TRANSITIONING INTO A SUSTAINABLE GROUNDWATER MARKET

Eastern Tule GSA Board Meeting

May 3, 2018

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GSP POLICY POINTS

- Share System
- Safe Yield Allocation
- Transitional Allocations and Period
- Buffer Arrangements
- Penalties for Overuse
- Development Phase Recharge Activities
- Allocation Decision-making
- Allocation length

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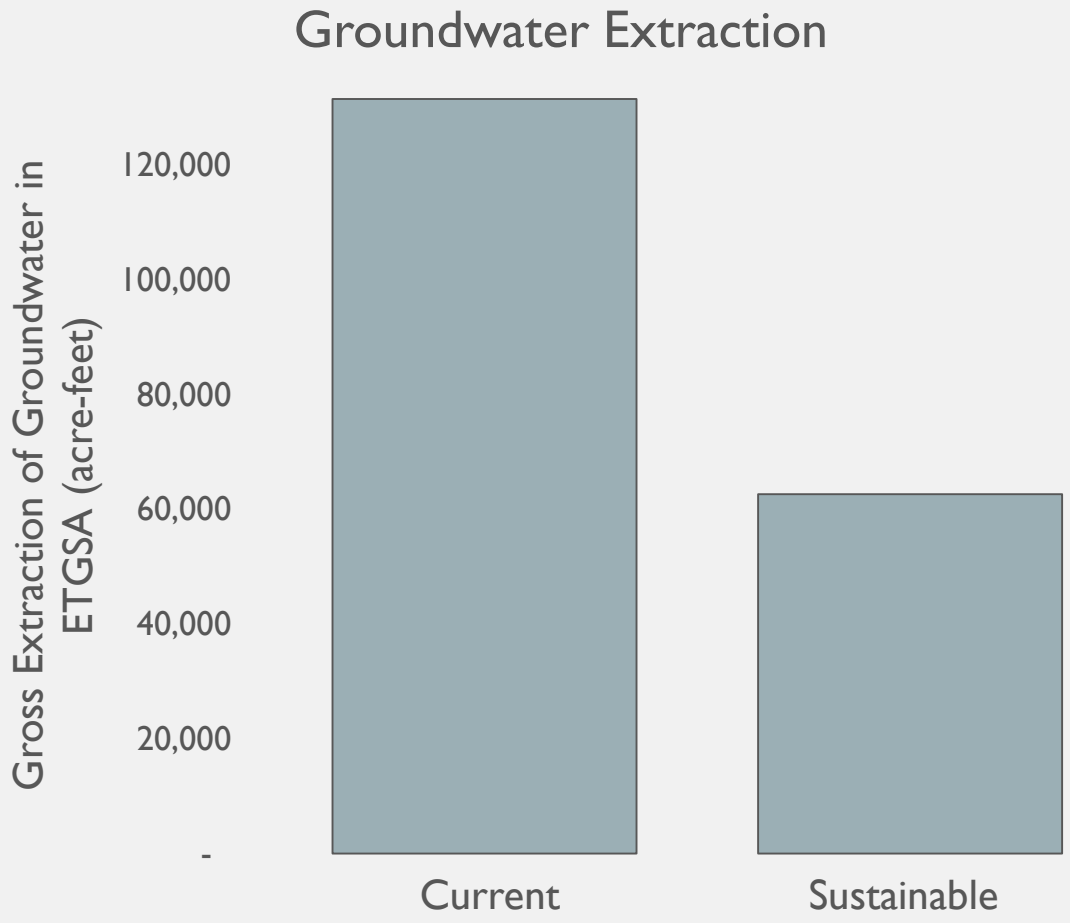
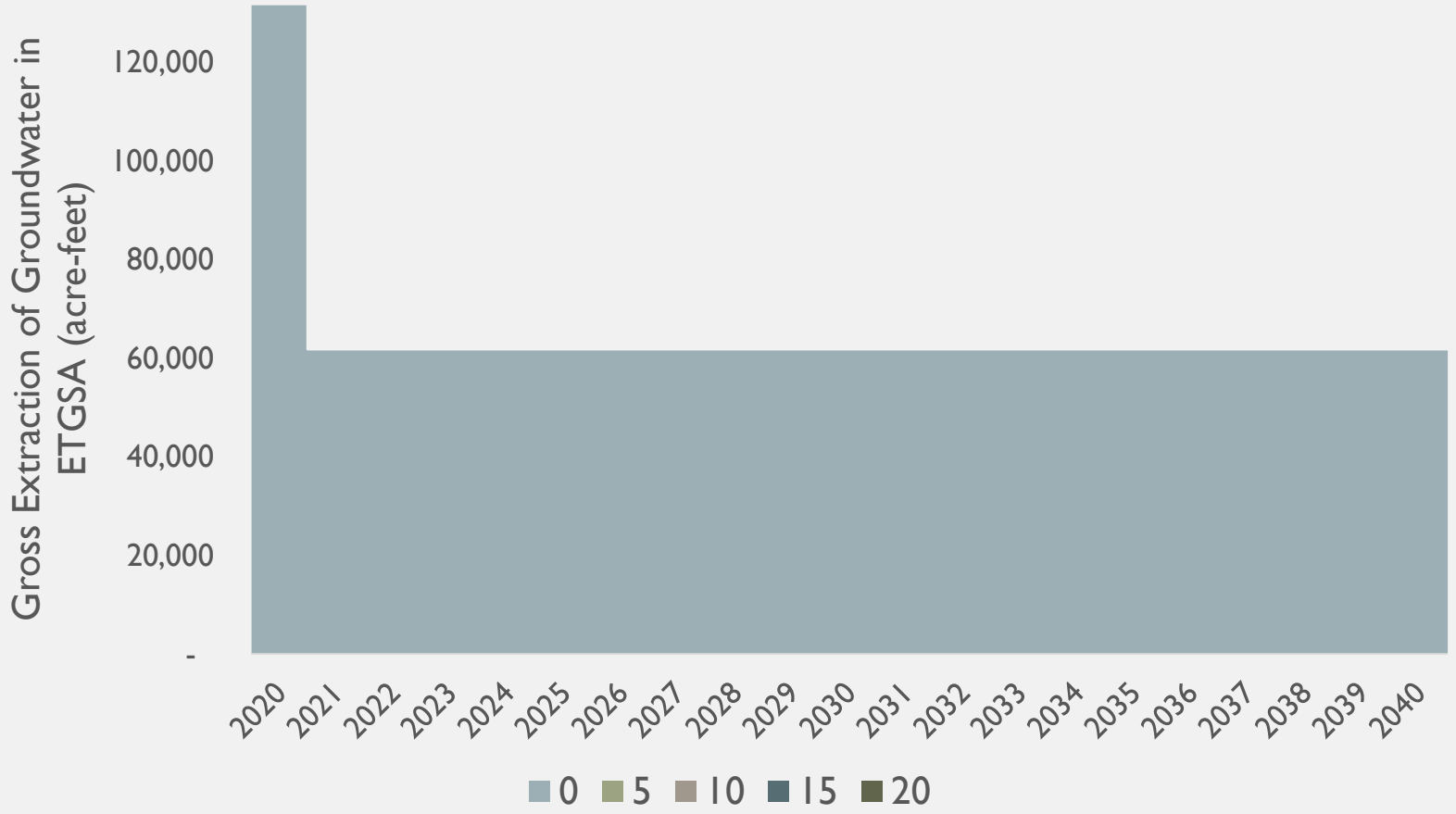
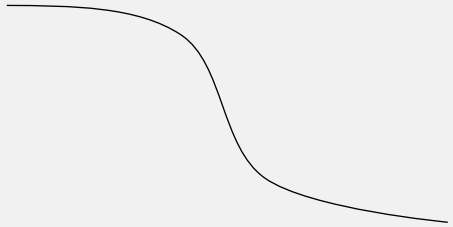
PROBLEM


