Reenrollment of BMPs Cost-Shared by FSA

December 4, 2014

Olivia Devereux
DEC, Inc.

Conservation Practice Contract Renewals

- CREP contracts of cumulative BMPs
  - CP21-Forest Buffers first contracts were in 1999
  - Contract length is 15 years
  - 2014 is first year that these contracts may be renewed, or “reenrolled”

- Reenrolled acres are at risk of being reported as new implementation.

Data Available

- Some of the data available are:
  - Contract
  - Practice
  - Practice acres
  - Contract acres
  - Expired acres

- Concerns:
  - Expired acres are for a contract, not a practice
    - Where reenrolled is subtracted from practice acres, the number is frequently negative since there are multiple practices in contract.
  - Expired acres is not a required data field
    - Not consistently filled out, seems to be used in certain counties, not others. This introduces geographical bias.

- FSA makes assumptions to handle this problem.
  - Zero 'estimated cost-share amount' may indicate a reenrollment.

- Where assumptions are incorrect, then the amount of new acres are reduced.

Analysis of Agricultural BMP Implementation Datasets for Chesapeake Bay

December 4, 2014

Olivia Devereux

DEC, Inc.

Purposes of Evaluation

- The Chesapeake Bay Commission requested the Chesapeake Research Consortium assess how the Chesapeake Bay Watershed Initiative (CBWI) advanced progress in addressing watershed water quality concerns and how improvements can be made to maximize the impact of every agricultural practice implemented and dollar spent.

- USGS has requested agricultural conservation data to inform its evaluation of the effects of Chesapeake Bay conservation practices by enhancing models, expanding regional monitoring and explanation of water-quality changes, and monitoring and assessing changes in small watersheds.

- USDA has a Chesapeake Bay TMDL milestone commitment to evaluate the Chesapeake Bay Watershed Initiative (CBWI) program contained in the Food, Conservation, and Energy Act of 2008.

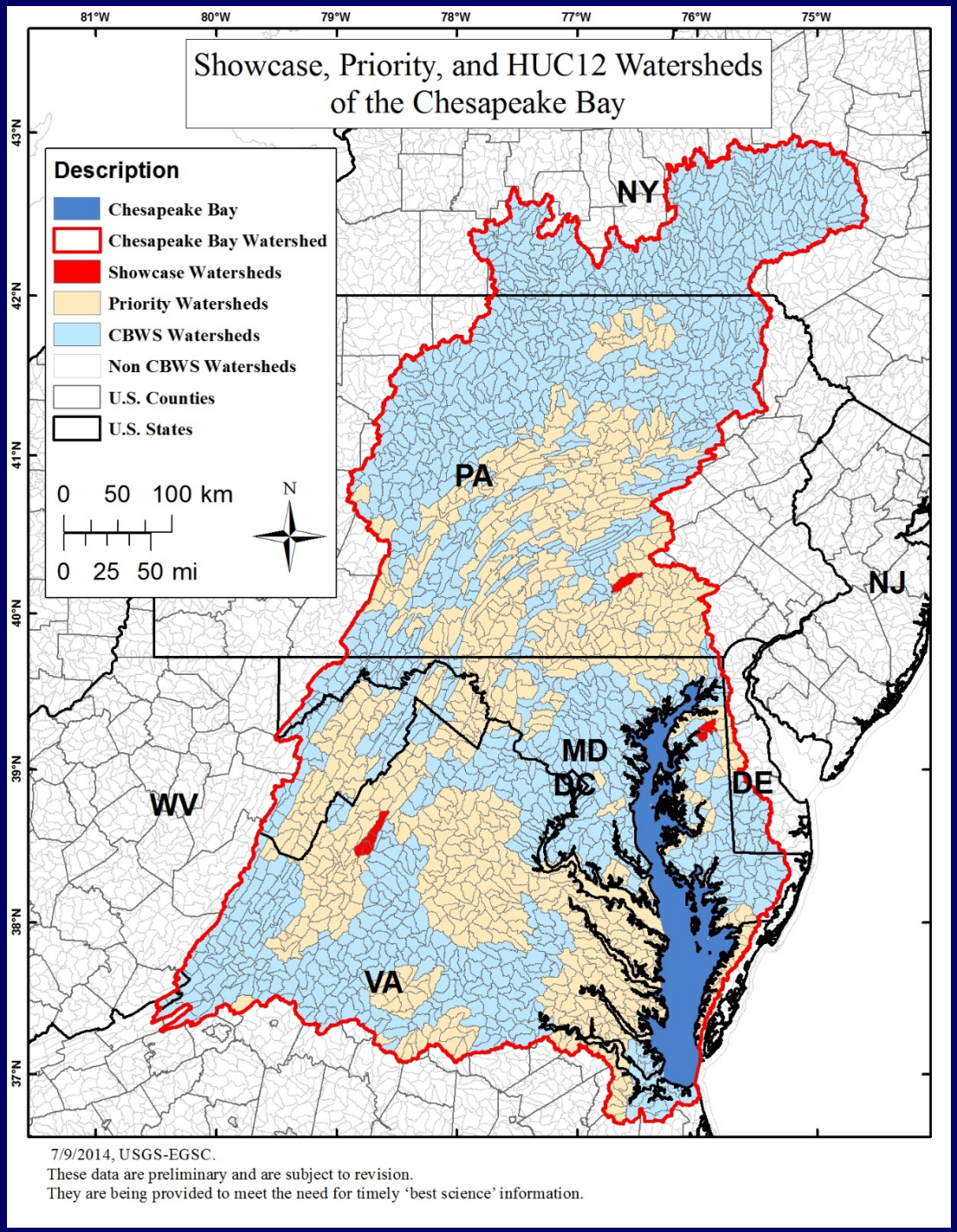
Approach

- Collaborative approach including USGS, USDA, EPA, Chesapeake Bay Foundation, Chesapeake Research Consortium, Chesapeake Bay Commission, and Keith Campbell Foundation.
- Track implementation changes over time, beginning with 2006. Consider leveraging and partnership effects associated with BMP implementation.
- Compare implementation of NRCS (CBWI and other cost-share programs), NRCS-CTA, FSA, and non-USDA cost-share reported to CBP (state-funded).
- Use Chesapeake Bay Watershed Model for evaluation of practice impacts because it was the driver of the Executive Order and is the accounting tool being used. USGS will use Sparrow to inform water quality analysis and the need to expand monitoring.

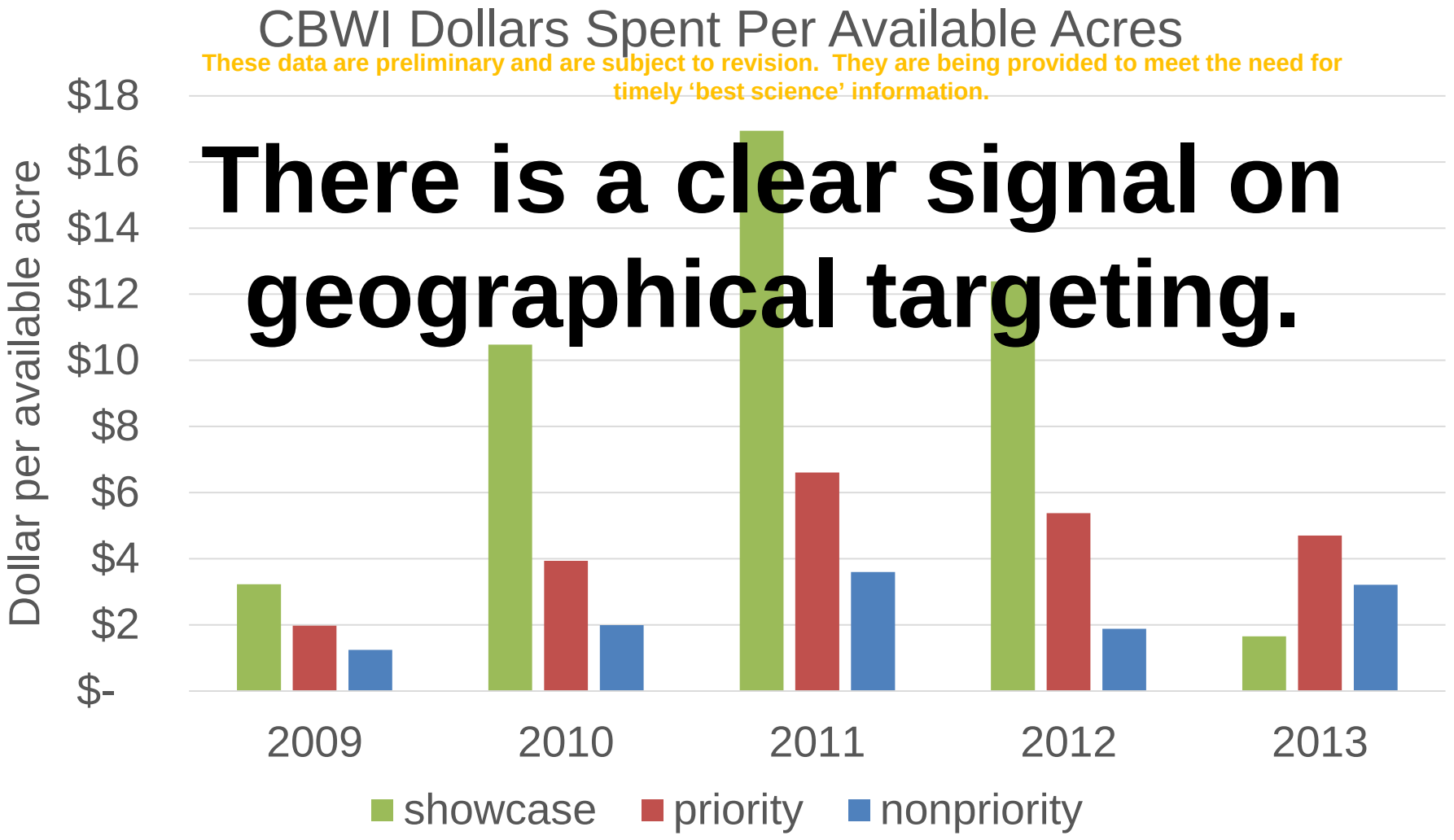
Were CBWI-funded practices implemented where needs were prioritized?

- Watershed types are defined as:
  - Showcase
    - Conewago (PA)
    - Upper Chester (MD)
    - Smith Creek (VA)
  - Priority
  - Non-prioritized CBWS—other within the Chesapeake Bay

- Note that the last two years of CBWI funding (2011, 2012) were opened up to the entire CB.


