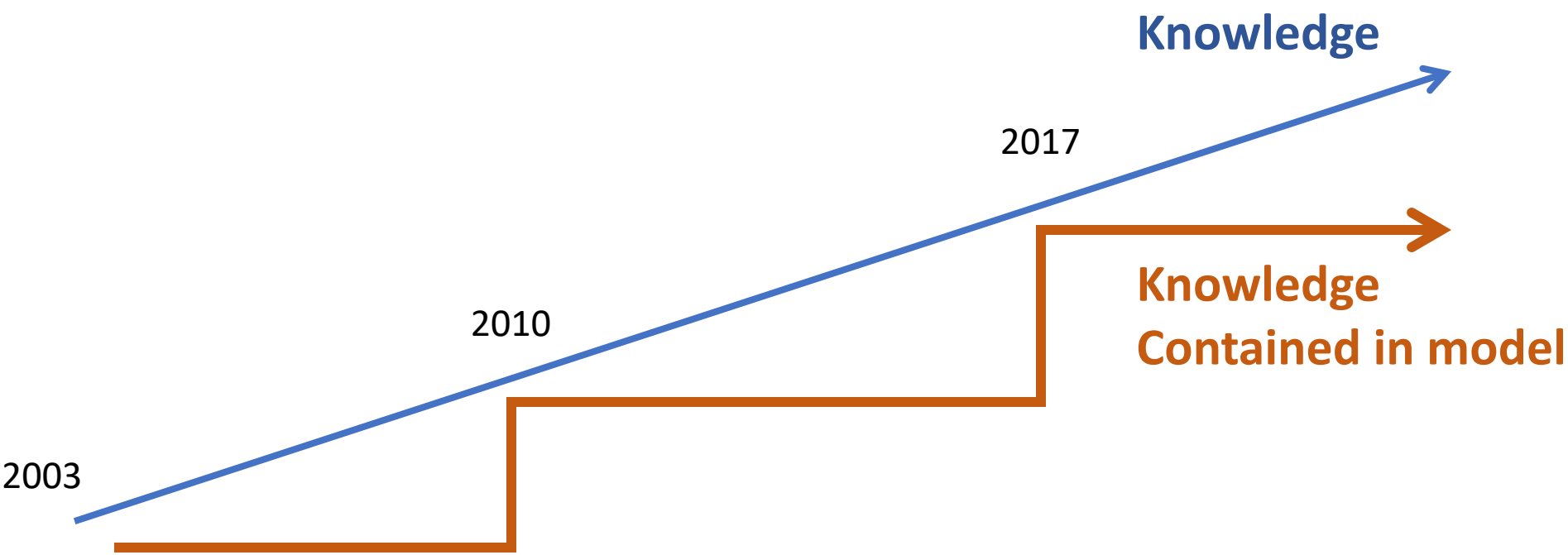


# A Path forward on CAST Assessment of 2025 WIP Outcomes

Modeling Workgroup

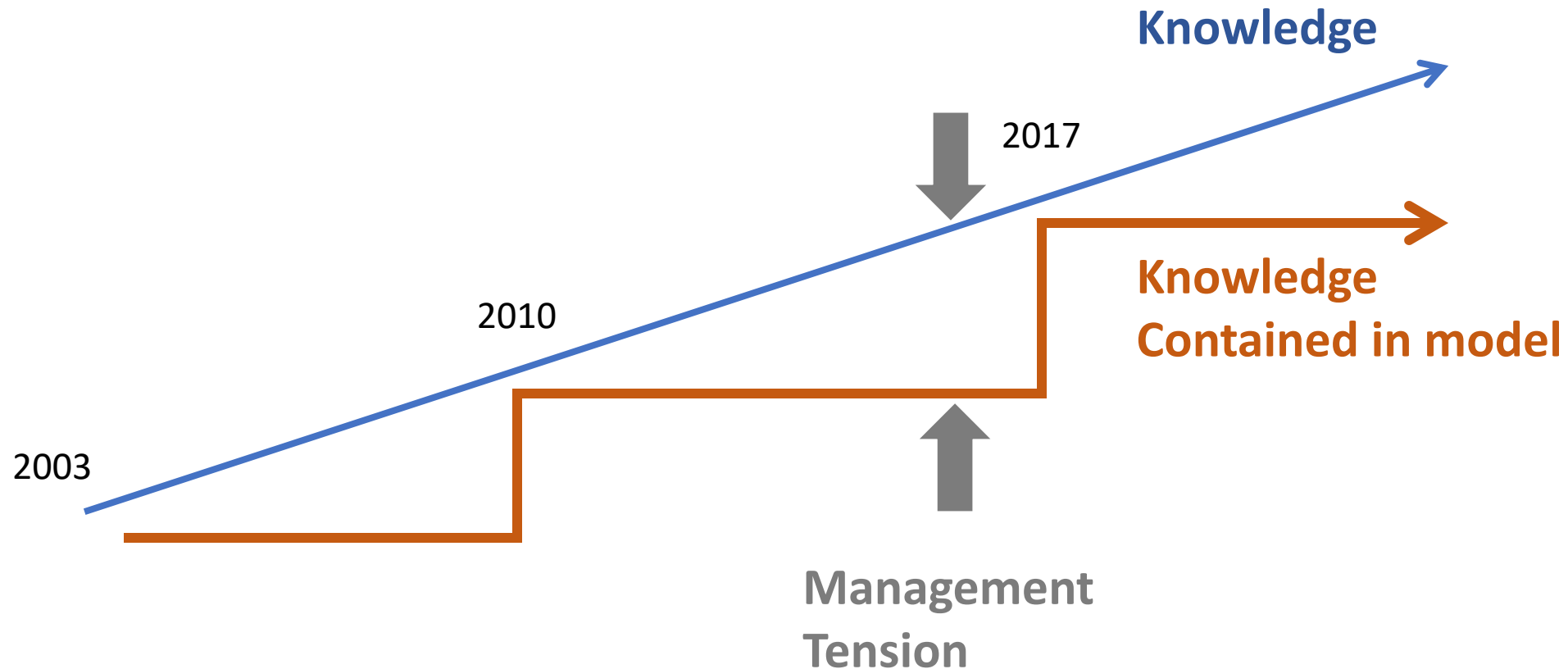