Groundwater Extraction
Gross Extraction of Groundwater in ETGSA (acre-feet)
120,000
100,000
80,000
60,000
40,000
20,000
-
Current
Sustainable

TRANSITION OPTIONS

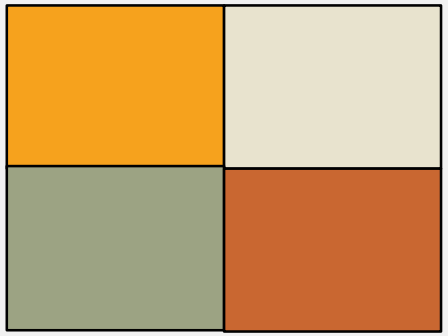


TRANSITION COMPONENTS



Rate

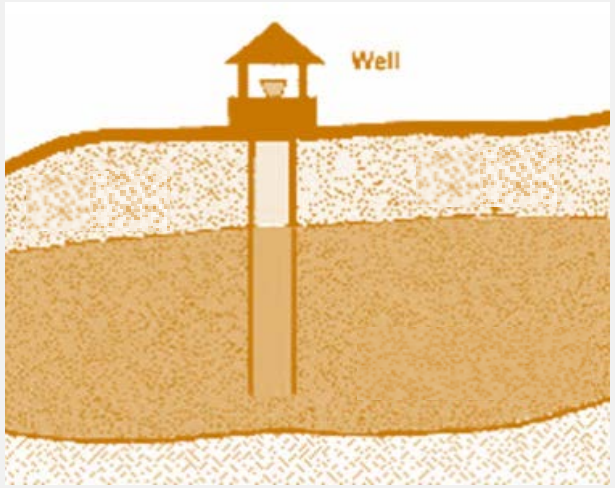
Length



Allocation

Buffer

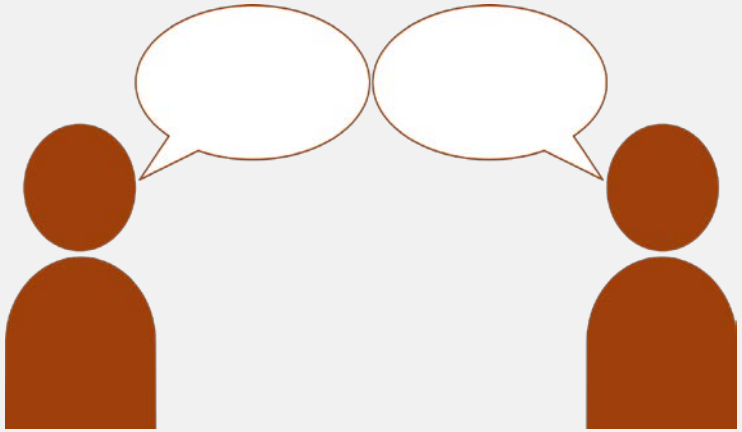
CRITERIA



Groundwater Sustainability

Economic Impacts

Domestic Water Availability

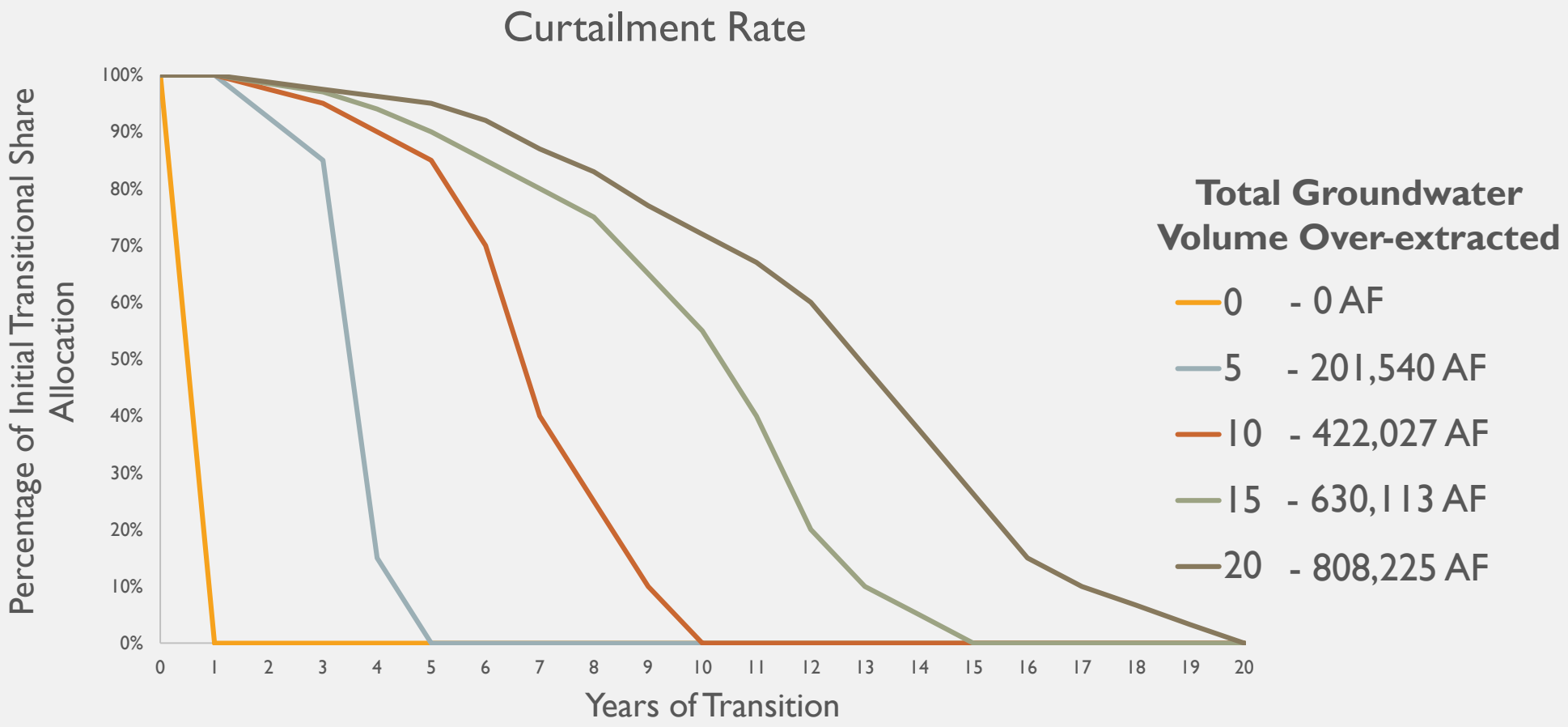


Stakeholder Acceptance

ROADMAP

