



# Updated RHR Revision Input for EPA

*National Park Service, Air Resources Division  
September 4, 2024*

# Overview

- NPS RHR Revision Principles
- NPS June 28<sup>th</sup> Docket Submission
  - RAVI, NSR, FLM Consultation
  - Reasonable Progress
  - Pollutant & Source Selection
  - Four-factor Analyses
- Follow-up Topics
  - Consistency in Four-factor Analyses
  - Tracking Visibility Progress
  - Unimpaired Conditions
  - RPGs and URPs



# NPS Regional Haze Rule Principles:

1. Protect views for NPS visitors into the future
2. Focus on the goal of achieving and maintaining unimpaired visibility conditions in Class I areas.
  1. As expeditiously as is reasonable (based on the four-factors).
  2. Without backsliding
3. Support science-based decision making
4. Encourage strategies that reduce haze-causing emissions affecting Class I areas
5. Maintain an active, well-defined, influential role for FLMs



NPS Docket Submission - *June 28<sup>th</sup>, 2024*

# FLM Role

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## NPS Recommendations:

- **RAVI:** It is fine, leave it alone
- **NSR:** 1) Clarify notification timing and content requirements. 2) Ensure appropriate FLM review of visibility impacts from all major NSR actions, not just nonattainment NSR.



# FLM Role

## **Regional Haze Consultation:**

- \*Formalize Early Engagement
- Clarify timing and content requirements for consultation
- FLMs may waive consultation or agree to expedited consultation
- Virtual meetings are considered an alternative to in-person
- \*Require public review drafts to address FLM early engagement and consultation feedback
- \*Highlight and clarify statutory requirement to summarize FLM conclusions and recommendations in public notices





# Reasonable Progress

## **NPS Recommendations:**

- Reinforce the CAA definition of determining reasonable progress in the rule, emphasizing that:
  - Visibility benefit is not a fifth factor for considerations in reasonable progress determinations.
- Clarify that CAA defined reasonable progress determinations are independent of visibility tracking metrics.
- Support IMPROVE as the recommended monitoring network for regional haze. Require that alternative monitoring methods be consistent capable of tracking long-term trends in anthropogenic haze.

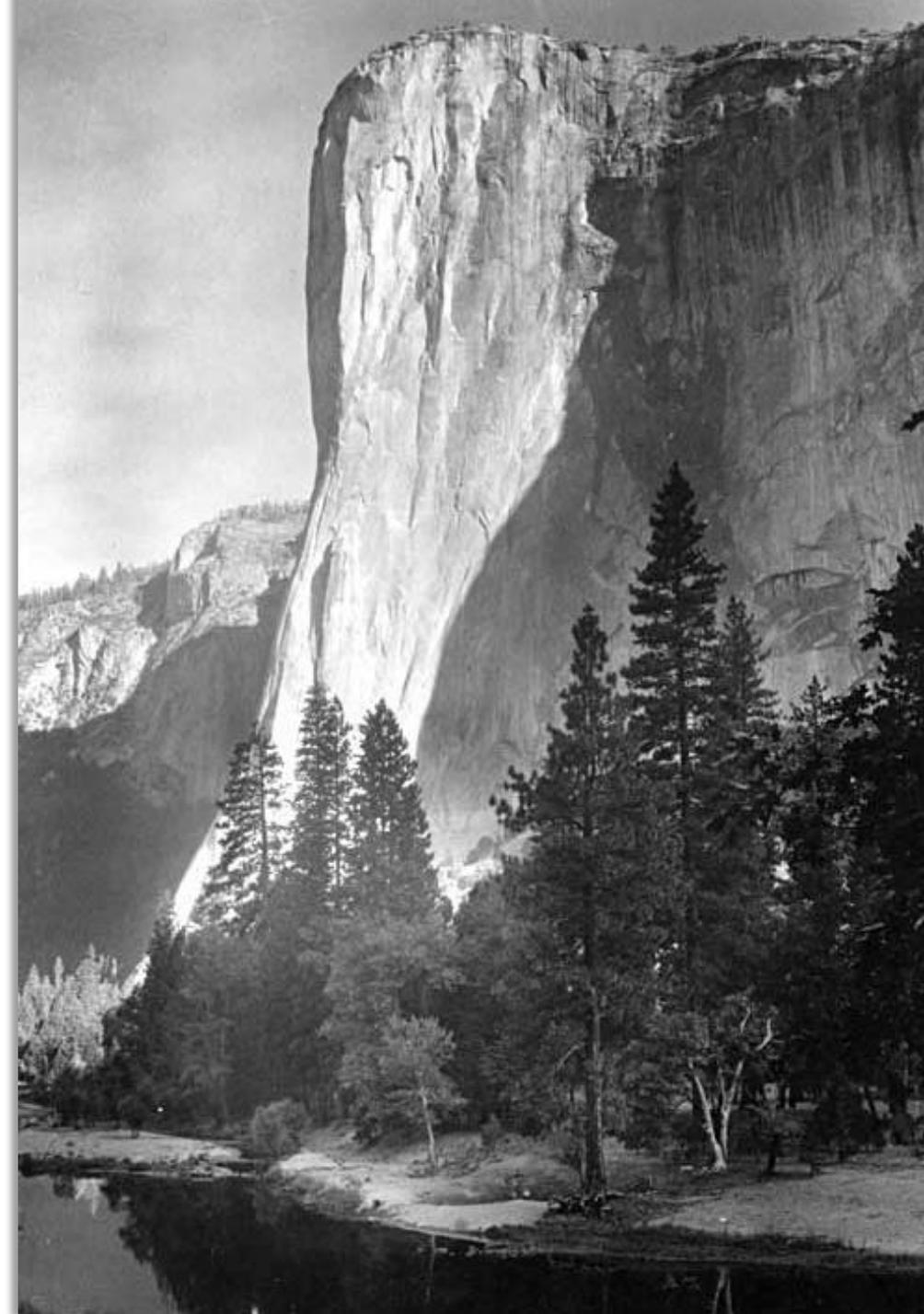
# RHR Four Factor Analysis

- The four factor analysis involves assessing potential emission controls technologies against
- four statutory factors:
  - (1) The cost of control,
  - (2) Time necessary to install controls,
  - (3) Energy and non-air quality impacts, and
  - (4) Remaining useful life.