Showcase, Priority, and HUC12 Watersheds of the Chesapeake Bay
Description
Chesapeake Bay
Chesapeake Bay Watershed
Showcase Watersheds
Priority Watersheds
CBWS Watersheds
Non CBWS Watersheds
U.S. Counties
U.S. States
0 50 100 km
0 25 50 mi
N
NY
PA
NJ
MD
DC
DE
WV
VA
81°W
80°W
79°W
78°W
77°W
76°W
75°W
43°N
42°N
41°N
40°N
39°N
38°N
37°N
7/9/2014, USGS-EGSC.
These data are preliminary and are subject to revision.
They are being provided to meet the need for timely 'best science' information.

How much funding was in showcase vs. non-showcase watersheds?



CBWI Funding

Allocation

- 2009 = $23M
- 2010 = $43M
- 2011 = $72M
- 2012 = $50M
- 2013(CR) = $50M
- 2014(CR) = $50M

Obligation by contract year

- 2009 = $16.3M
- 2010 = $30.2M
- 2011 = $52.5M
- 2012 = $36.4M
- 2013(CR) = $39.5M

Funding also spent on:

- Technical Assistance
- **Ch**anges in **M**andatory **P**rograms (CHMPS)
- Rescissions

Some differences in funds spent if looking at estimated cost or actual financial assistance.

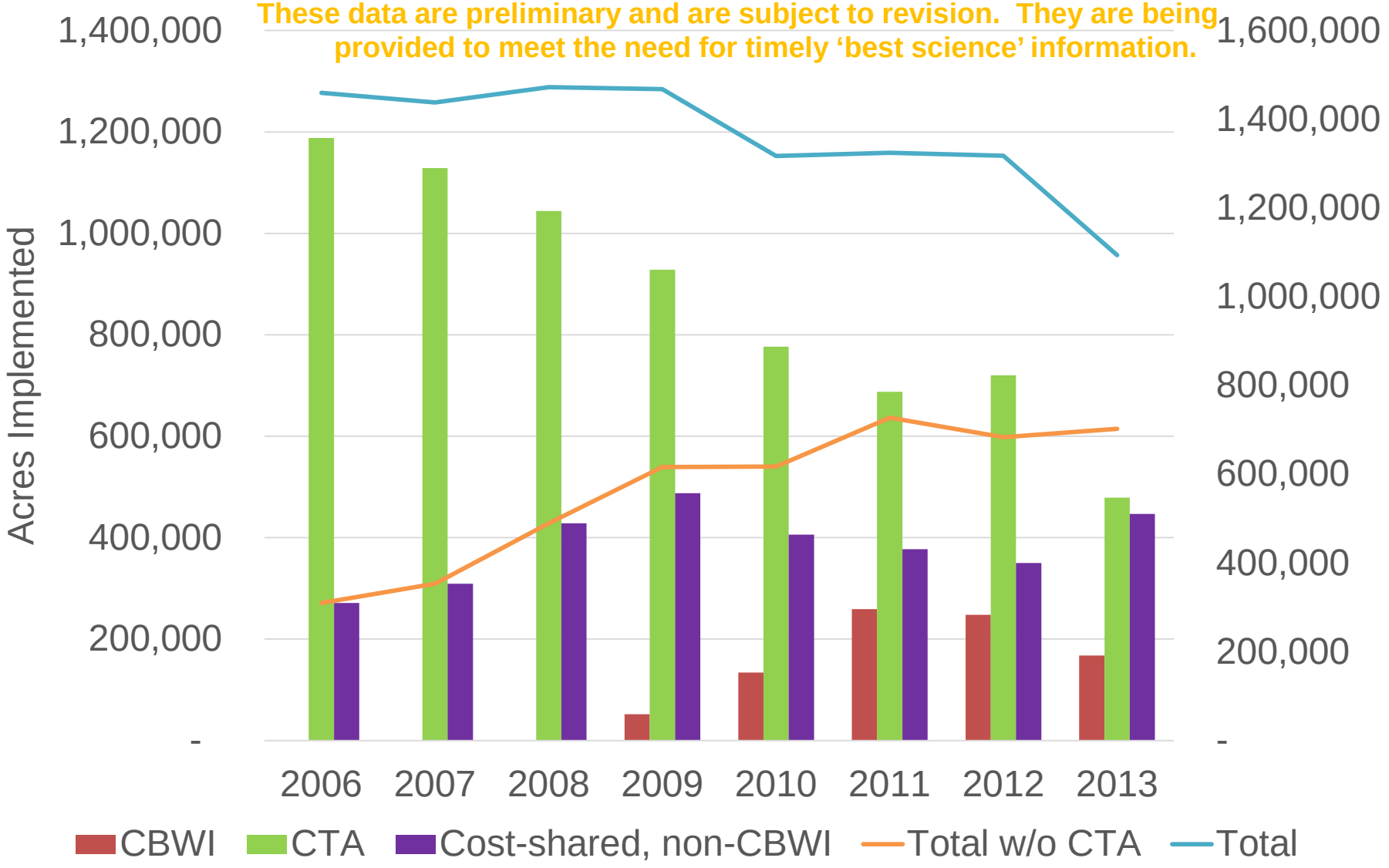
Did NRCS funding leverage additional implementation?

- Did CBWI funding supplant other funding sources, which would result in static practice implementation in the Chesapeake Bay but increases in other areas where state and other funds could have been redirected?

- The chart shows total acres of BMPs, leaving out BMPs measured in units of AU, no., ft., ac-ft., etc... Most BMPs are measured in acres.

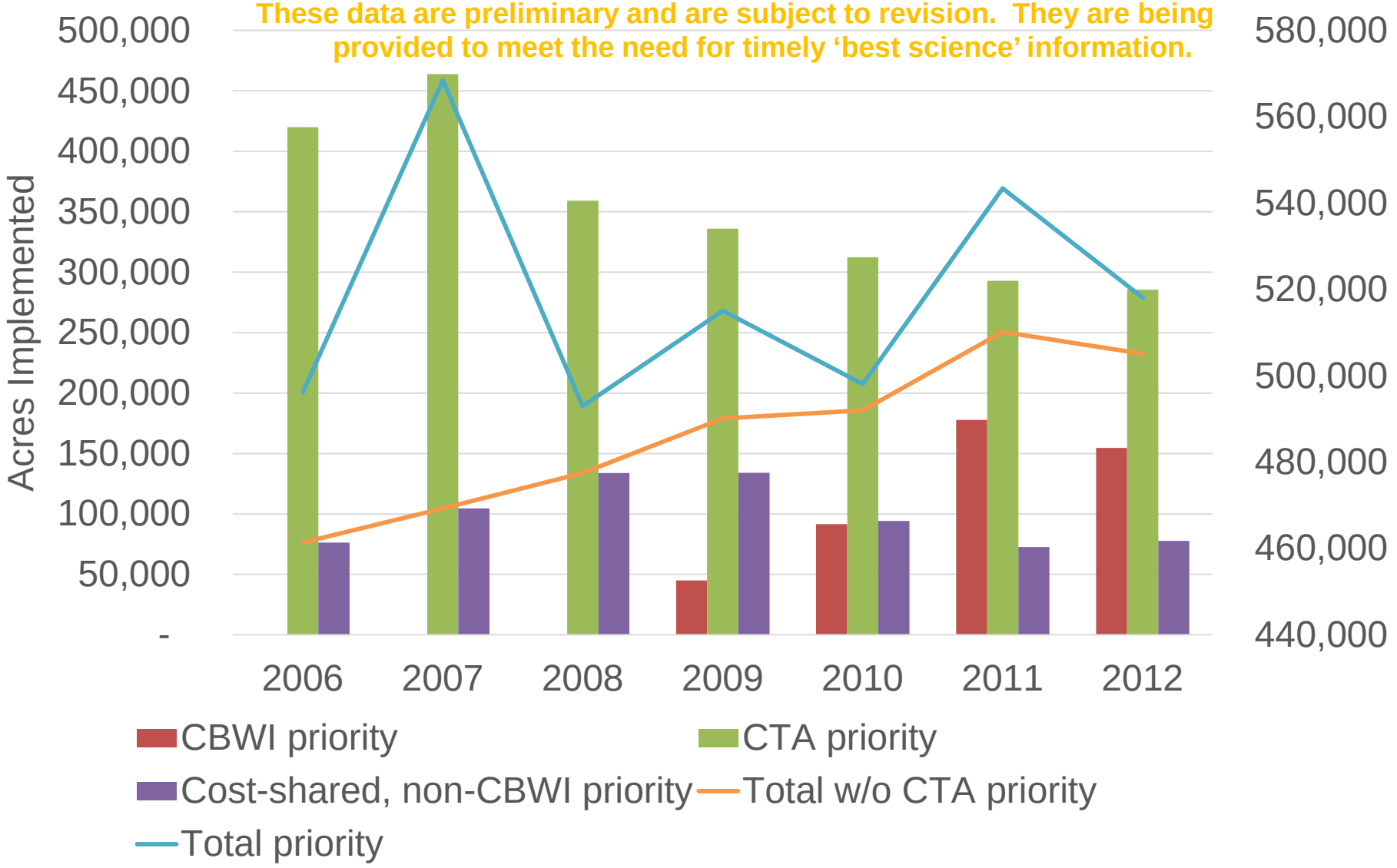
Implementation in the entire Chesapeake Bay Watershed by NRCS Program

These data are preliminary and are subject to revision. They are being provided to meet the need for timely 'best science' information.