1/10/2023

# Always improve and Never Change



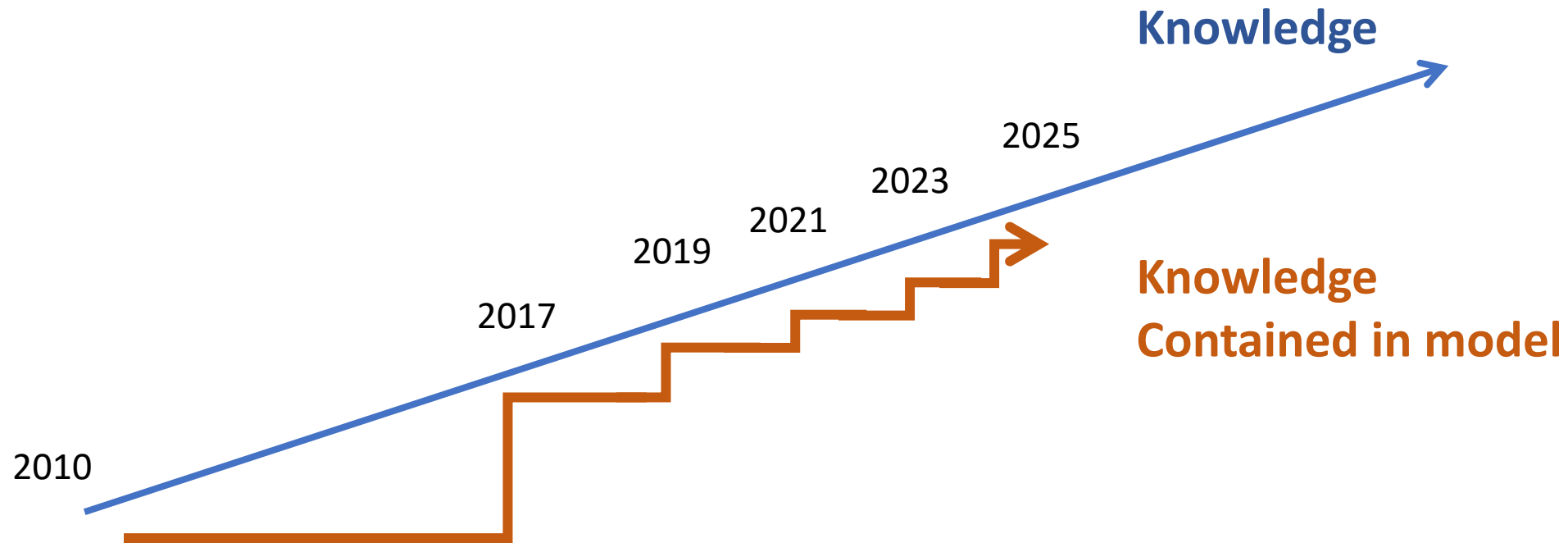
CBP history – long periods of model stability

