

# Noise Program Update

Jackson Hole Airport

December 17, 2021



# Programs since the 1983 Use Agreement

- Voluntary curfew to restrict both late-night and early morning aircraft operations
- Restrictions to limit late-night and early morning scheduled commercial operations
- Participation with FAA in the development of new flight procedures to reduce noise in GTNP
- Noise monitoring/flight tracking system updates
  - Installation of BI-6 radar and local ADS-B surveillance to enhance flight track monitoring
- Development of Fly Quiet Program per Part 150
- ***To our knowledge, no other Airport our size has implemented such an ambitious noise reduction program***



# Activities this year (2021)

- Informed Airport users about the Fly Quiet Program
- Produced and distributed an introductory Fly Quiet Brochure
- Tracked Fly Quiet data of over 400 users of the Airport
- Participated with FAA in the *implementation* of new arrival flight procedures from the north to reduce noise, per the Part 150 Study (initiated Dec 2, 2021)
- Installed additional temporary noise monitors south of the Airport to obtain more detailed data on existing and potential new southern departures



# What do we do next? – Control and Influence

## ❖ Outside of Airport Control

- Operations have increased, both corporate and commercial service
- FAA has total jurisdiction over where and how aircraft can fly

## ❖ Programs

- Promote use of quieter aircraft and use of flight paths that could reduce noise over sensitive uses.
- Promote the development of flight procedures that use technological advances to reduce noise effects.
- Engage an independent procedure designer to evaluate options for a southern departure to determine feasibility, safety and effectiveness of such a procedure.



# What do we do next? – Measuring Improvement

## ❖ How is noise around airports quantified?

- The FAA requires the use of the cumulative Day-Night Weighted Average (DNL) for all aircraft noise analysis on an annual basis.
- The FAA defines the threshold of significance as 65 DNL for residential land use. Jackson Hole Airport has gone beyond the FAA standard by modeling noise contours down to 45 DNL.
- DNL is represented by cumulative noise contours around the airfield designating different points of noise energy.



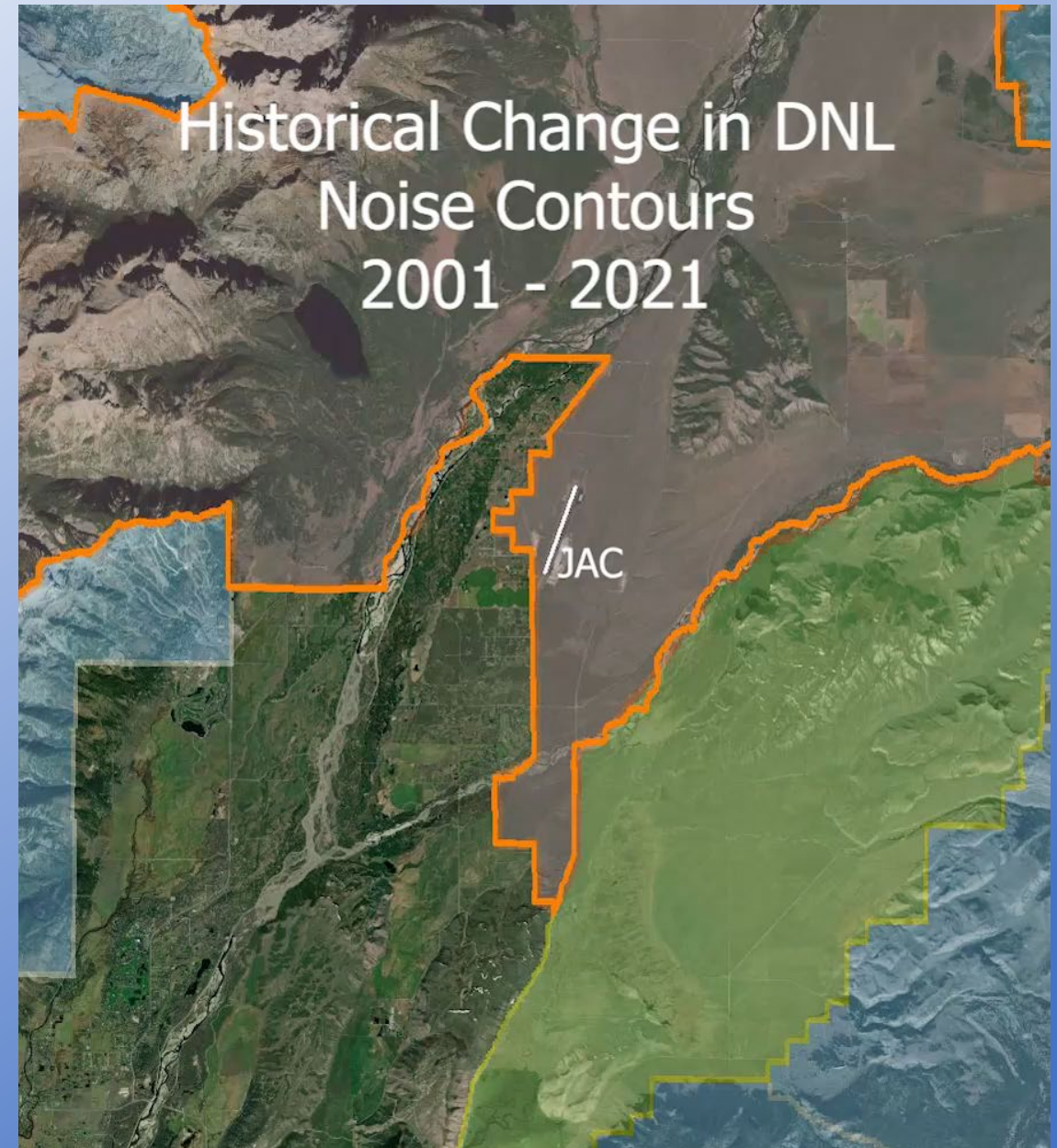
**DNL**  
**Day-Night Average Sound Level**

