

A scenic view of a river at sunset. The sky is filled with vibrant orange, red, and purple clouds. In the background, a modern building with a distinctive architectural design is visible. The river in the foreground reflects the colorful sky. The overall atmosphere is peaceful and natural.

# Merced Irrigation-Urban Groundwater Sustainability Agency

Stakeholder Guidance Committee Meeting #4

# Today's Agenda

**10:00-12:00 pm**

- Welcome / Introductions
- Review of SGC Meeting 1-3
- Break
- Draft Recommendations Report and Discussion
- Wrap Up

# Sustainable Groundwater Management Act

1

Form  
Agencies:  
MIUGSA  
formed in 2017

2

Develop Plans: MIUGSA developed a joint groundwater sustainability plan (GSP) with the Merced Subbasin GSA and the Turner Island GSA (submitted to DWR in 2020 for review, pending approval by January 2022)

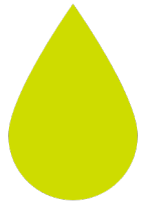
3

Implement  
Plans:  
Purpose of this  
meeting

4

Achieve  
Sustainability:  
By 2040

# Development of Principle Guidelines to Implement GSP within Merced Irrigation-Urban GSA



**Water Supply Evaluation**



**Public Engagement**



**Recommendations Report**

# Merced Sub-basin Water Supplies



Precipitation: Limited and variable



Surface Water: MID

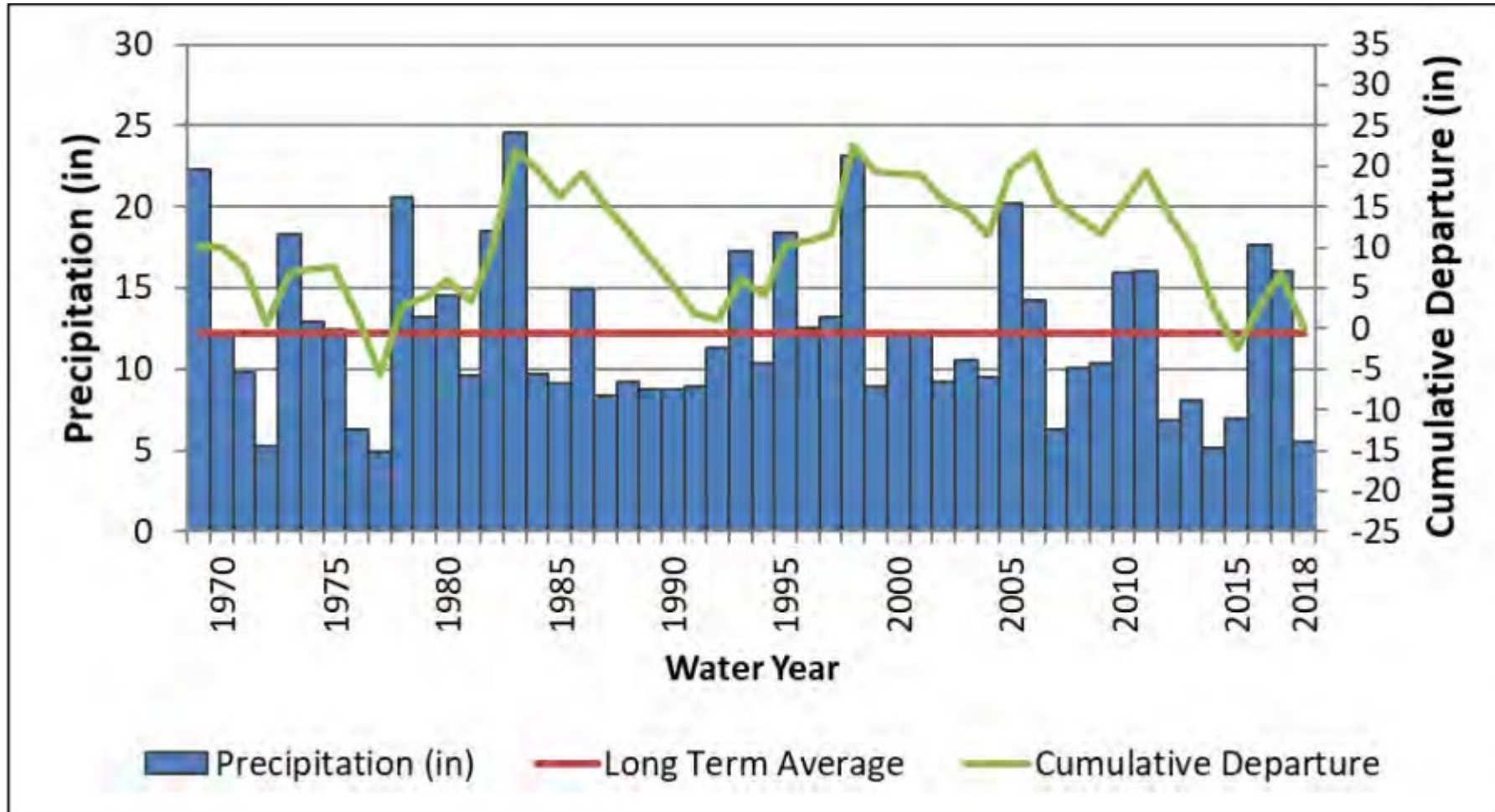


Native Groundwater: Naturally occurring



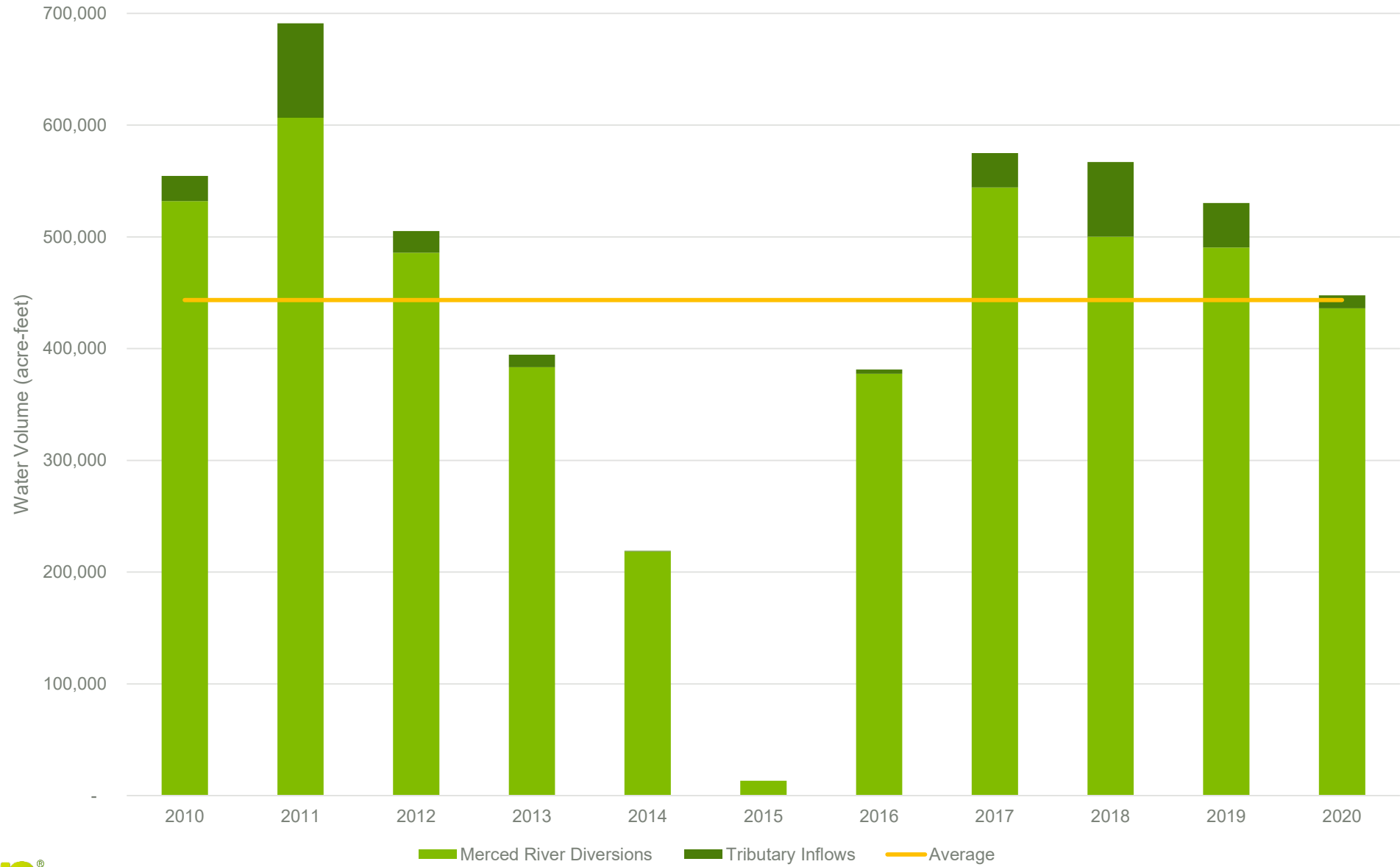
Developed Supply: Seepage from imported surface water (canals and deep percolation)

