

Action Item Discussion

Kansas Water Office

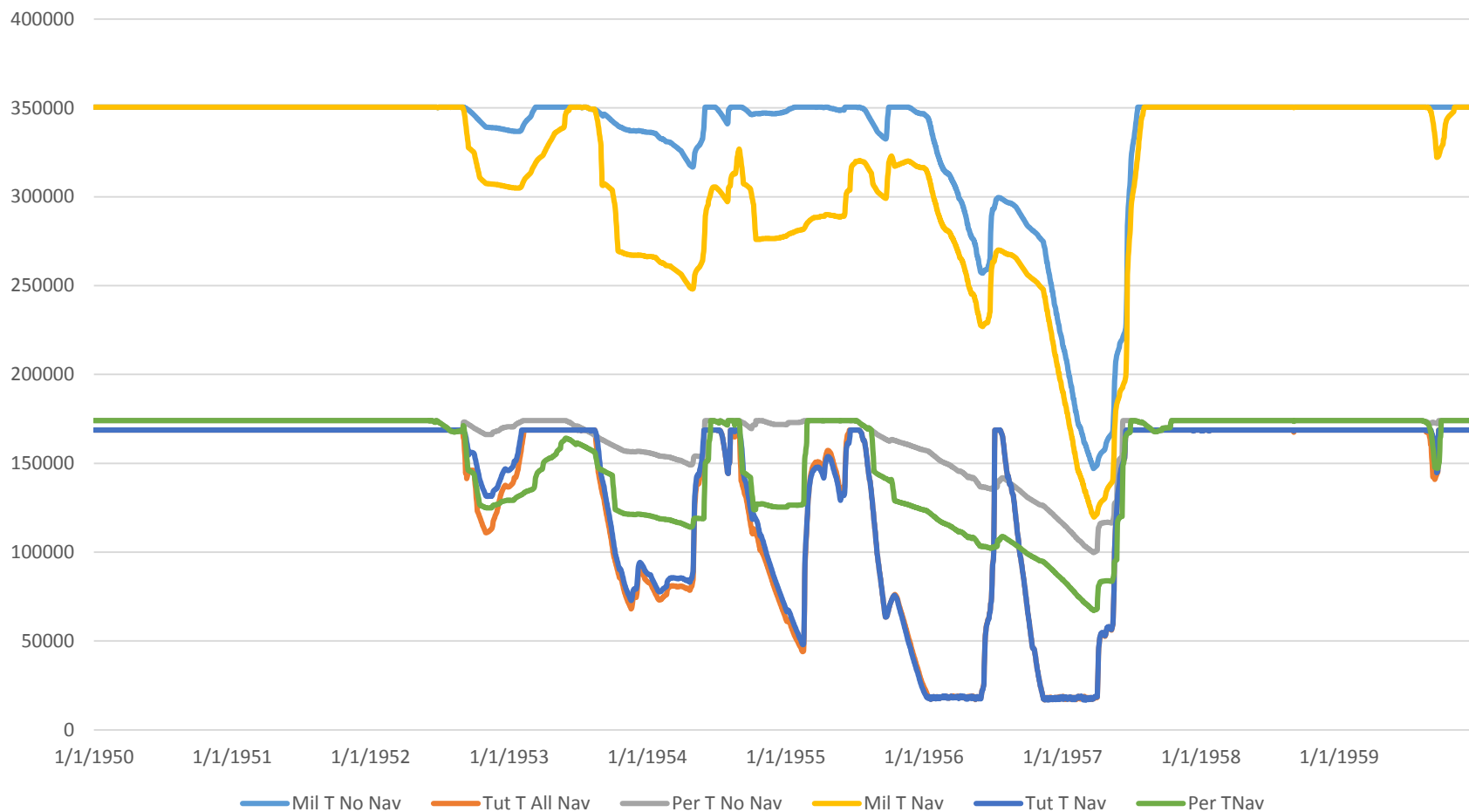
Priority Goal #1: Action Steps

- ▶ Increase water storage capacity and availability in federal reservoirs. By 2020, purchase all available storage in federal reservoirs to secure an adequate water supply for the region.
 - ▶ The Kansas Water Office should conduct an analysis of the impacts of the draw downs at Milford, Tuttle Creek and Perry reservoirs due to Missouri River navigation support. The results of this study will inform the decision as to whether or not to accelerate the purchase of the remaining storage at the aforementioned reservoirs.
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Model Results (2034)

