

Commercial Harbor Craft (CHC) Emissions Inventory Update



CHC Workshop - 11/7/14

1. Why the emissions inventory has been updated
2. How the CHC inventory was updated
3. Results

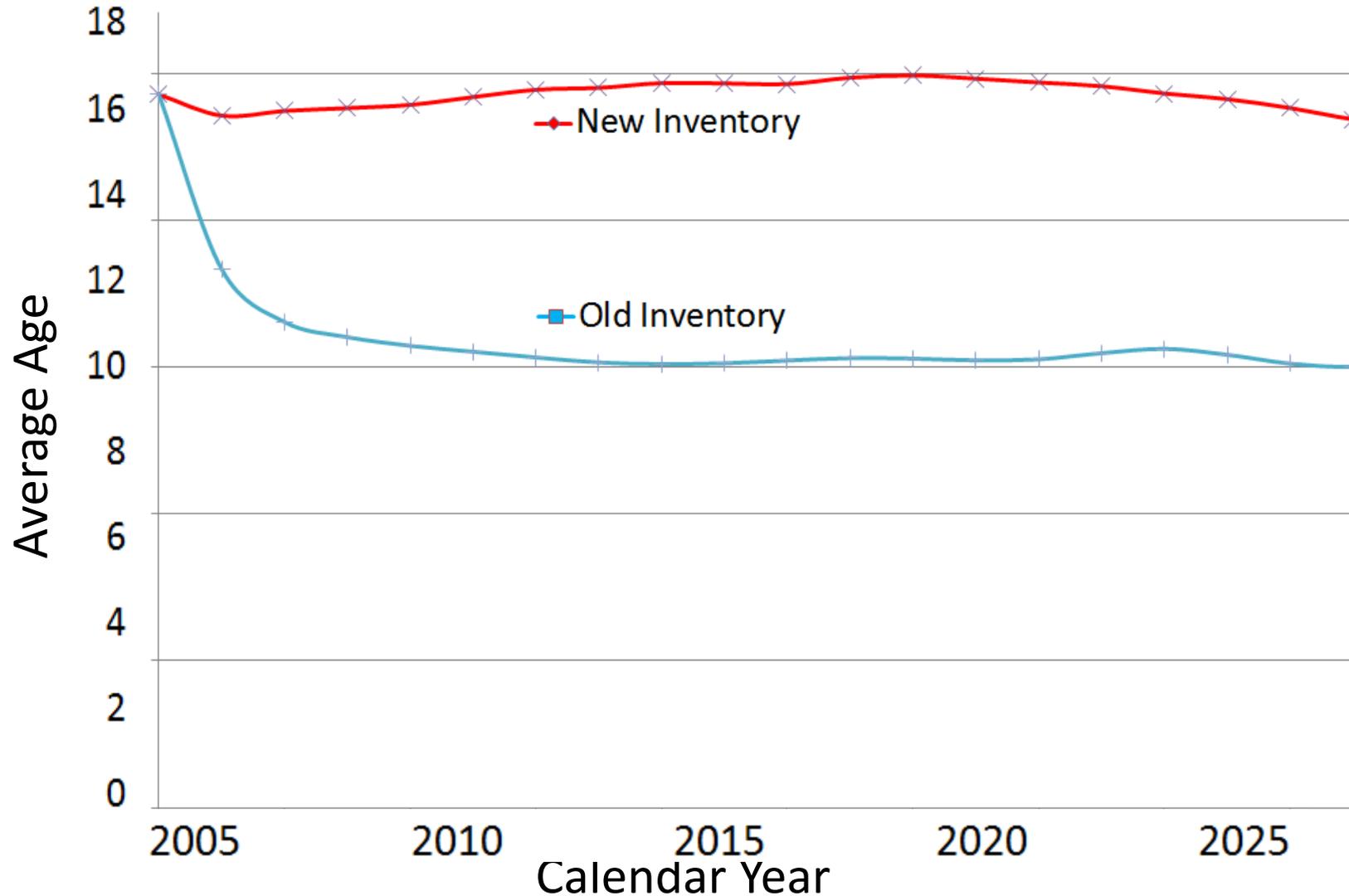
Updates Made to Harbor Craft Inventory

- Provide model year specific output
 - Model year specific emissions, population, etc
 - Model year output indicated changes to turnover methodology were needed.
- Improvements made to turnover methodology
 - Methodology consistent with other ARB emissions inventories (construction, cargo handling, etc)
 - Updated turnover curve, turnover rate reduced as a result of new methodology

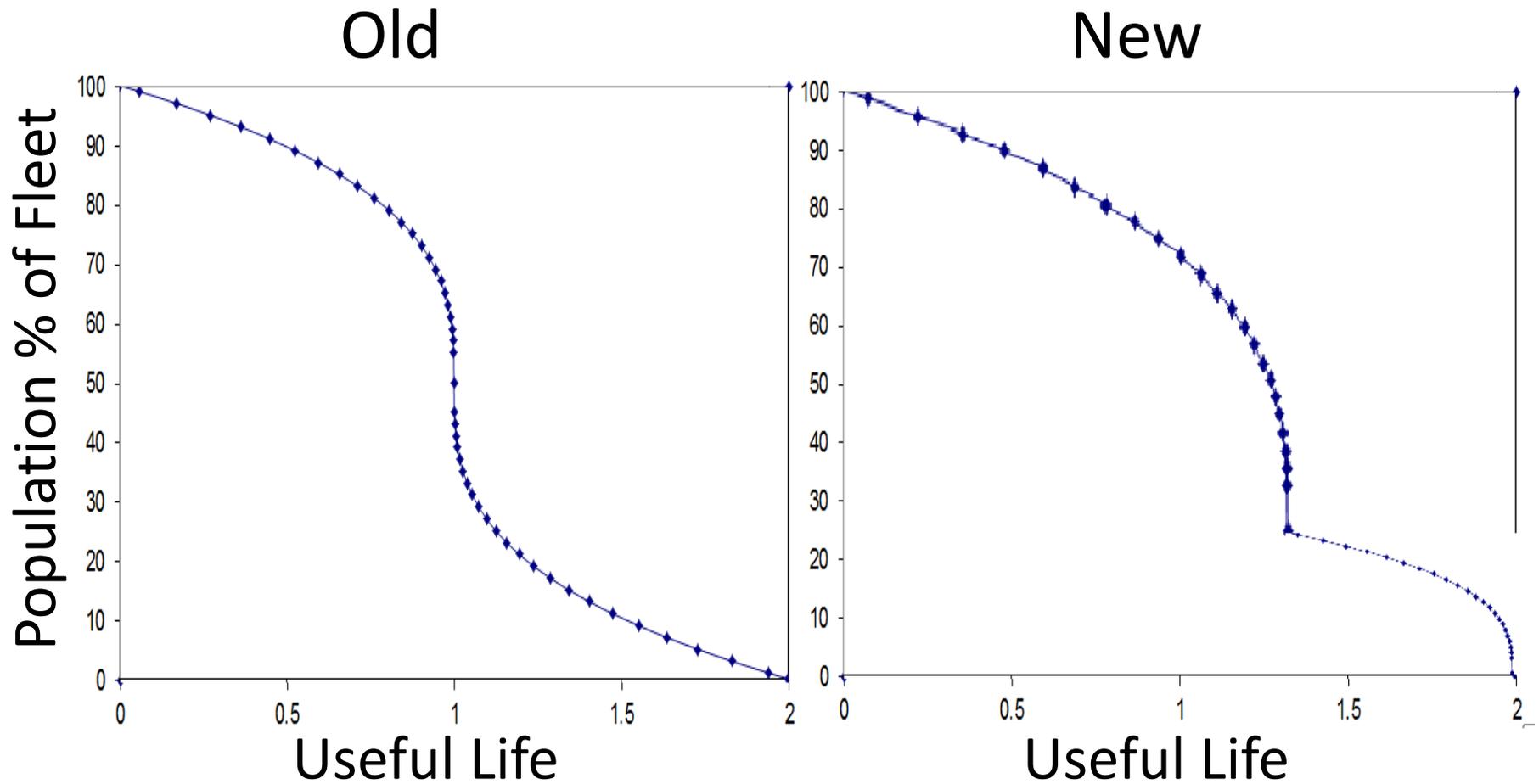
Survival Rate Methodology Change Necessary