# Precipitation Trends

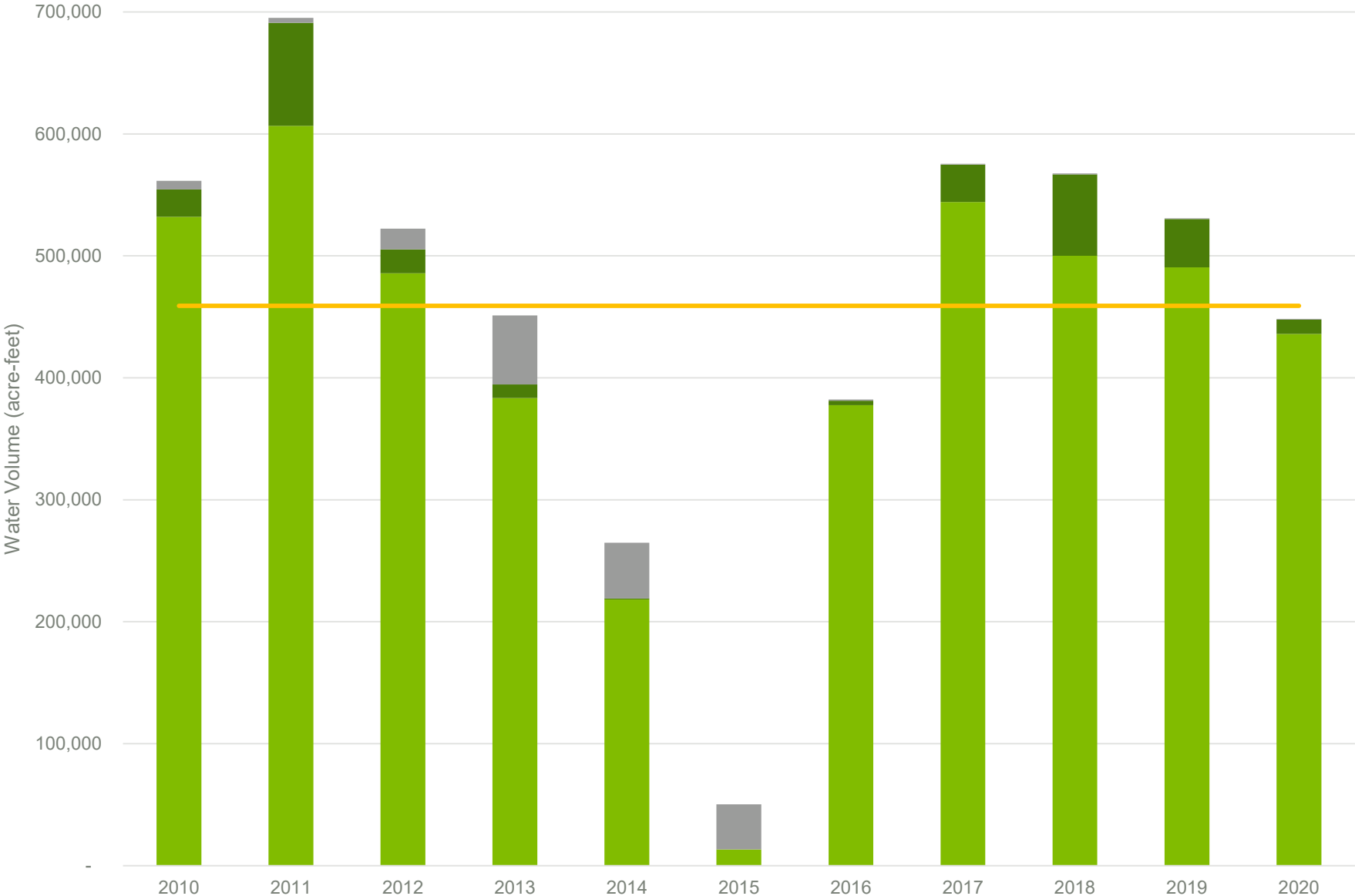




# MID Surface Water Supplies



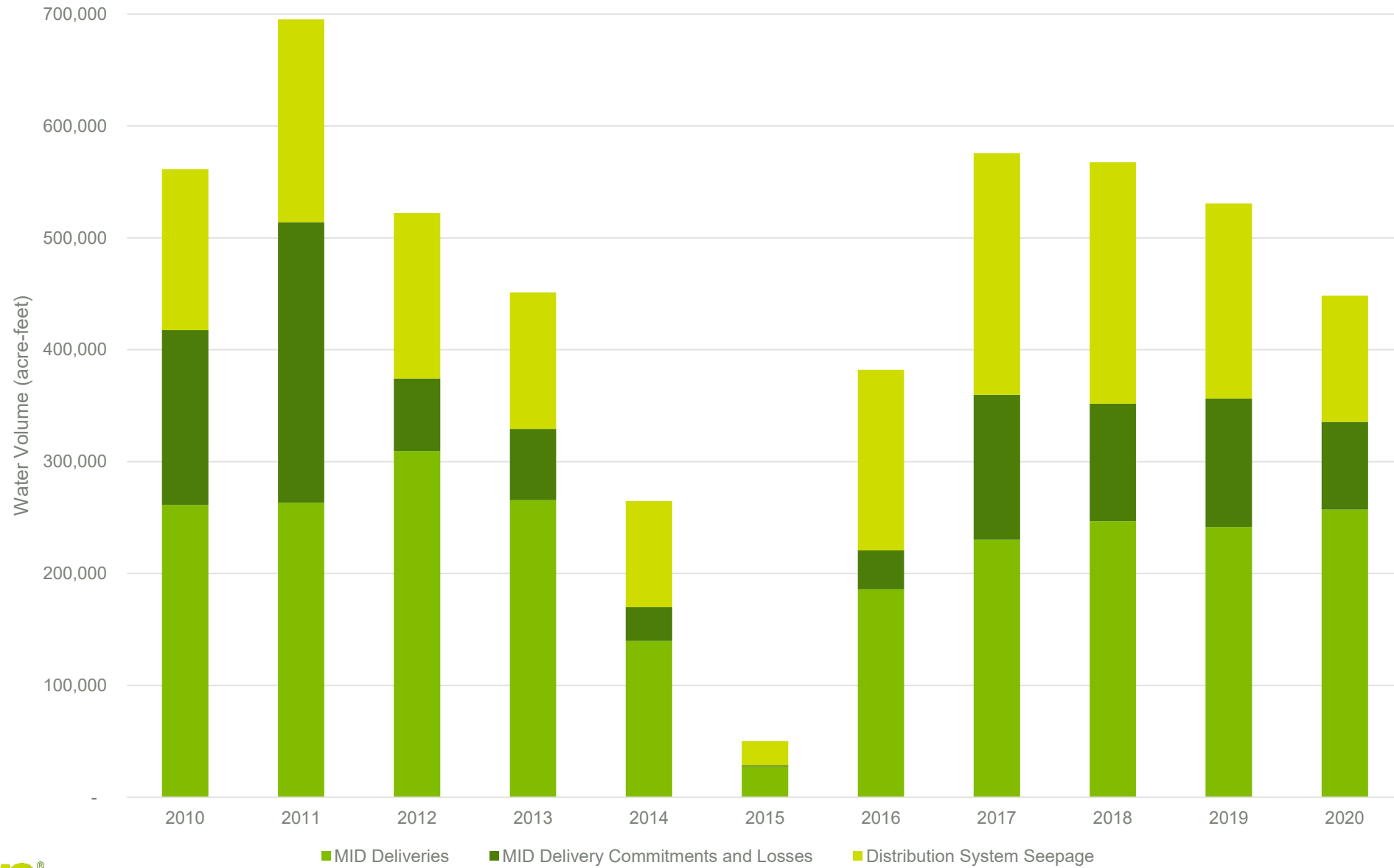
# Total MID Supplies



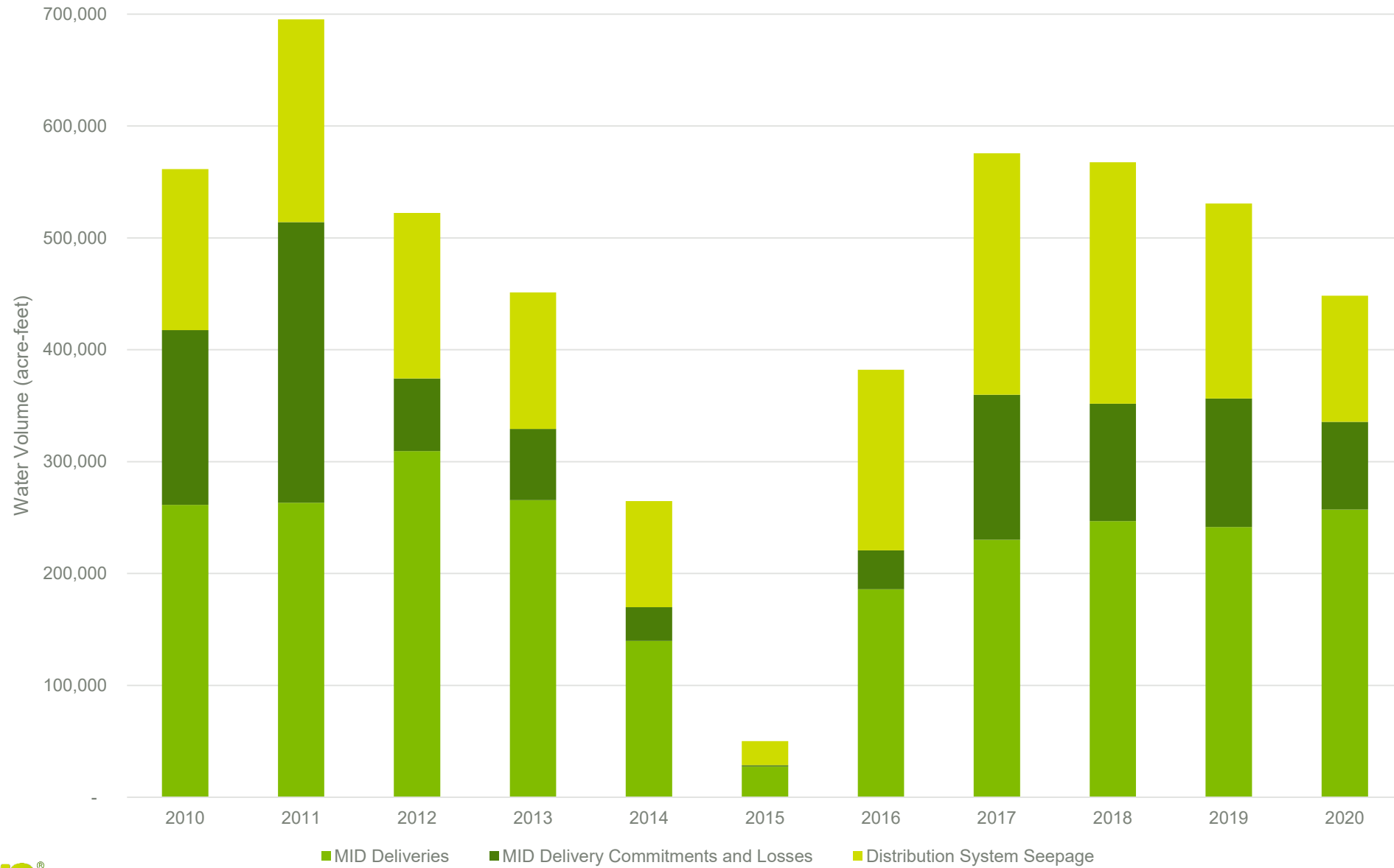
Merced River Diversions    Tributary Inflows    MID Groundwater Pumping    Average with MID Pumping



