costs and Benefits of Turf Replacement in Colorado. www.bbcresearch.com



Kirk, Jessica. Tap. (2019). How Much Water Does Your Landscape Actually Need, Summer Water use reports help customers understand how efficient they are with outdoor watering. www.denverwater.org



Enabling the Large-Scale Replacement of Non-Essential Turf

Permitir la sustitución a gran escala de césped no esencial

Colorado WaterWise Webinar | October/Octubre 28, 2024

Lindsay Rogers, Western Resource Advocates

Victoria Arling, WaterNow Alliance

Western
Resource
Advocates.

wra

waternow
alliance



AGENDA

- I. Background & Project Overview/ *Antecedentes y vision general del proyecto*
- II. Westminster Turf Assessment/ Evaluación del césped de Westminster
- III. Pilot Projects Overview/ Proyectos piloto
- IV. Resources and Reports/ *Recursos e informes*

Accelerating Landscape Transformation

Acelerar la transformación del paisaje



May/Mayo

Turf Replacement
Project Launch/
*Lanzamiento del
Proyecto de sustitución
del césped*



June/Junio

Municipal
Conservation MOU/
*Comunicado de
Conservación Municipal*



June/Junio

*Native Grass
Manual/Manual de
césped natural*



January/Enero

Urban Landscape Conservation
Task Force Report/
*Informe del
grupo de trabajo sobre
conservación del paisaje urbano*

2021

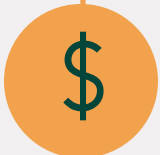
2022

2023

2024

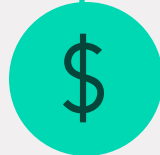
March/ Marzo

HB22-1151: Turf Replacement Program/
HB22-1151: Programa de sustitución de césped



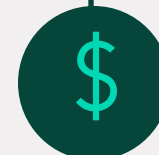
March/ Marzo

CWCB Fully Allocates Initial Turf
Funds/
*La CWCB asigna íntegramente
los fondos iniciales para césped*



May/ Mayo

SB5 Turf Limits & More
Funding/
*SB5 Límites del
césped y más fondos*



Partners

Colaboradores

Western
Resource
Advocates®



Honey Creek Resources, Inc.

Funders

Fundadores



COLORADO

Colorado Water
Conservation Board

Department of Natural Resources



Metro Basin & South Platte Basin Roundtables

Pilot Communities

Comunidades piloto



Project Tasks

Tareas del Proyecto

1. Community-wide Turf Assessment/ Evaluación de césped en una escala comunitaria

How much irrigated turf exists in each community?
Would you save water and money by replacing it?
¿Qué cantidad de césped de regadío existe en cada comunidad? ¿Se ahorraría agua y dinero sustituyéndolo?

2. Pilot Projects/ Proyectos piloto

What does it take to design, fund and implement a larger-scale turf replacement project? What are the project benefits? *¿Qué se necesita para diseñar, financiar y ejecutar un proyecto de sustitución del césped a mayor escala? ¿Cuáles son los beneficios del Proyecto?*



Project Tasks

Tareas del Proyecto

3. Funding & Financing Reports/ *Informes sobre financiación*

How do we pay for turf replacement programs/projects at scale? *¿Cómo pagamos los programas/proyectos de sustitución del césped a escala?*

4. Sharing Project Findings/ *Compartiendo los resultados de los proyectos*

What resources, tools, and information do communities need to tackle large-scale turf replacement? *¿Qué recursos, herramientas e información necesitan las comunidades para abordar la sustitución del césped a gran escala?*