- Old survival rate didn't reflect baseline age distribution seen in data.
 - Projected population average age dropped 40%
 - Baseline age distributions should hold relatively constant over time.
- Old survival rate turned over vehicles too quickly.
- Methodology for developing new turnover rate consistent with other off-road inventories.

Survival Rate Methodology Change Necessary

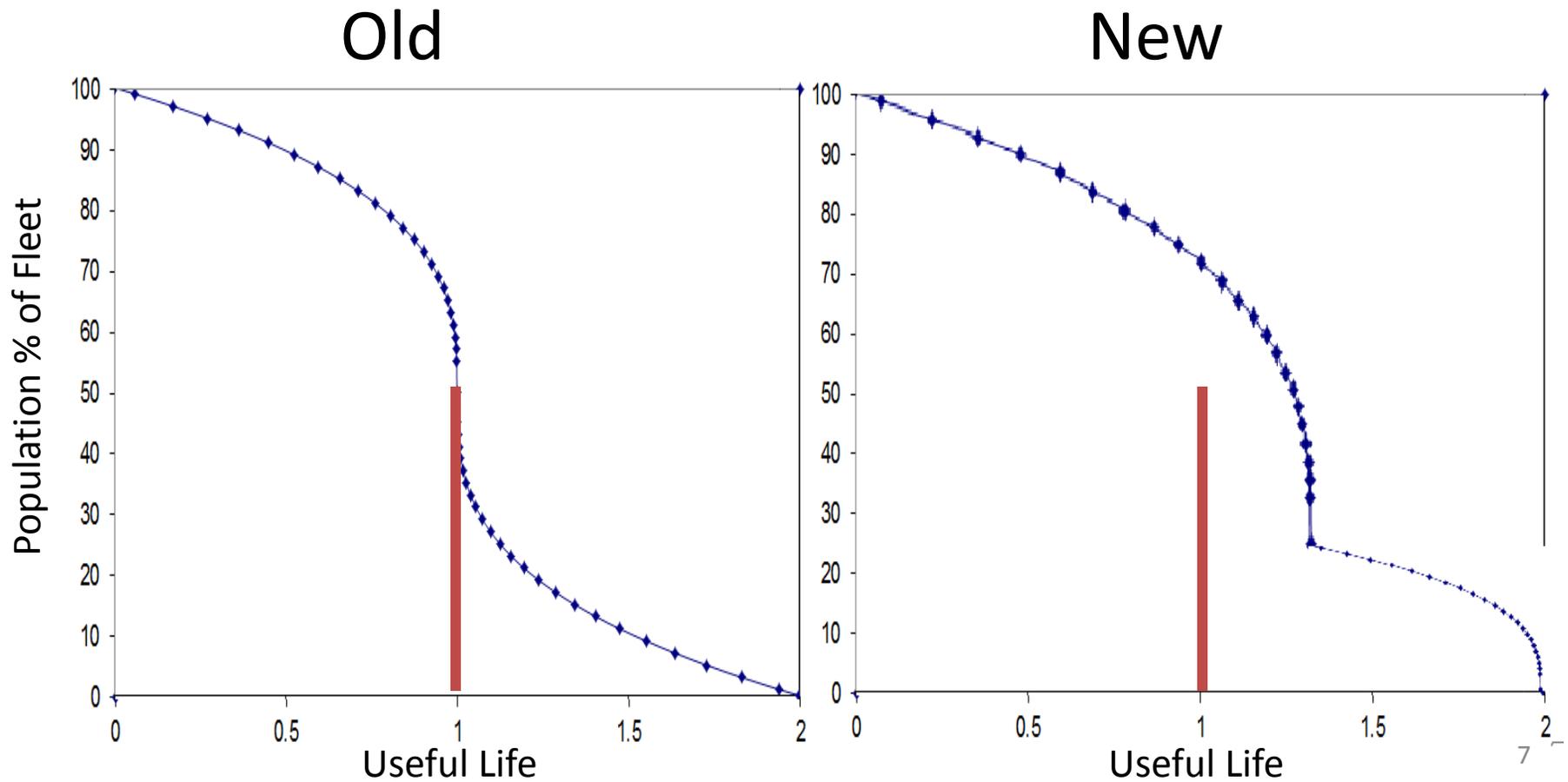


Survival Rate Methodology Update



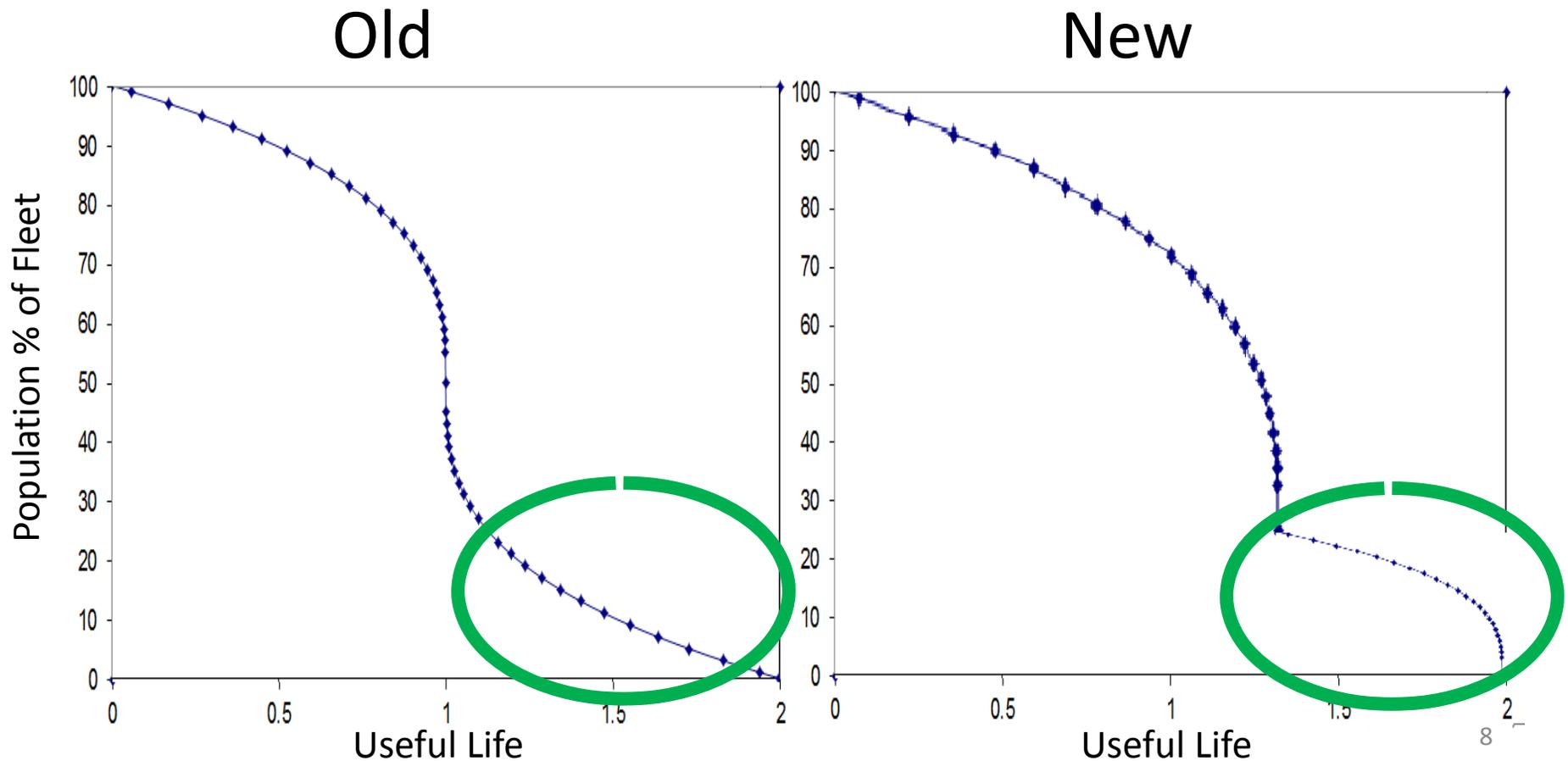
Survival Rate Methodology Update

- Useful life defined in the new methodology as 1.5 x the average age.

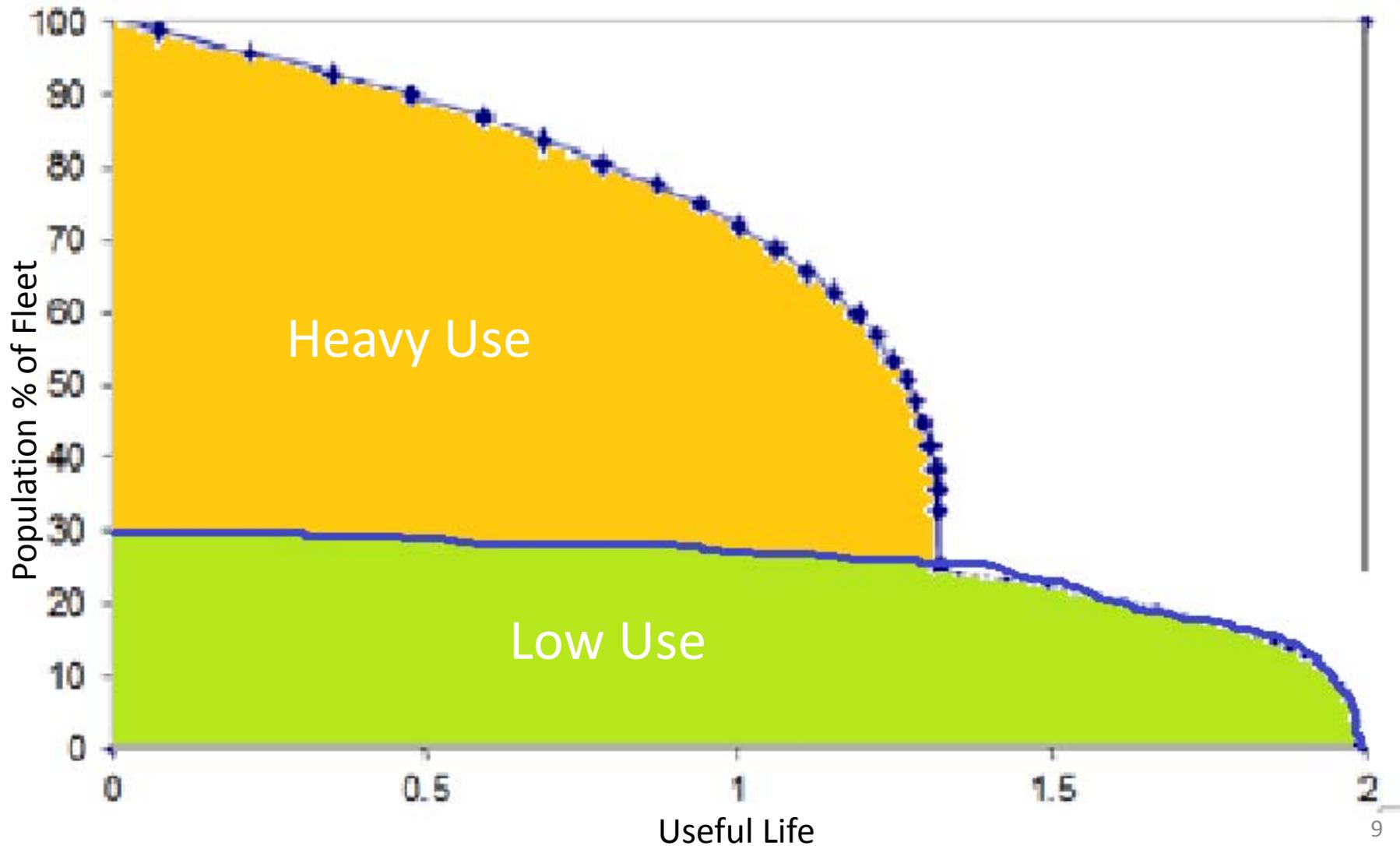


Survival Rate Methodology Update

- And tail-end of distribution changed to account for older vehicle larger survival rates.