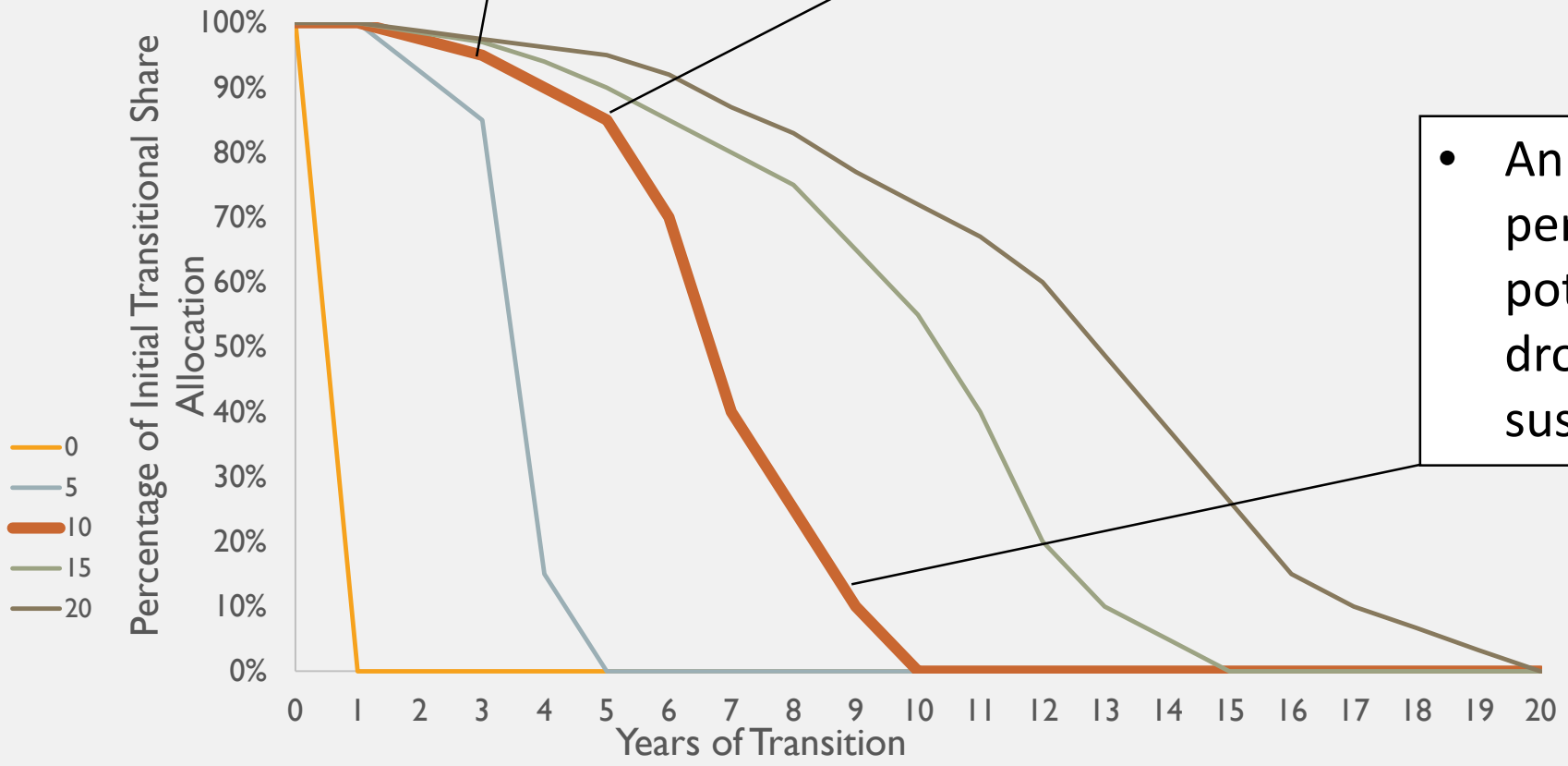
- Options
  - Rate
  - Length
  - Allocation
  - Buffer
- Criteria
  - Groundwater sustainability
  - Economic Impacts
  - Domestic Water Availability
  - Differential Impacts
- Weigh the Tradeoffs
- Questions

TRANSITION RATE



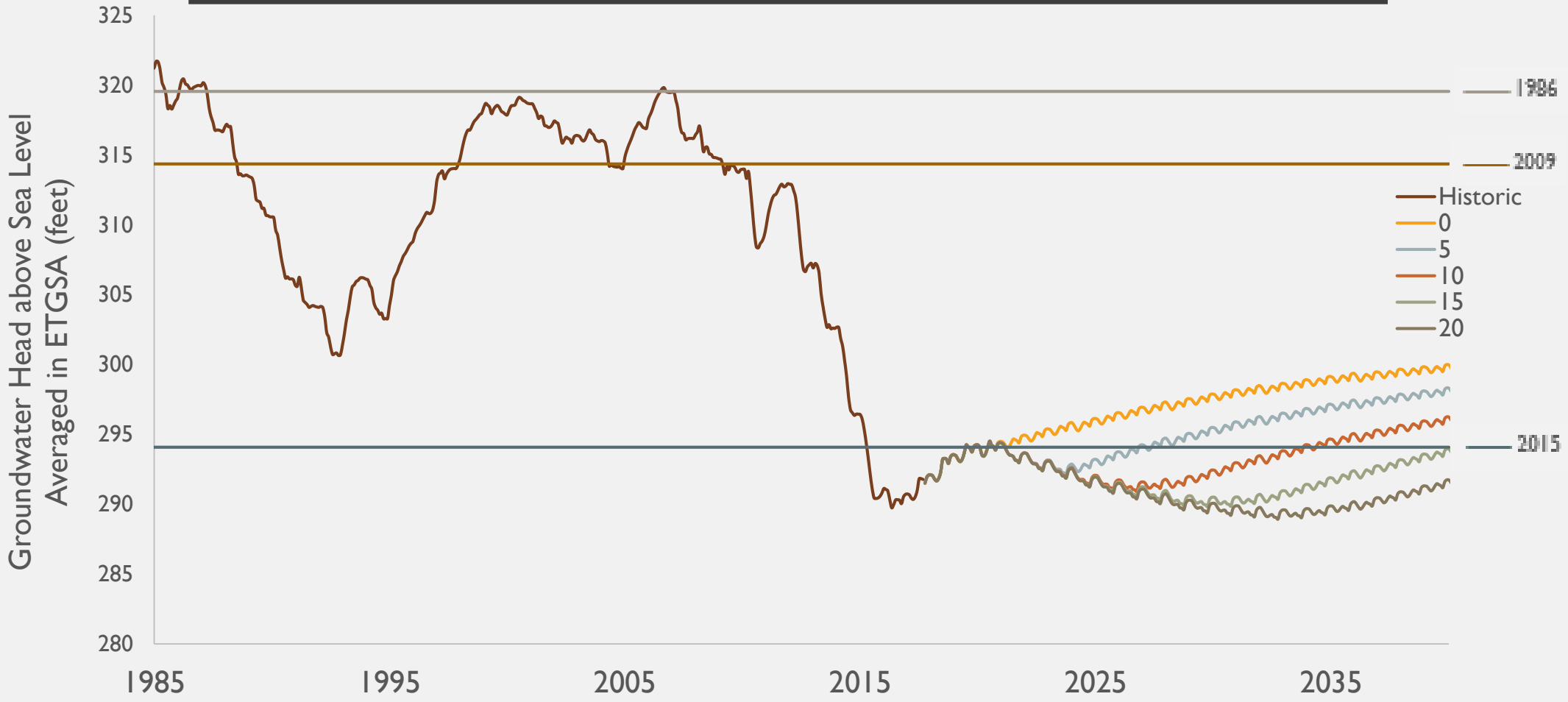
- Curve is concave, providing more water and flexibility upfront

- 85% of current groundwater use
- 5 years of buffer to reach ROI and/or secure additional water supplies without reducing acreage