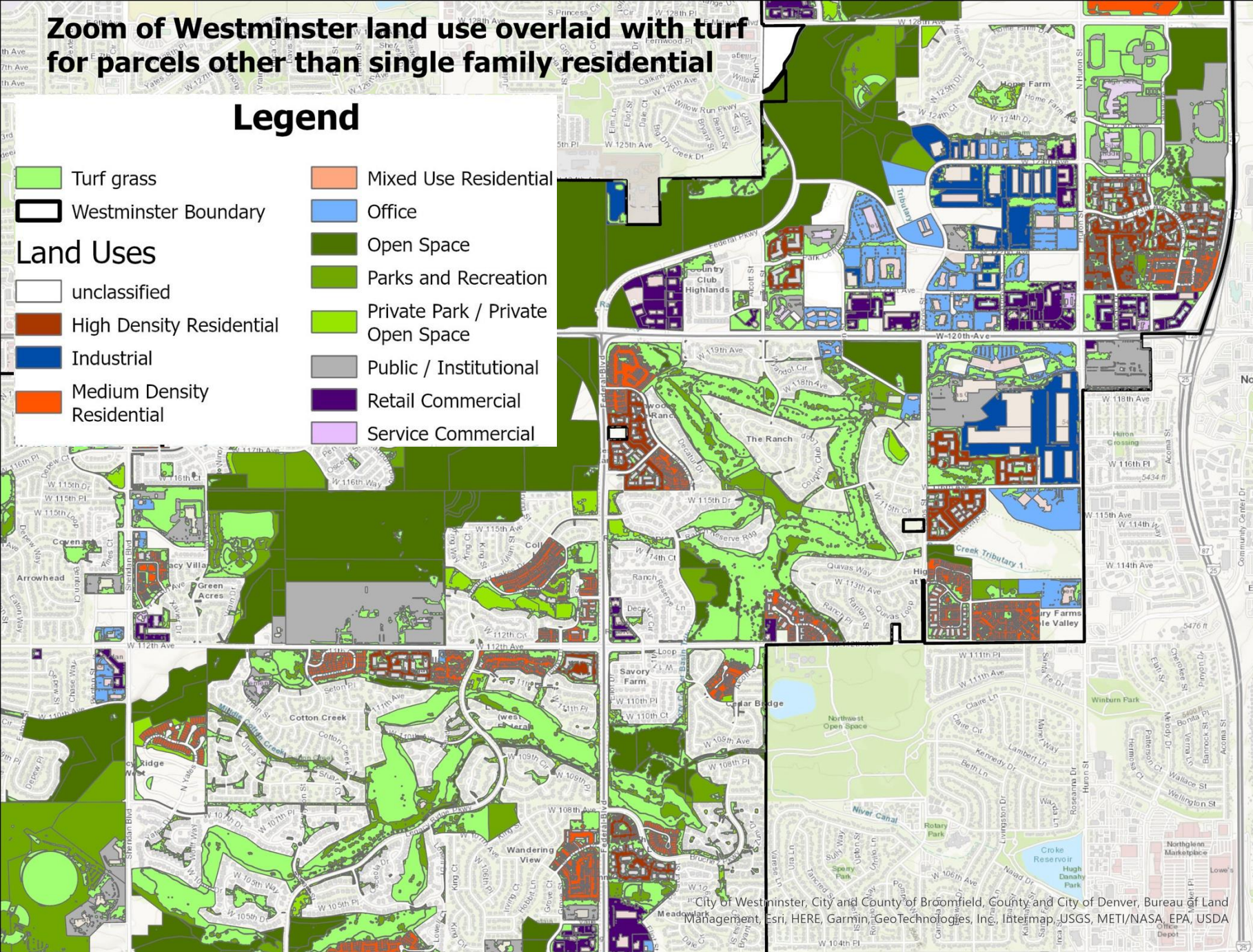
WESTMINSTER TURF ASESSEMENT

EVALUACIÓN DEL CÉSPED EN WESTMINSTER

Zoom of Westminster land use overlaid with turf for parcels other than single family residential

Legend

- | | |
|--|---|
|  Turf grass |  Mixed Use Residential |
|  Westminster Boundary |  Office |
| Land Uses |  Open Space |
|  unclassified |  Parks and Recreation |
|  High Density Residential |  Private Park / Private Open Space |
|  Industrial |  Public / Institutional |
|  Medium Density Residential |  Retail Commercial |
| |  Service Commercial |