## Fate of MID Supplies

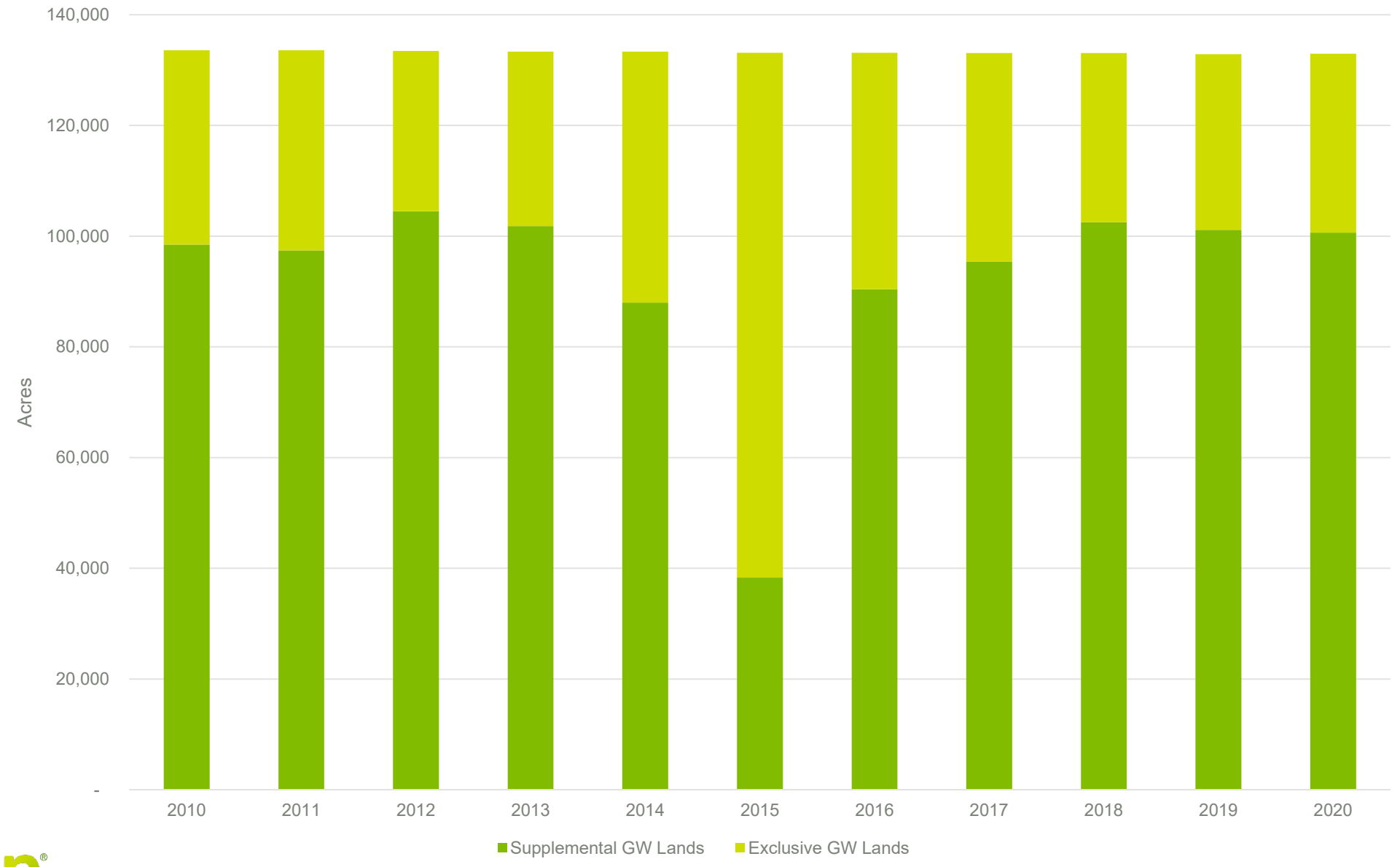


## Fate of MID Supplies

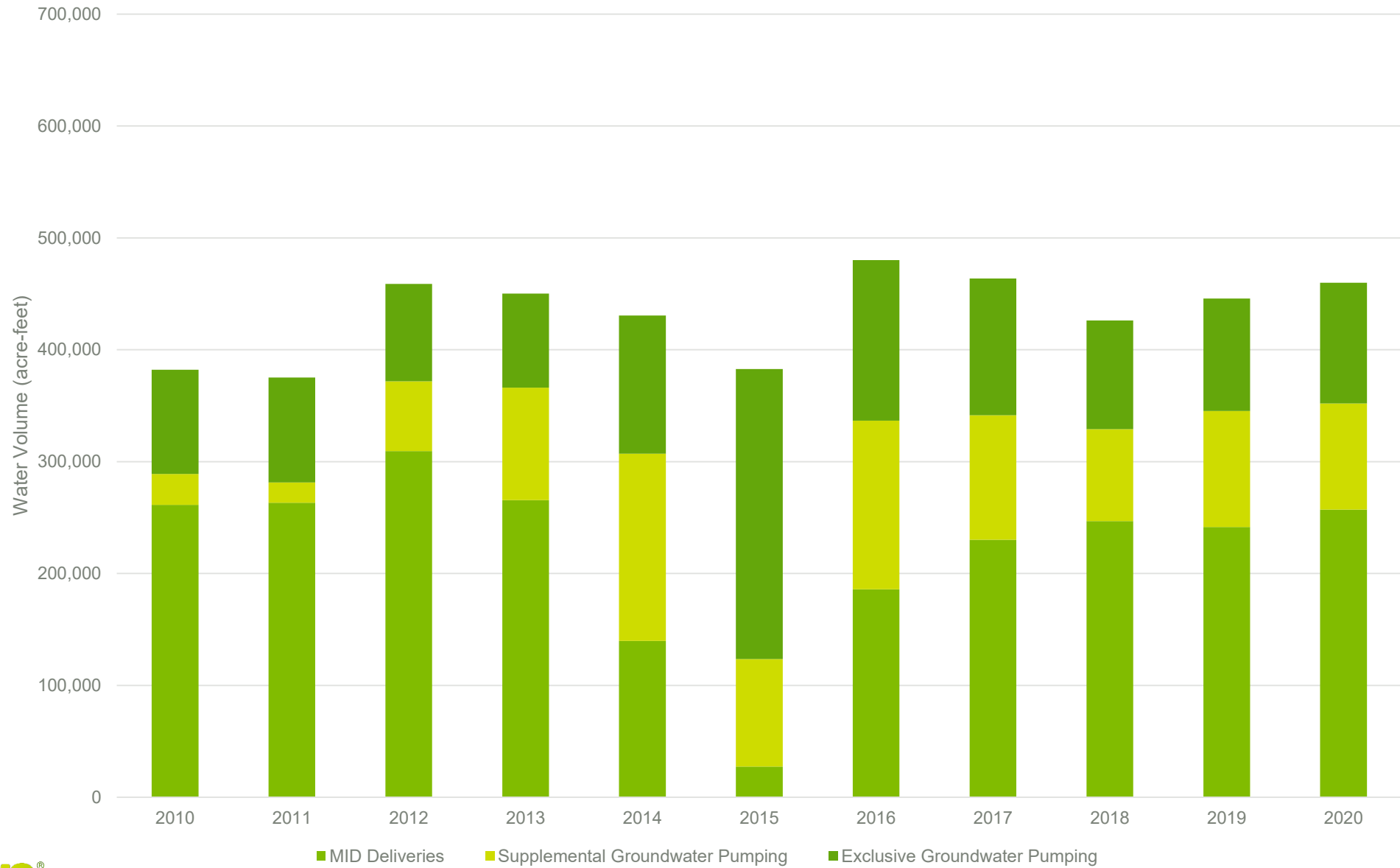




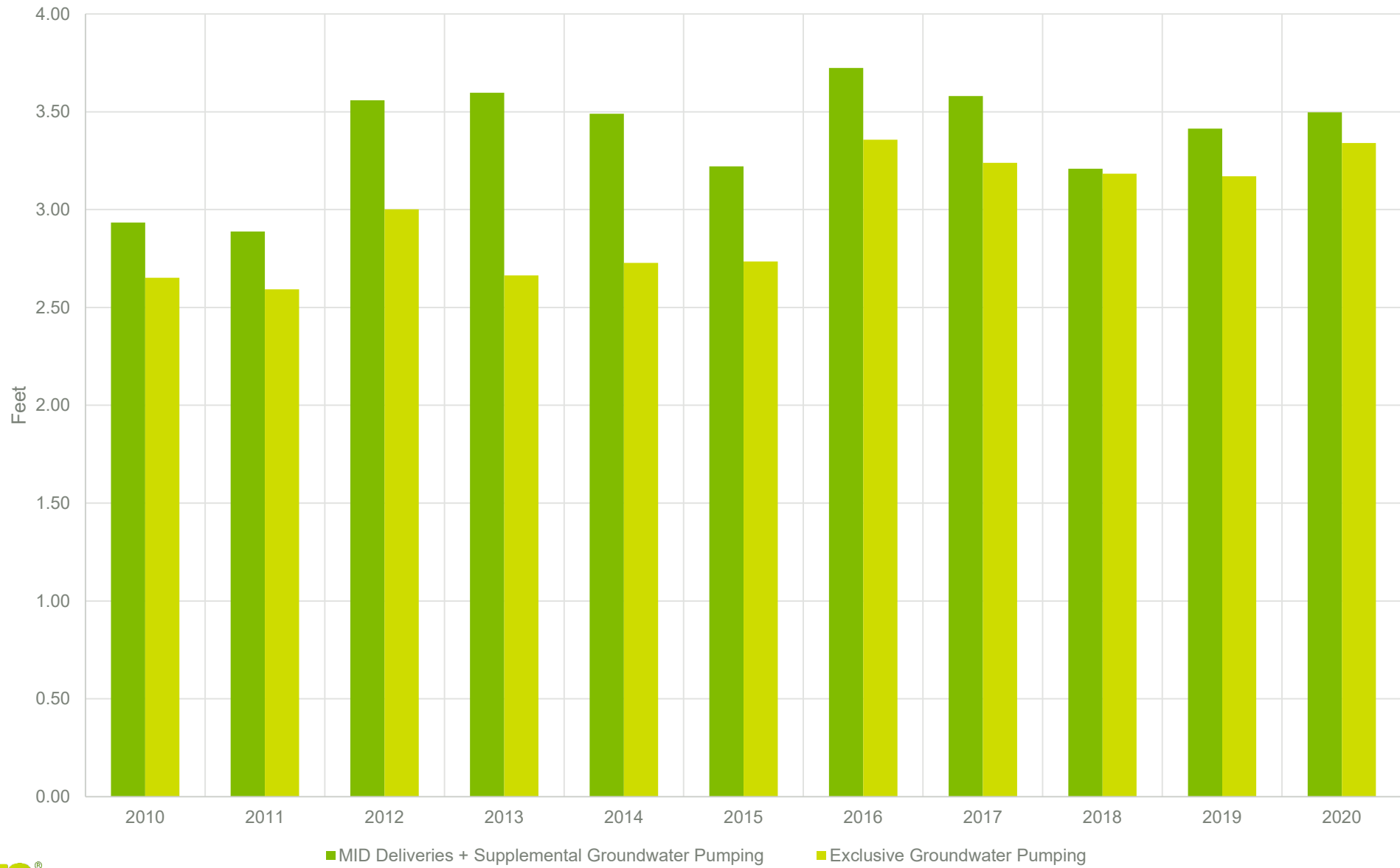
# Irrigated Acres



# MIUGSA Irrigation Supplies



# Irrigation Depth



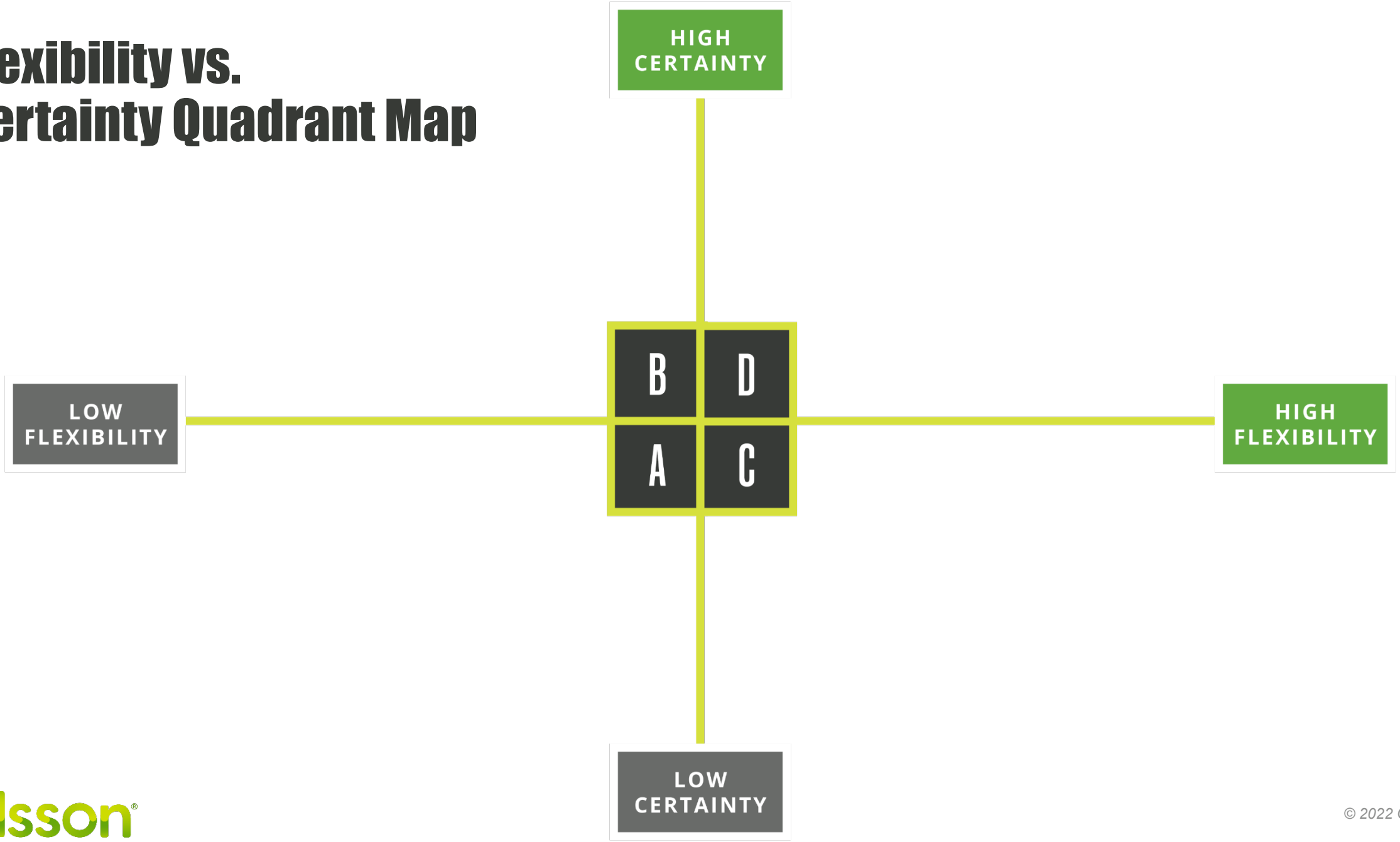