# Always improve and Never Change



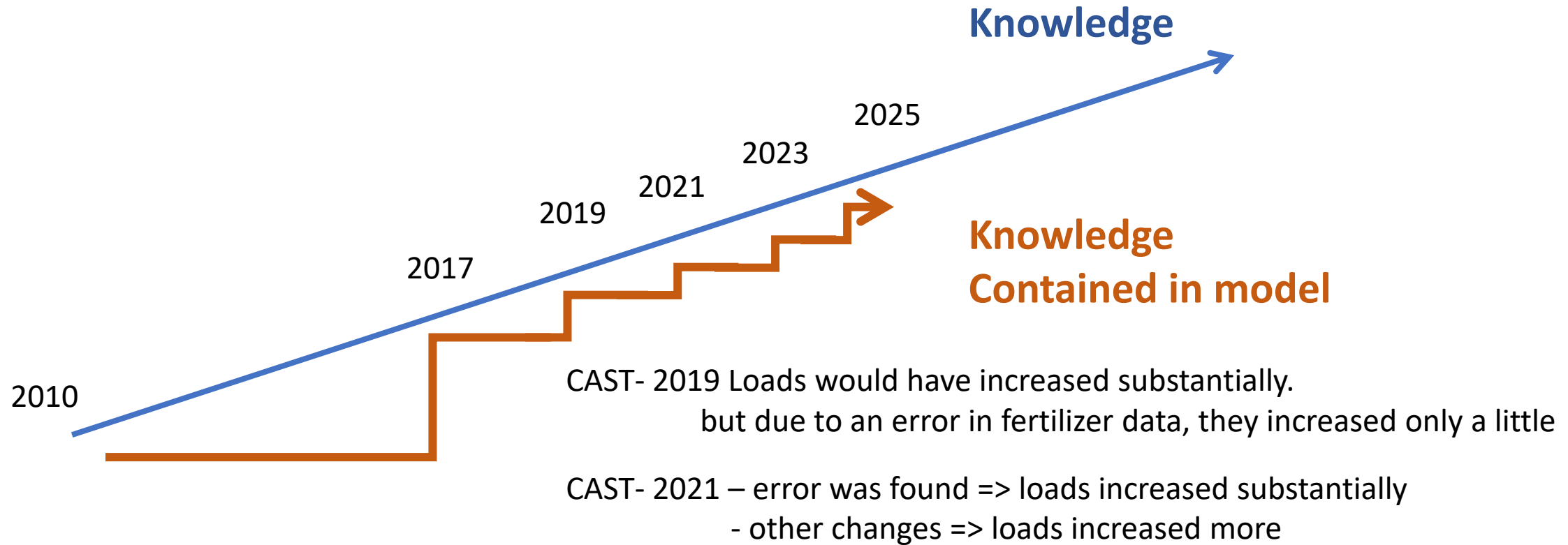
CBP history – long periods of model stability