# Pollutant Selection

## **NPS Recommendations:**

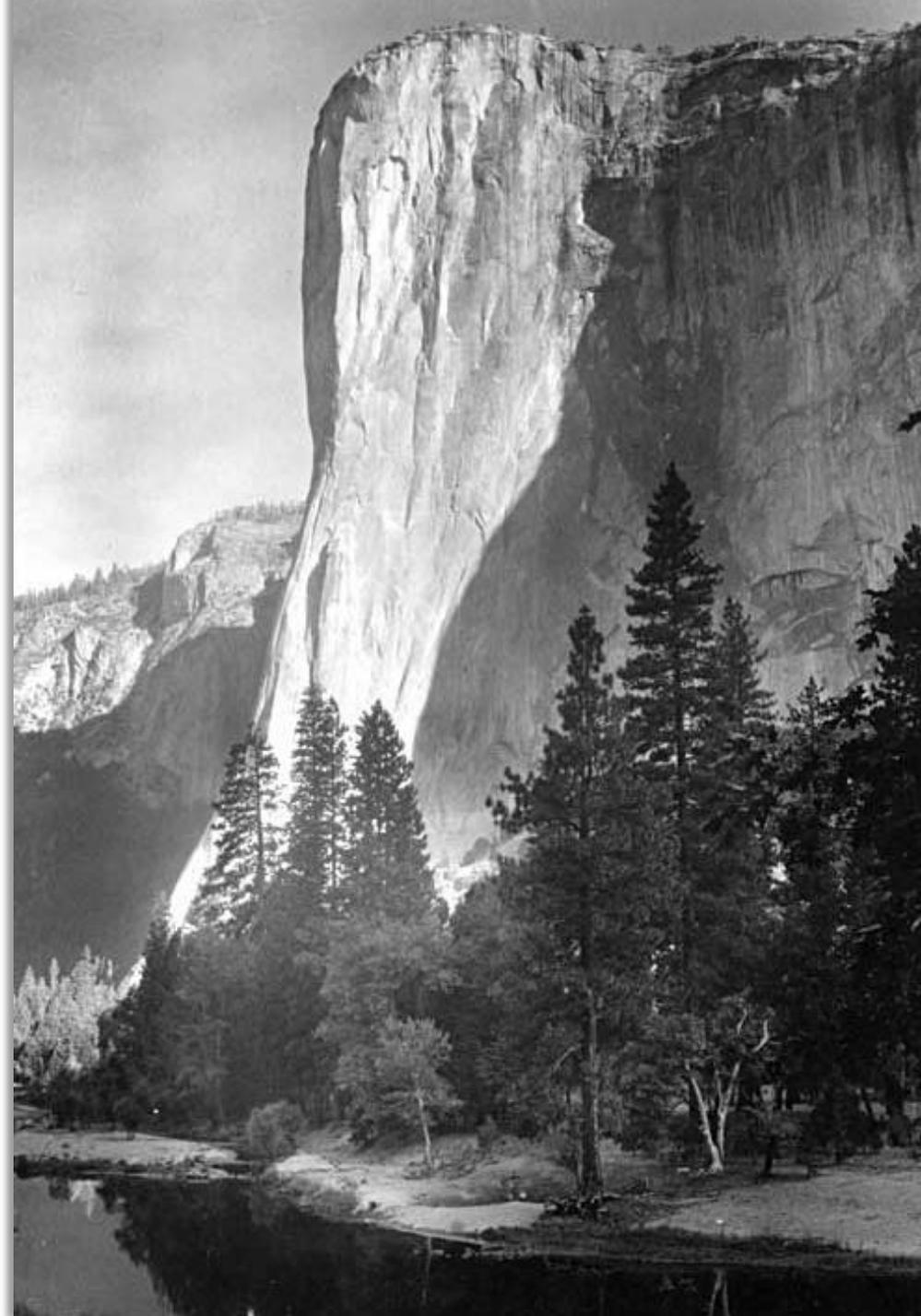
- Require that states
  - Use the most recent five-year period of visibility monitoring data available for pollutant selection.
  - Focus on pollutants with the greatest contributions to visibility impairment at the Class I areas affected by emissions from the state, including both  $\text{SO}_2$  and  $\text{NO}_x$ .
    - Note recommendation to require that all states evaluate both  $\text{SO}_2$  and  $\text{NO}_x$  reductions at a minimum.