<b>Source</b>	<b>Minimum Depth (ft)</b>	<b>Maximum Depth (ft)</b>	<b>Average Depth (ft)</b>
Surface Water	0.7	2.9	2.3
Supplemental Groundwater	0.2	2.5	1.1
Exclusive Groundwater	2.6	3.4	3.0



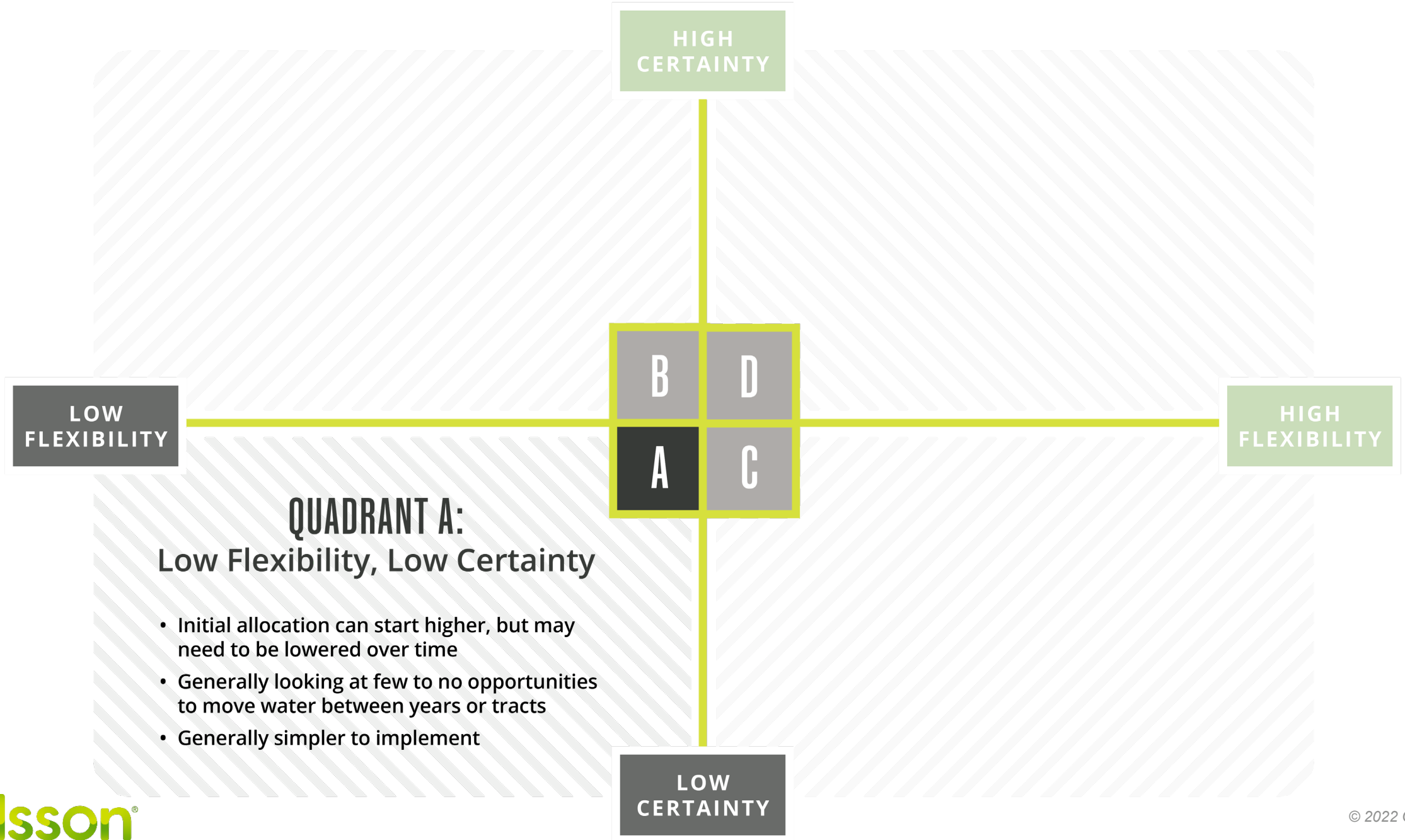
# Questions?