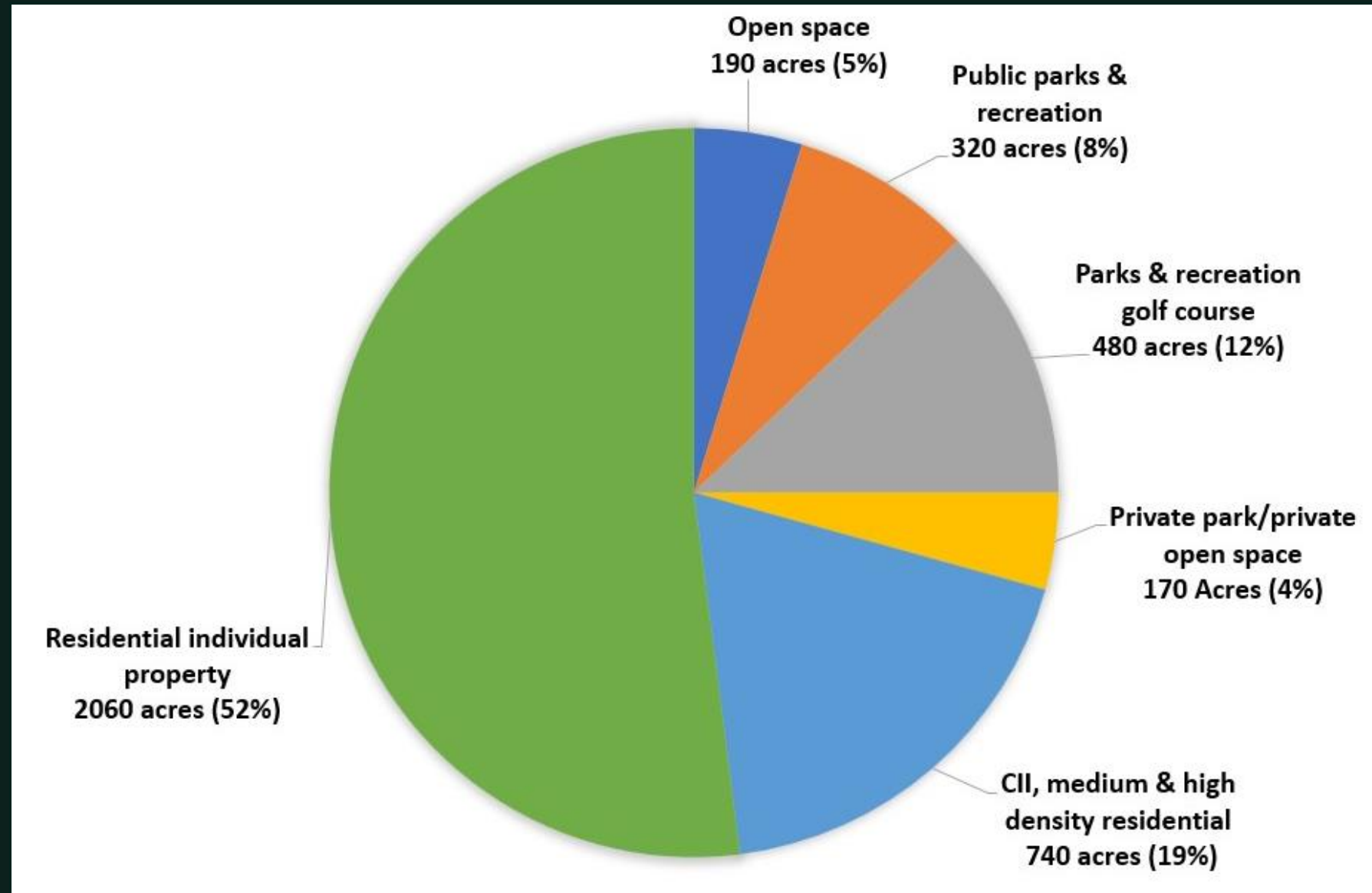
Westminster land use data overlaid with turf areas/
Datos de uso de suelo de Westminster sobre las zonas de césped



City of Westminster, City and County of Broomfield, County and City of Denver, Bureau of Land Management, Esri, HERE, Garmin, GeoTechnologies, Inc., Intermap, USGS, METI/NASA, EPA, USDA