Total Storage: Navigation vs No Navigation (Milford & Perry)



Key Takeaways

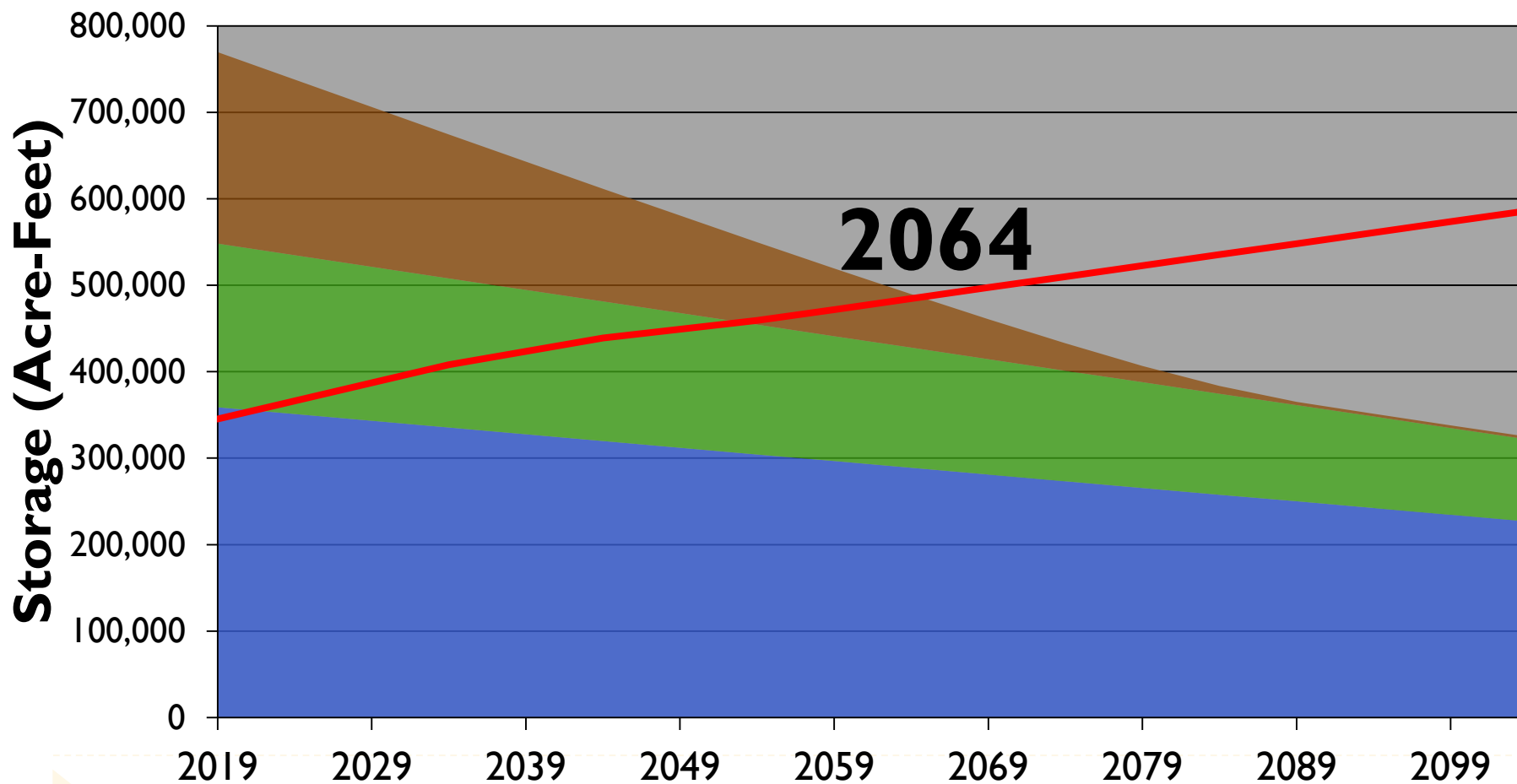
- ▶ **Future Use storage is sufficient**
 - ▶ In the near term 2034/2041
 - ▶ More of a financial question
- ▶ **Reservoir recreation and perception**
 - ▶ Does have an effect on lake level
 - ▶ Despite storage being sufficient, 6 feet down is significant
 - ▶ Probably more benefits outside the drought of record
- ▶ **Minimal effect on Water Supply storage**
 - ▶ Slight increase of evaporation on Assurance storage
 - ▶ Does not effect supply/demand crossover date (2064)



Supply/Demand

Kansas River Basin Projected Water Supply

Milford Lake Perry Lake Tuttle Creek Lake Required Storage



Priority Goal #1: Action Steps (Cont..)