# Always improve and Never Change



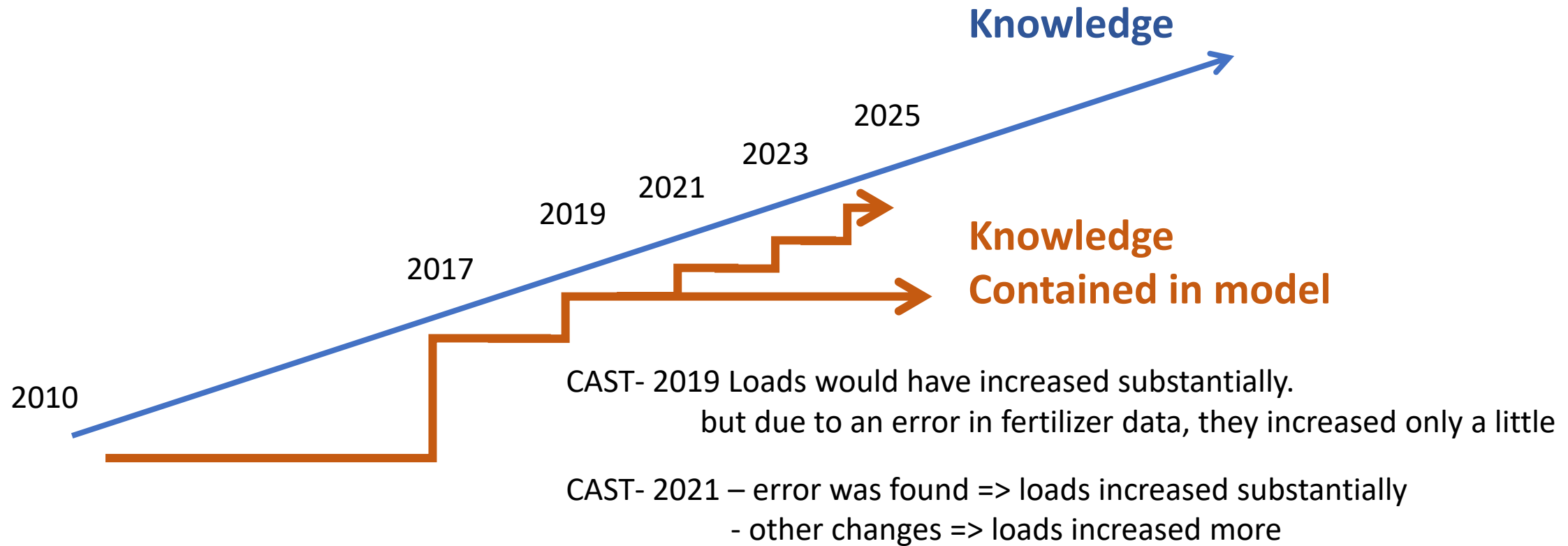
Phase 6 plan – update models every 2 years