Irrigated Turf Estimates

Estimaciones de césped de regadío



CII Turf Replacement Scenarios

Escenarios de sustitución del césped CII

Irrigated Turf		Turf Replacement Scenarios			
Land Use Category	Existing Turf (acres)	Low Replacement Scenario		High Replacement Scenario	
		Low	Acres	High	Acres
Open space	190	30%	57	80%	152
Public parks and recreation	320	20%	64	70%	224
Golf course	480	5%	24	20%	96
Private park & private open space	170	30%	51	80%	136
Commercial, industrial, medium & high density residential, other	740	30%	222	80%	592
TOTAL Irrigated Turf	1,900	22%	418	63%	1,200

CII Water Savings Scenarios

Escenarios de ahorro de agua de las ICI

Irrigated Turf	Assumed Replacement Landscaping by Type		
Land Use Category	Native Grass	Low Water Use Plants	No Irrigation
Open space	90%	5%	5%
Public parks and recreation	85%	5%	10%
Golf course	100%	0%	0%
Private park & private open space	90%	5%	5%
Commercial, industrial, medium & high density residential, other	70%	10%	20%

Land Use Category	Current Water Use (AFY)	Estimated Water Savings (AFY)	
		Low Scenario	High Scenario
Open space	412	83	222
Public parks and recreation	693	96	336
Golf course	1,040	34	136
Private park & private open space	368	75	199
Commercial, industrial, medium & high density residential, other	1,603	352	937
Total	4,120	640	1,830

Economic Benefits of Communitywide CII Turf Conversion

Beneficios económicos de la conversión de césped CII en toda la Comunidad

- Saves **over 90%** on cost per acre-foot of water compared to new supply/ *Ahorro de más del 90% en el costo por acre-pie de agua en comparación con el nuevo suministro*
- Rebates at **\$1.50-\$2.00 per sq ft** are cost-effective/ *Los descuentos de entre \$1.50-\$2.00 por pie cuadrado son rentables*
- City bears **25% of costs** and receives **75% of the benefits**/ *La ciudad asume el 25% de los costos y recibe el 75% de los beneficios*
- Cost to the City **won't increase rates** but would be higher than annual rates can cover; upfront funds can be **secured by bond or State Revolving Fund** financing/ *EL costo para la ciudad no aumentará las tarifas, pero será superior a lo que las tarifas, pero será superior a lo que las tarifas anuales pueden cubrir; los fondos iniciales pueden garantizarse mediante bonos o la financiación del fondo Rotatorio Estatal*



Westminster's City Hall Pilot Project

Proyecto piloto del Ayuntamiento de Westminster

Area = 4 acres

Cost/Costo = \$999,999

City/Ciudad = \$774,999

Grant/Subvención =
\$225,000

Water Savings ≈ 5

Ahorro de agua ≈ 5

5 acre-feet annually (50%
reduction)

*acres pies (reducción del
50%)*

Enhanced Community
Recreation and
Landscaping Showcase/
*Mejora de la oferta
recreativa y paisajística de
la Comunidad*



FINAL CONCEPT DESIGN

WESTMINSTER CITY HALL XERIC LANDSCAPE | MAY 2023

WESTMINSTER COLORADO stream

Broomfield's Brandywine Pilot Project

Proyecto piloto Brandywine de Broomfield



Area = 3.23 acres

Cost/Costo = \$350,000*

*does not include public "amenity" areas/
**no incluye zonas de esparcimiento público*

Water Savings ≈ 5.8 acre-feet annually (67% reduction)

Ahorro de agua ≈ 5.8 acre-pies anuales (reducción de 67%)

Native grass conversion "proof of concept"

Prueba de concepto de conversión de césped autóctono

UNC Campus Pilot Project

Proyecto piloto del campus de la UNC



Area = 3.4 acres

Cost/Costo = \$985,000
(ARPA Grant, CWCB Turf Replacement Funds, Northern Water WEL Grant, UNC Operating)

Water Savings = 6 acre-feet annually (86% reduction)
Ahorro de agua = 6 acres-pies al año (reducción del 86%)

Diverse water wise plants and grasses, student recreation & art display/ *Diversas plantas y céspedes respetuosos con el agua, actividades recreativas para estudiantes y exposición de arte*