# Source Selection

## **NPS Recommendations:**

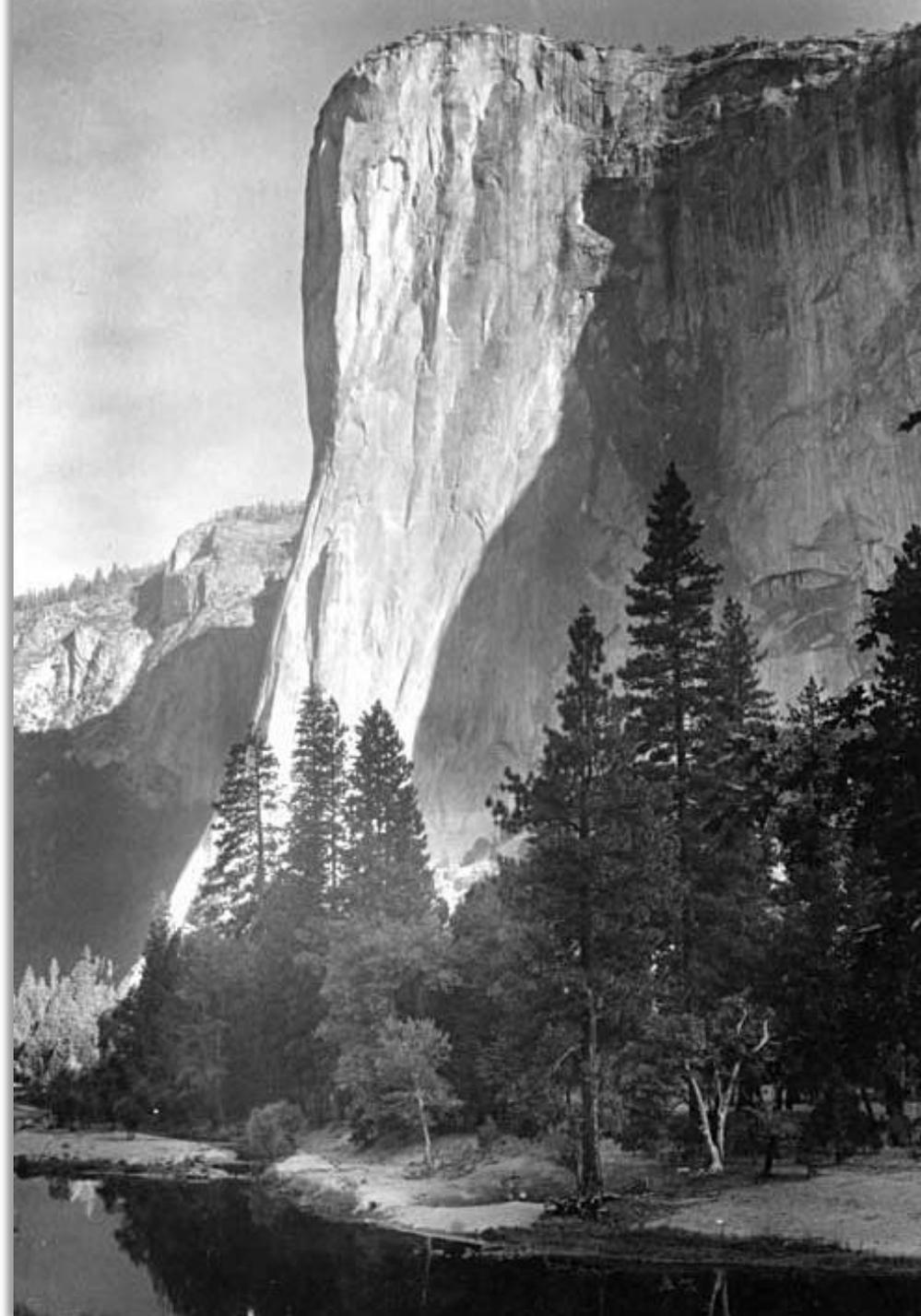
- Clarify that assessment of a state's contribution to visibility impairment in a nearby Class I area and source selection are the appropriate places to consider visibility impairment/benefit
- Require use of a consistent source selection threshold that will capture 80% percent of the estimated contribution to anthropogenic impairment in a Class I area from controllable stationary sources.
  - This includes major and minor stationary sources or groups of sources, and area sources. (Refine as needed)



# Source Selection

## **NPS Recommendations:**

- Allow states to use modeled visibility impacts or an EPA-approved surrogate metric to identify sources contributing to regional haze in each Class I area.
- Include, in a technical support document, nationwide tools that could be used by states in source selection.
- Require that states consider selecting sources identified by other states or FLMs.
- Include technical recommendations for addressing oil and gas area sources.

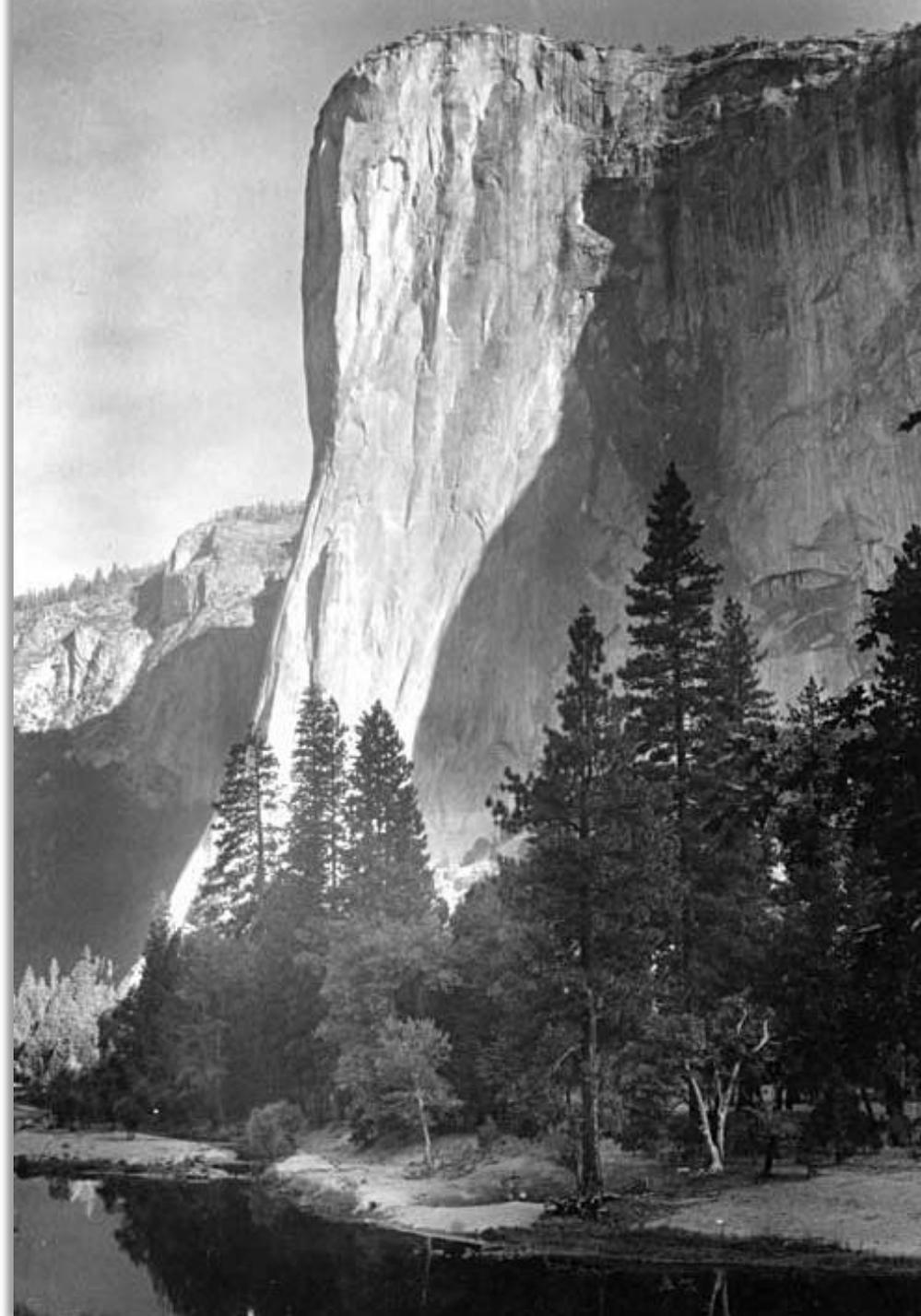


# Source Selection

\*Our shot at de minimis threshold questions

## NPS Recommendations:

- Specify that, until the goal of no human-caused impairment is achieved, the process of source selection, four-factor analysis, and reasonable progress determination for long-term strategy development should proceed in each planning period.
- Define a state's responsibilities when a Class I area reaches natural conditions and/or states can demonstrate that they do not contribute to visibility impairment in any Class I areas.