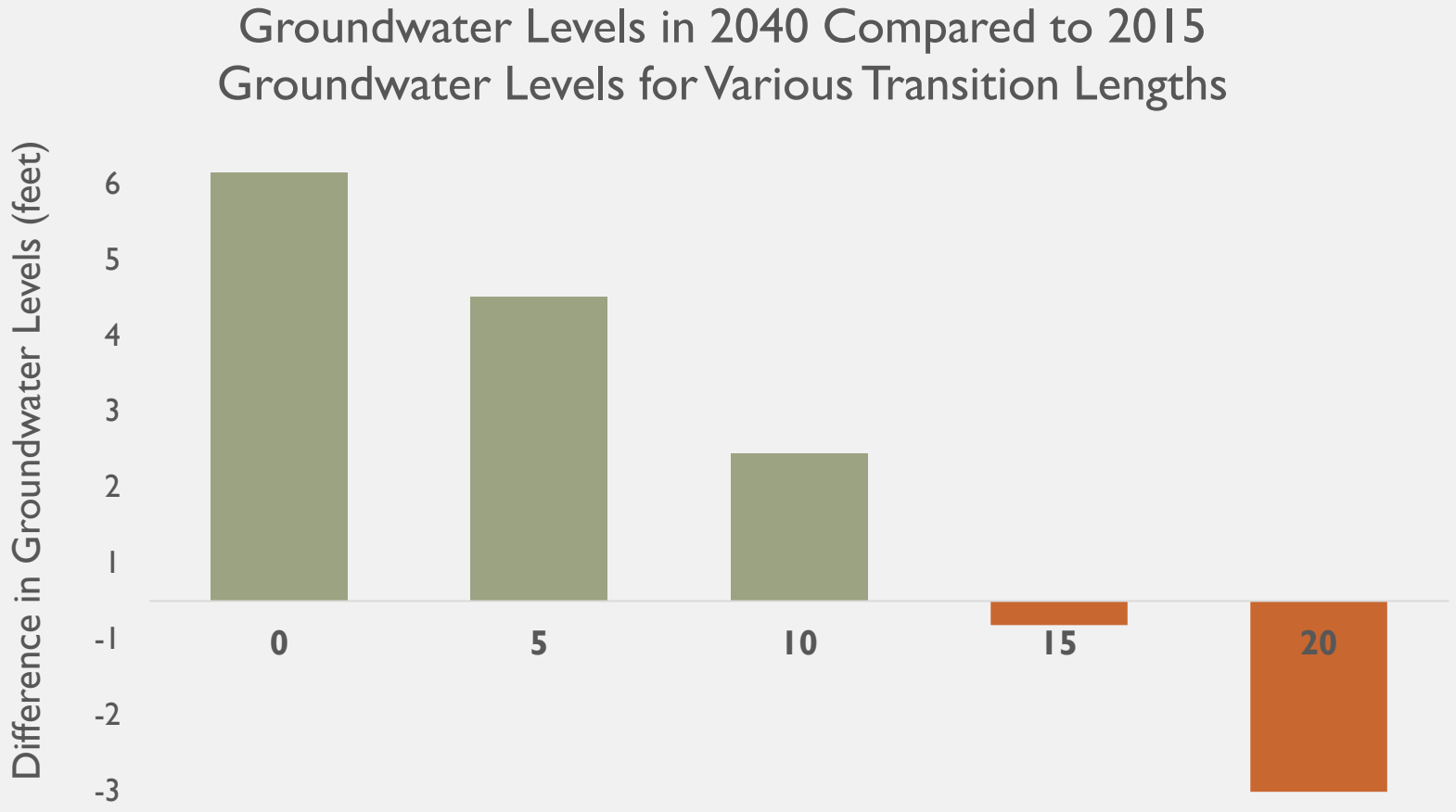


- An adjustment period for a potential change or drop in the sustainable yield.