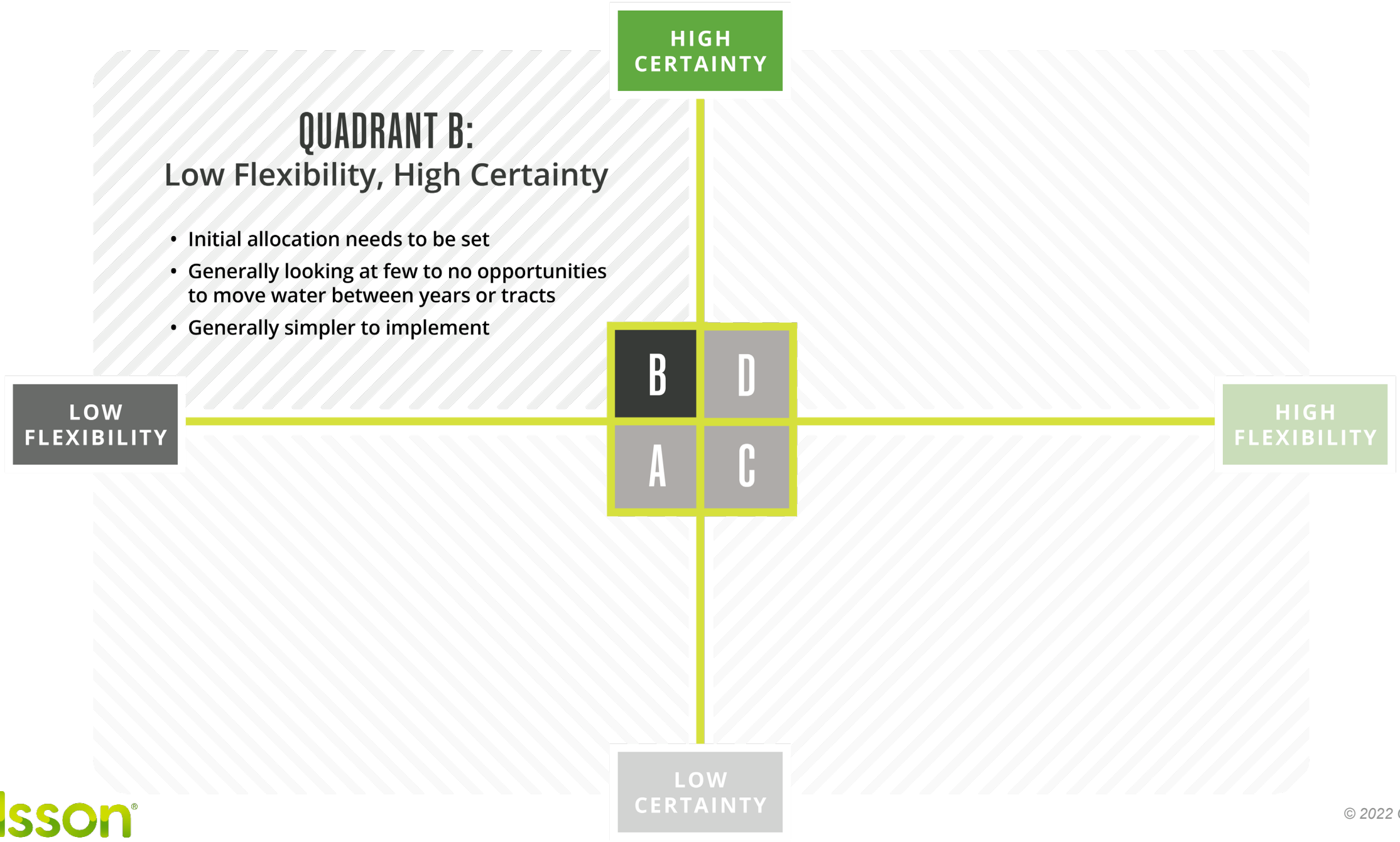
# Flexibility vs. Certainty Quadrant Map