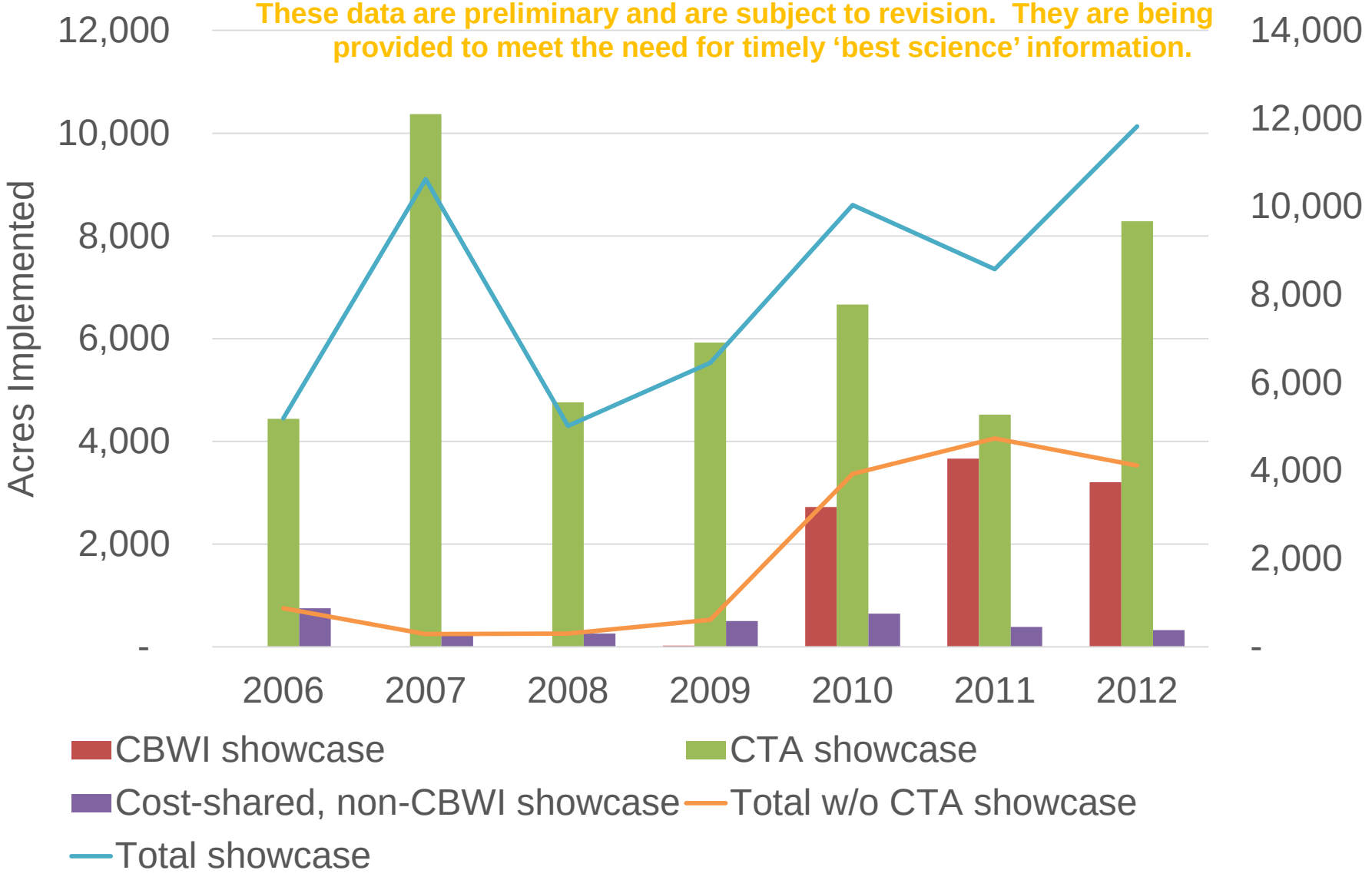
Implementation in the Chesapeake Bay Priority Watersheds by NRCS Program

These data are preliminary and are subject to revision. They are being provided to meet the need for timely 'best science' information.



Implementation in the Chesapeake Bay Showcase Watersheds by NRCS Program

These data are preliminary and are subject to revision. They are being provided to meet the need for timely 'best science' information.



CBWI

- Geographical targeting worked!
  - CBWI funds predominantly were spent in the priority watersheds
- Prioritization of BMPs worked!
  - CBWI promoted BMPs with water quality benefits

Priority BMPs

- BMPs in this presentation were selected based on the Chesapeake Bay Program's "Watermelon Plots"

- The BMPs in the WIPs that had the most impact in terms of nutrient reductions include:
  - Land retirement
  - Forest buffers
  - Tillage
  - Cover crops
  - Animal Waste Management Systems

- These BMPs were the dominant BMPs implemented by NRCS, for the most part.

What were the annual fluctuations in implementation by funding source?

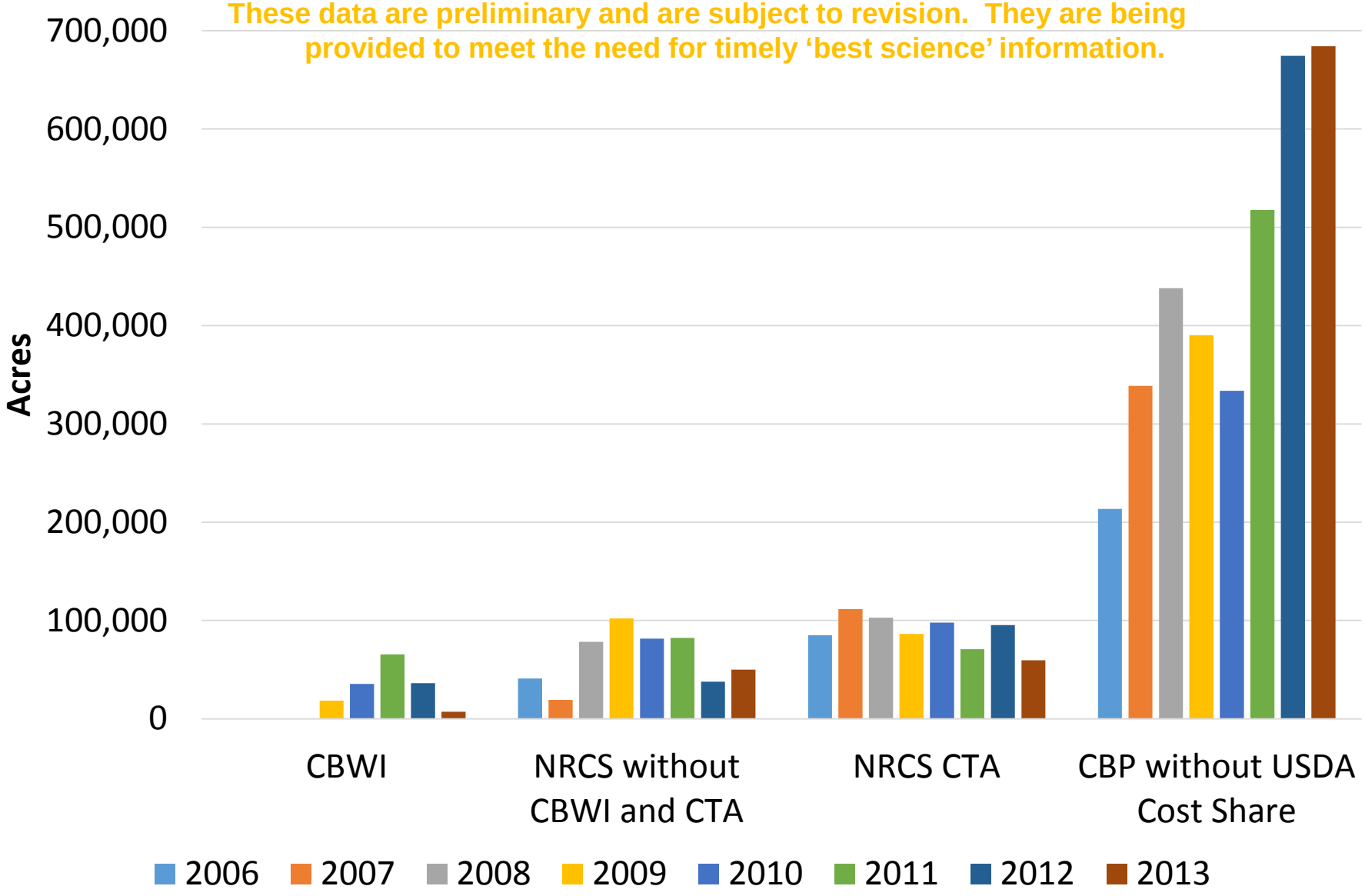
- Funded programs—NRCS-CBWI, NRCS-other cost-share, NRCS-CTA, FSA, and non-USDA reported to the Chesapeake Bay Program (CBP).

- Positive implementation for “CBP without USDA cost share” indicates:
  - the state primarily provides funding for that practice
  - reporting error

- Negative implementation indicates:
  - States are reporting less than the USDA-cost-shared amount, and agriculture is not receiving the credit it should receive
  - States are reporting the practice under other names or with different mapping to CBP BMPs. The mapping of these BMPs should be handled by the NEIEN plug-in so that there is consistency, but can be circumvented by submitting data to NEIEN using other BMP names.

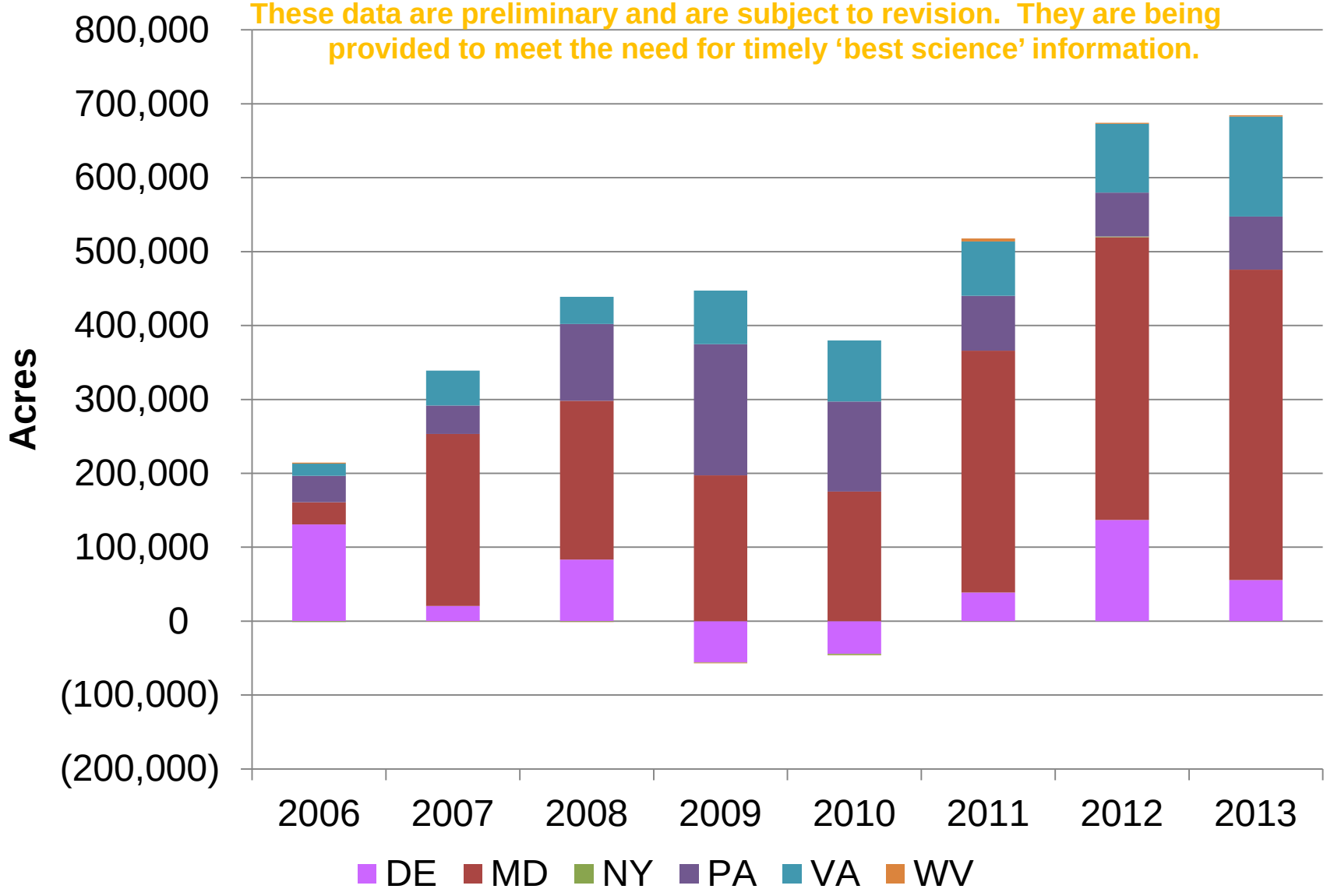
Cover Crops - All Types

These data are preliminary and are subject to revision. They are being provided to meet the need for timely 'best science' information.