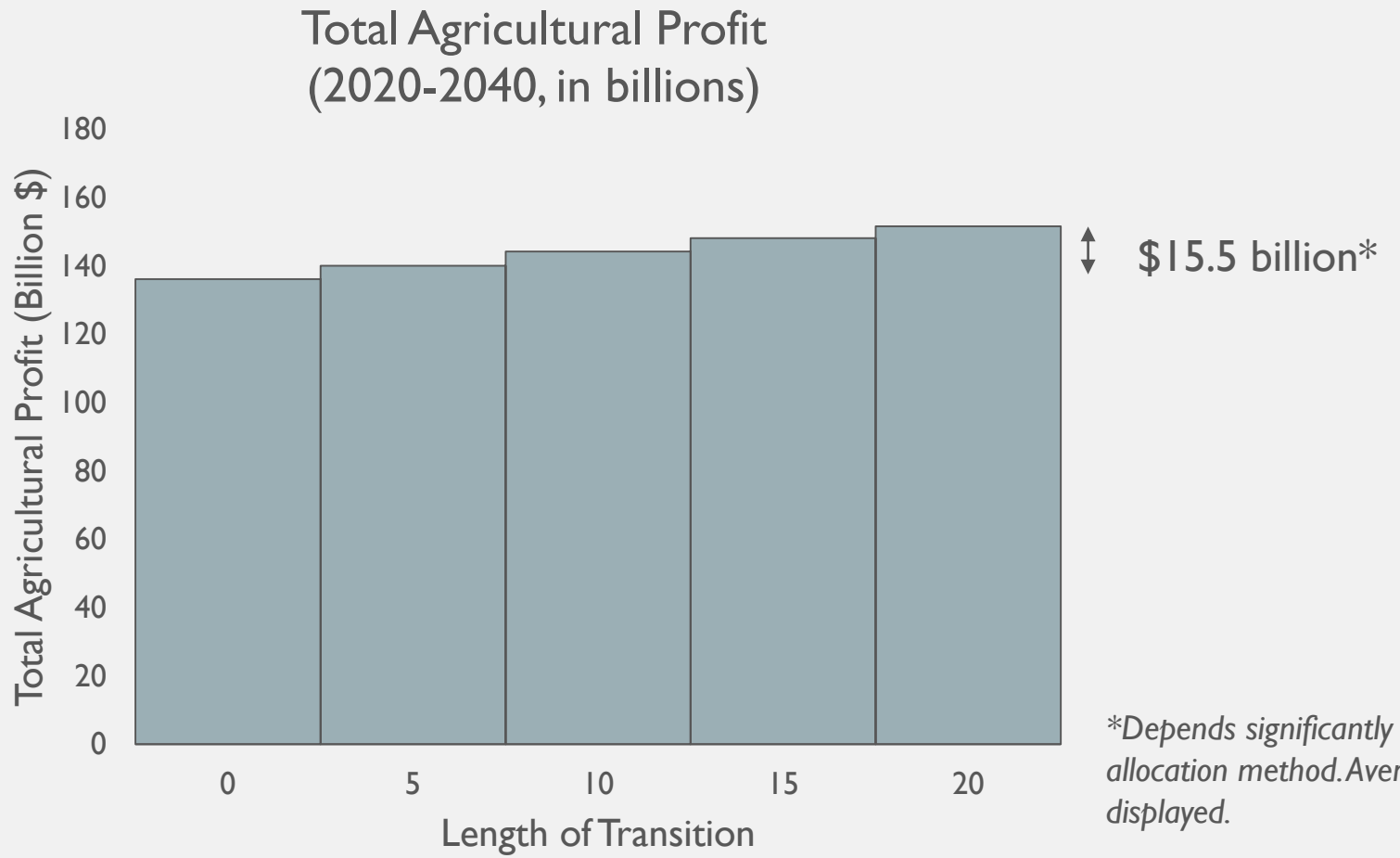
TRANSITION LENGTH
GROUNDWATER LEVELS



TRANSITION LENGTH
GROUNDWATER LEVELS

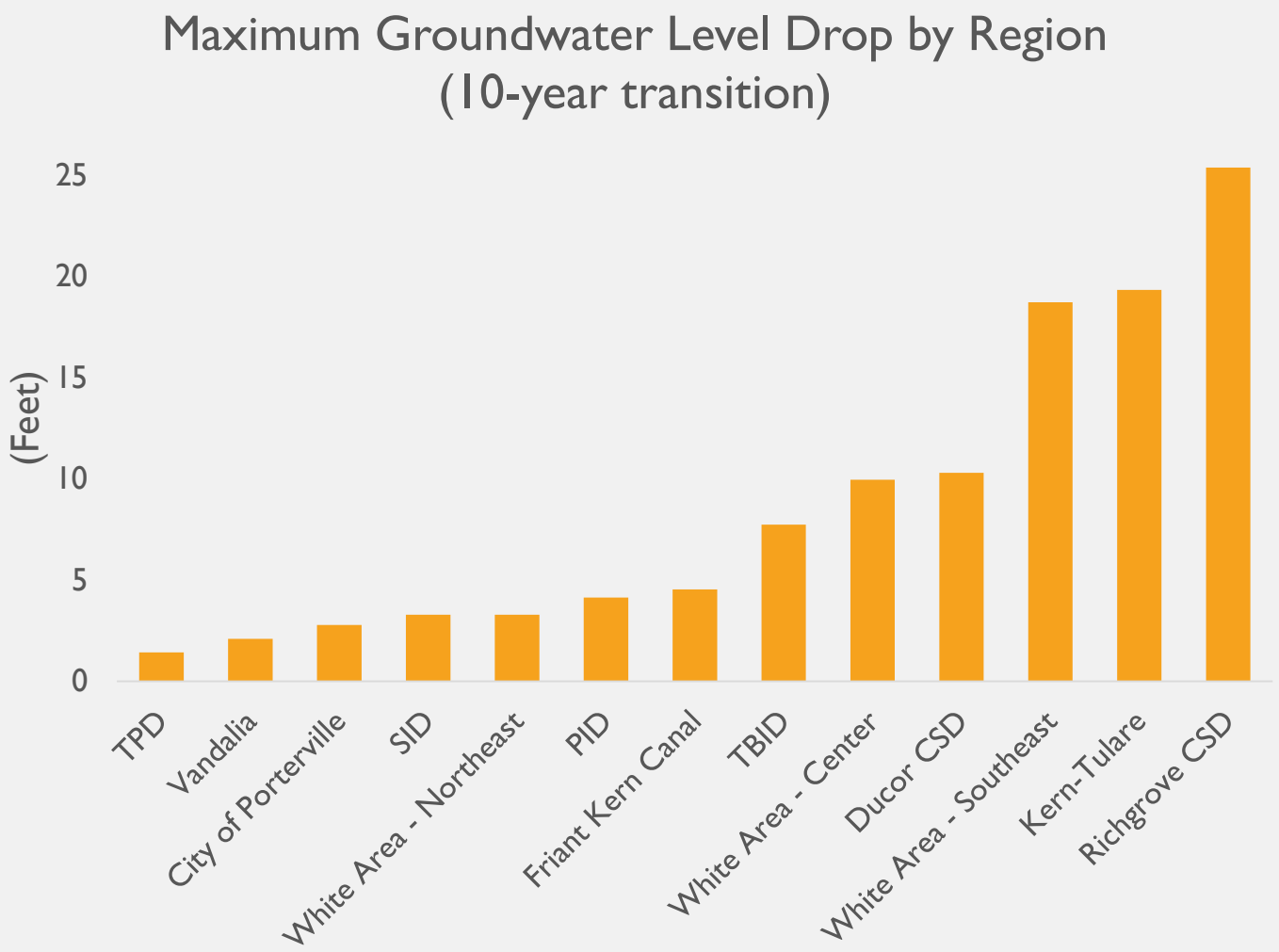


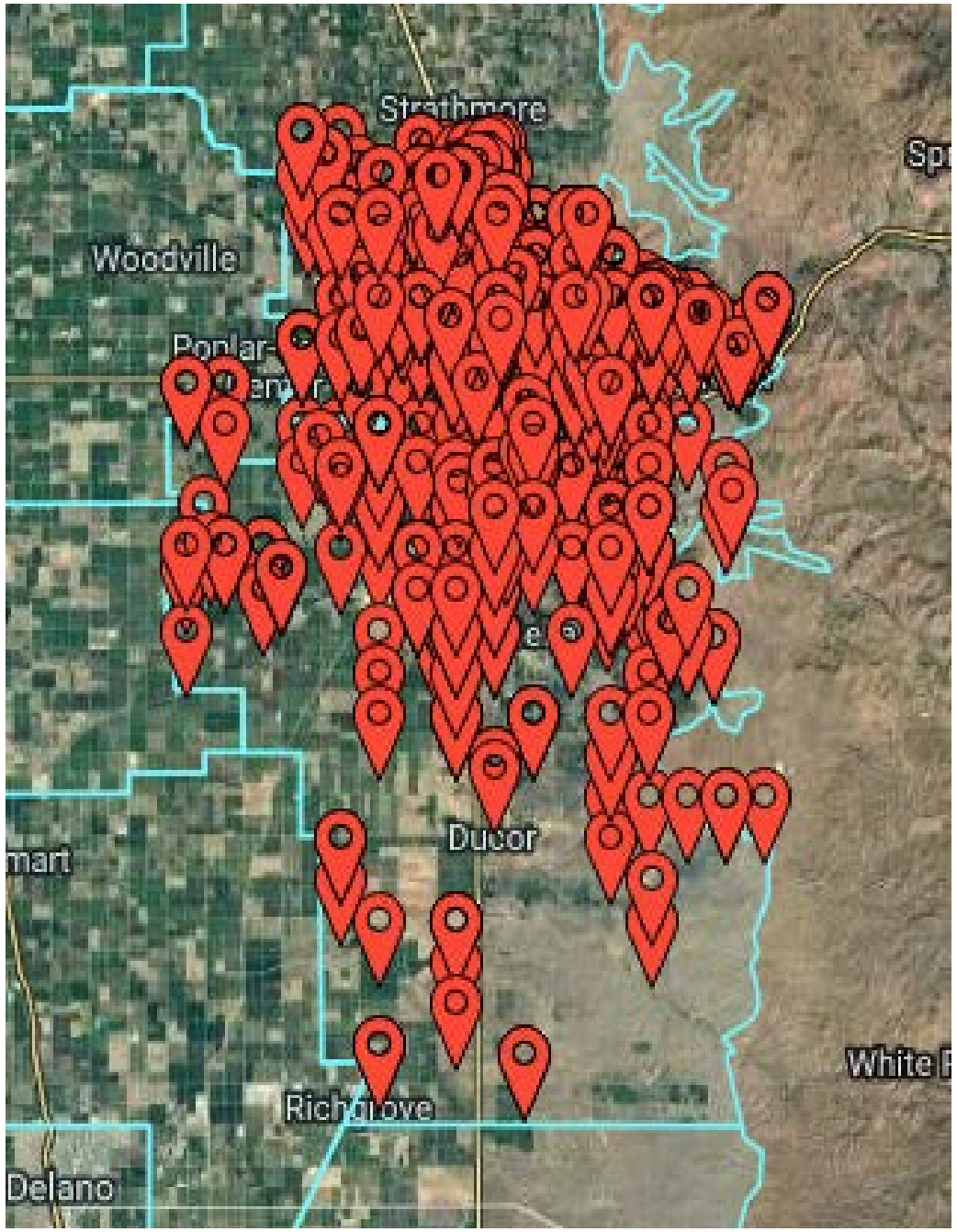
TRANSITION LENGTH
ECONOMIC IMPACTS



**Depends significantly on allocation method. Average displayed.*

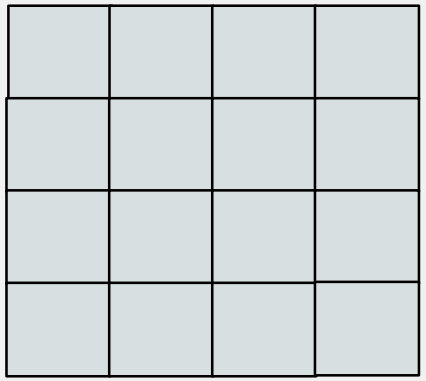
TRANSITION LENGTH
DOMESTIC WATER AVAILABILITY