- ▶ Working with Kansas River Water Assurance District, KDHE, KDWPT and other stakeholders, determine the amount of storage necessary within Milford and Perry reservoirs to **meet instream purposes through controlled releases.**
- ▶ Complete necessary background work to support a request to reallocate storage from water supply to water quality in Milford and Perry reservoirs.
- ▶ Determine amount of additional annual costs for calling into service the remaining water supply storage not needed to meet instream purposes and request full funding. When funding is secured, call into service storage not to be included within reallocation request.
- ▶ Request reallocation of remaining storage from water supply to water quality.

Quality Required (2034)

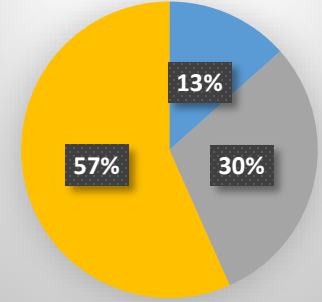
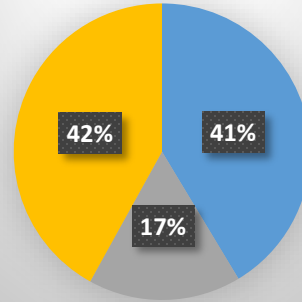
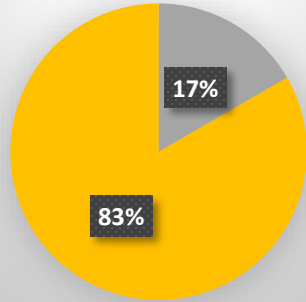


Current

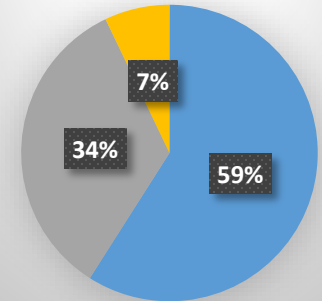
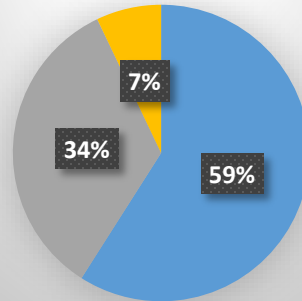
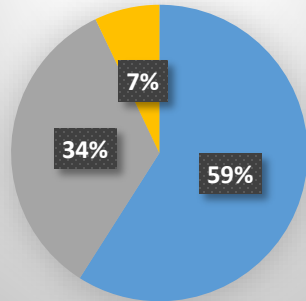
Min. + Targets

Min. Release

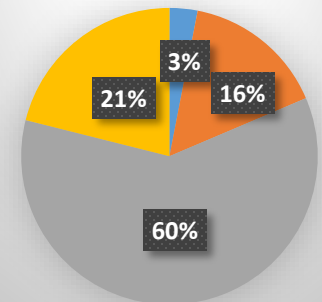
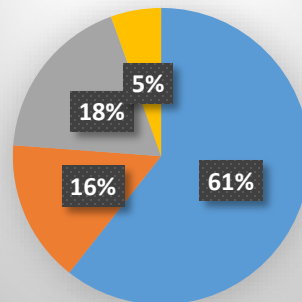
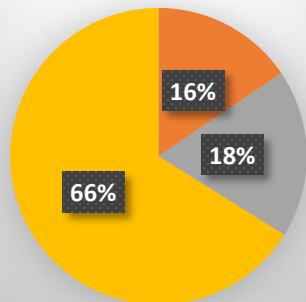
Perry



Tuttle Creek



Milford



■ Water Quality
 ■ Water Marketing
 ■ Assurance
 ■ Future Use/Reserve

Quality Required (2034)