CBP cover crop without USDA cost share

These data are preliminary and are subject to revision. They are being provided to meet the need for timely 'best science' information.



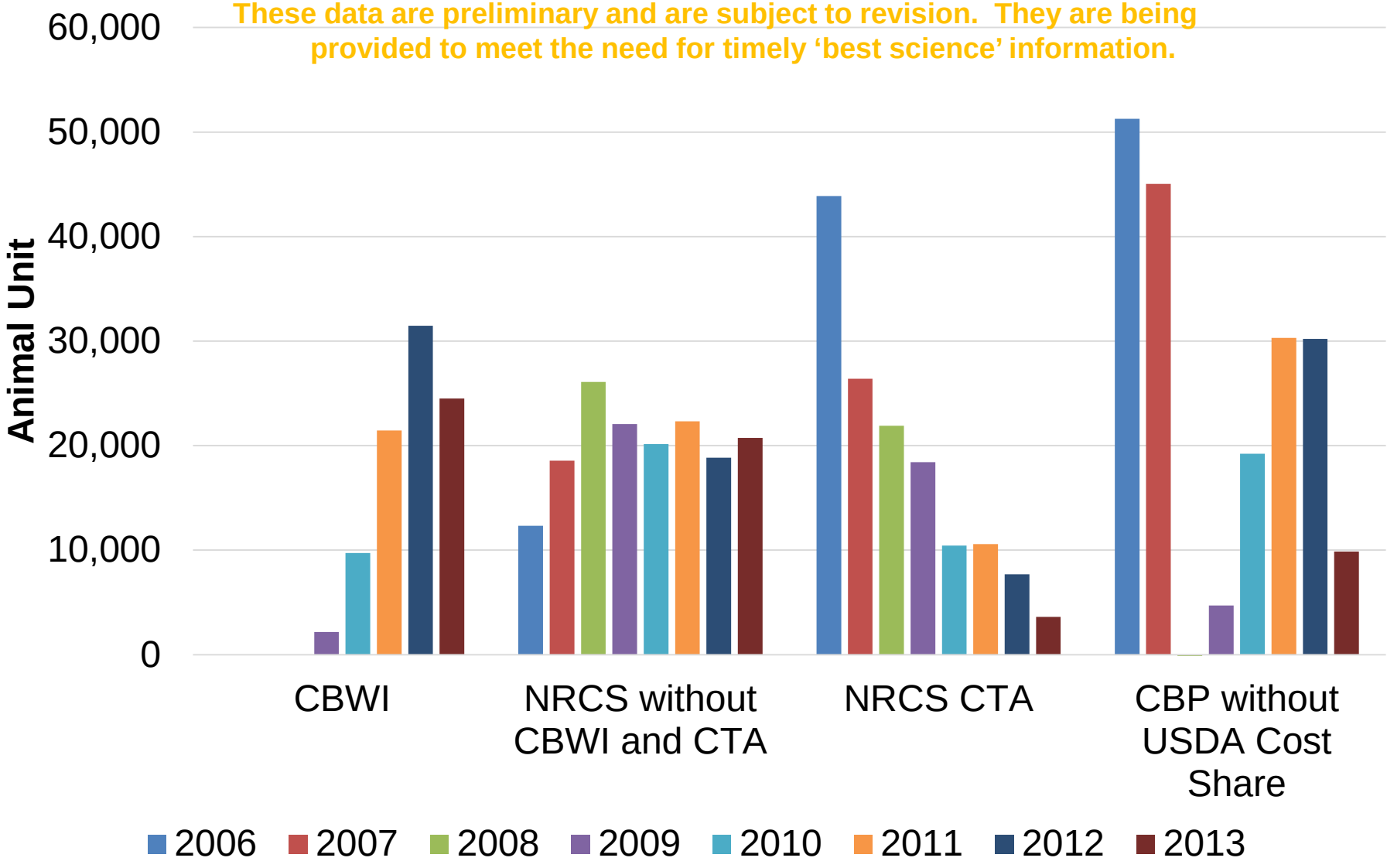
What does this mean?

- Positive implementation for “CBP without USDA cost share” indicates:
  - the state primarily provides funding for that practice
  - reporting error

- Negative implementation indicates:
  - States are reporting less than the USDA-cost-shared amount, and agriculture is not receiving the credit it should receive
  - States are reporting the practice under other names or with different mapping to CBP BMPs. The mapping of these BMPs should be handled by the NEIEN plug-in so that there is consistency, but can be circumvented by submitting data to NEIEN using other BMP names.

AWMS-NRCS No. of Systems Converted to AU using 145 AU/System

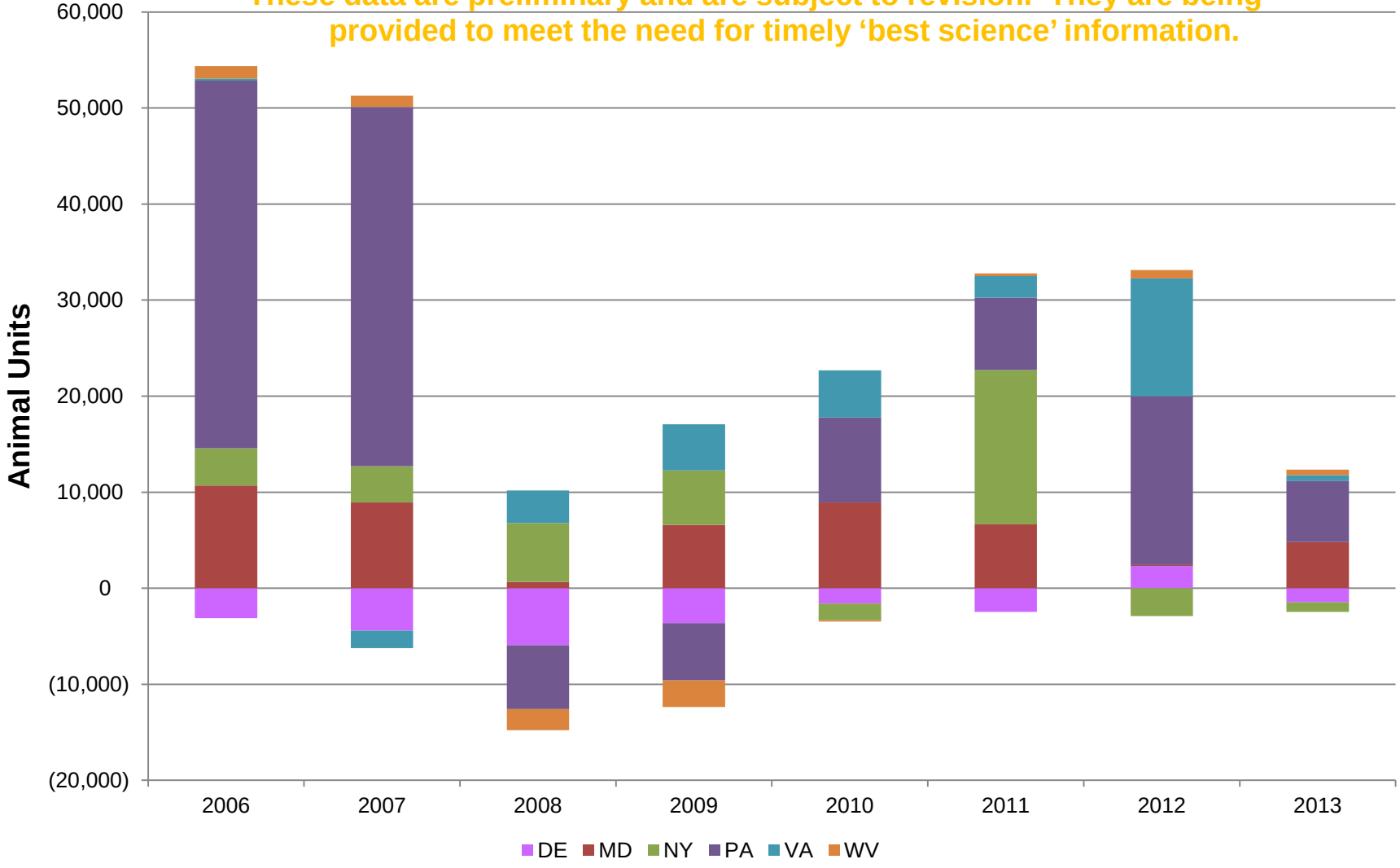
These data are preliminary and are subject to revision. They are being provided to meet the need for timely 'best science' information.