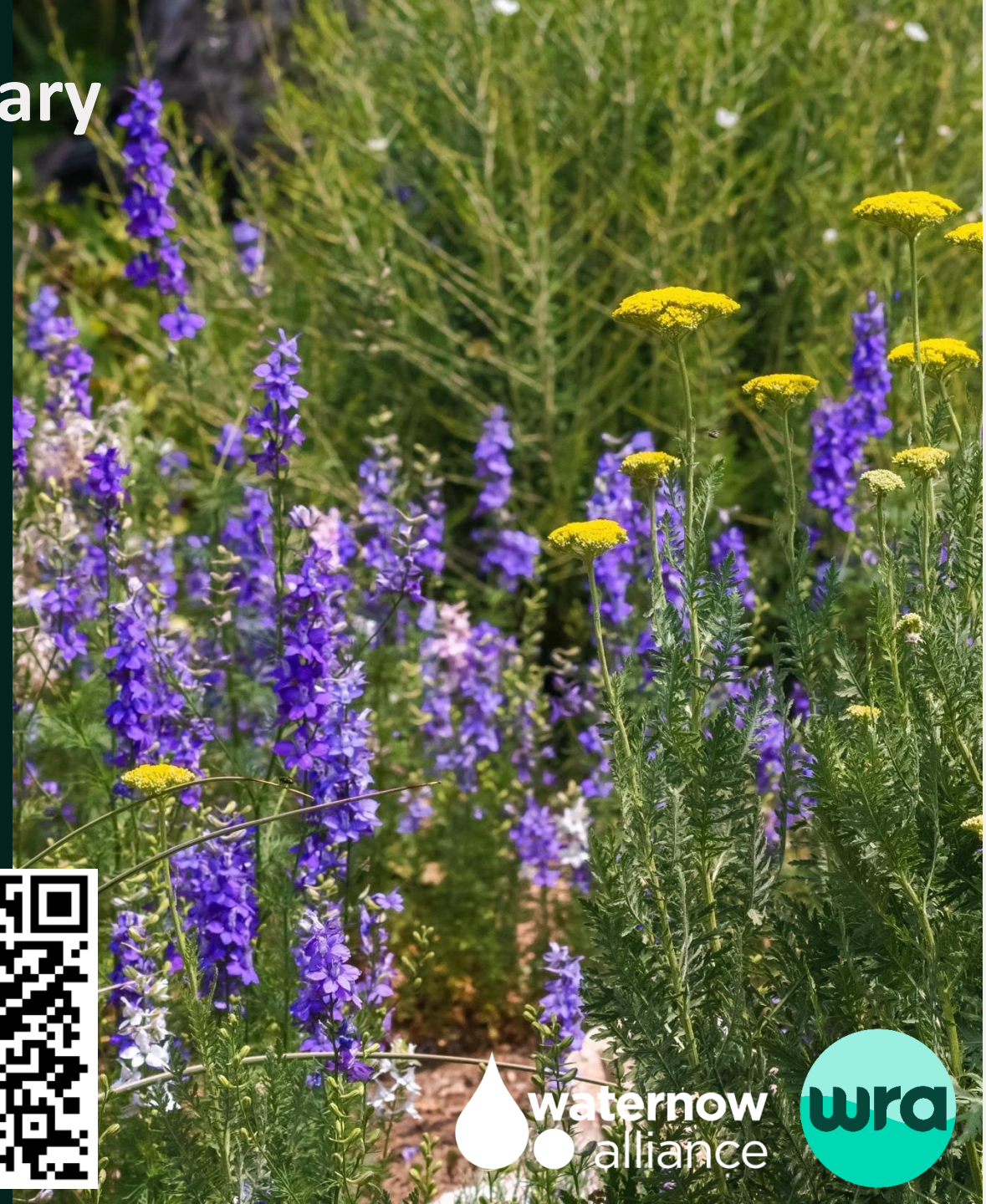
Access the Project Resource Library

Acceda a la biblioteca de recursos del proyecto

- Funding & financing reports/ *Informes de financiación*
- Westminster case study/ Estudio de caso de Westminster
- Multi-benefits fact sheet/ *Hoja de los multiples beneficios*
- Turf conversion materials database/ *Base de datos materiales para la conversion del césped*
- Water savings & economic analysis tools/ *Ahorro de agua y herramientas de análisis económico*



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How to Pay for Turf Replacement in Colorado