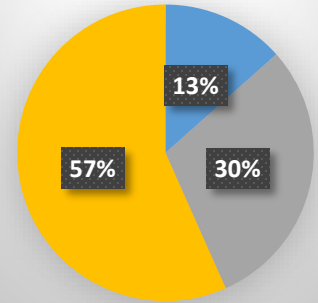
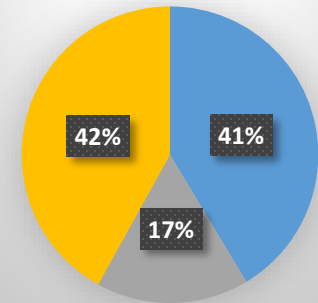
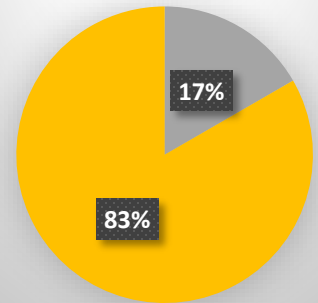
Water Office

Current

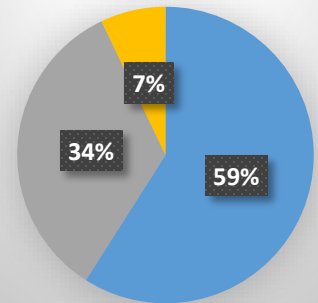
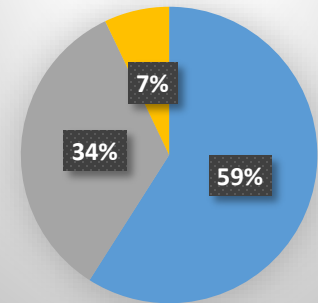
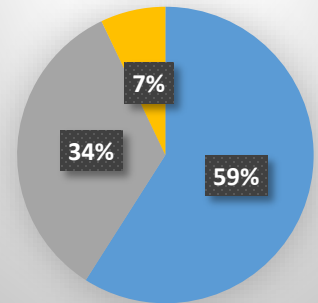
Min. + Targets

Min. Release

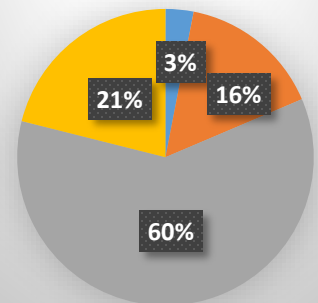
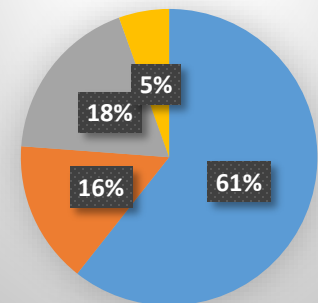
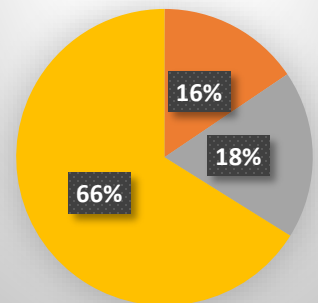
Perry