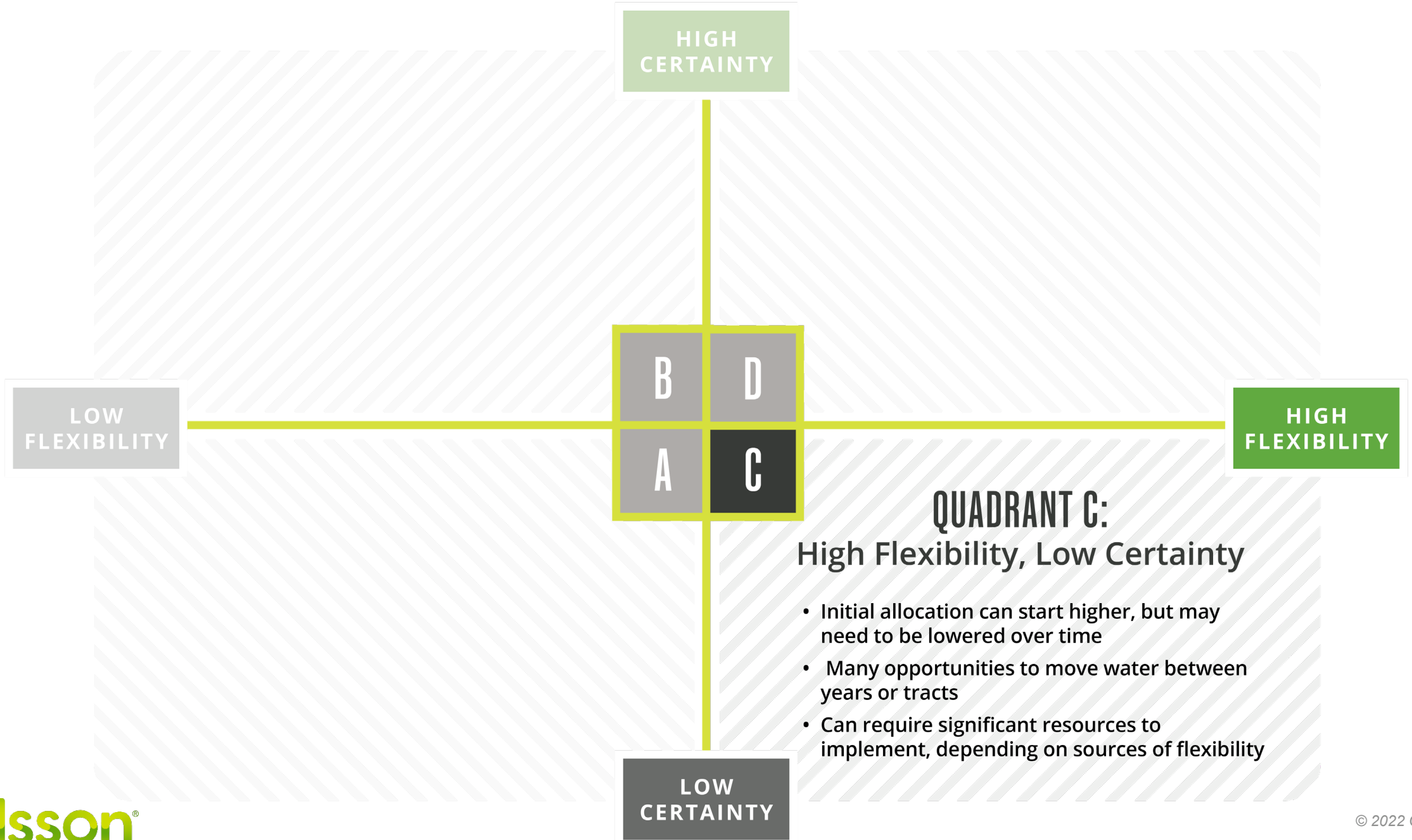


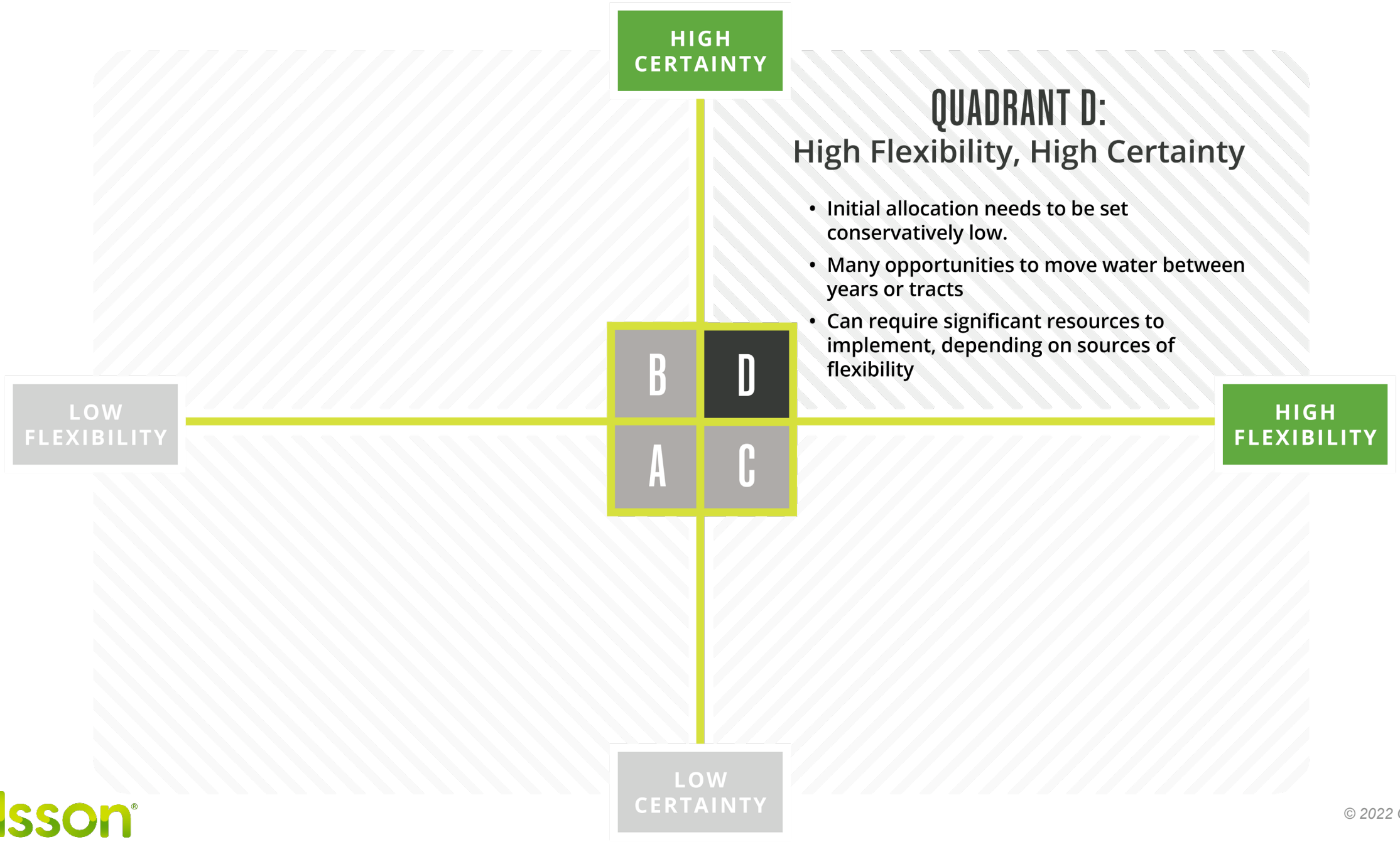




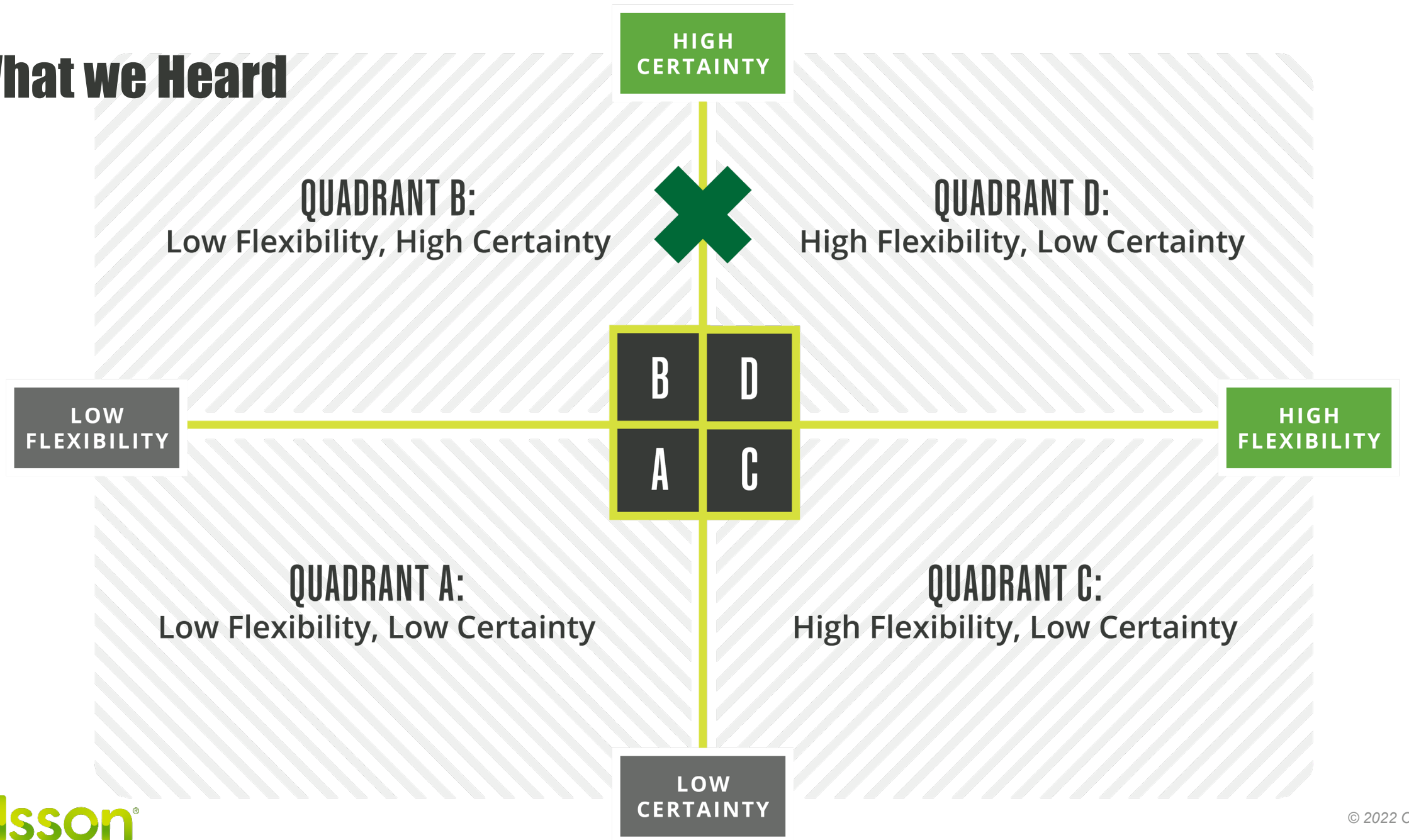
- Initial allocation can start higher, but may need to be lowered over time
- Generally looking at few to no opportunities to move water between years or tracts
- Generally simpler to implement







# What we Heard

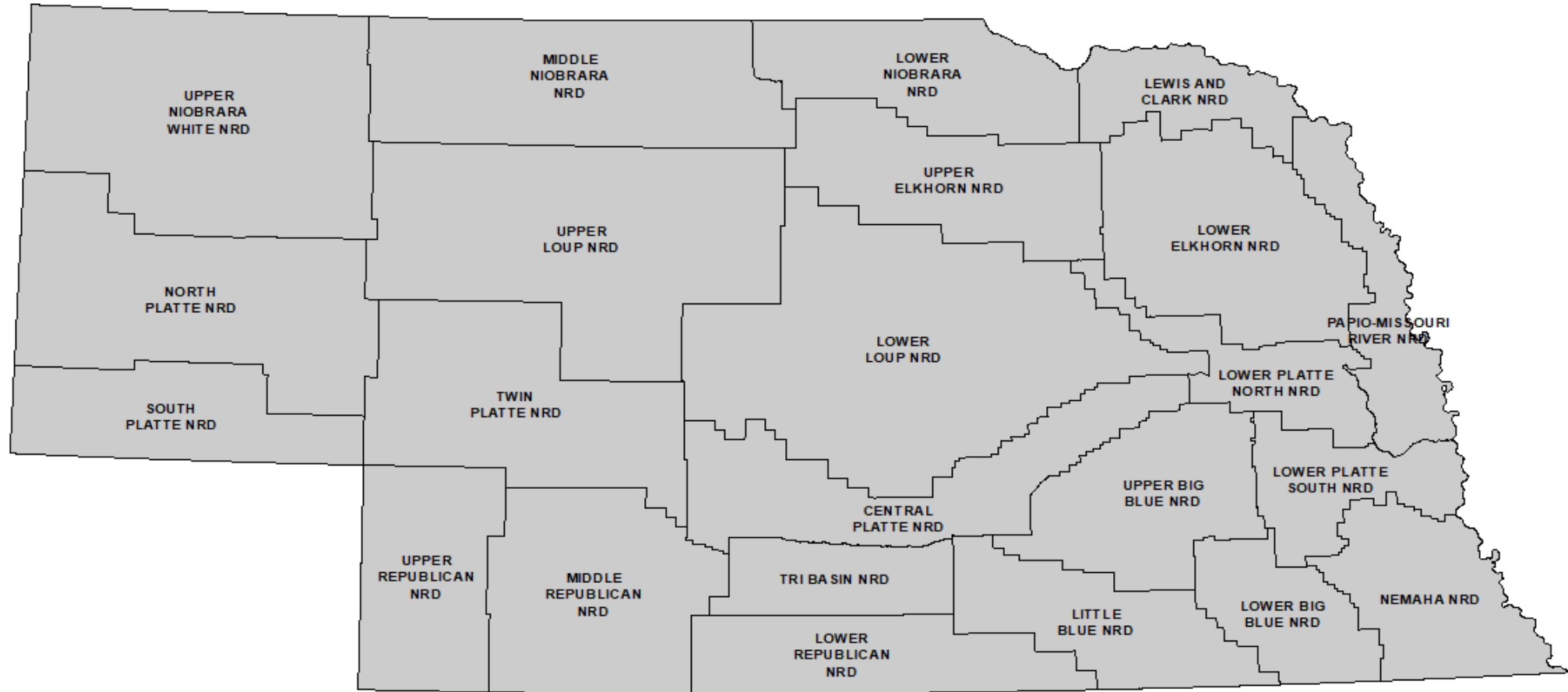




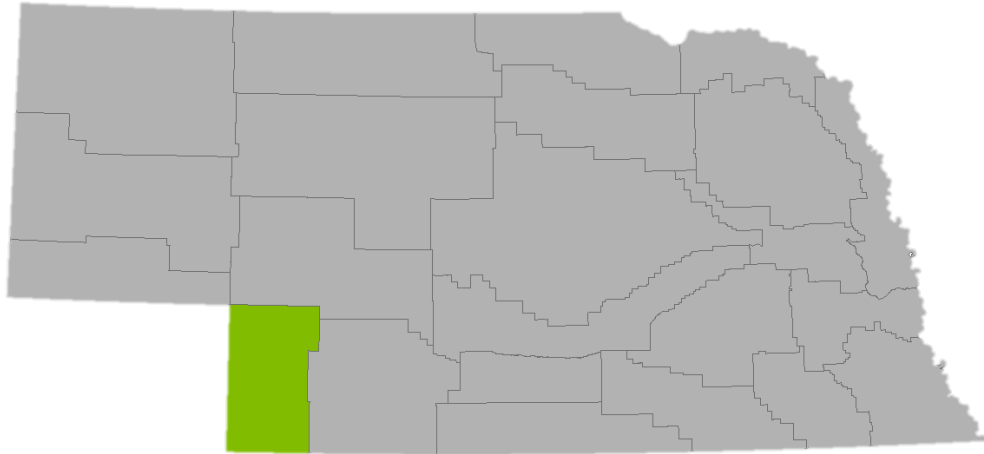
# Terms & Definitions

- **Borrow-ahead:** using a portion of next allocation to supplement current allocation
- **Carry-over:** unused portion of current allocation that can be used in the next allocation period
- **Dry-year considerations:** special regulations that activate during dry years (e.g. max annual use)
- **Length of allocation period:** length of time over which an allocation can be applied
- **Penalties:** actions that can be taken against a producer that exceeds their allocation
- **Pooling:** grouping separate parcels together so that they are considered one unit under the allocation
- **Trading:** buying or selling water between farmers or other entities

# Nebraska's Natural Resources Districts



# Upper Republican Natural Resources District



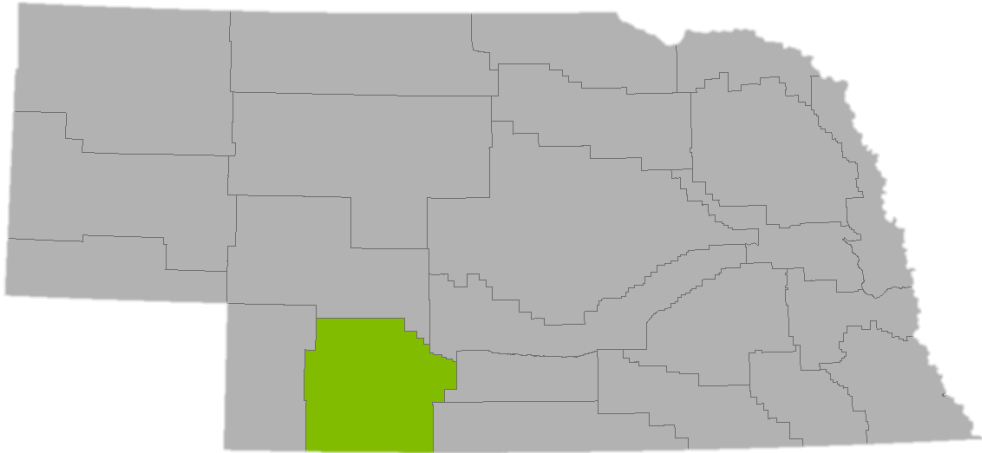
- Approximately **1.7 million acres** in southwest Nebraska
- Approximately **450,000 irrigated acres**