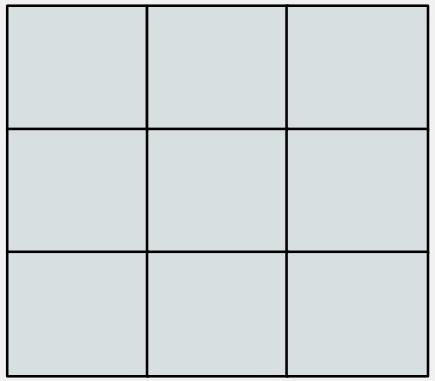


TRANSITION LENGTH
STAKEHOLDER ACCEPTANCE

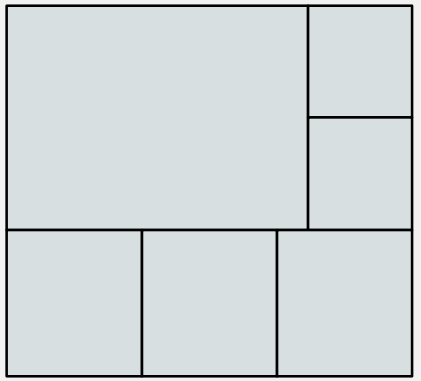
ALLOCATION METHOD



Equal by acre



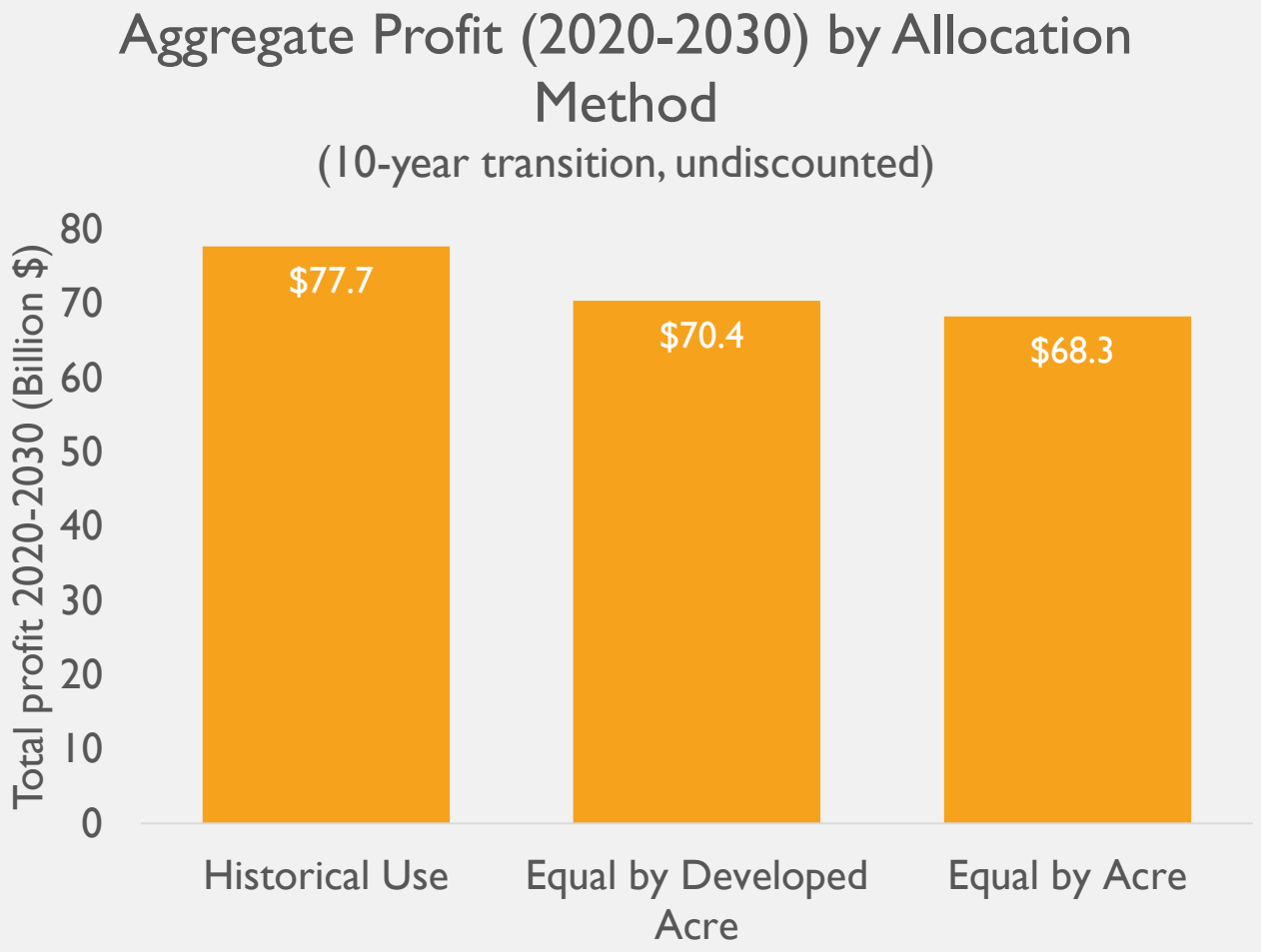
Equal by developed acre



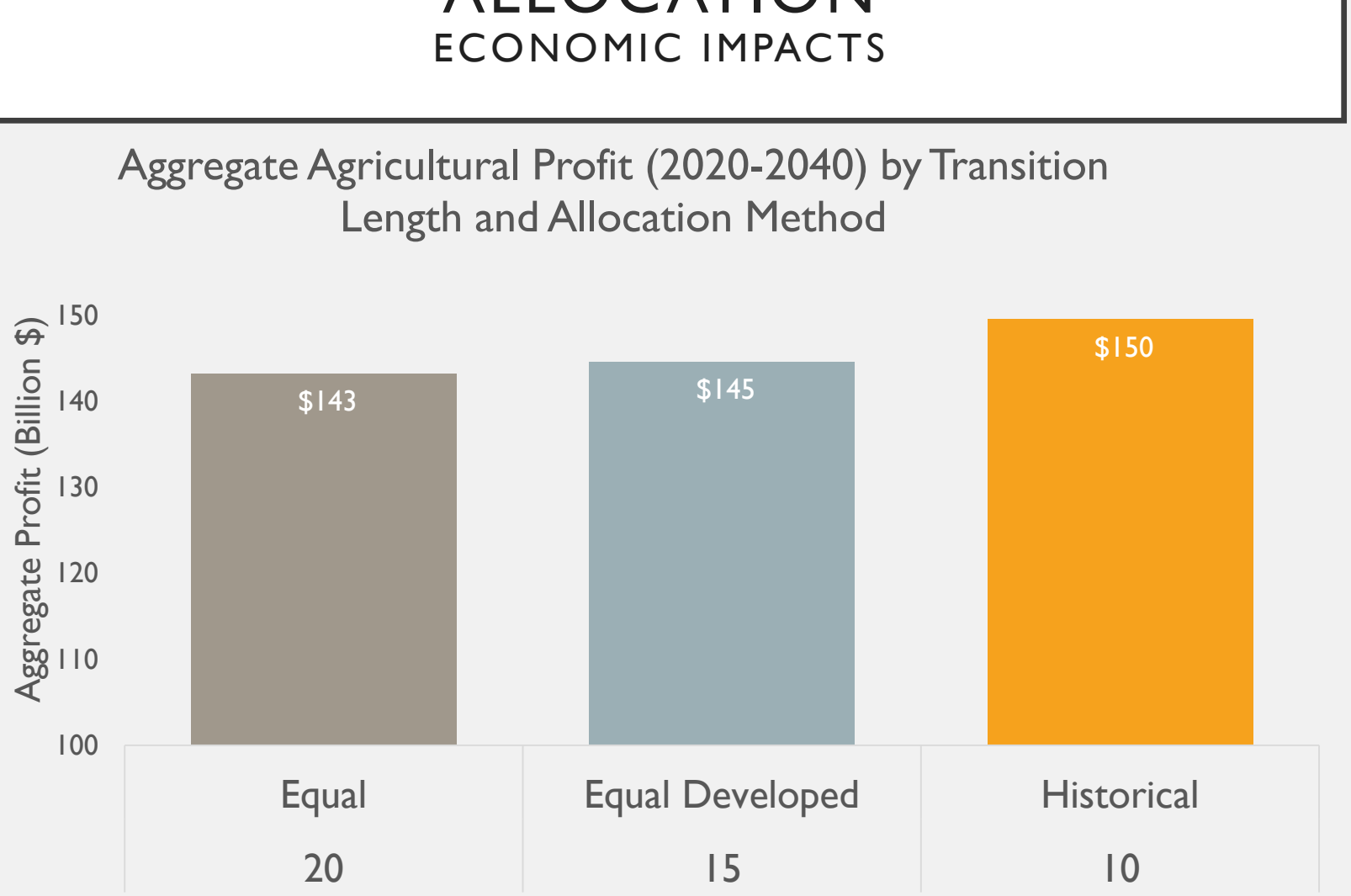
Proportional to historic use and district requirement