CBP AWMS without USDA cost share

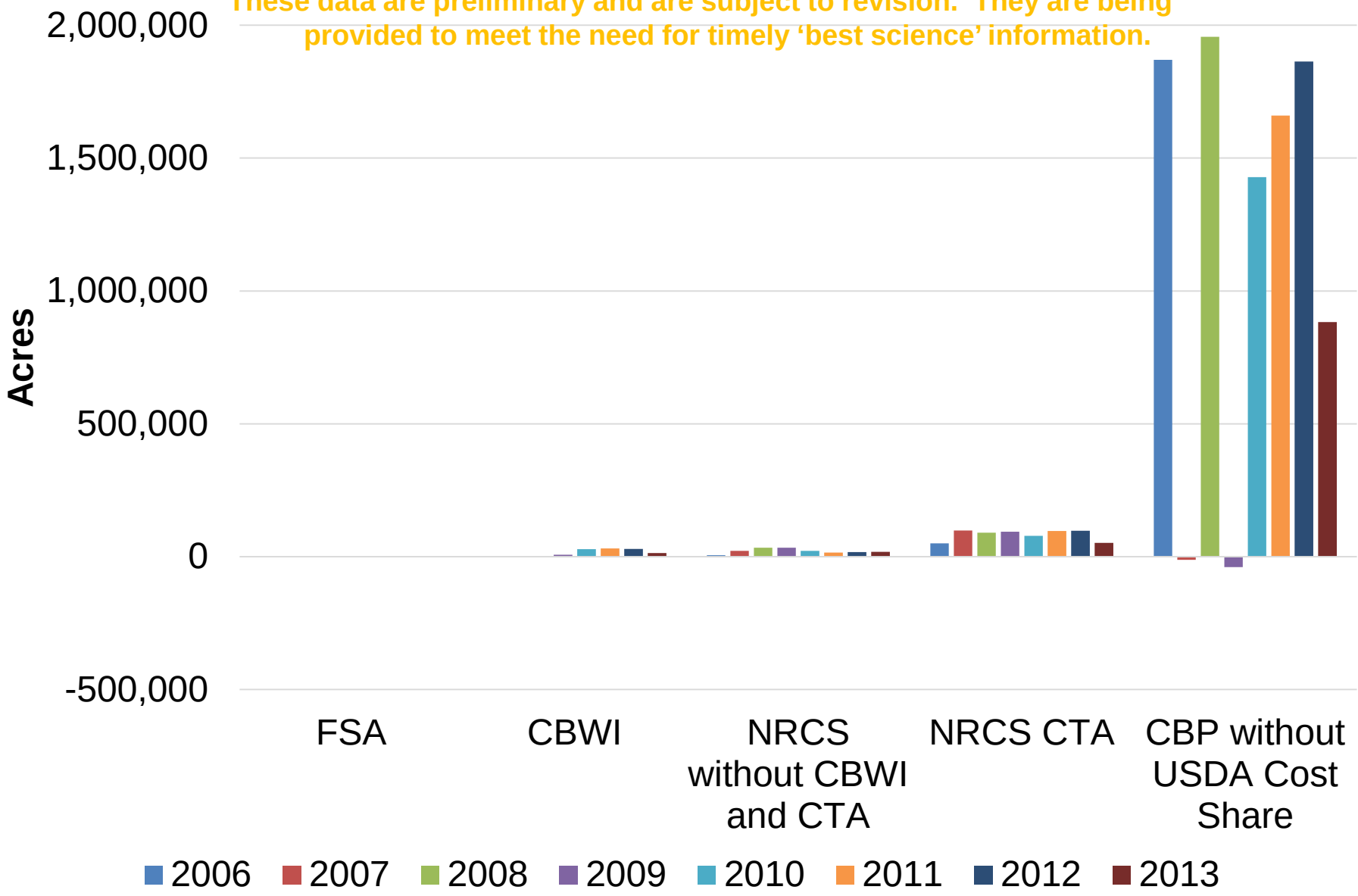
NRCS No. of Systems Converted to AU using 145 AU/System

These data are preliminary and are subject to revision. They are being provided to meet the need for timely 'best science' information.



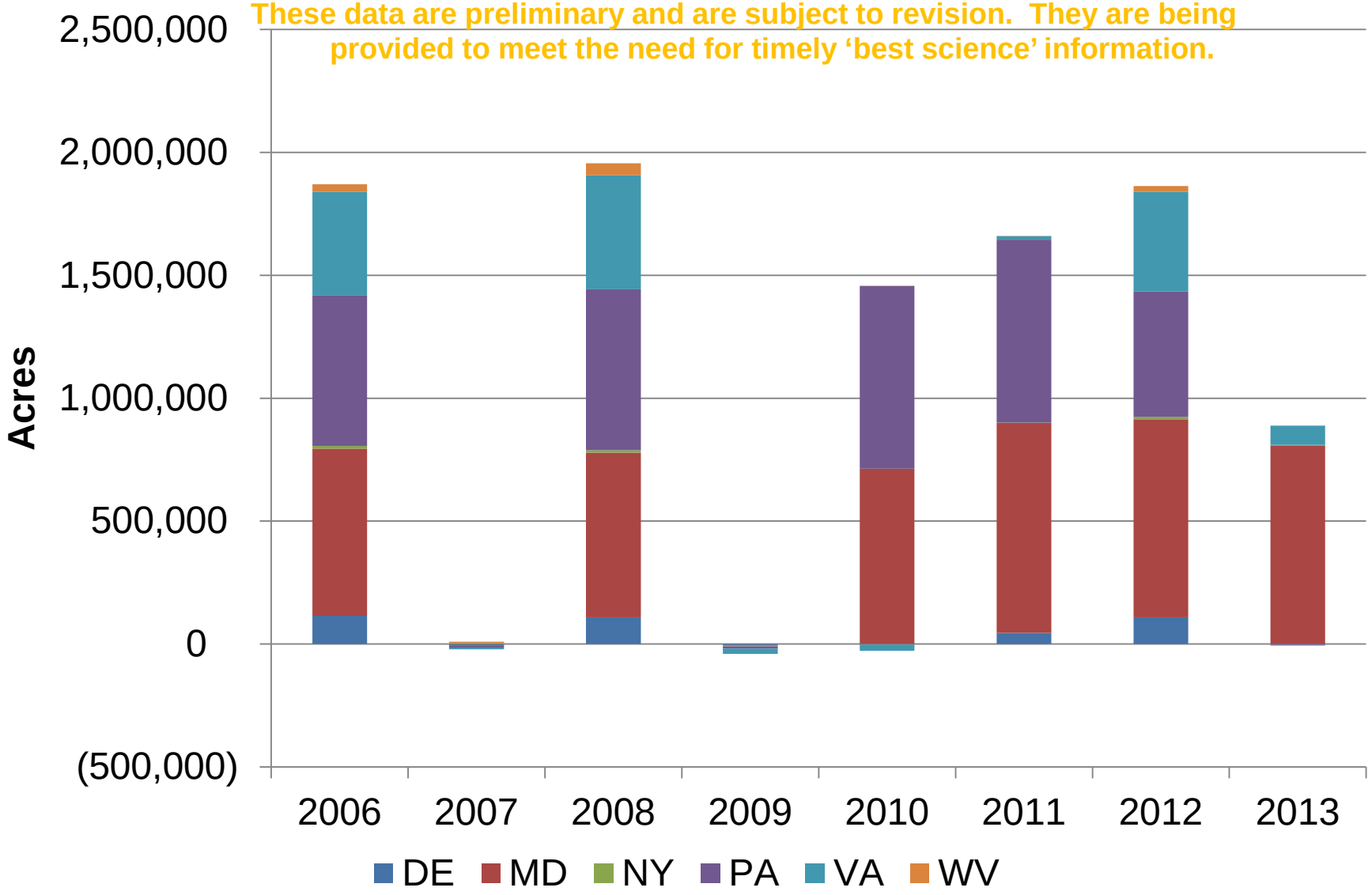
Conservation Tillage

These data are preliminary and are subject to revision. They are being provided to meet the need for timely 'best science' information.



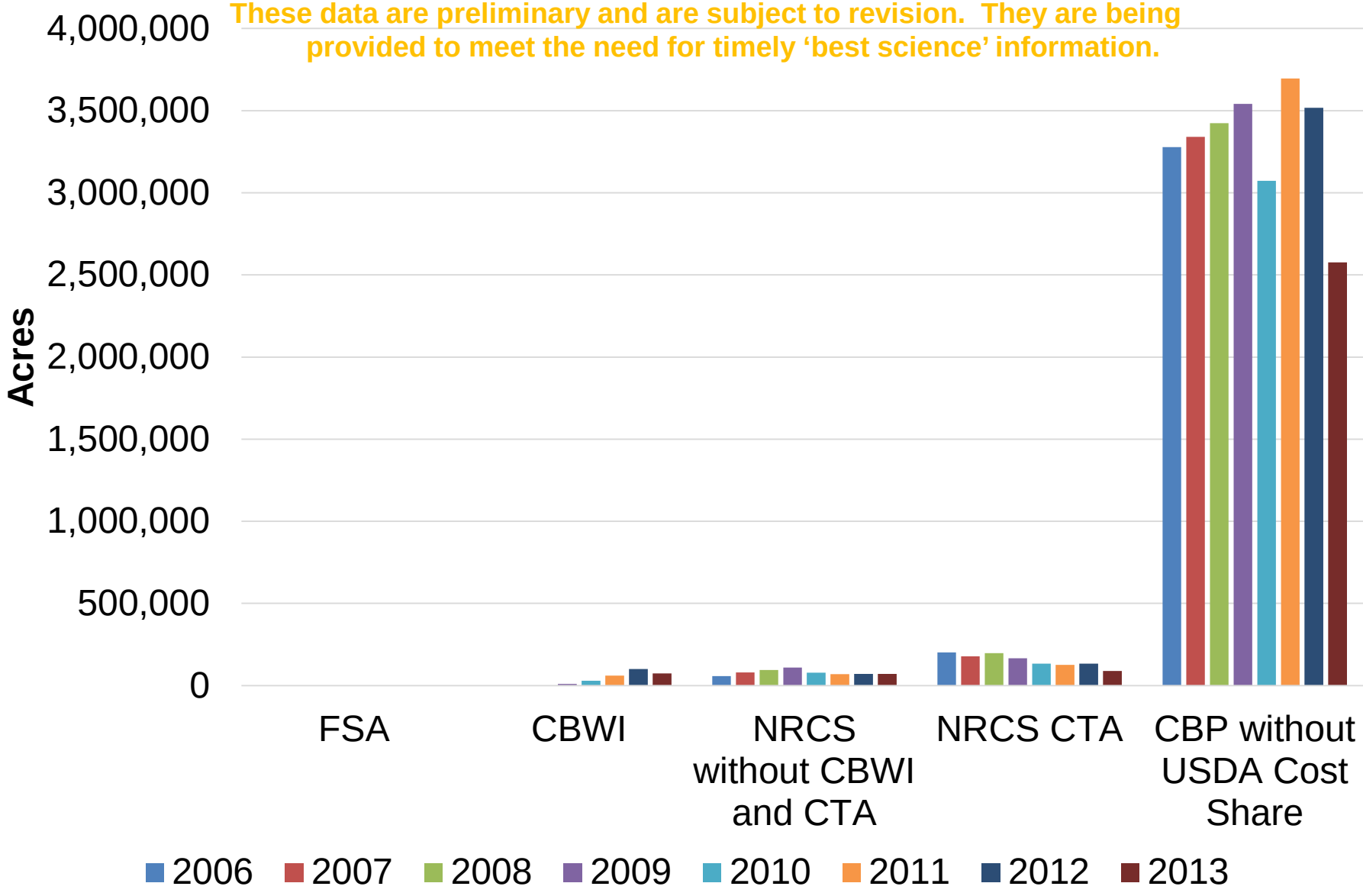
CBP conservation tillage without USDA cost share

These data are preliminary and are subject to revision. They are being provided to meet the need for timely 'best science' information.