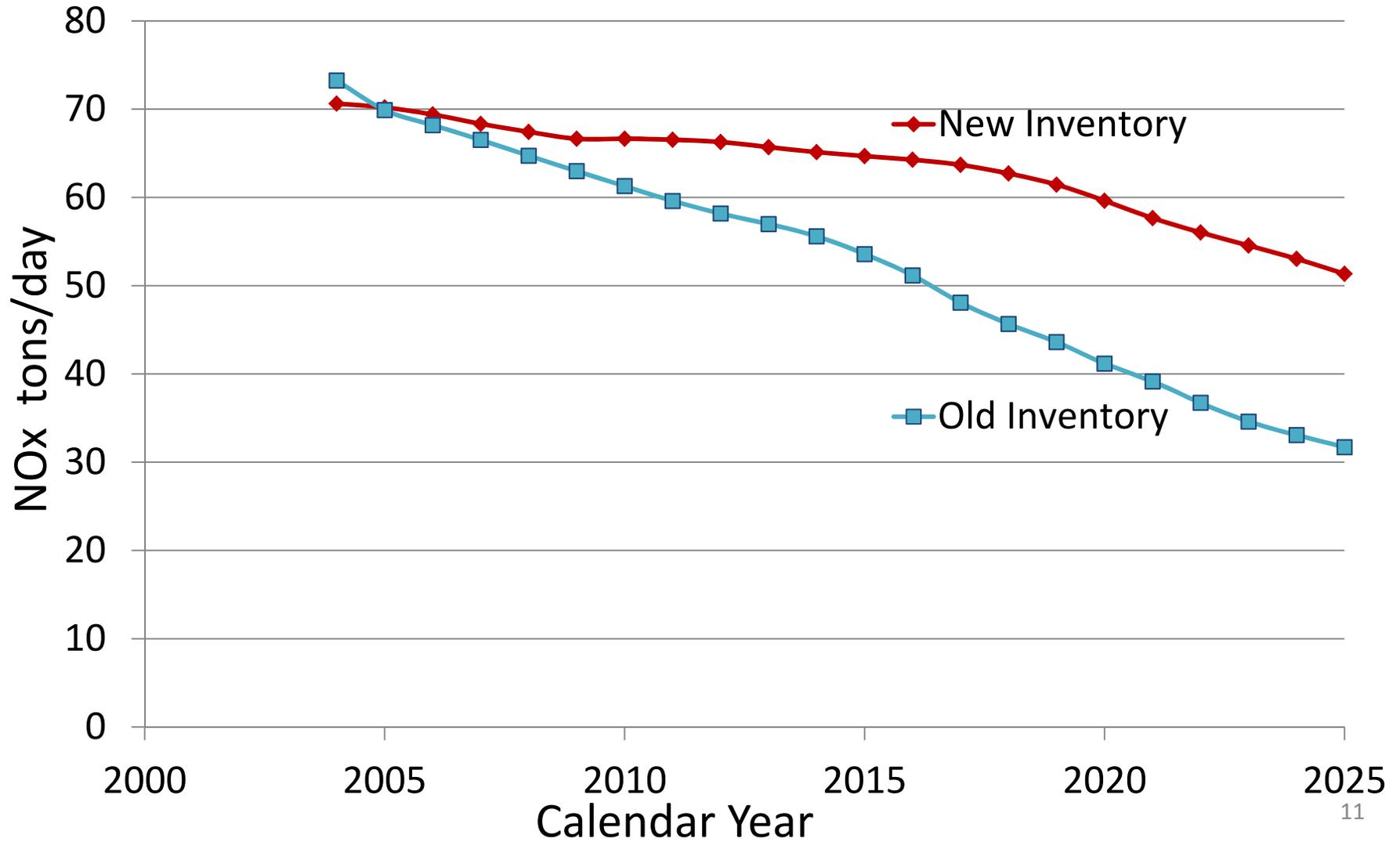
Survival Rate Methodology Update



Emissions Results

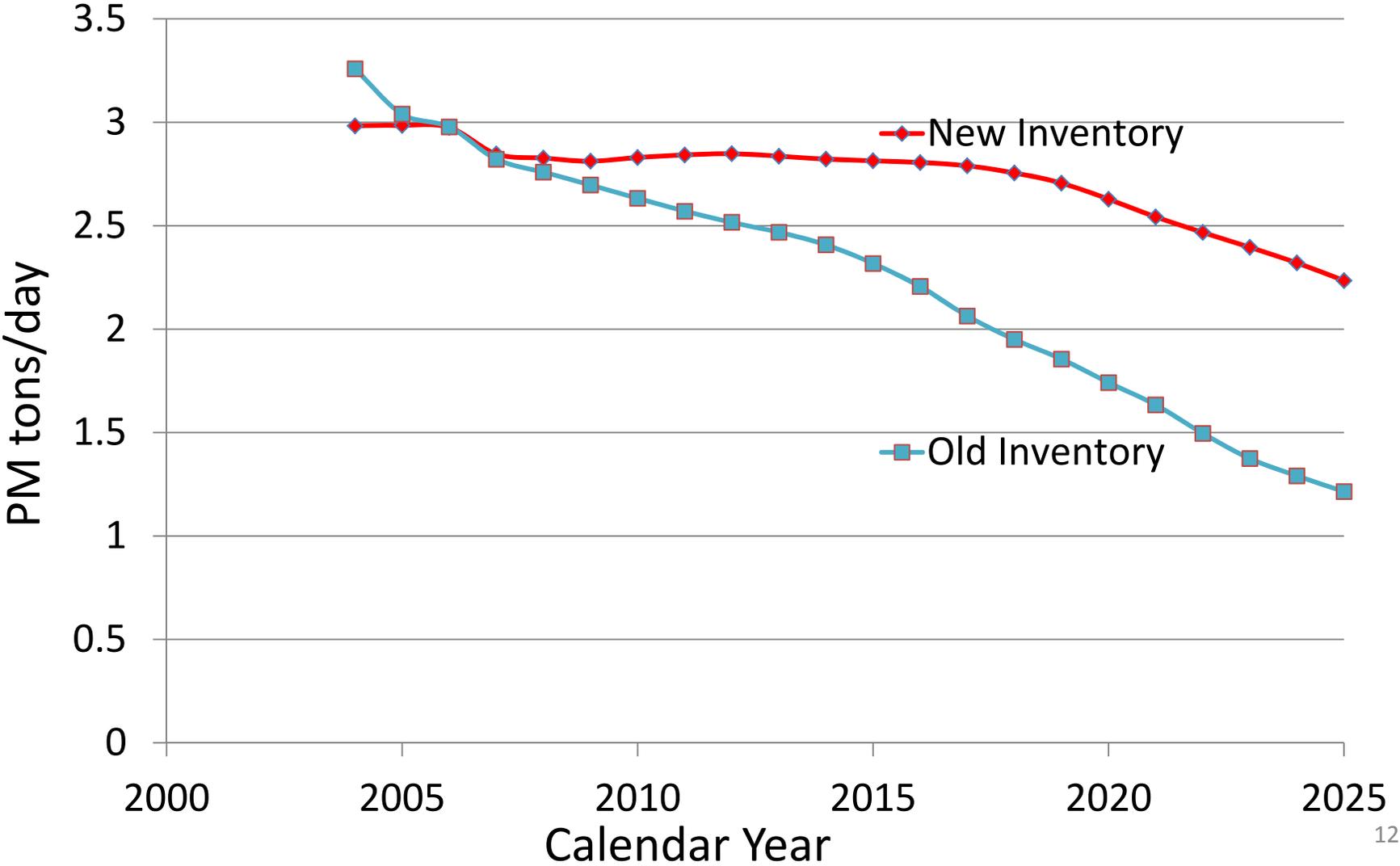
Statewide Baseline NOx Emissions

(100 nautical miles)