Tuttle Creek

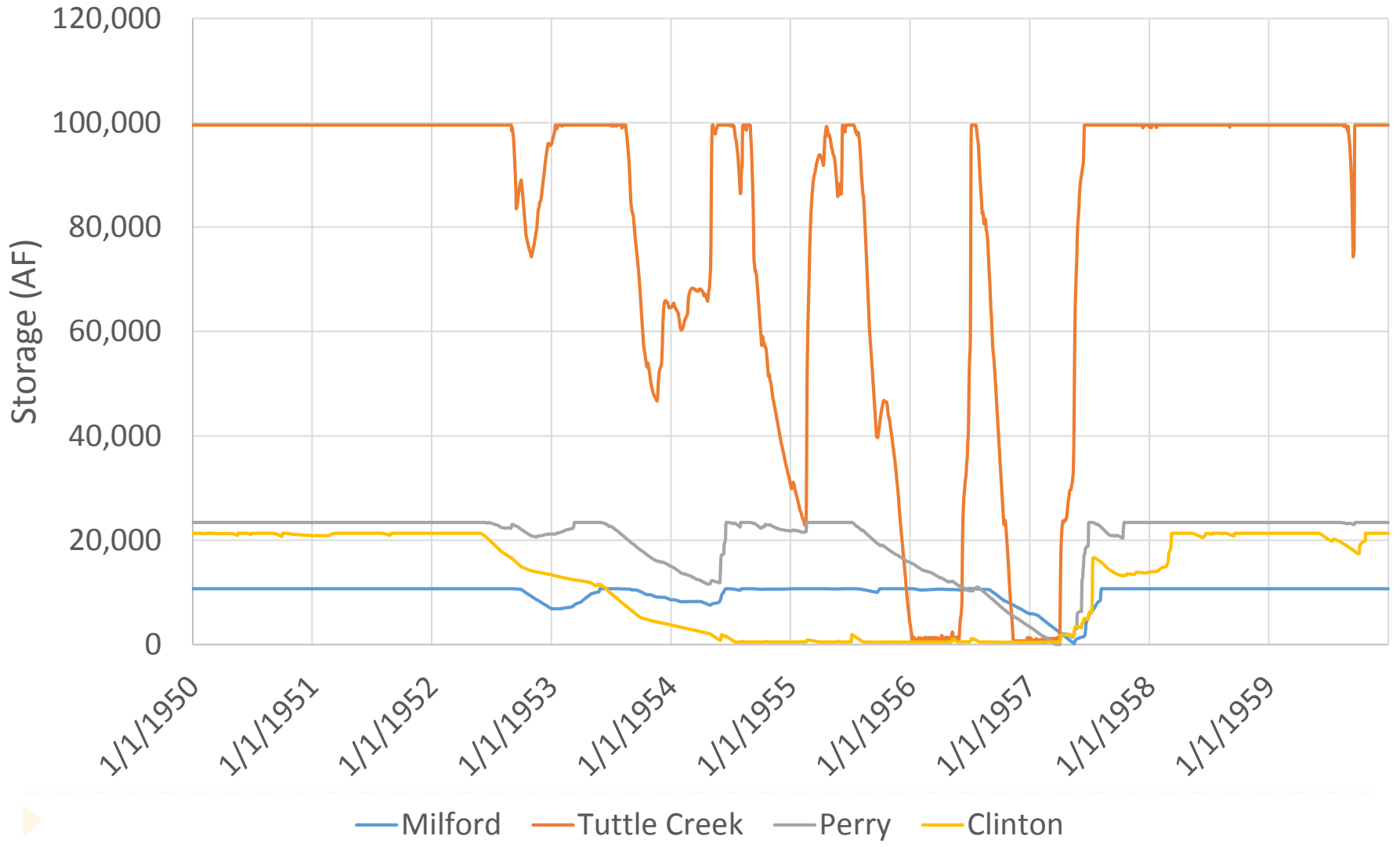


Milford

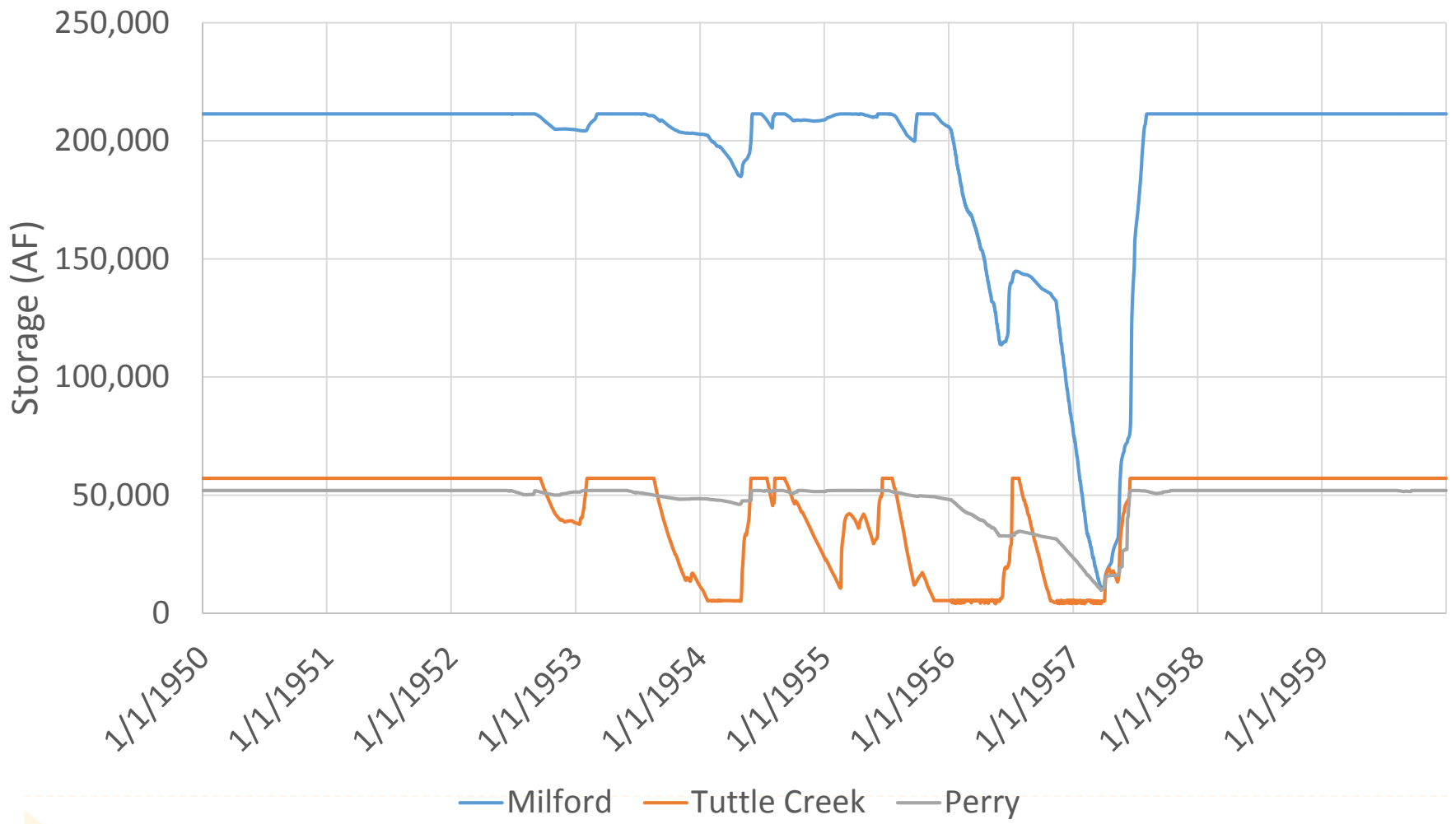


■ Water Quality
 ■ Water Marketing
 ■ Assurance
 ■ Future Use/Reserve

Water Quality Accounting



Water Assurance Accounting



O&M Costs



Milford

Year	Total O&M Cost*	In Service 33.88%	Future Use 66.12%
2010	\$ 1,320,043.00	\$ 92,129.50	\$ 179,799.36
2011	\$ 1,458,076.00	\$ 101,763.21	\$ 198,600.45
2012	\$ 968,285.00	\$ 67,579.32	\$ 131,887.39
2013	\$ 1,073,363.00	\$ 74,913.01	\$ 146,199.77
2014	\$ 1,069,346.00	\$ 74,632.65	\$ 145,652.62
2015	\$ 1,042,222.00	\$ 72,739.59	\$ 141,958.14
2016	\$ 1,329,743.00	\$ 92,806.49	\$ 181,120.57
2017	\$ 1,580,649.00	\$ 110,317.92	\$ 215,295.77

*Water Supply Storage is 20.6% of Total O&M Cost

Perry

Year	Total O&M Cost*	In Service 16.67%	Future Use 83.33%
2010	\$ 1,249,158.00	\$ 65,385.68	\$ 326,849.94
2011	\$ 1,008,444.00	\$ 52,785.79	\$ 263,865.62
2012	\$ 1,076,169.00	\$ 56,330.77	\$ 281,586.29
2013	\$ 1,046,190.00	\$ 54,761.56	\$ 273,742.10
2014	\$ 1,164,418.00	\$ 60,950.06	\$ 304,677.19
2015	\$ 1,194,992.00	\$ 62,550.42	\$ 312,677.07
2016	\$ 1,384,228.00	\$ 72,455.75	\$ 362,191.84
2017	\$ 1,593,215.00	\$ 83,394.93	\$ 416,874.58