# How has the Noise Changed?

- ❖ How operational factors have changed over time
  - The aircraft have gotten quieter
  - Night operations are minimal with the airport's night restrictions
  - Preferred runway direction of use has stayed about the same
  - Flight paths to the south shifted to straight south
  - Flight paths to the north have shifted eastward away from the center of the park
- ❖ Noise Modeling from 2001 to 2021
  - Using same FAA Noise model (most recent Model AEDT 3d)
  - Using published FAA operational data

# Changes to the Noise Contour?

- ❖ Video illustrates how the noise contour has changed from 1983 to 2021.

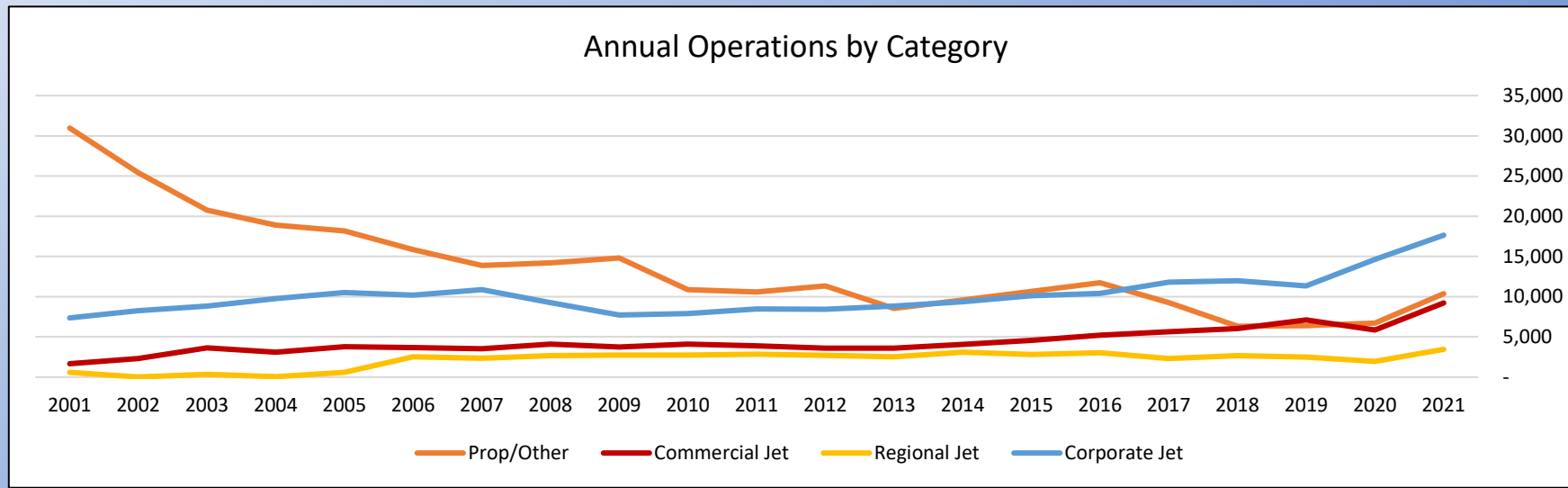
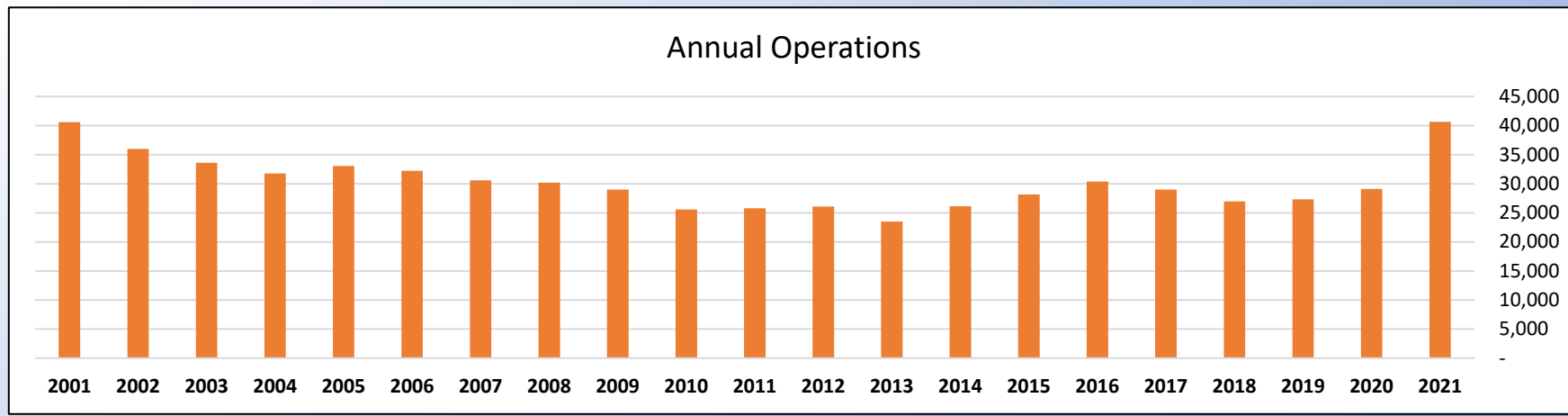