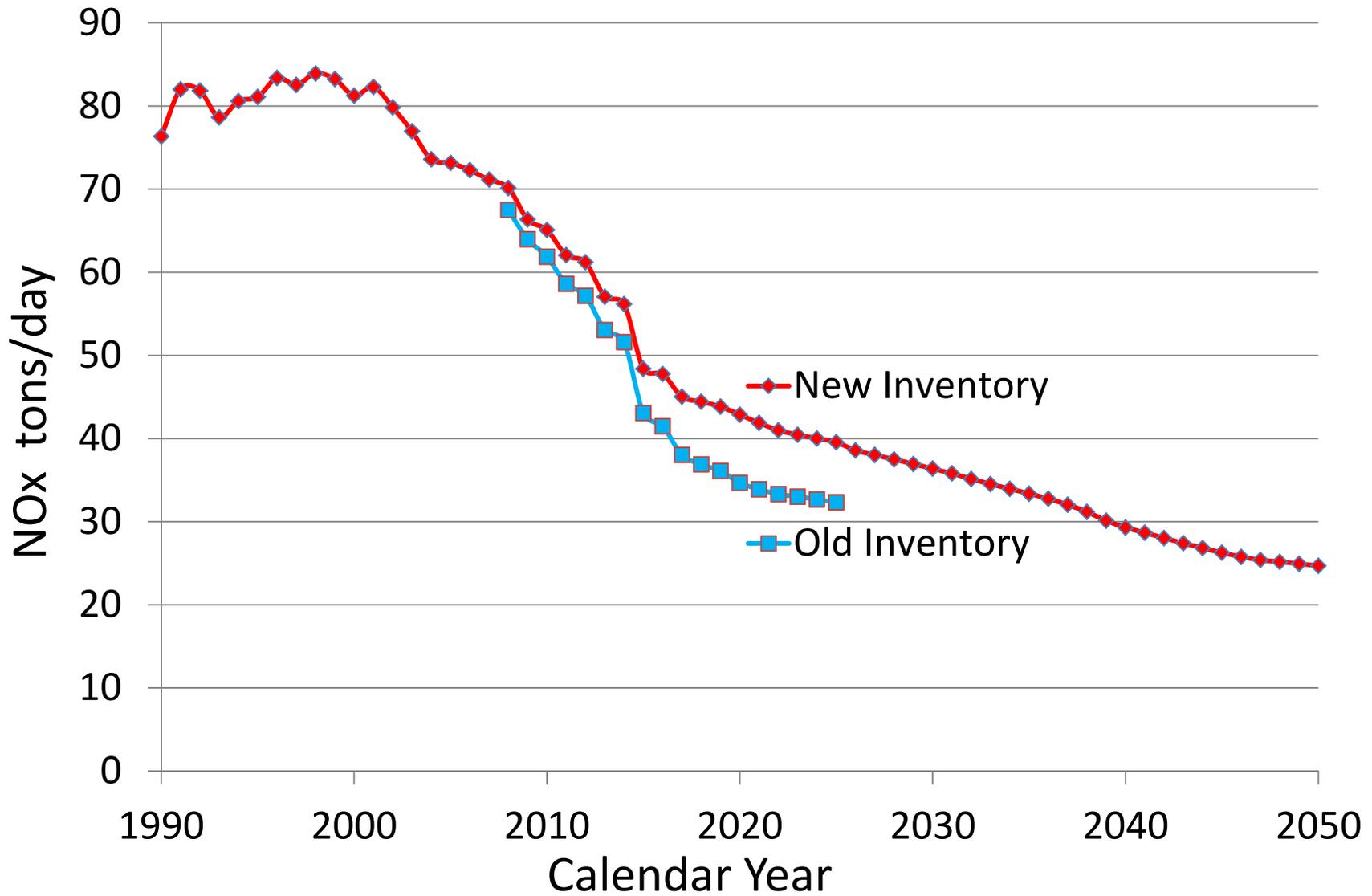


Statewide Baseline PM Emissions

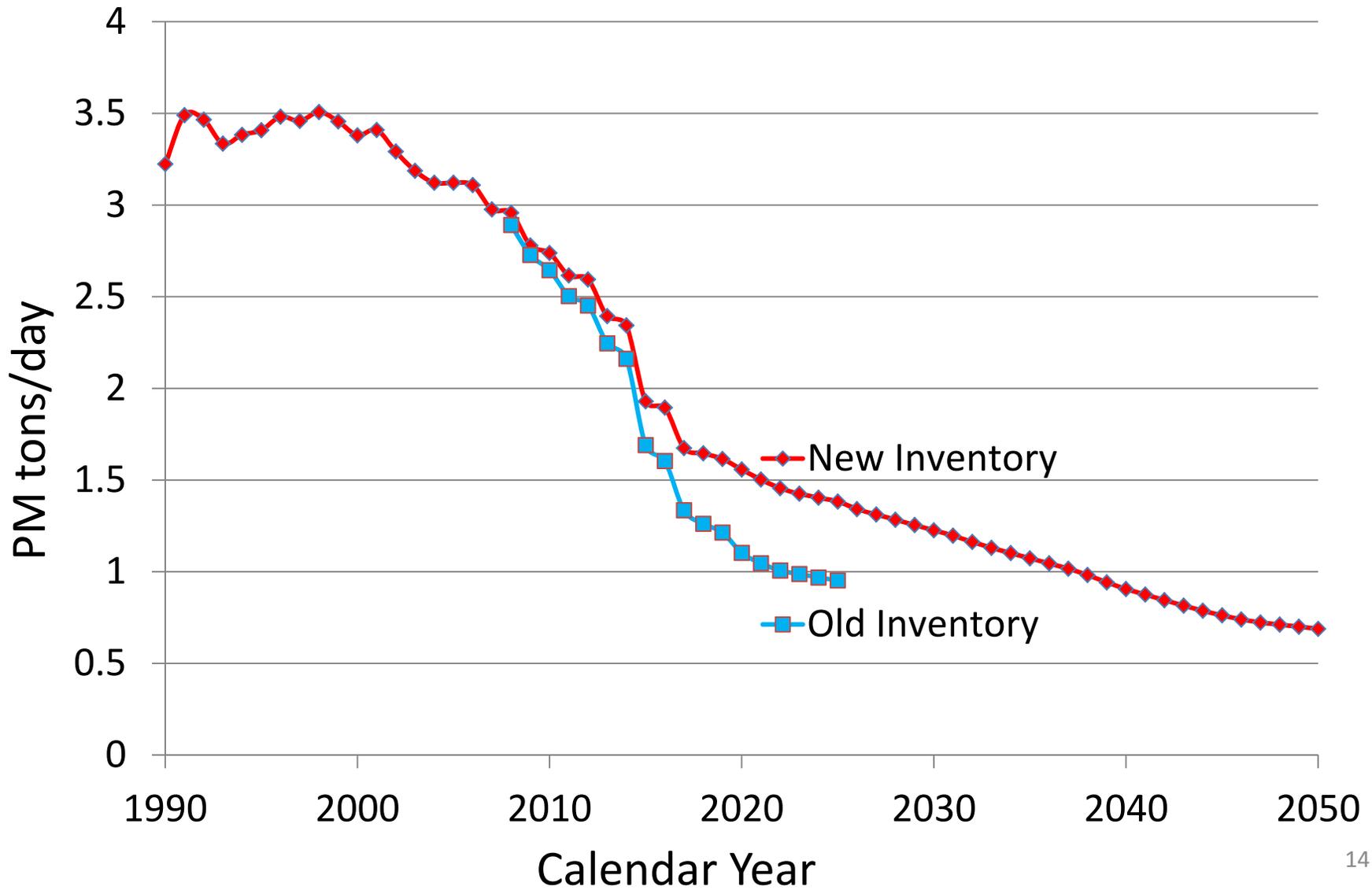
(100 nautical miles)