# Always improve and Never Change



Phase 6 plan – update models every 2 years

# Always improve and Never Change

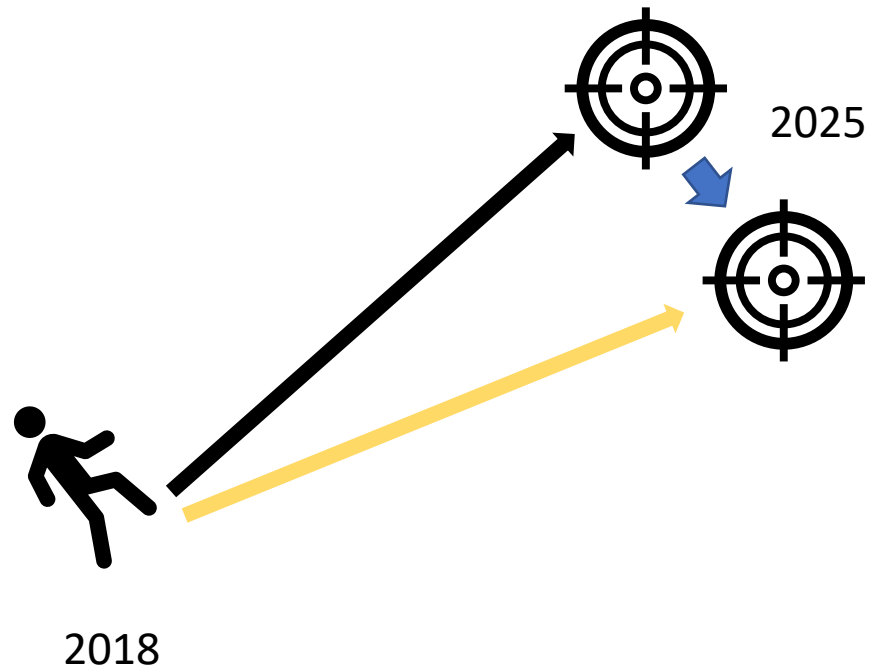


Partnership discussion about whether to move forward with new model

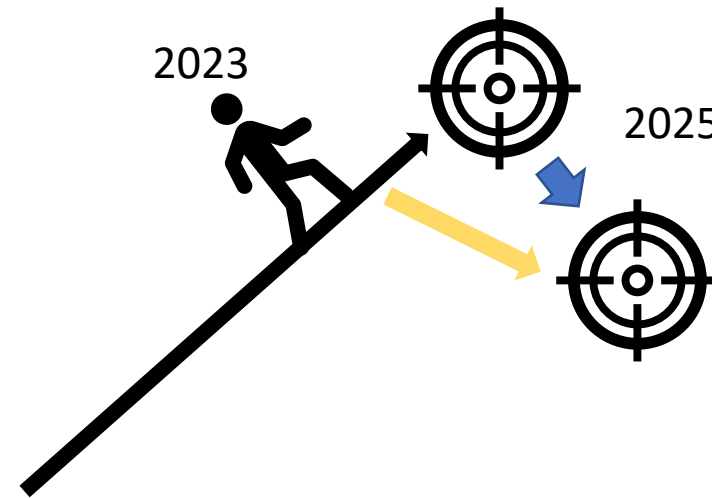
Phase 6 plan – update models every 2 years