# RHR Four Factor Analysis

- The four factor analysis involves assessing potential emission controls technologies against
- four statutory factors:
  - (1) The cost of control,
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  - (3) Energy and non-air quality impacts, and
  - (4) Remaining useful life.



# Four Factor Analyses

## **NPS Recommendations:**

- Require that states include a robust demonstration showing that a four-factor analysis is not needed before concluding that any source identified as contributing to visibility impairment in a Class I area is effectively controlled.
- Clarify that:
  - On-the-way measures should be included in a SIP if they are necessary for RP.
  - Emission sources undergoing reductions due to alternative state or federal programs must comply with the requirements of the RHR for inclusion in an implementation plan, including an effective controls demonstration or four-factor analysis and FLM consultation.



# Four Factor Analyses

## **NPS Recommendations:**

- Require states to consider cost thresholds associated with other regulatory actions that affect similar sources when making control determinations.
- Set nationwide minimum cost thresholds. (May be industry specific.)
- Require that all cost estimates be clearly and fully documented so that cost estimates can be reproduced.
- Clarify how states should consider energy and non-air quality environmental impacts when making control determinations.
- Include technical guidance for states to use when evaluating minor and area sources.



Wasn't affordability a BART thing?

What is the best metric for tracking visibility impairment/improvement?

Do we need to update estimates of unimpaired conditions?

Can RPGs be fixed?

Can the URP be fixed?

How could consistency be improved?

What is the value of projecting future visibility?

How will we know when a Class I area has reached unimpaired conditions?

Why are comment periods so short?

# 2 short add-ons to earlier input

## Why are comment periods so short?

Building on **FLM Role** recommendations:

- Set the default comment period for EPA SIP determinations as 60 days.

## Wasn't affordability a BART thing?

Building on **Four Factor Analysis** recommendations:

- Clarify that affordability applies only to BART and is not an off-ramp for control determinations where a similar source has borne a similar cost.



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@NatlParkService

“We hope this email finds you well.”

The email finding us.

# Improving Consistency

- The beginning of each Planning Period should set a **reference date** for time-sensitive information, including:
  - **Emissions data** used for *facility selection* and *four-factor analyses*. (NEI + CAMPD)
  - **Facilities** should be evaluated *as they are on the reference date*, with consideration for existing federally-enforceable conditions.
  - **Cost years** and **Cost of Compliance metrics** should be fixed as of the reference date.
  - Establishment of the reference date should consider anomalous economic conditions.



ALT

# About Tracking...

This is our wheelhouse as FLMs. We manage the Class I areas and administer the IMPROVE monitoring network. *Should we be responsible for “tracking?”*

- Should be based on high quality measured data.
- 2064 end date is not a statutory requirement ...
- More interested in establishing progress **in each planning period** than progress from the baseline period.
  - How to assess? Trend most recent 10 years?
  - So what?