Cómo pagar el reemplazo del césped Colorado

- Scaling up investments and making the case/ *Ampliación de las inversiones y justificación*
- Funding and financing mechanisms/ *Mecanismos de financiación*
- Program case studies/ *Estudios de caso de programas*



FINANCING THE FUTURE:

How to Pay for Turf Replacement in Colorado

August 2022



HOA Common Area Turf

Conversions

HOA Conversiones de césped de zonas comunes

- Overcoming barriers and making the case/ *Superar los obstáculos y defender la causa*
- Benefits to HOAs/ *Beneficios para las asociaciones de propietarios*
- How to pay for projects/ *Cómo pagar los proyectos*
- Success stories/ *Historias de éxito*



The image shows a brochure titled "Water Wise Landscapes" by the Western Resource Advocates (wra) and the waternow alliance. The brochure is set against a background of a residential area with houses and a lawn. The top section features the logos of wra and waternow alliance, followed by the title "Water Wise Landscapes" and the subtitle "A cost-effective HOA investment in resilience". The main body of the brochure contains text explaining the benefits of water-wise landscaping, such as reducing water usage and increasing property values. It also includes a list of benefits with corresponding icons: Beautifying neighborhoods, Lowering water and maintenance costs, Reducing air pollution from mowing, Creating pollinator habitat, Saving Water, and Building resilience. The bottom section features a large image of a house with a water-wise landscape and a blue box with the title "WATER WISE LANDSCAPES" and the subtitle "A Cost-Effective HOA Investment in Resilience". The date "January 2024" is also present. The brochure is signed off with the logos of waternow alliance and wra.

wra Western Resource Advocates.

waternow alliance

Water Wise Landscapes

A cost-effective HOA investment in resilience

Roughly 40 to 50% of all municipal water used in Colorado is applied outdoors, with much of this going to water thirsty turfgrass. Non-native turfgrass requires extensive, and increasingly expensive, irrigation water to stay green in the dry Colorado summer. As drought and rising temperatures strain Colorado's water supplies, communities across the state are transitioning from non-functional turf to water wise landscaping to save both water and money.

Homeowners Associations (HOAs) have an important role to play in this transition. Many HOAs maintain landscaped areas, much of which is non-functional turf, in community entryways, medians, and unused common spaces.

Unlike a well-loved sports field, non-functional turf is only walked on when it's mowed.

How HOAs can benefit from waterwise landscaping

- Beautifying neighborhoods**
Well-designed and maintained water wise landscapes have been shown to increase property values by up to 15%.
- Lowering water and maintenance costs**
Established water wise landscapes typically require less time, fertilizer, and water to maintain compared to turfgrass.
- Reducing air pollution from mowing**
Removing turfgrass reduces the need to use gas-powered lawn mowers, which release harmful pollutants.
- Creating pollinator habitat**
Native and water wise plants provide habitat for hummingbirds, butterflies, bees, and other pollinators.
- Saving Water**
Replacing turf with water wise, climate-appropriate landscaping has been shown to save 30-70% of water applied to outdoor landscapes.
- Building resilience**
Water wise landscapes can withstand outdoor watering restrictions and thrive during dry summers.

WATER WISE LANDSCAPES
A Cost-Effective HOA Investment in Resilience
January 2024

waternow alliance

wra Western Resource Advocates.

Artificial Turf in the West

Césped artificial en el Oeste

- Water impacts/ *Impacto del agua*
- Temperature concerns/ *Problemas de temperatura*
- Lifecycle analysis/ *Análisis del ciclo de vida*
- Chemical concerns/ *Problemas químicos*

Is Artificial Turf a Beneficial Water Conservation Tool in the West?