- ❖ DNL has remained relatively steady with the increase in jet operators being offset by the fact aircraft are trending quieter
- ❖ Other supplemental noise metrics include:
  - The number of times per day aircraft generate a noticeable event at different levels
  - The quiet time between events reduces (respite)
- ❖ These issues are challenging airports across the United States



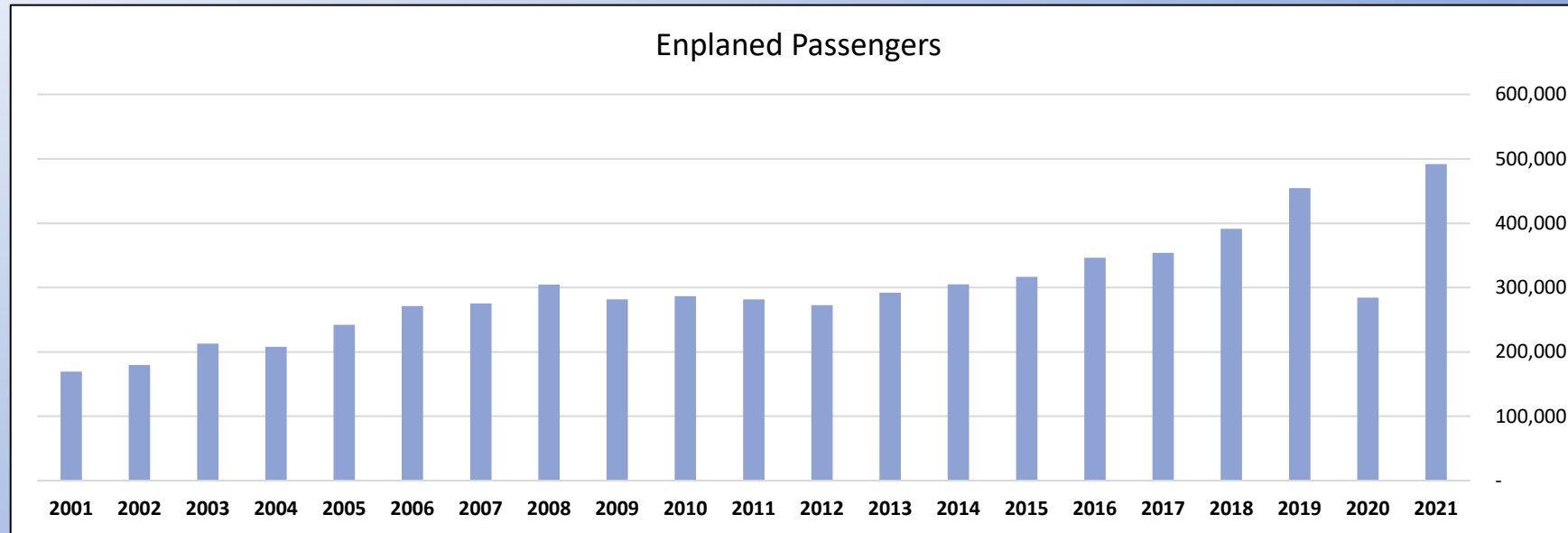
# Historical Changes in Operations



\*2021 Data is last 12 Months (Nov 2020 through Oct 2021)



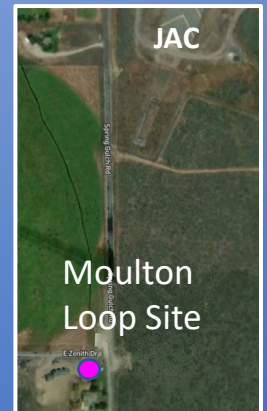
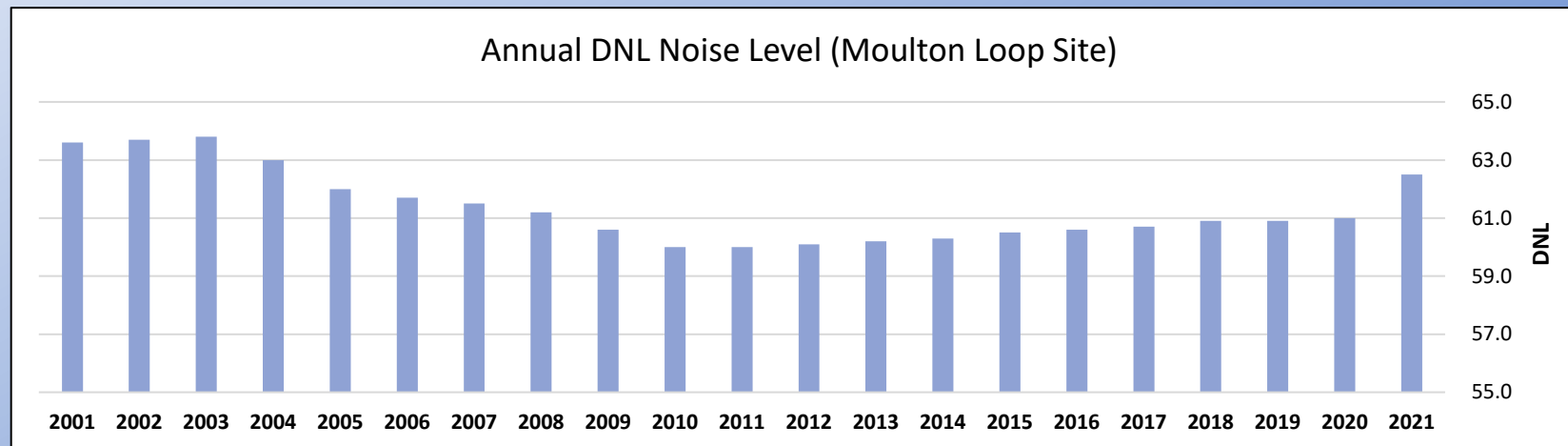
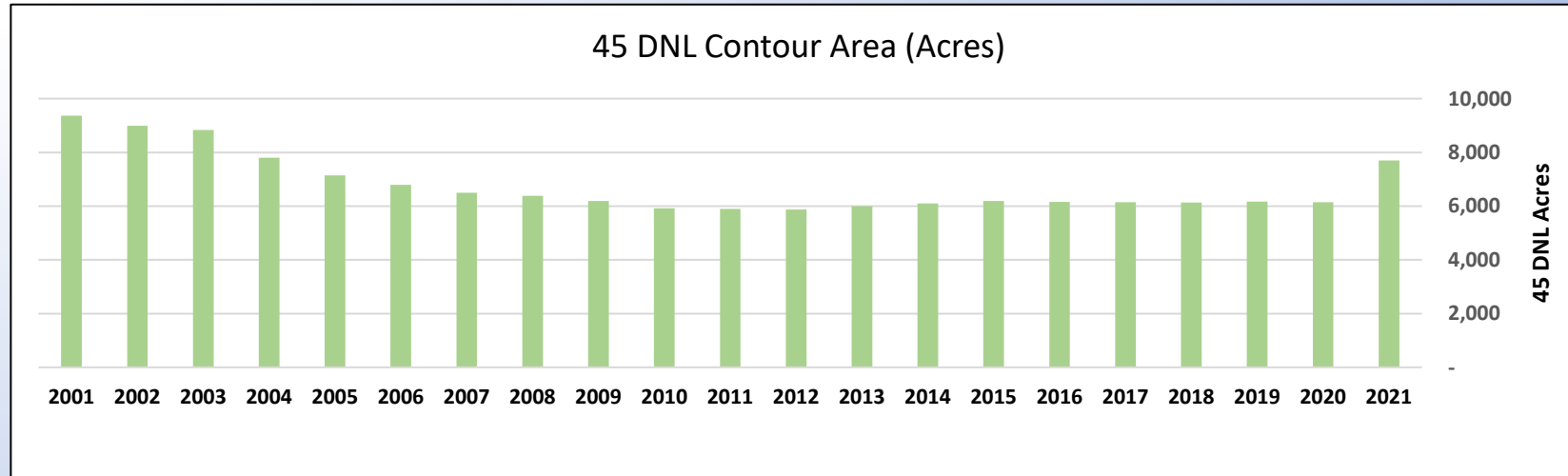
# Historical Changes in Enplaned Passengers