# New management difficulty

Easier to adjust early



Difficult near the end

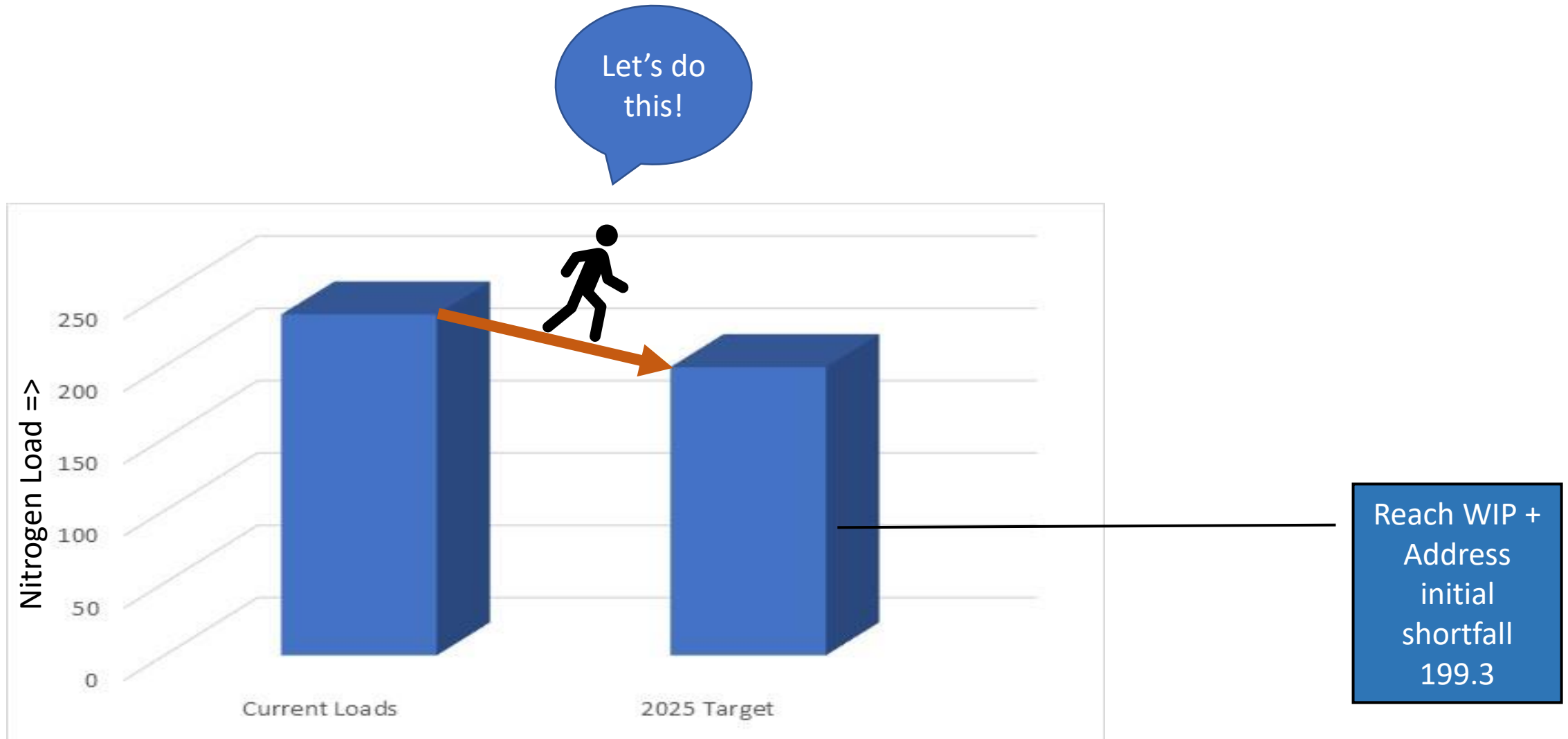


# Chesapeake Bay Program Partnership

- Recognizes that changing conservation programs takes time
- Decided to move forward with three decisions
  - Address unaccounted additional loads post-2025
  - Address fertilizer issues
  - Develop a process for dealing with data abnormalities
- Partnership is discussing how to implement these