December 2022

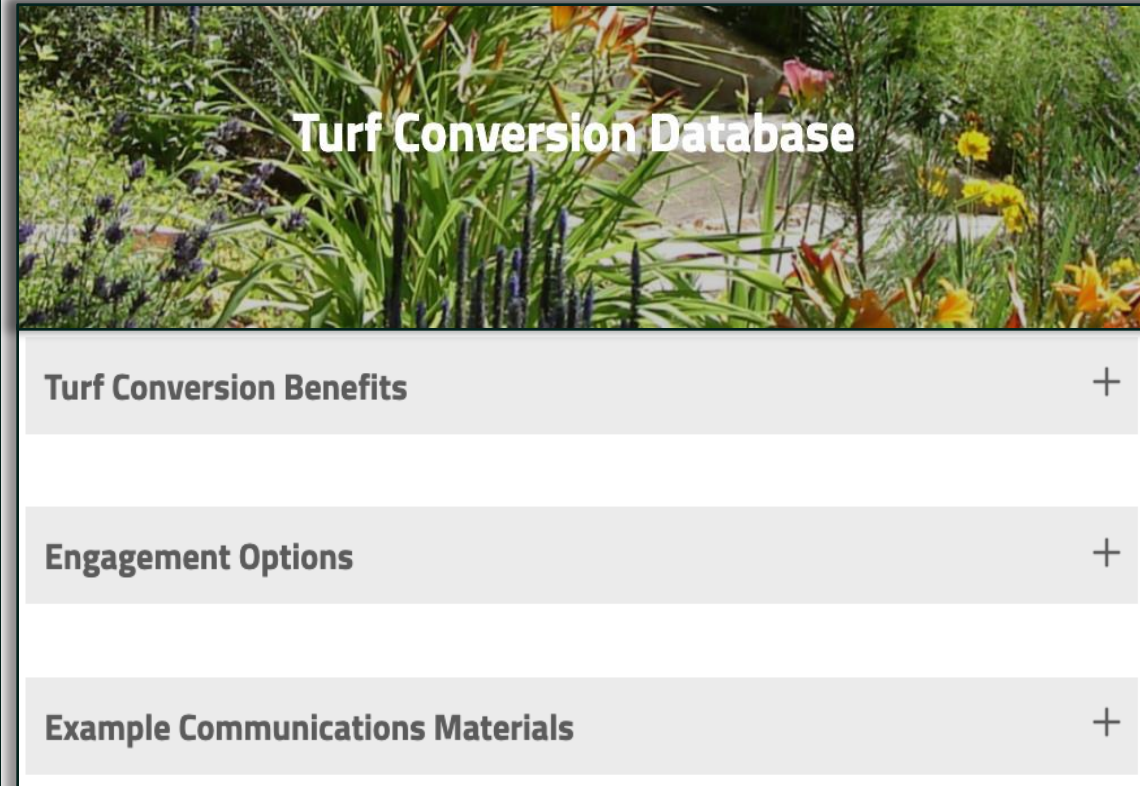
Author: Chelsea Benjamin



Turf Conversion Database

Base de datos de conversion del césped

- **Benefits:** Qualitative and quantitative/
Beneficios: Cualitativos y cuantitativos
- **Engagement Options:** “Co-create, Collaborate, Inform, Involve” / *Opciones de compromiso: “Co-crear, Colaborar, Informar, Involucrar”*
- **Comms Materials:** website, blog, social media, brochure, article, etc./ *Materiales de comunicación: página web, blog, redes sociales, folleto, artículo, etc.*



Multi-Benefits Fact Sheet

Hoja Informativa de beneficios

Explores the **environmental, social and economic benefits** of turf replacement that go beyond water savings/ *Explora los beneficios medioambientales, sociales y económicos de la sustitución del césped que van más allá del ahorro de agua*

Transforming Non-Functional Turf to Waterwise Landscapes Achieves Multiple Benefits

Overview

Transforming non-functional turf to waterwise landscapes achieves a wide range of benefits that enhance water supply and community resilience. These benefits include:



- Water savings

- Improved public health



- Costs savings

- Improved water quality



- Pollinator habitat

- Ecosystem improvements



- Neighborhood beautification

- Increased soil health



- Improved air quality

- Wildfire mitigation



- Increased recreation opportunities

- Local green jobs



Water Savings Assessment Tools

Herramientas de evaluación del ahorro de agua

- **Pilot parcel water savings tool** incorporates existing and new landscaping, and annual savings based on local climate data/ *La herramienta de ahorro de agua en parcelas piloto incorpora el paisajismo existente y el nuevo, y el ahorro anual basado en la fecha climática local*
- **Community-wide water savings tool** explores savings for various turf replacement scenarios with different replacement landscaping/ *La herramienta de ahorro de agua en toda la comunidad explora el ahorro en varios escenarios de sustitución del césped con diferentes tipos de paisajismo*