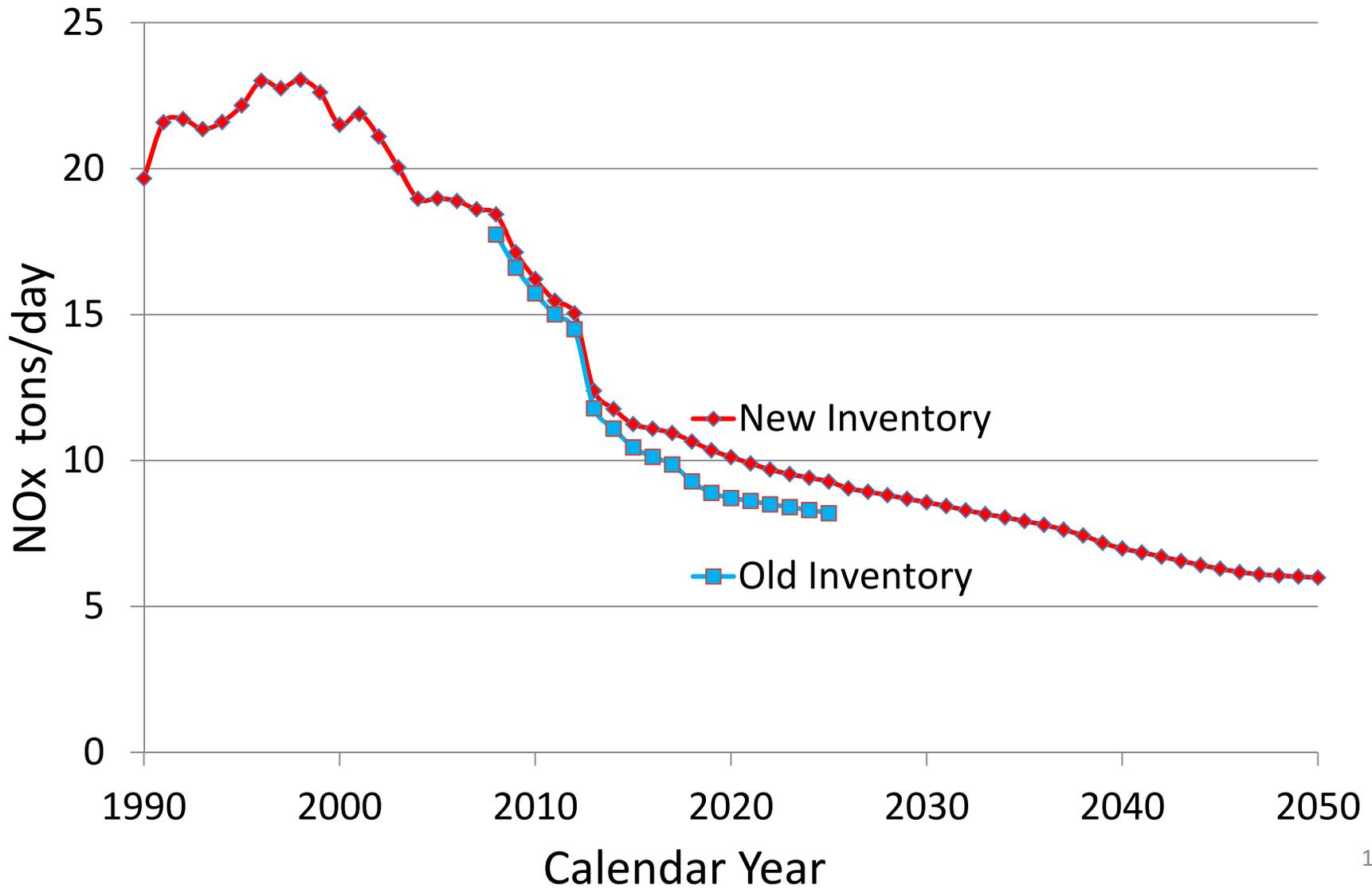
Statewide w/Rule NOx Emissions



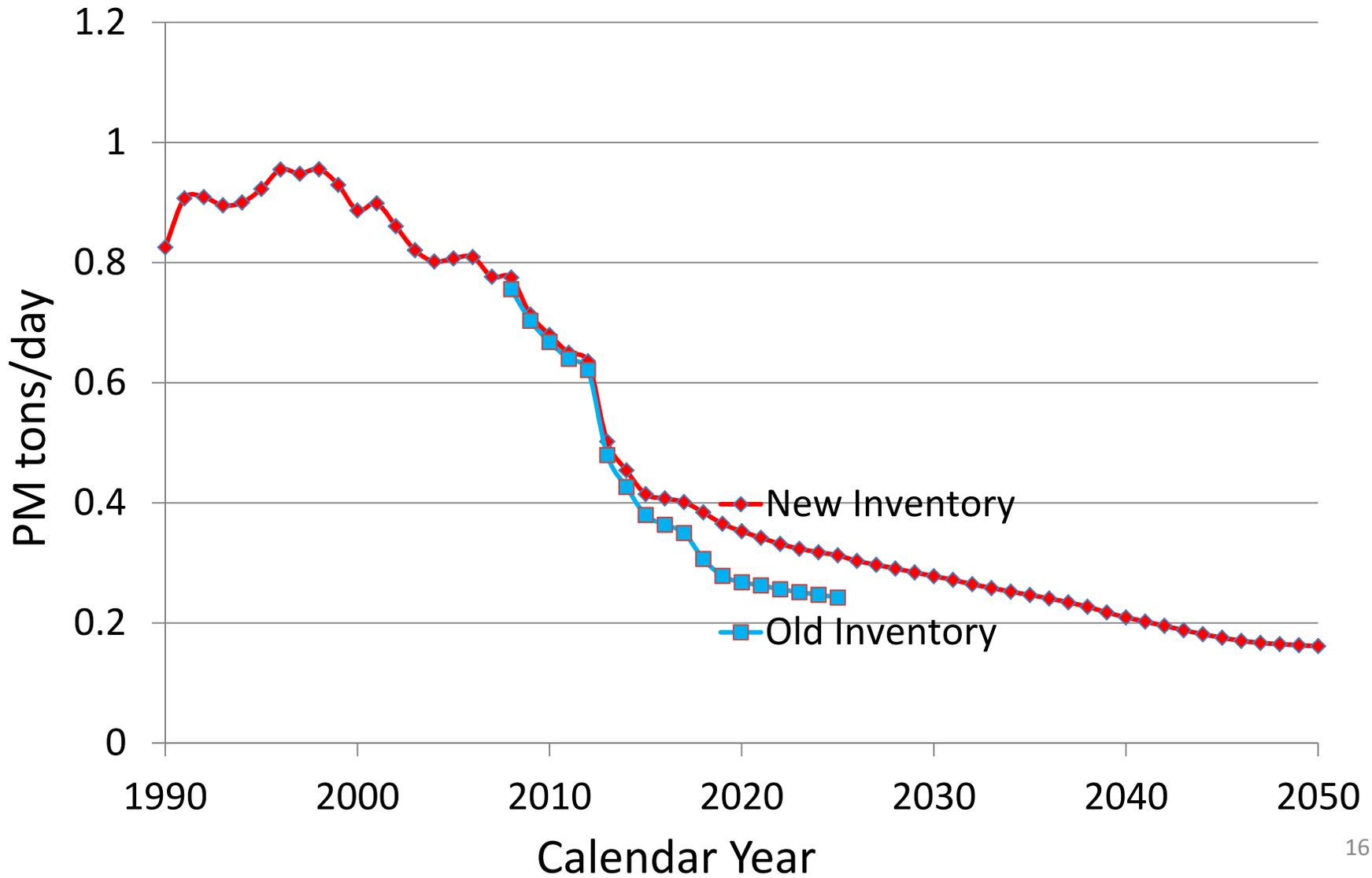
Statewide w/Rule PM Emissions



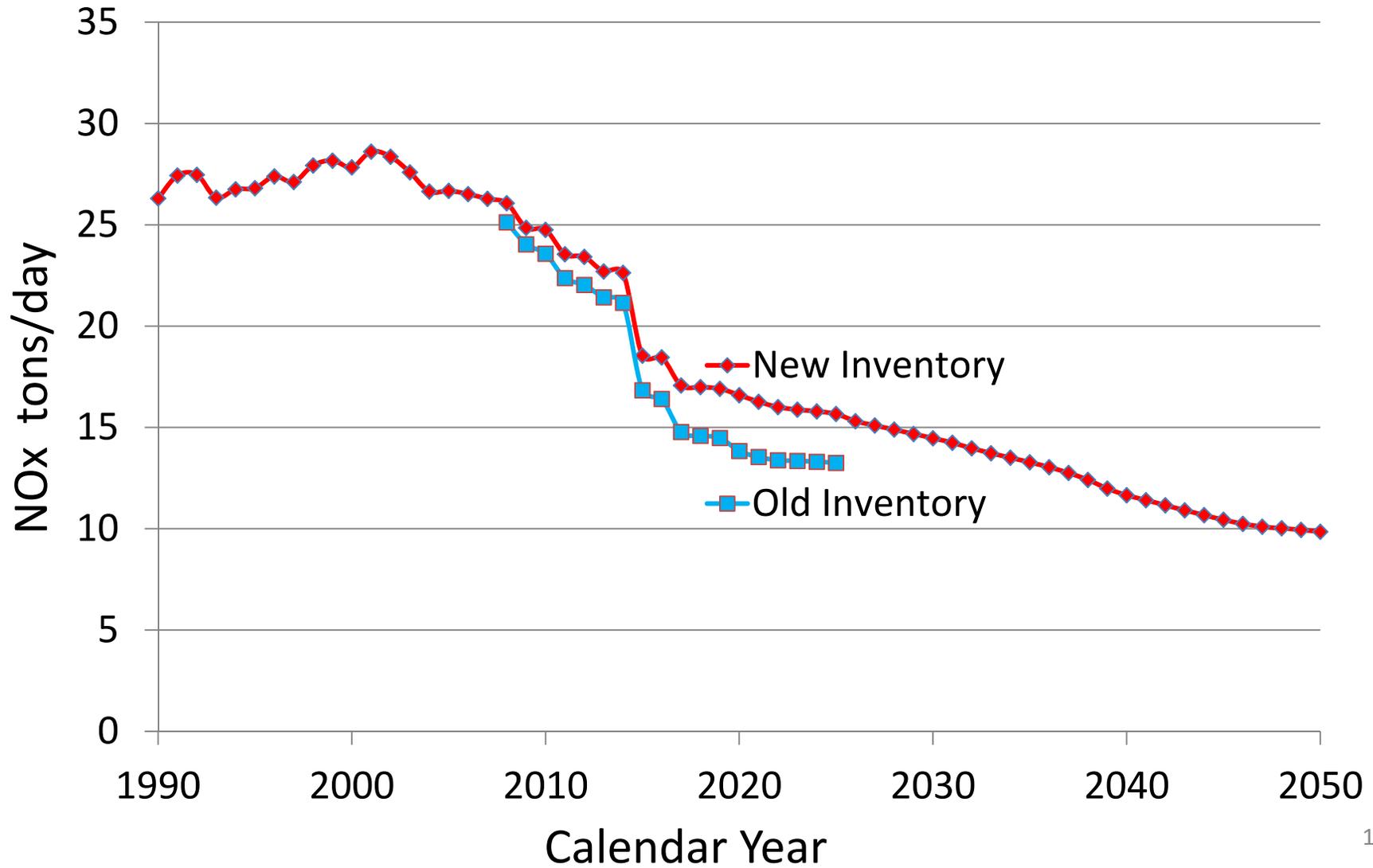
South Coast w/Rule NOx Emissions