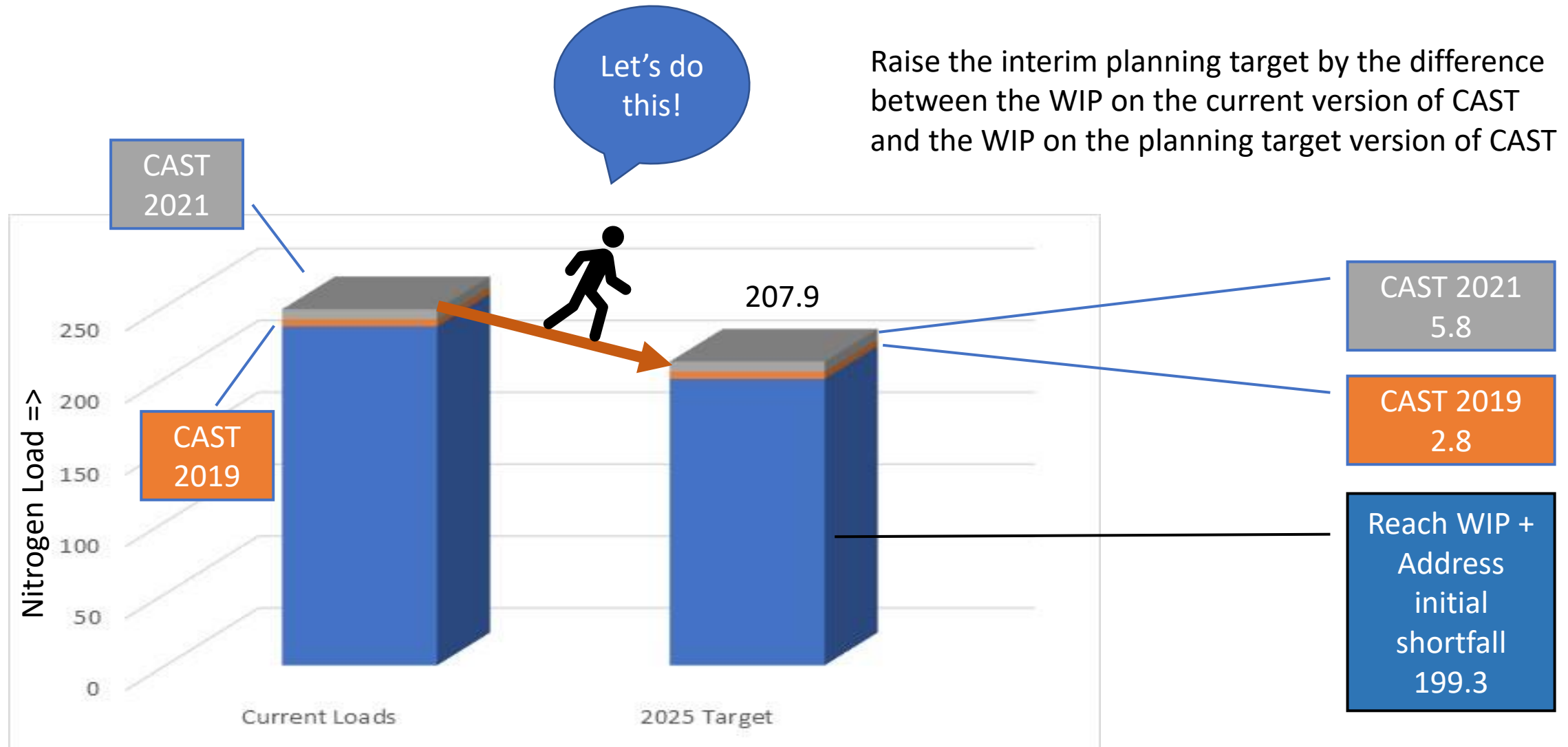
# Original Phase 3 level of effort



# New versions of CAST raised loads



# Get back to the original phase 3 level of effort



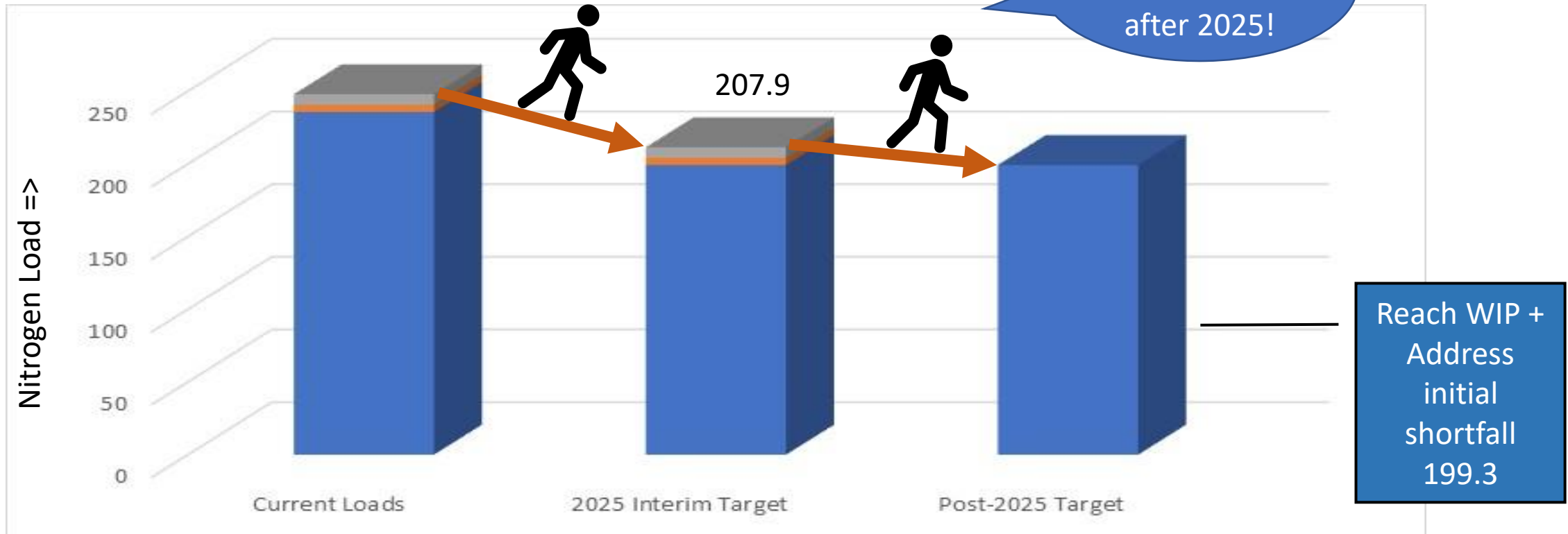
# Get back to the original phase 3 level of effort

We can claim some success in 2025 – We achieved what we said we would do in our WIPs.