## CURRENT URNRD ALLOCATIONS

- **65 inches from 2018-2022:** can be used in any way over the five-year period
- **Carry-over:** Up to 7.5 inches can be carried over from one allocation period to the next (this used to be unlimited)
- **Pooling:** The pooling of certified acres is allowed under certain conditions (floating township)
- **Overuse:** results in a penalty in the next allocation period – producers lose two inches for every inch of overuse
- **Cease and desist:** If allocation is exceeded before year five, producer receives a cease-and-desist order (violation of order punishable under Nebraska law)



# Middle Republican Natural Resources District

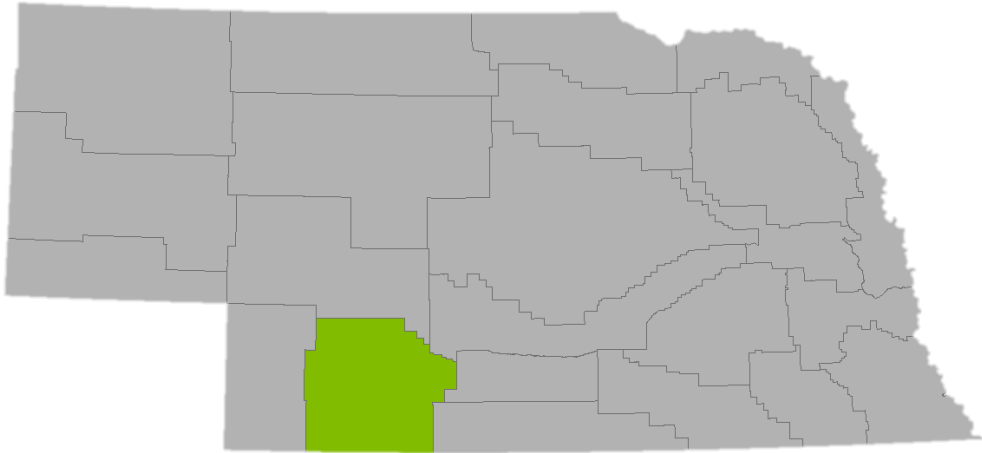


- Approximately **2.5 million acres** in south-central Nebraska
- Approximately **300,000 irrigated acres**

## CURRENT MRNRD ALLOCATIONS

- **60 inches from 2018-2022:** can be used in any way over the five-year period
- **Carry-over:** Up to 7.5 inches can be carried over from one allocation period to the next (this used to be unlimited)
- **Pooling:** Pooling is generally allowed.
- **Maximum Annual Use:** 15 acre-inches per acre
- **Overuse:** penalty applied to next allocation period, 1 inch for first 3 inches overuse, 2 inches per inch overuse after that, additional inch per inch of overuse of annual maximum
- **Surface Water:** The allocation used to effectively apply to all groundwater *and* surface water use

# Lower Republican Natural Resources District

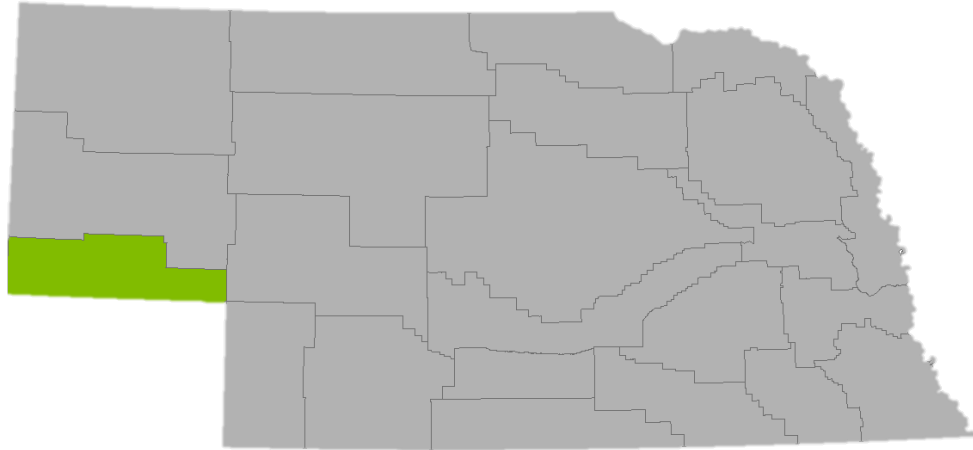


- Approximately **1.5 million acres** in south-central Nebraska
- Approximately **335,000 irrigated acres**

## CURRENT LRNRD ALLOCATIONS

- **45 inches from 2018-2022:** can be used in any way over the five-year period
- **Carry-over:** Up to 12 inches can be carried over from one allocation period to the next
- **Pooling:** Pooling is generally allowed. Limited to same county or adjoining county. Board may deny if they believe the pooling will impact groundwater levels
- **Maximum Annual Use: 13** acre-inches per acre during dry years
- **Overuse:** penalty applied to next allocation period, 1 inch for first 3 inches overuse, 2 inches per inch overuse after that, additional inch per inch of overuse of annual maximum
- **Additional Penalties:** The Board may apply additional penalties for violations including additional reduction of allocation, reduction of certified acres, or well decommissioning

# South Platte Natural Resources District

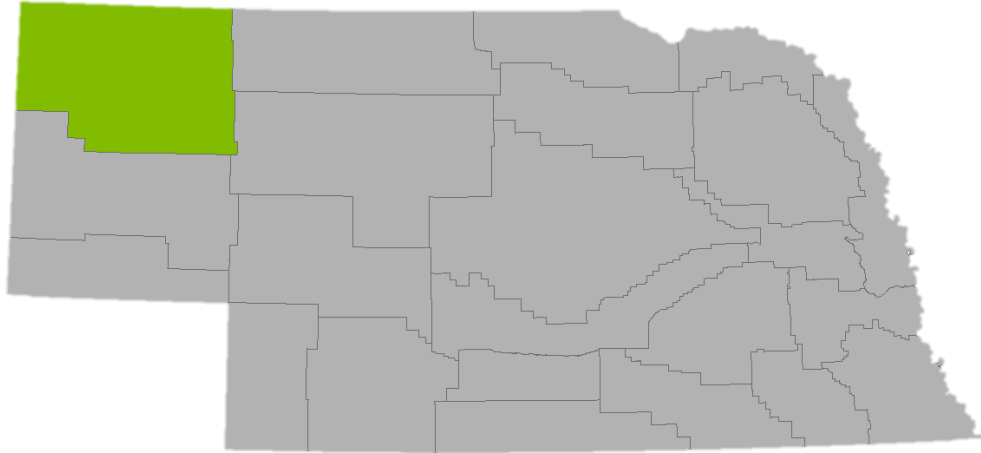


- Approximately **1.5 million acres** in western Nebraska
- Approximately **130,000 irrigated acres**

## CURRENT SPNRD ALLOCATIONS

- **Variable by Sub-area:** can be used in any way over the three-year period
- **Carry-over:** Up to 10 inches can be carried over from one allocation period to the next (cannot accumulate more than 10 acre-inches)
- **Pooling:** Pooling is allowed in same county, same sub-area, and same floating township
- **Maximum Annual Use:** None
- **Overuse:** penalty applied to next allocation period, 1 inch for first 3 inches overuse, 2 inches per inch overuse after that, additional inch per inch of overuse of annual maximum
- **Additional Pooling Restrictions:** A parcel cannot be placed into a pool if it has zero allocation, pools are not approved until at least 50% of water is used

# Upper Niobrara-White Natural Resources District

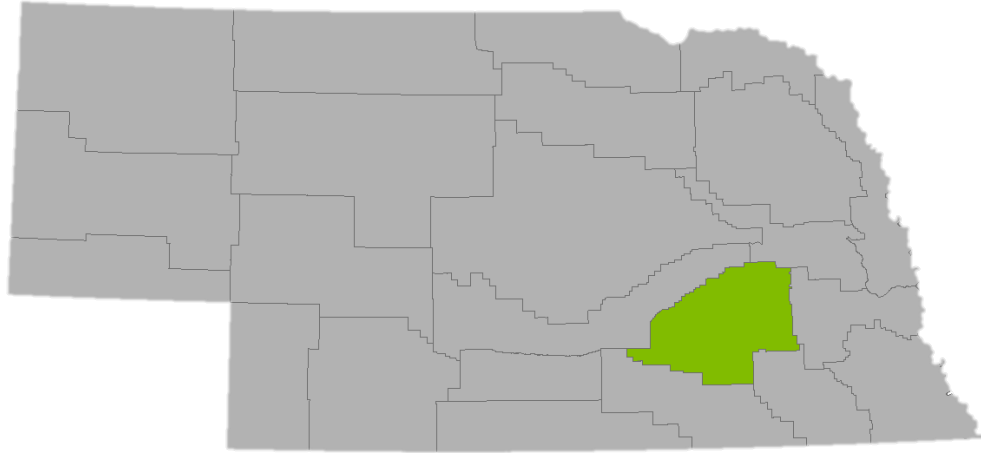


- Approximately **4.5 million acres** in northwest Nebraska
- Approximately **250,000 irrigated acres**

## CURRENT UNWNRD ALLOCATIONS

- **65 inches from 2018-2022:** can be used in any way over the five-year period
- **Carry-over:** Up to 50% of current allocation can be carried over from one allocation period to the next
- **Pooling:** Pooling is not allowed.
- **Borrow-ahead:** May borrow up to 2 acre-inches per acre from next allocation period without penalty
- **Overuse:** penalty applied to next allocation period, after borrowing 2 inches, each additional inch counts as three inches toward next allocation period
- **Other Allocations:** Also have specific allocation for water consumption for cattle, swine, sheep, horses, and poultry

# Upper Big Blue Natural Resources District



- Approximately **1.8 million acres** in eastern Nebraska
- Approximately **1.2 million irrigated acres**

## CURRENT UBBNRD ALLOCATIONS

- **30 inches for future 3-year period:** second allocation period is five years, 45 inches
- **Carry-over:** No provisions for carry-over
- **Pooling:** Tracts are automatically created based on common owner-operator, or common well
- **Allocation Trigger:** Based on average water levels across the district, when trigger reached, allocation automatically begins
- **Flow-meter:** Currently required on all wells since 2010 when first water level trigger was surpassed, penalties for failure to comply
- **Other Pooling:** Agreement pools can be created at any time for any number of tracts as long as all owner-operators sign off



## Multi-year allocations



4.0 / 5

# Plan Components – What We Heard

## Length of Allocation Period:

- “We believe that the allocation should be one year but could be flexible.”
- “We like a three-year allocation because you can see weather patterns and still plan.”
- “The initial allocation period should be three years and could perhaps change to five years in the future.”
- “We talked about a three-year period as well.”