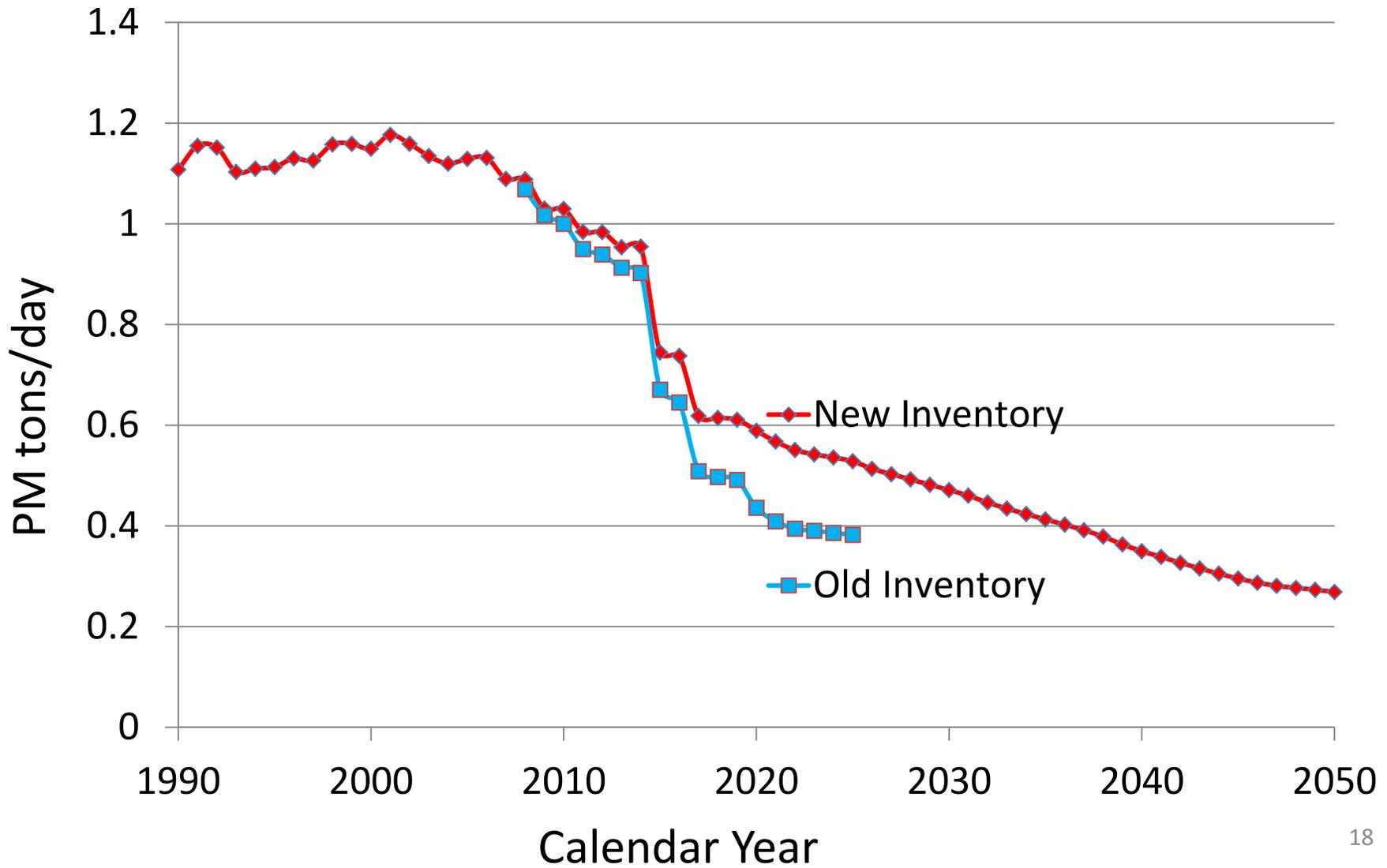
South Coast w/Rule PM Emissions



Bay Area w/Rule NOx Emissions



Bay Area w/Rule PM Emissions



Conclusions

- Harbor craft baseline turnover methodology improved to better reflect baseline age distribution seen in data.
- Results in relatively small change to w/rule emissions.
 - Larger differences for baseline inventory and therefore more benefits of harbor craft regulation