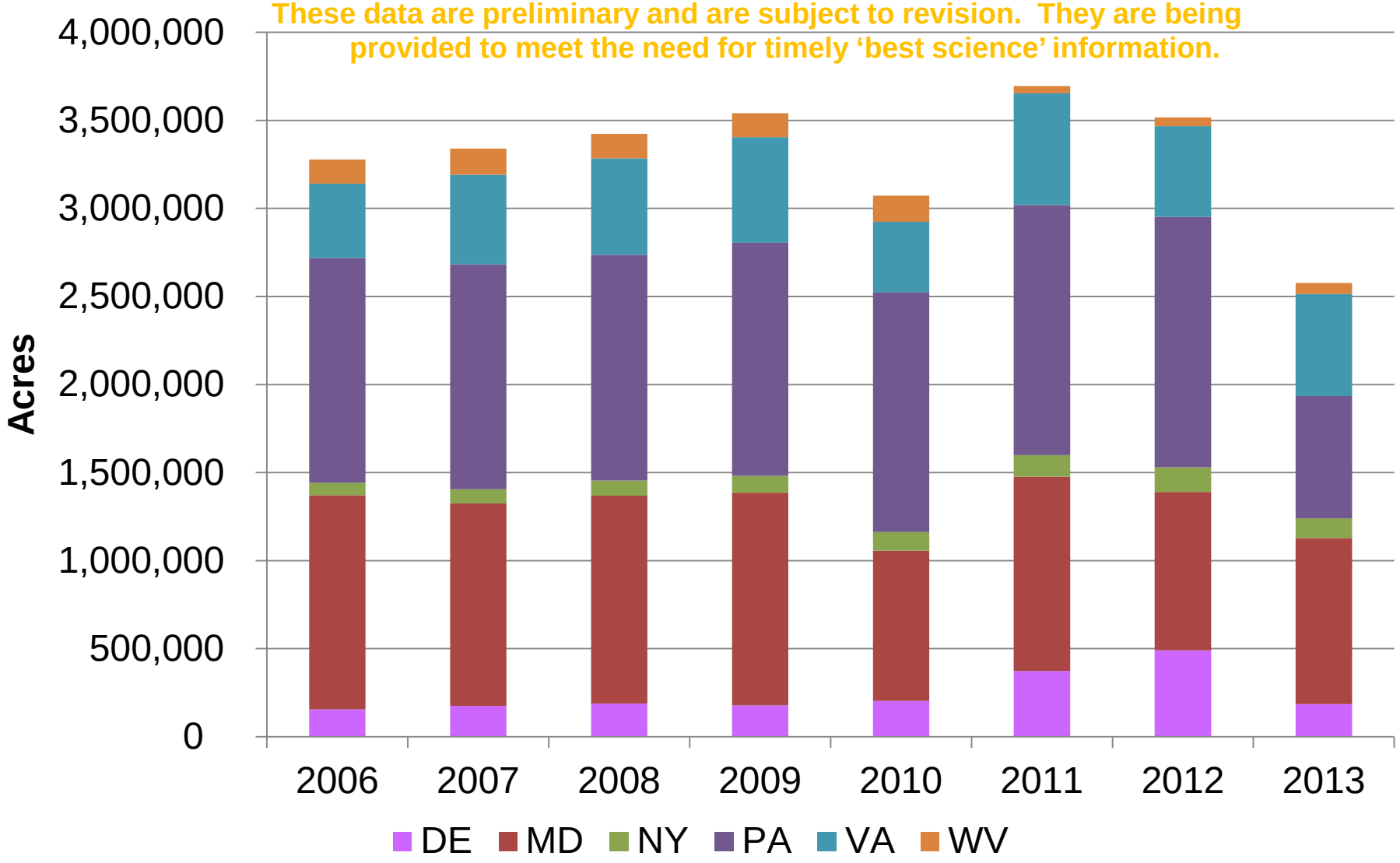
Nutrient management-all types

These data are preliminary and are subject to revision. They are being provided to meet the need for timely 'best science' information.



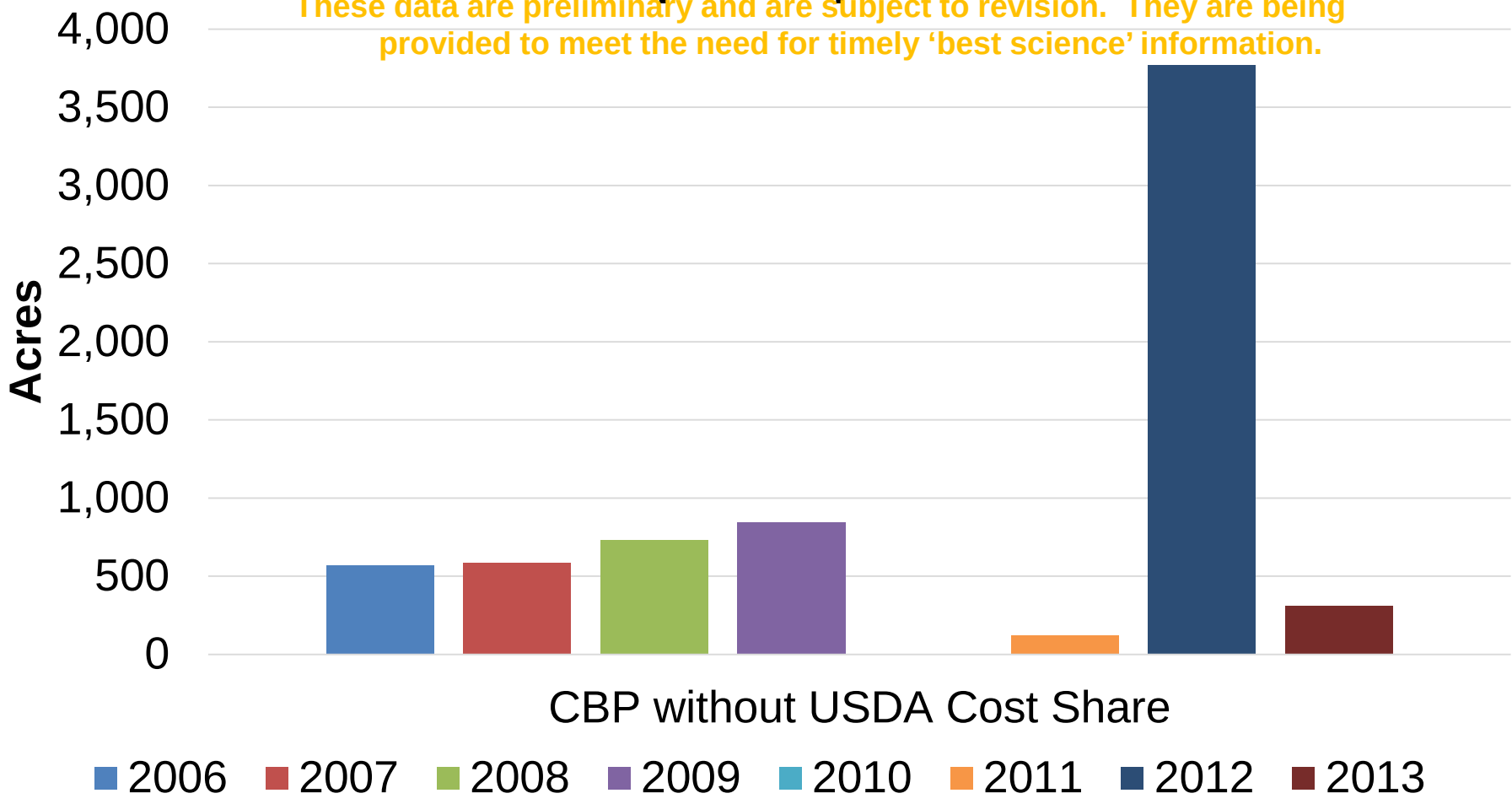
CBP nutrient management without USDA cost share

These data are preliminary and are subject to revision. They are being provided to meet the need for timely 'best science' information.

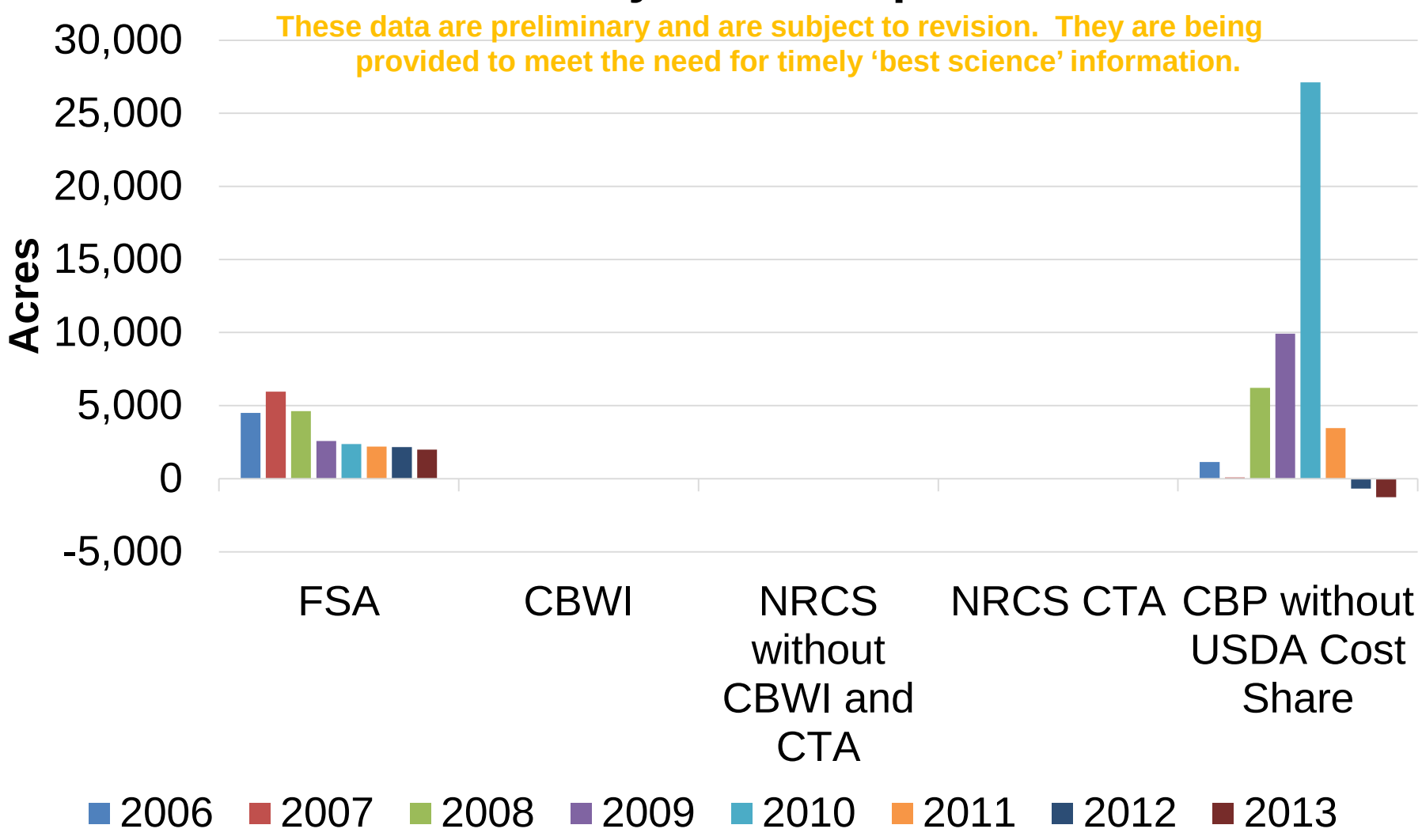


Forest buffers-riparian pasture
Only reported through CBP
USDA cost share reported as Forest Buffers-not riparian pasture