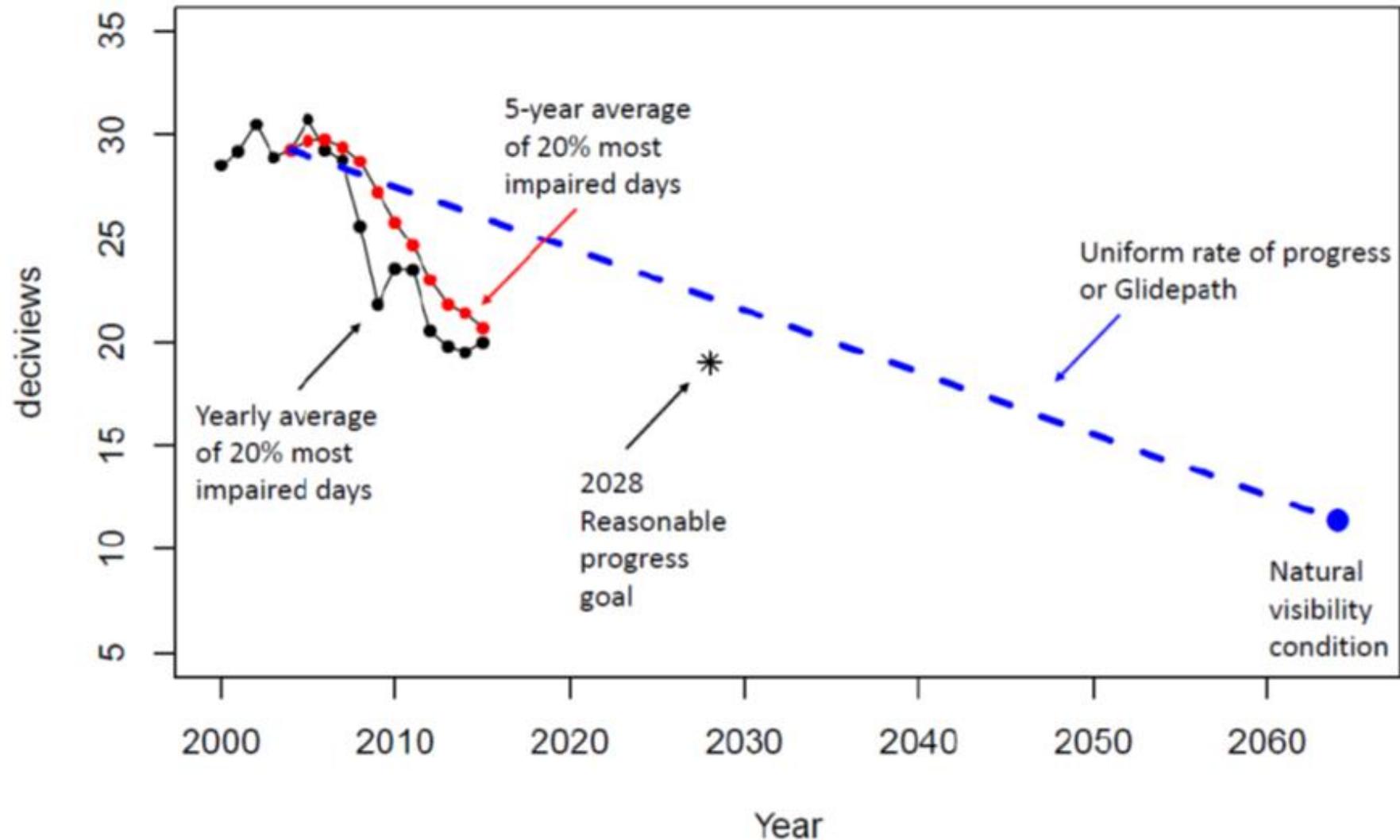


# More Tracking...

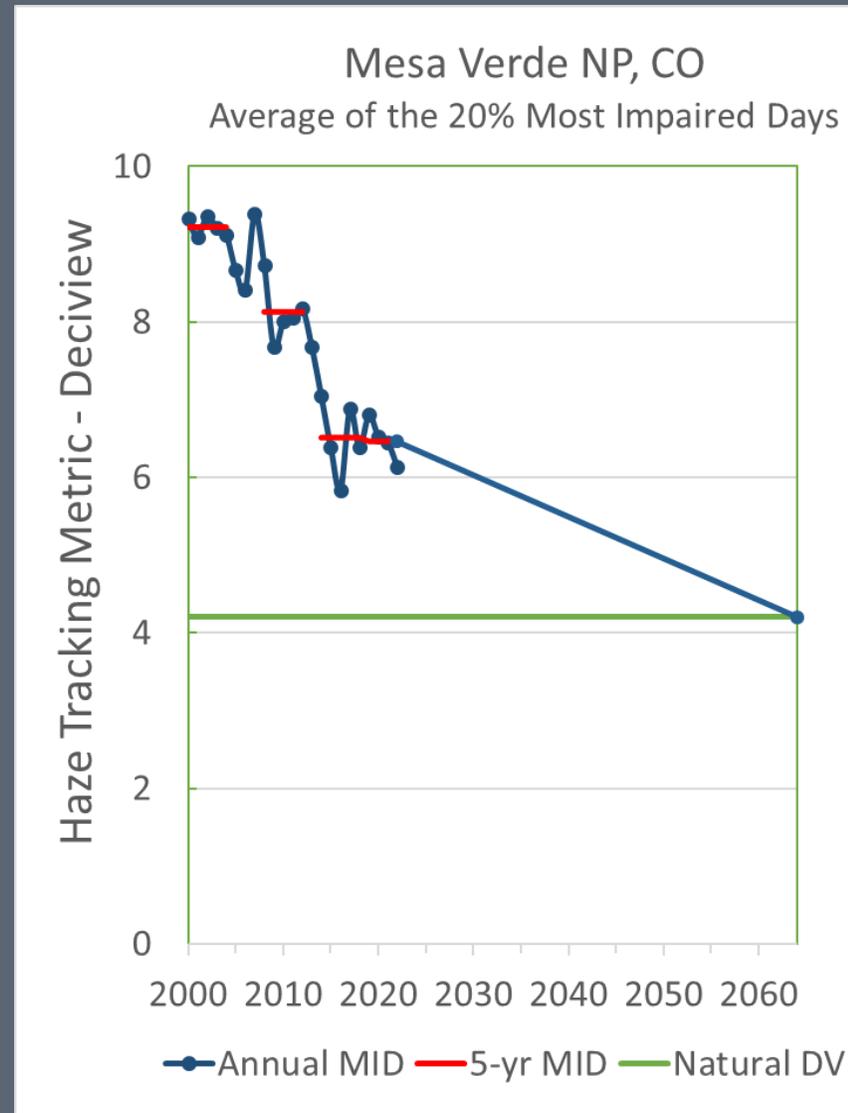
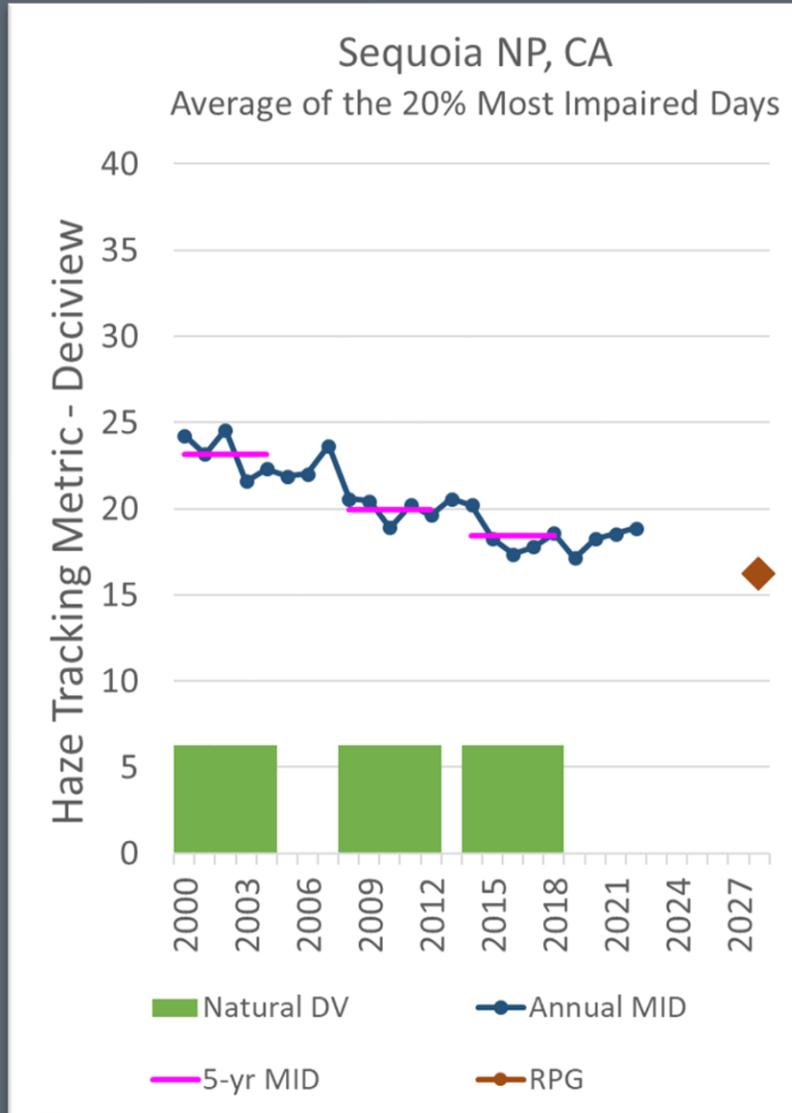
- Current metric (5yr average of 20% MID) works well overall but misses haze episodes
- Visibility is an instantaneous phenomenon
- Averaging may not adequately protect visitor experience
- How to visualize? How to address?