ALLOCATION
GROUNDWATER LEVELS

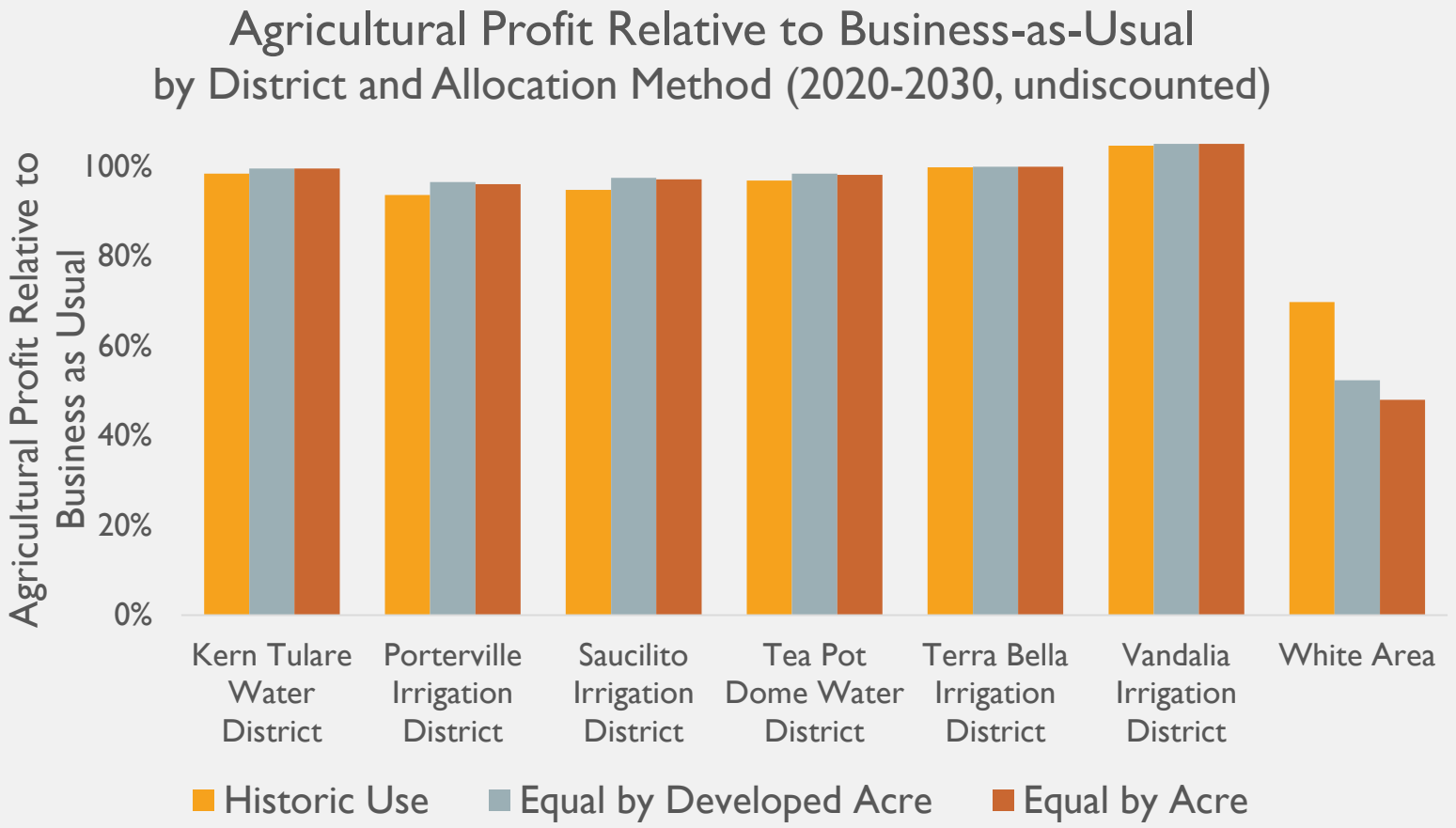
ALLOCATION
ECONOMIC IMPACTS



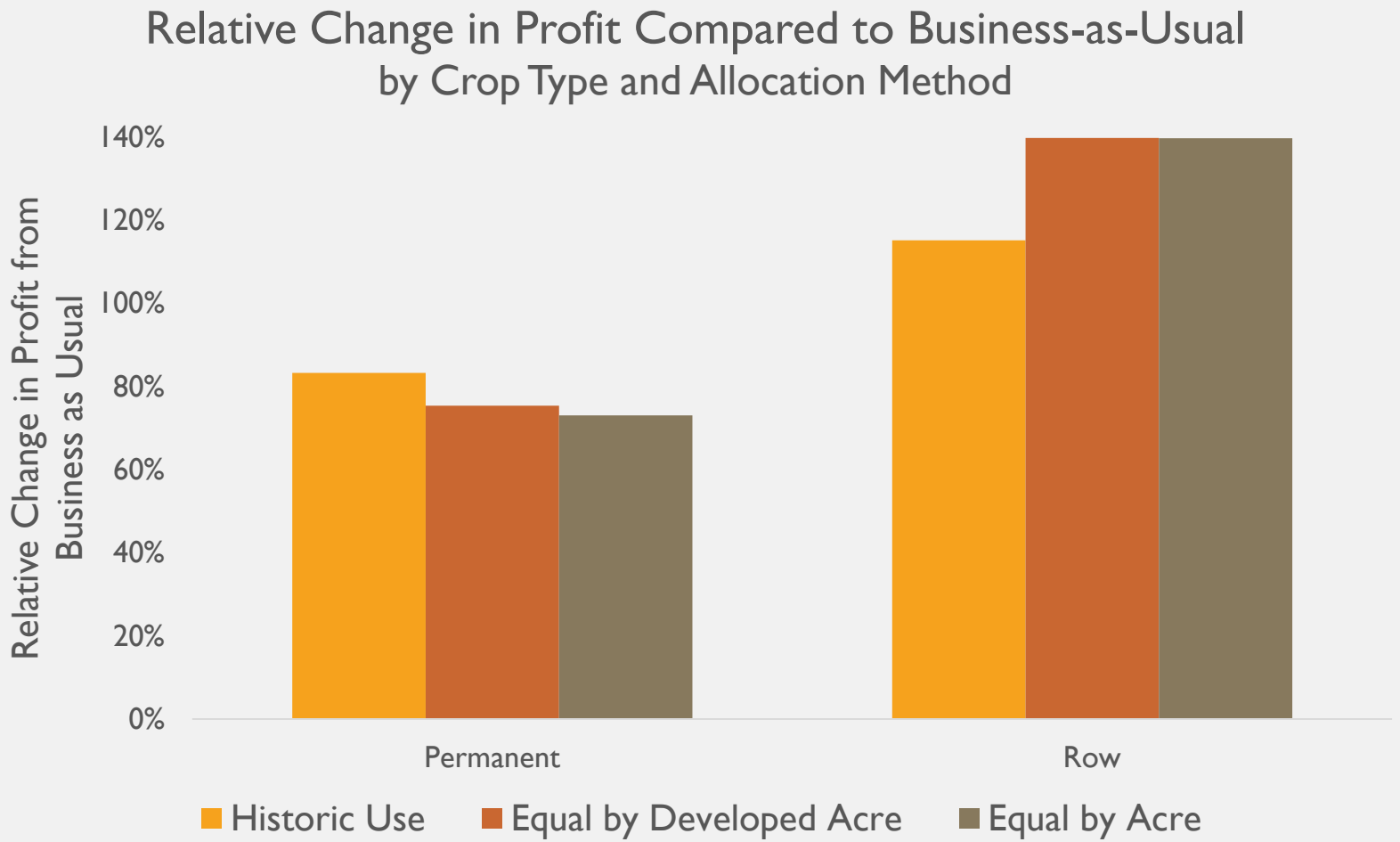
ALLOCATION
ECONOMIC IMPACTS



ALLOCATION
DIFFERENTIAL IMPACTS



ALLOCATION
DIFFERENTIAL IMPACTS

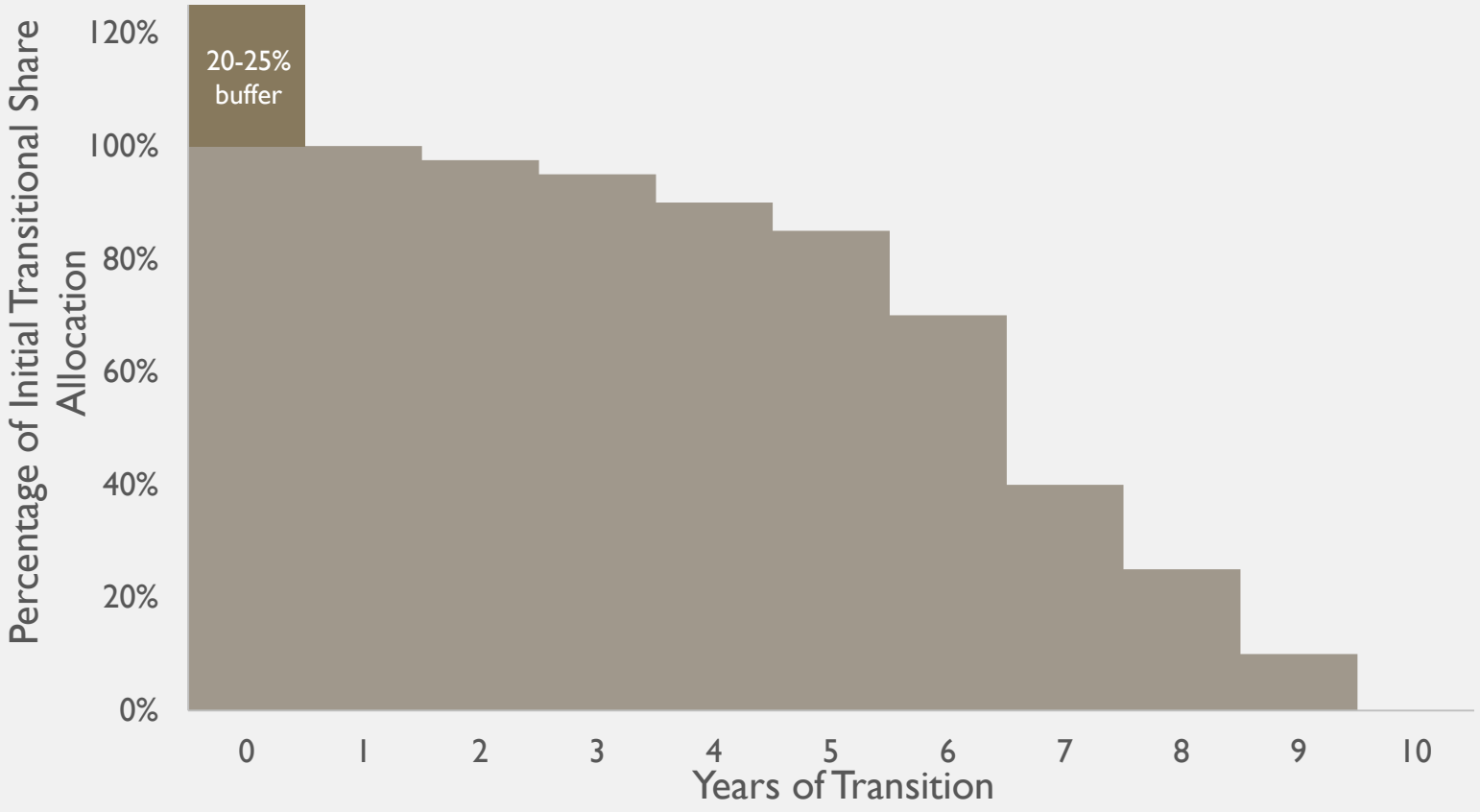


ALLOCATION
DOMESTIC WATER AVAILABILITY

GALLONS PER PERSON UNDER **PERMANENT SHARE** ALLOCATIONS	**Equal by Acre** 0.54 AF/acre	**Equal by Developed Acre** 0.68 AF/ac	**Historic Use and District Requirement** 0.41-1.27 AF/ac	**Minimum Allocation** 100 gallons/person/day
Richgrove CSD	**52*** Gallons/person/day	**65*** Gallons/person/day	131 Gallons/person/day	1.05 AF/acre
Ducor CSD	208 Gallons/person/day	262 Gallons/person/day	158 Gallons/person/day	0.26 AF/acre
City of Porterville	**87*** Gallons/person/day	110 Gallons/person/day	196 Gallons/person/day	0.62 AF/acre

Does not meet average water use of **100 gallons/person/day*

BUFFER


Percentage of Initial Transitional Share Allocation
120%
100%
80%
60%
40%
20%
0%
20-25% buffer
0
1
2
3
4
5
6
7
8
9
10
Years of Transition

WEIGH THE TRADEOFFS

		Groundwater Sustainability	Economic Impacts	Domestic Water Availability	Stakeholder Acceptance
5 years	*Equal by Acre*				
	Equal by Developed Acre				
	Historic/District				
10 years	*Equal by Acre*				
	Equal by Developed Acre				
	Historic/District				
15 years	*Equal by Acre*				
	Equal by Developed Acre				
	Historic/District				

		Groundwater Sustainability	Economic Impacts	Domestic Water Availability	Stakeholder Acceptance
5 years	*Equal by Acre*				
	Equal by Developed Acre				
	Historic/District				
10 years	*Equal by Acre*				
	Equal by Developed Acre				
	Historic/District				
15 years	*Equal by Acre*				
	Equal by Developed Acre				
	Historic/District				

QUESTIONS