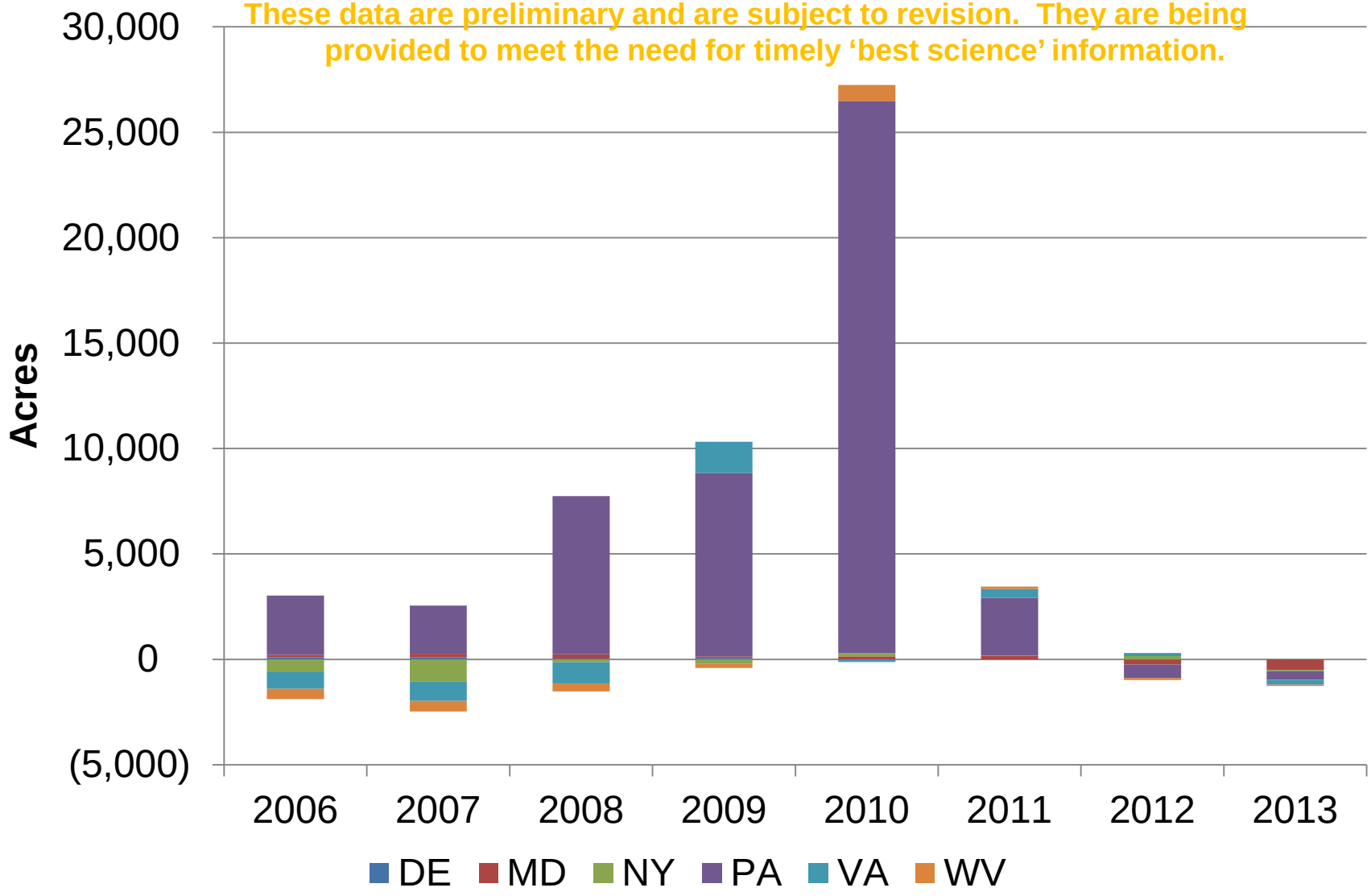
These data are preliminary and are subject to revision. They are being provided to meet the need for timely 'best science' information.



Upland Forest Buffers - USDA cost share is riparian, but not known to be on pasture so is credited by CBP as upland