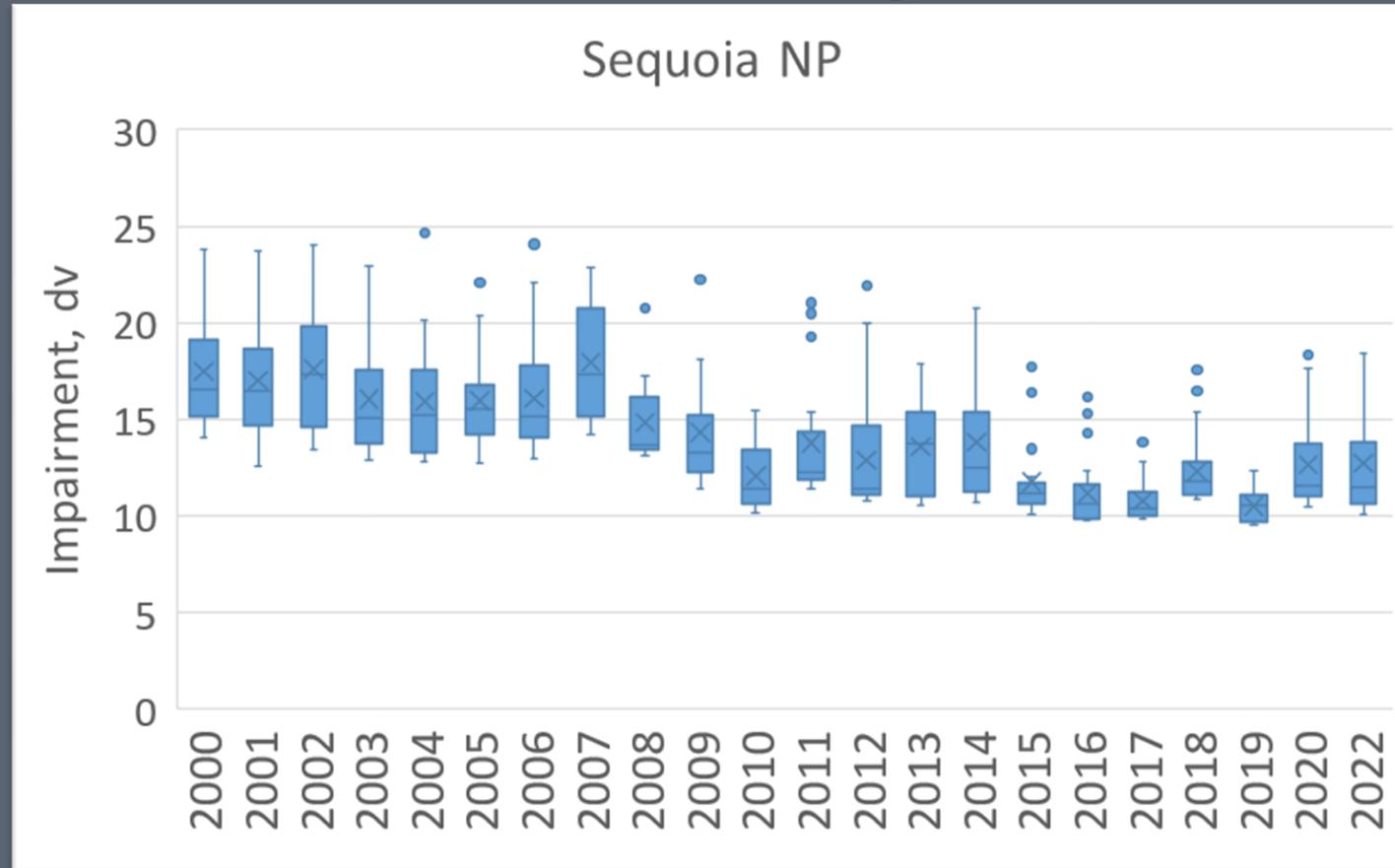
# Tracking Progress – What we do now



# Alternative Tracking Progress



# Tracking Extreme Episodes – All Days matter, not the average



- Distribution of the 20% most anthropogenic impaired days for each year

# Unimpaired Conditions

- Estimates may need to be updated based on improved science
- Estimates should not be adjusted to account for visibility impairment from sources outside state control.
  - If not met due to external factors that should be explained rather than adjusted
  - International emissions may also decrease
  - Federal programs should address mobile and shipping emissions etc.
- Ensure that smoke from prescribed fires (all wildland fire?) is accounted for in the MID metric.

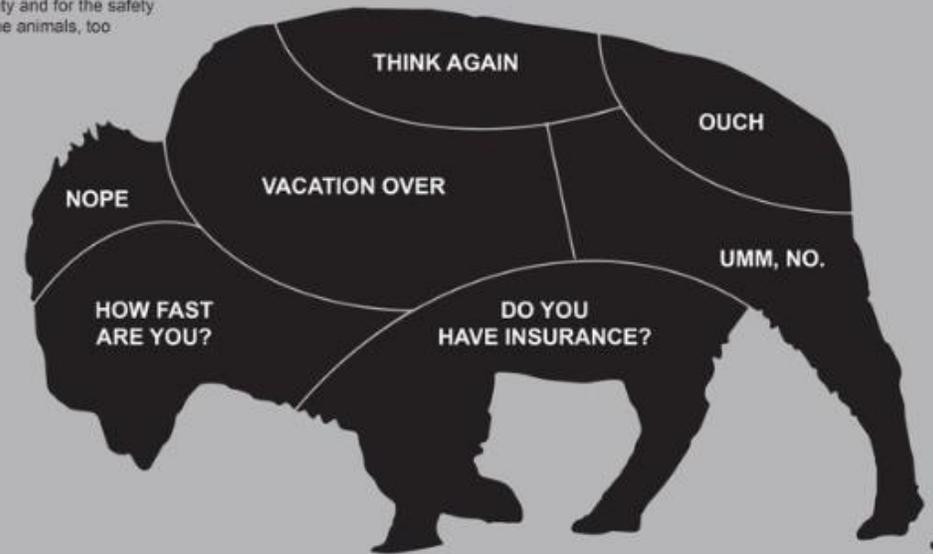


Remember, if you're close enough to touch a bison, don't.