Let's do this!

We will address the unexpected loads after 2025

Let's do this!  
...and climate after 2025!



We can move forward with CAST2021 – following partnership decisions

...the  
numbers

Nitrogen Load (Million pounds)						Maryland Proposal	
Jurisdiction	CAST-21 2021 Progress	CAST-17-based Planning Target	CAST-17 WIP Load	CAST-21 WIP Load	WIP difference	CAST-2021 2025 interim Target	Climate Reductions
DC	1.65	2.42	2.31	2.31	0.00	2.43	0.01
DE	7.11	4.55	4.46	5.38	0.92	5.47	0.04
MD	51.89	45.83	44.02	45.89	1.87	47.70	1.14
NY	13.36	11.80	11.67	12.38	0.70	12.50	0.40
PA	107.39	73.49	82.12	85.94	3.82	77.31	1.81
VA	57.21	52.95	49.57	50.65	1.08	54.03	1.59
WV	7.75	8.23	7.50	7.68	0.18	8.41	0.00
All	246.37	199.28	201.65	210.22	8.57	207.85	4.99
				+		=	
Phosphorus Load (Million pounds)							
Jurisdiction	CAST-21 2021 Progress	CAST-17-based Planning Target	CAST-17 WIP Load	CAST-21 WIP Load	WIP difference	CAST-2021 2025 interim Target	Climate Reductions
DC	0.07	0.130	0.105	0.102	-0.003	0.127	0.001
DE	0.14	0.108	0.081	0.096	0.016	0.124	0.003
MD	3.34	3.680	3.212	2.889	-0.323	3.356	0.111
NY	0.54	0.476	0.474	0.488	0.015	0.490	0.044
PA	3.68	2.905	2.865	2.912	0.047	2.951	0.095
VA	5.72	5.583	5.230	5.017	-0.213	5.369	0.337
WV	0.50	0.433	0.380	0.476	0.096	0.528	0.009
All	14.00	13.31	12.35	11.98	-0.37	12.95	0.60

# Proposal

- Retain original planning targets, but extend the date
- Move forward with CAST-2021 and CAST-2023
- Define unaccounted loads as loads identified after the planning targets were set in July 2018
- Create interim 2025 planning targets by adding the difference between the WIP on the current version of CAST and CAST-2017.
  - The interim planning targets would change when CAST versions change.
- Conowingo is still evaluated separately
- Continue to enhance Partnership QA procedures

# Partnership Discussion and Next Steps









- Address unaccounted additional loads post-2025
  - Consensus not reached in December
  - Concern that fertilizer would not be addressed in near term
  - Concern that climate was being moved to post-2025
- Address fertilizer issues
  - Partnership working on options for developing a plan – potentially added to Maryland proposal
- Develop a process for dealing with data abnormalities
  - 12/16 MB charged the WQGIT (and potentially WTWG) develop a policy regarding safeguards, triggers, and protocols to prevent future data analysis abnormalities by summer 2023





# What was changed from 2017 version

## 2019 Version

-  • 2017 ag census
-  • Updated fertilizer data through 2014 – had error
-  • New BMPs
-  • Land use projections
-  • Septic system estimates
-  • N fixation change for silage
-  • Urban turfgrass fertilizer
-  • Wastewater year adjustments

## 2021 Version

-  • Correction to 2013-14 fertilizer data
-  • Updated fertilizer data through 2016
-  • BMP history
-  • Broiler populations
-  • Crop yield data 2017-2020



Loads up

Loads down

Little or variable change 17