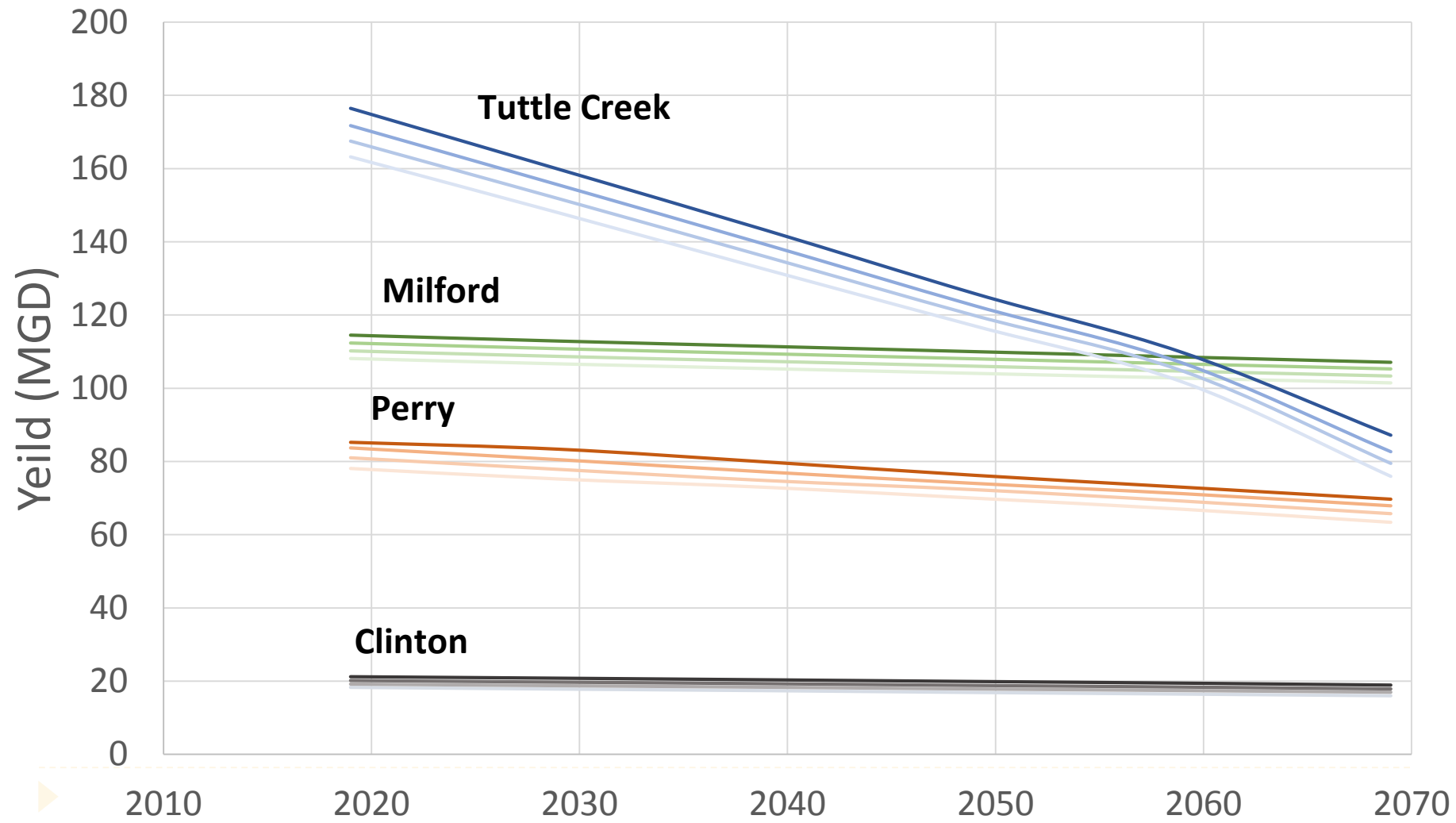
*Water Supply Storage is 31.4% of Total O&M Cost