## WILDLIFE PETTING CHART

National parks offer a unique experience for watching wildlife. Animals in parks are wild—visitors have the amazing opportunity to view animals as they live and interact with each other in their natural homes.

But with that privilege comes responsibility. Visitors are responsible for their own safety and for the safety of the animals, too.



**#KEEPWILDLIFEWILD**

Remember to keep your distance, and enjoy your experience watching wildlife. No touching, no feeding, no harassing.

NPS.GOV

9:53 AM · Nov 5, 2022

# Unimpaired Conditions

- Natural levels are still based on Trijonis estimates from the 1980's
- Perform a literature and modeling assessment to refined natural haze estimates and account for spatial and seasonal variations
- As we get closer to natural visibility levels, we need better estimates of daily natural conditions
  - Improve routine seasonal levels
  - Incorporate daily estimates of highly variable haze, e.g. wild and prescribed fire in natural haze
- As natural estimates improve, the RHR end point goals could be based on the daily natural haze for each new planning period
  - At a minimum this would capture seasonal variability in the most impaired days

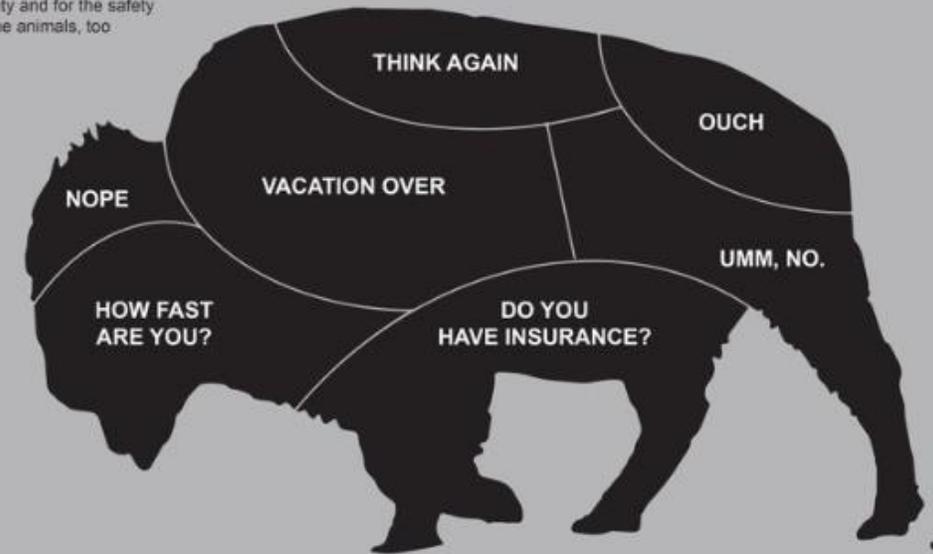


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Crouching bear, hidden salmon...



8:26 PM · Jul 22, 2023



# RPGs & ~~URPs~~...

- These non-statutory ideas didn't advance visibility progress in the 2<sup>nd</sup> planning period.
  - RPGs are modeled prior to plan development
  - ~~URP is used in conjunction with modeled RPGs to argue against the need to further reduce emissions~~
- Options – fix or ditch these with a rule revision

# Potential fixes for RPGs

Adjust semantics, timing, and (potentially) responsibility.

- Rename “Reasonable Progress Goals” to reduce/eliminate confusion with reasonable progress determinations.
  - Ideas: AFV (anticipated future visibility); PFV (projected future visibility); ERHI (estimated RH improvement)
- **Modeling should happen following completion of four-factor analyses so that the results of long-term strategies can be included. Ideas:**
  - EPA conducts nationwide modeling to estimate future visibility in Class I areas.
  - States include these estimates in the progress reports *OR* EPA/FLMs assess and report on current and projected visibility in Class I instead of progress reports.



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Did you know if you hold an ermine up to your ear, you can hear what it's like to be attacked by an ermine?