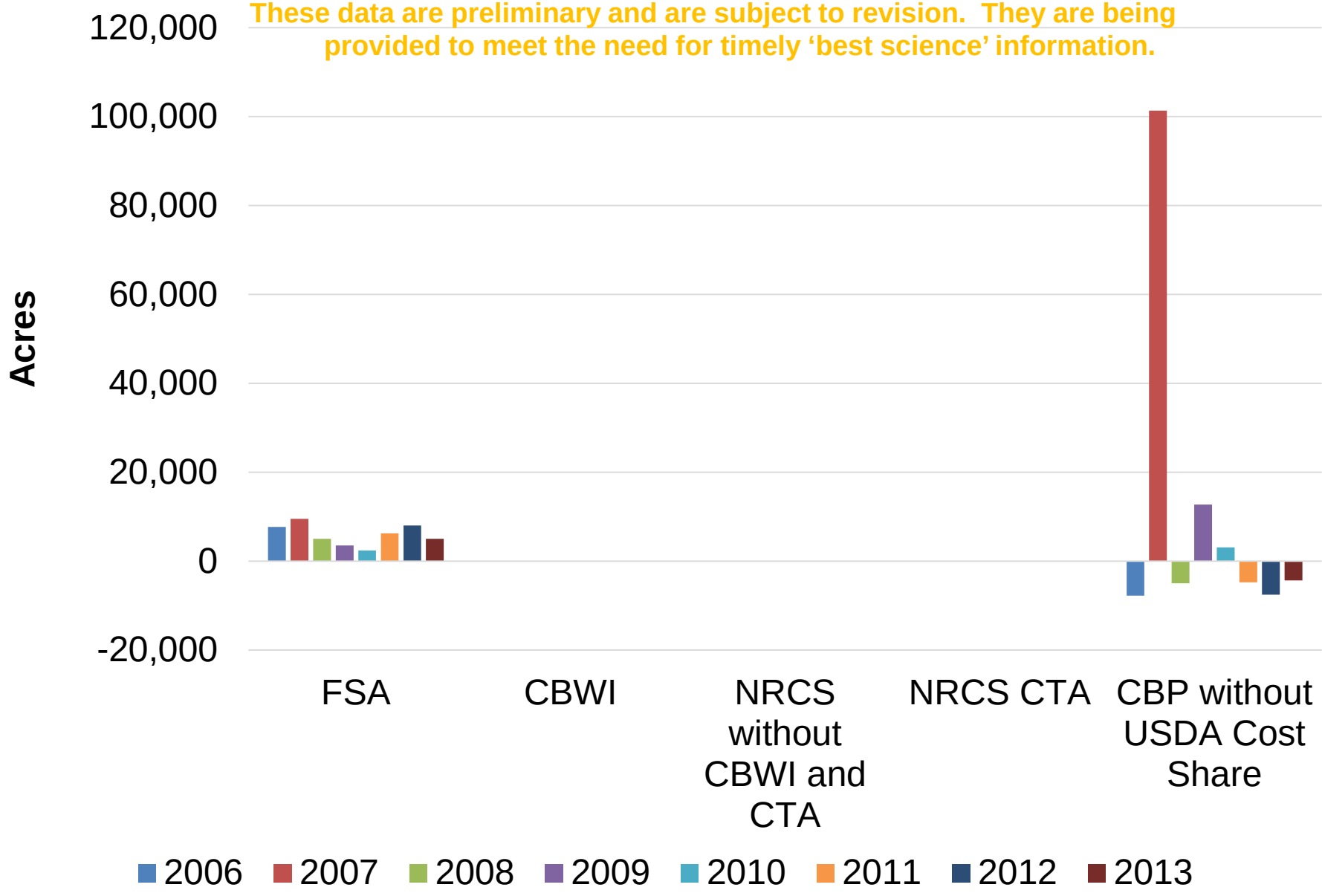


CBP forest buffers without USDA cost share



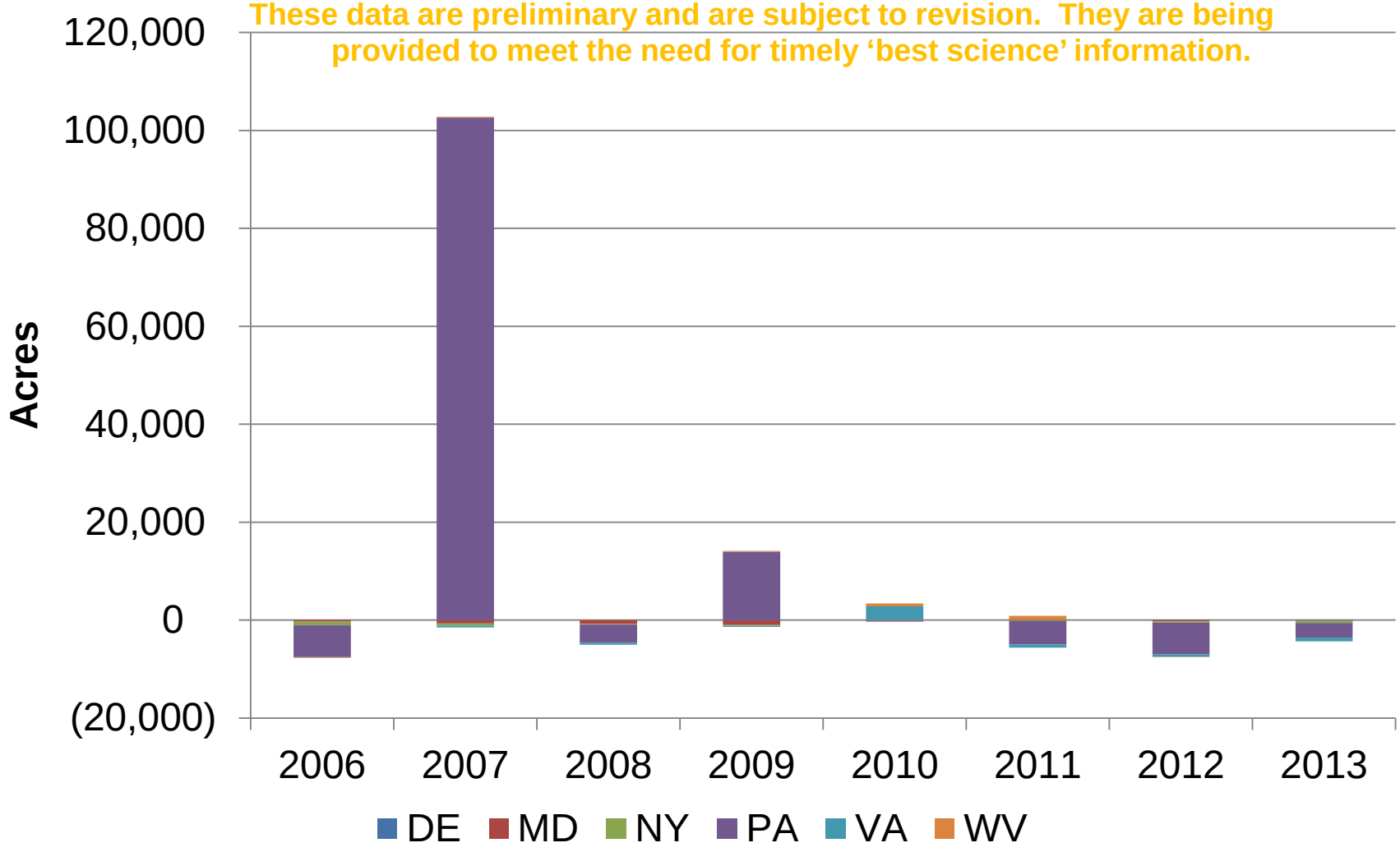
Land retirement to pasture

These data are preliminary and are subject to revision. They are being provided to meet the need for timely 'best science' information.



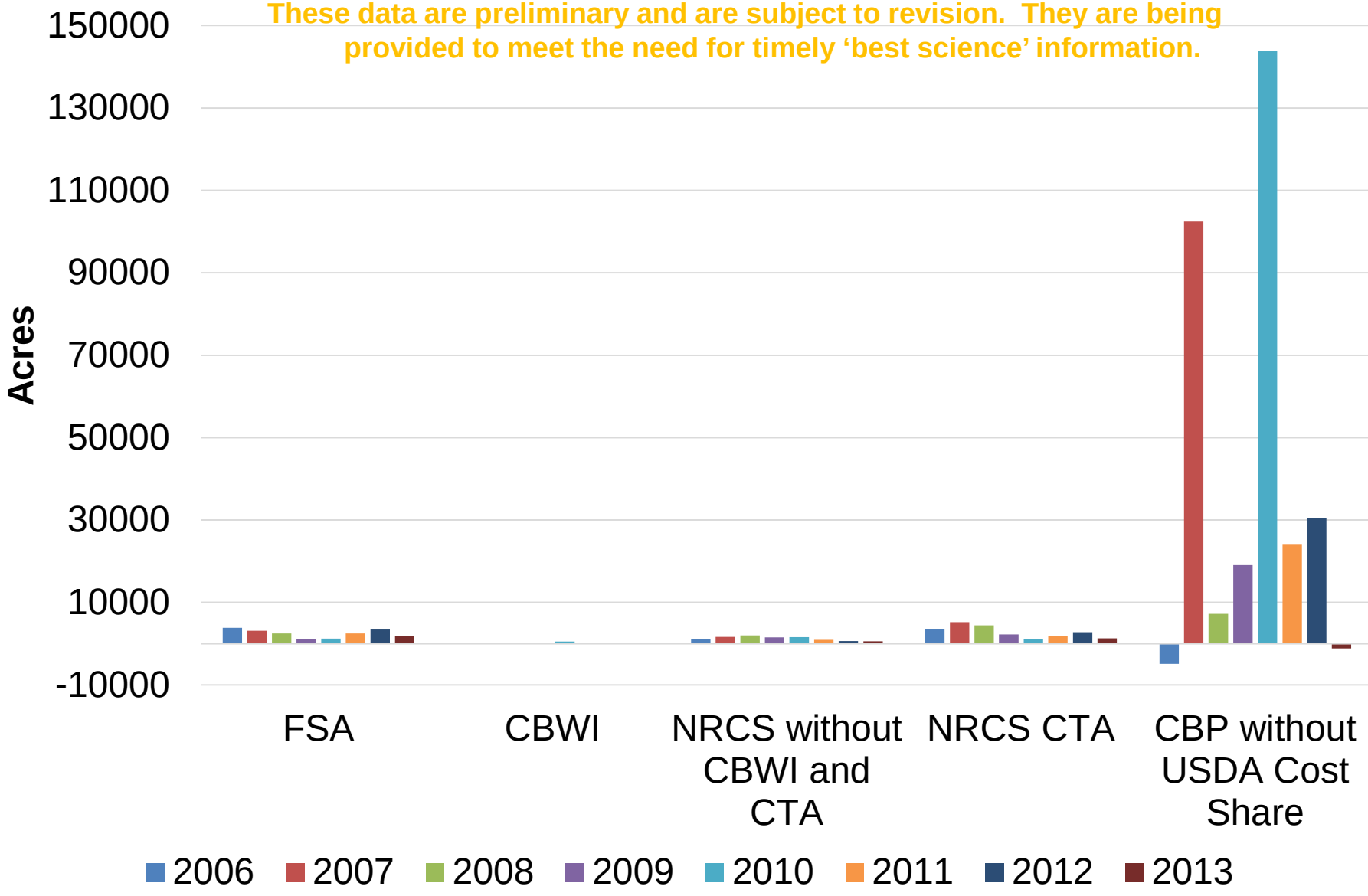
CBP land retirement to pasture without USDA cost share

These data are preliminary and are subject to revision. They are being provided to meet the need for timely 'best science' information.



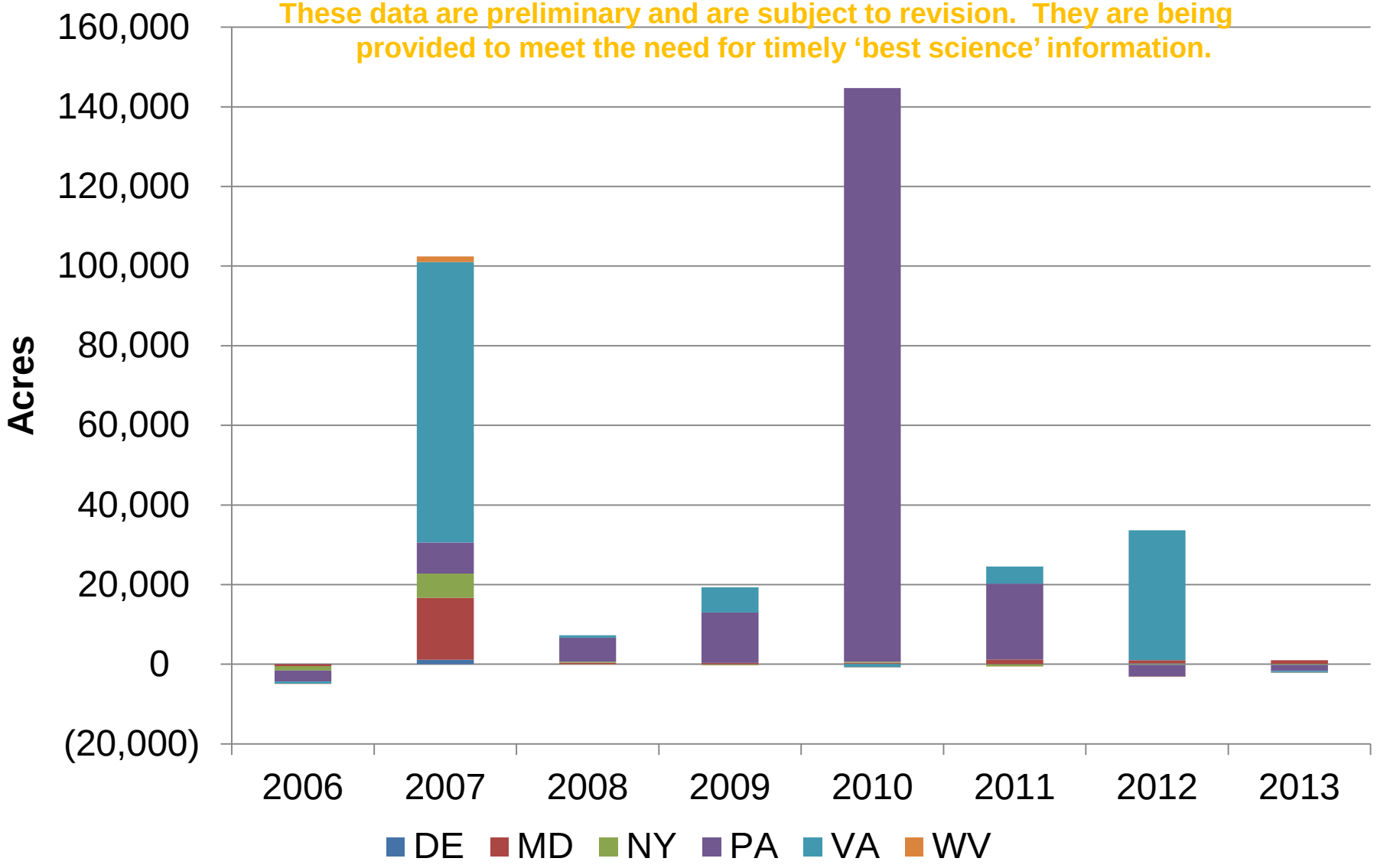
Land retirement to hay without nutrients

These data are preliminary and are subject to revision. They are being provided to meet the need for timely 'best science' information.



CBP land retirement to hay without nutrients without USDA cost share

These data are preliminary and are subject to revision. They are being provided to meet the need for timely 'best science' information.



What can we conclude?

- Relying solely on USDA data appears to leave out significant amount of implementation, and this varies depending on the BMP.

- CBP data have large fluctuations that do not appear to reflect actual changes on the ground, but rather changes in reporting.
  - Course corrections by individual states by BMP make trends from CBP unreliable.
  - The Chesapeake Bay Program Partnership also has made changes to the mapping of the BMPs from the USDA name to the CBP name using NEIEN.

Next Steps

- Working with the USGS team and to evaluate the impact on water quality

- Emma Giese, CRC staffer, is conducting further analyses of aggregated data at small watershed scale