Priority Goal #1: Action Steps

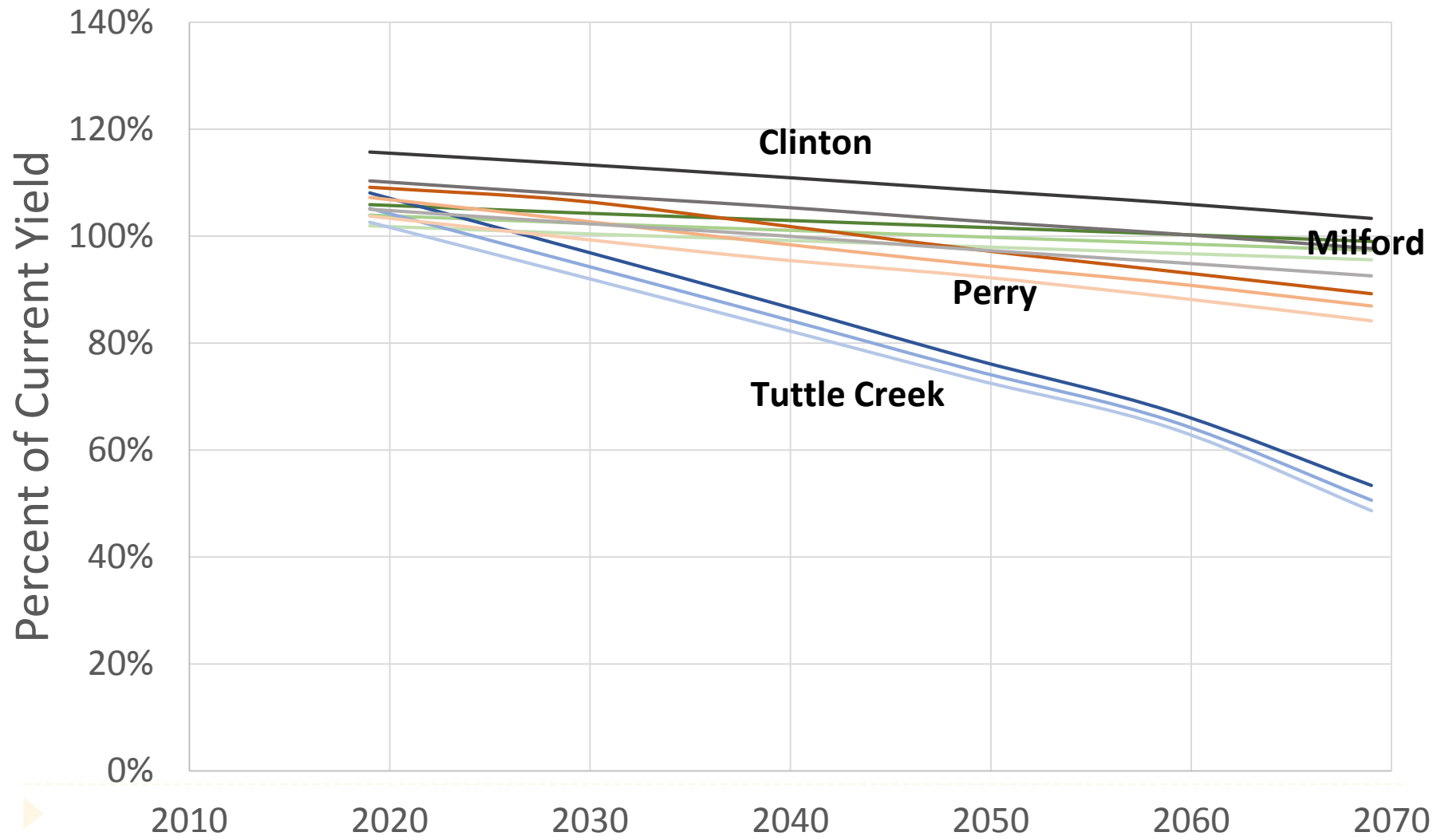
- ▶ By 2025, evaluate the ability to raise the conservation pool in each federal reservoir.
 - ▶ Using existing modeling, determine amount of additional **yield** that can be gained in each reservoir by **permanently raising the conservation pool by 1, 2 and 3 feet.**
 - ▶ Working with Kansas River Water Assurance District, KDHE, KDWPT, KDA-DWR and other stakeholders, begin NEPA evaluation of impacts and benefits at the reservoirs with increased pool level
 - ▶ Work with the U.S. Army Corps of Engineers (USACE) to determine updated costs of reallocation and purchase of storage.
 - ▶ Secure federal funding for reallocation study.
 - ▶ Where feasible and appropriate based on cost and impact evaluation, request the USACE reallocate storage from flood control to water supply storage.
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Effect of Pool Rises on Yield



Effect of Pool Rises on Yield



Questions?