# Potential fixes for the URPs

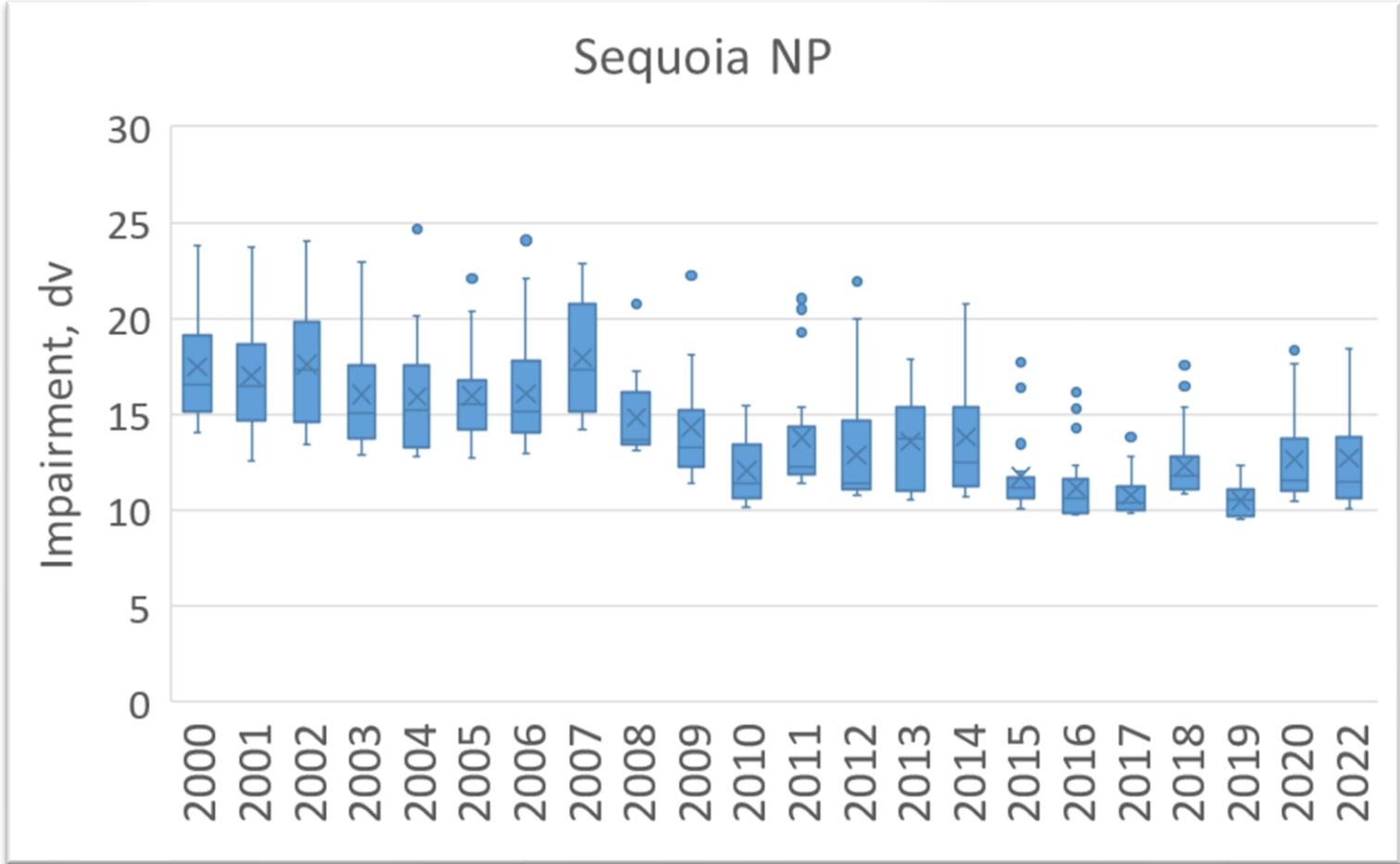
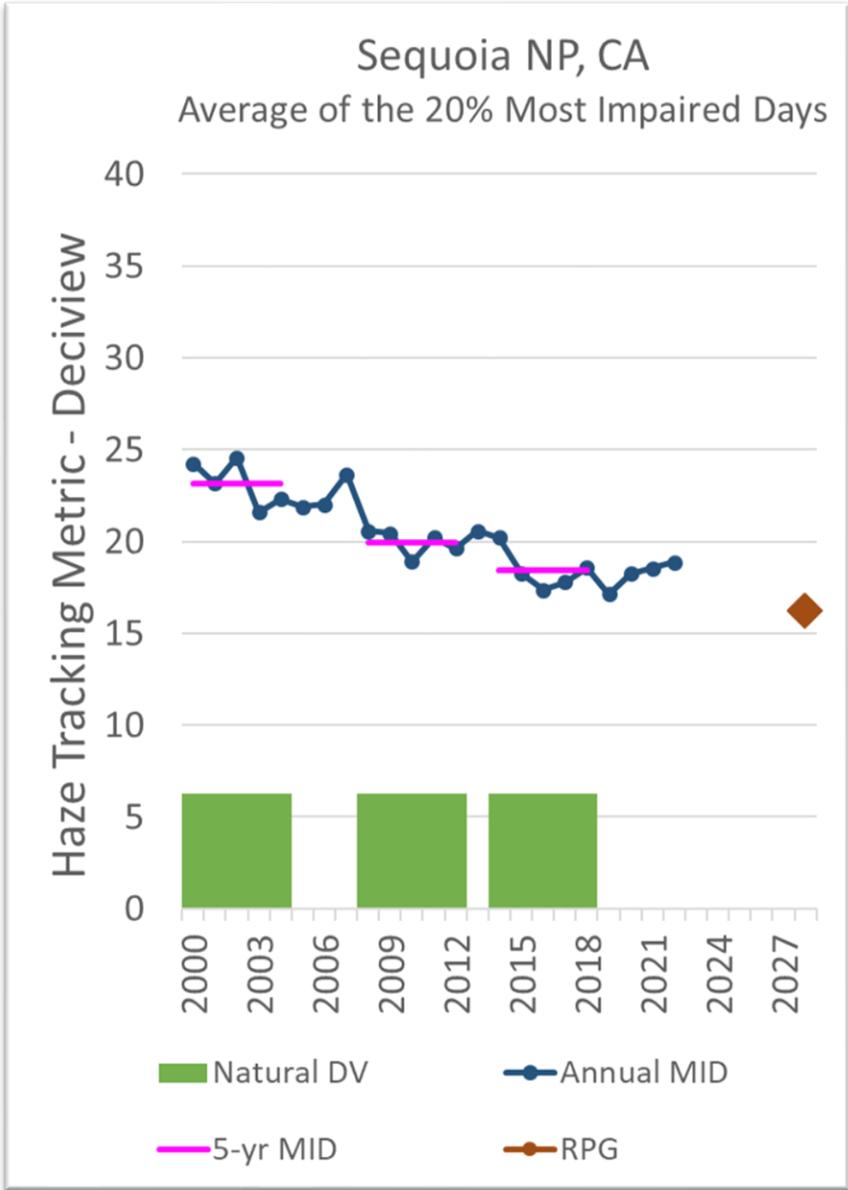


- Clarify in the rule that:  
the URP is **NOT A SAFE HARBOR.**
- 2064 is not in the statute but... people are used to it and it is fine for planning.
- Consider adjusting glideslope starting points in each planning period based on more recent visibility data.
- Consider a new type of URP based on a fixed annual percentage of improvement – leads to a curve – this could recognize that improvements will be slower/harder as Class I areas approach natural conditions

# Next Steps

## Non-regulatory Docket is open through December 31, 2024

- NPS intends to submit supplementary recommendations
  - October?
- Working groups to explore ideas?
  - On going?
- EPA proposal(s) anticipated??
  - To extend the due date for the 3<sup>rd</sup> implementation period (2024)
  - To revise the RHR – Not likely in 2024...



# Alternative Gauge of Progress