Landscape Conversion Water Savings Estimate Calculator			
Project/Design Name		Test Retrofit	
Location of Project or Climate Data for Analysis		OTHER	
Below New Landscaping for up to four Conversion Areas may include up to four types of new landscaping. Only fill out as many types as are needed leaving others blank.			
CONVERSION AREA 1			
Existing Landscaping		New Landscaping 1	
Square Footage of Conversion Area	100,000.00	Square Footage New Landscape 1 Type	50,000.00
Existing Landscape Type	Cool Season Turf	New Landscape 1 Type	Native Grass
Existing Landscape Water Use Intensity	Medium	New Landscape 1 Water Use Intensity	Low
Existing Landscape Irrigation Type	Rotor	New Landscape 1 Irrigation Type	Rotor
Property Type	Misc.	Irrigation Upgrade Option	None
		New Landscaping 2	
Square Footage QC	OK: Existing and new square footage are	Square Footage New Landscape 2 Type	25,000.00
		New Landscape 2 Type	Plantings
Difference	0.00	New Landscape 2 Water Use Intensity	Low
		New Landscape 2 Irrigation Type	Efficient Drip
		Irrigation Upgrade Option	None
		New Landscaping 3	
		Square Footage New Landscape 3 Type	15,000.00
		New Landscape 3 Type	Plantings
		New Landscape 3 Water Use Intensity	Medium
		New Landscape 3 Irrigation Type	Efficient Drip
		Irrigation Upgrade Option	None
		New Landscaping 4	
		Square Footage New Landscape 4 Type	10,000.00
		New Landscape 4 Type	No Irrigation
		New Landscape 4 Water Use Intensity	No Supplemental Irrigation
		New Landscape 4 Irrigation Type	None
		Irrigation Upgrade Option	None



Northern Water

Communitywide Economic Analysis Tool

Herramientas de análisis económico comunitarios

- Tool assesses the benefits and costs of turf replacement across different scales, rebate amounts, and time horizons/ *La herramienta evalúa los beneficios y costos de la sustitución del césped en diferentes escalas, importes de reembolso y horizontes temporales*
- Identifies cost-effective price point for turf replacement incentives/ *Identifica el punto de precio rentable para los incentivos de sustitución del césped*
- Compares cost/AF of water conserved vs. cost/AF of traditional water supplies/ *Compara el costo/AF del agua conservada con el costo/AF de los suministros de agua tradicionales*

			Unit
Acres replaced in year 1		20.00	acres
Annual rate of adoption		25.00	acres/year
Maximum potential acres		155.00	acres
Annual rate of increase in ET		0.15%	%
Usage pre-Program, turf		2.17	acre-ft/acre
Usage post-Program, weighted across plant types		0.70	acre-ft/acre
Water provider incentive (subsidy) to property owner(s)		\$ 1.00	\$/sq.ft.
Grant funds received for installation (total grant amount)		\$ -	\$
Should foregone water sales revenues be considered a water provider cost? Yes or No		No	



Honey Creek Resources, Inc.



Coming soon...

Próximamente...

- Full project report/ *Informe completo del proyecto*
- Broomfield & Greeley case studies/ *Casos prácticos Deroomfield y Greeley*
- And more! Living resource hub/ *¡Y mucho más! Centro de recursos vivos*



 **waternow**
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Project Key Takeaways

Principales conclusiones del proyecto

- Importance of local data/ *Importancias de datos locales*
- Need for community alignment on non-functional turf definition/ *Necesidad de alineación comunitaria sobre la definición de césped no funcional*
- Significant water savings potential from large-scale projects/ *Importante potencial de ahorro de agua en proyectos a gran escala*
- Cost-effective alternative to new water infrastructure/ *Alternativa rentable a las nuevas infraestructuras hídricas*





Thank You!
¡GRACIAS!

LINDSAY.ROGERS@WESTERNRESOURCES.ORG

VA@WATERNOW.ORG



Questions? *¿Preguntas?*

Panelist's Emails

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