# Plan Components – What We Heard

## Borrow-ahead / carry-Over:

- “We do not support borrow-ahead. We would like to allow carry-over, but it should be limited.”
- “We think borrow-ahead is very low priority. Carry-over is nice but should be limited.”
- “We are in favor of borrow-ahead and carry-over with limits.”
- “Borrow-ahead is not important to us. We think carry-over is important.”



### Borrow-ahead



2.9 / 5

### Carry-over



3.8 / 5

# Plan Components – What We Heard



## Pooling



4.1 / 5

## Trading



3.6 / 5

## Pooling / Trading:

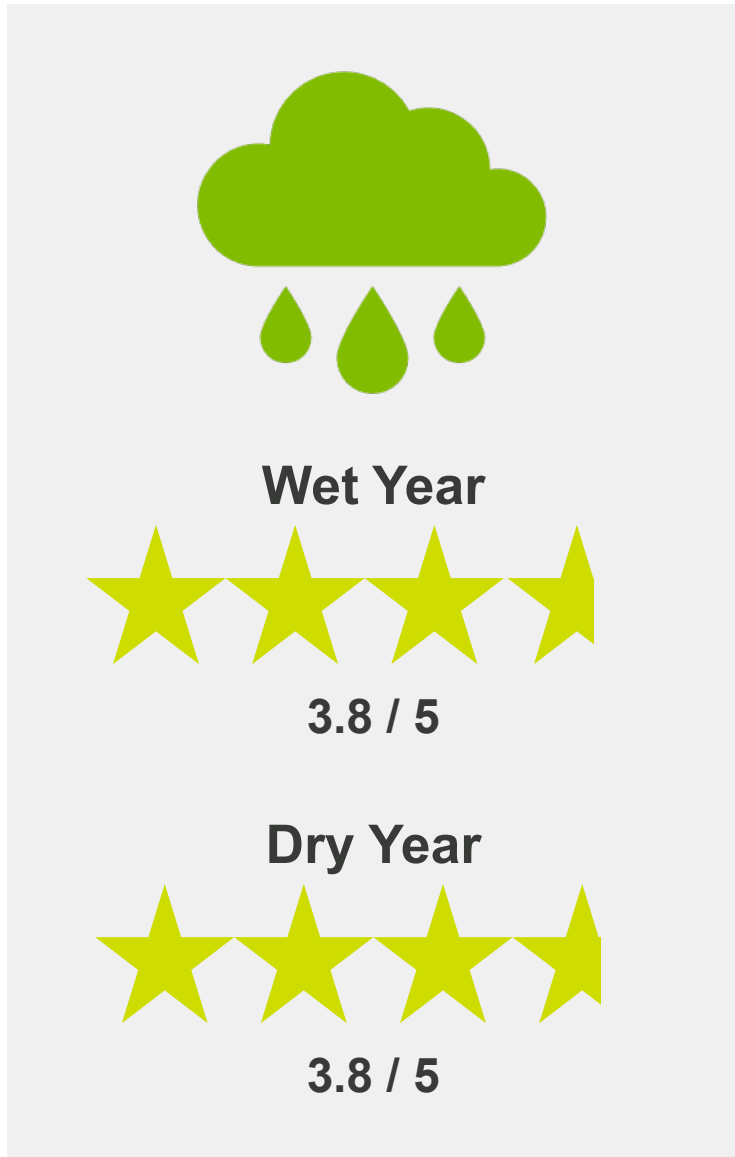
- “We like pooling with stipulations. Trading should not be allowed out of the basin.”
- “We support pooling but there may need to be some limitations on that if it’s surface water or groundwater.”
- “We support pooling. The only concern we had with trading would be if someone were to take land out of production to increase the amount of water to ground still in production.”
- “We like pooling and trading.”



# Plan Components – What We Heard

## Wet / Dry-year considerations:

- “We like the idea of a dry-year component.”
- “Dry-year considerations could be made depending on reservoir levels. We like the idea of conserving during wet years so that we can use groundwater in dry years.”
- “Dry year considerations are not a problem.” (Indifferent)
- “Dry-year considerations seem backwards. We should encourage conservation in wet years, so we have it during dry years.”



# Plan Components – What We Heard



## Penalties



4.8 / 5

### Penalties / Incentives:

- “Penalties are necessary to ensure enforcement is uniform.”
- “One idea we came up with would be some kind of incentive for not pumping and using all of your allocation. We need penalties.”
- “We support penalties.”
- “We agree that penalties should exist, but should they be applied differently depending on access to surface water?”



Questions?

# MercedWRM





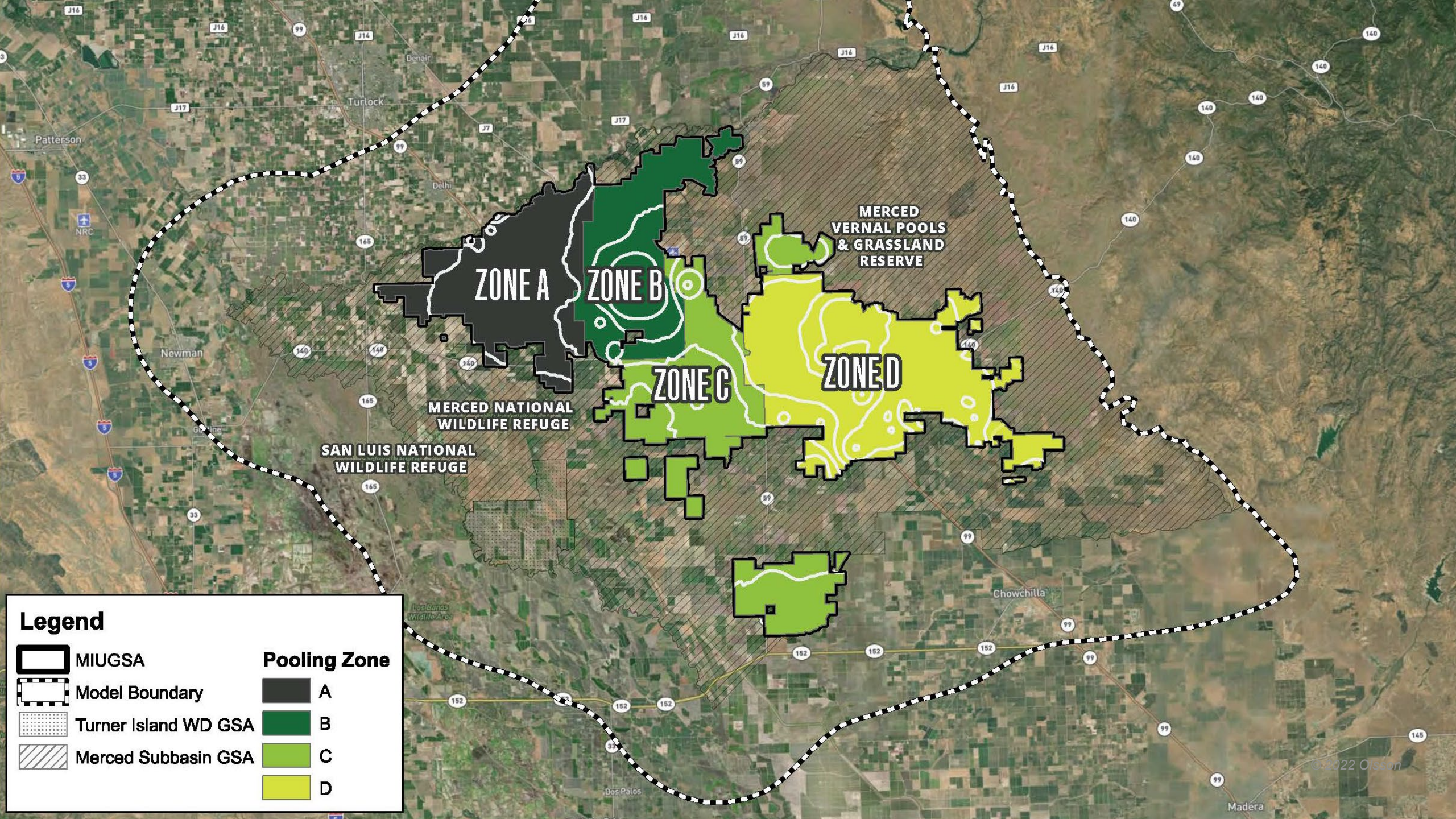
Questions?

A photograph of a fountain in a pond. The fountain has a central vertical jet and several side jets. The water is splashing and creating ripples in the pond. The background features lush green trees and a clear blue sky. The word "Break" is written in large, bold, white, sans-serif font across the center of the image.

Break

# Recommendations

Program Component	Policy Recommendation Based on SGC Feedback
Length of Allocation Period	Maximum allocation period of 3 years.
Borrow-ahead	Should not be allowed at this time.
Carry-over	Some amount of carry-over is acceptable. Limit to be set per allocation period.
Penalties	Penalties should be enforced.
Pooling	Separate parcels owned by a common irrigator can be pooled within specified geographic regions (zones).
Limited Allocation Year	MIUGSA Board should have the power to set allocation limits during exceptionally wet or dry periods.
Trading	Should not be allowed at this time.



**Legend**

- |   |   |
|---|---|
|  MIUGSA               |  A |
|  Model Boundary       |  B |
|  Turner Island WD GSA |  C |
|  Merced Subbasin GSA  |  D |