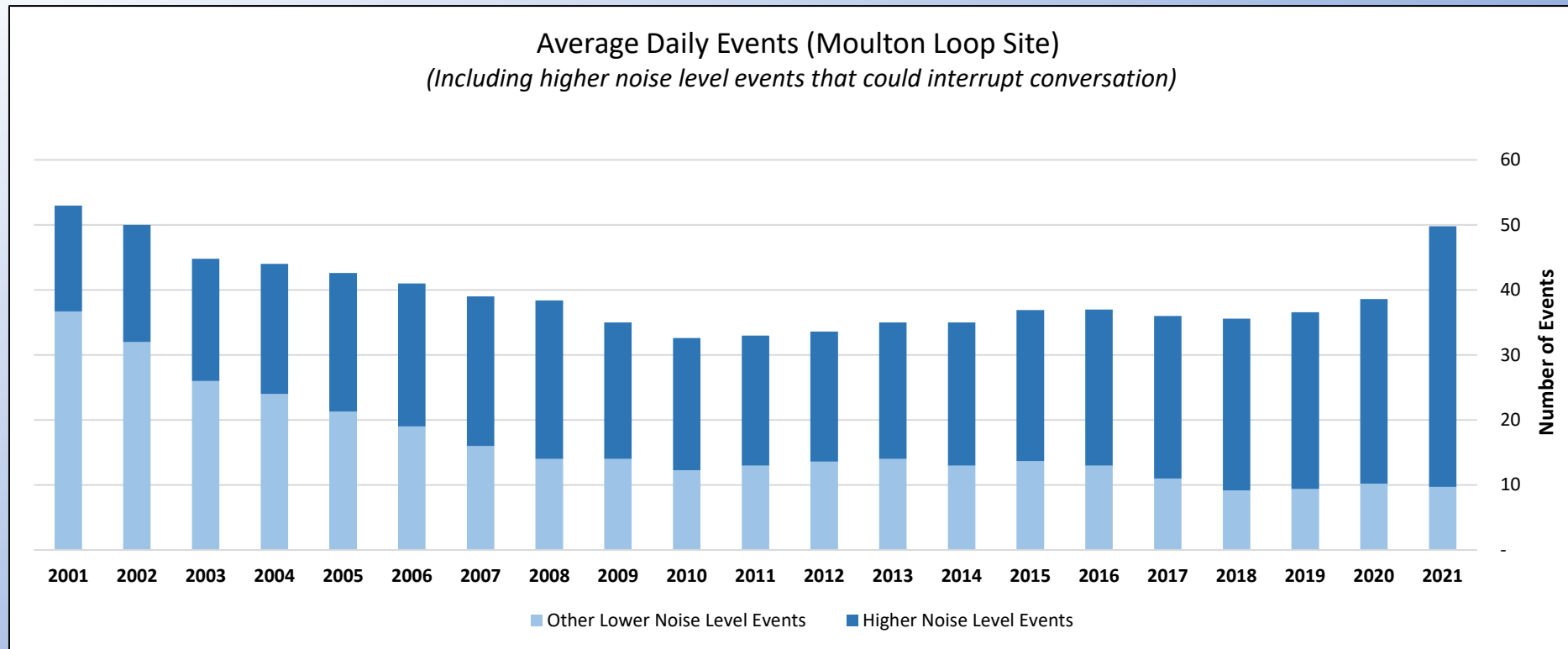
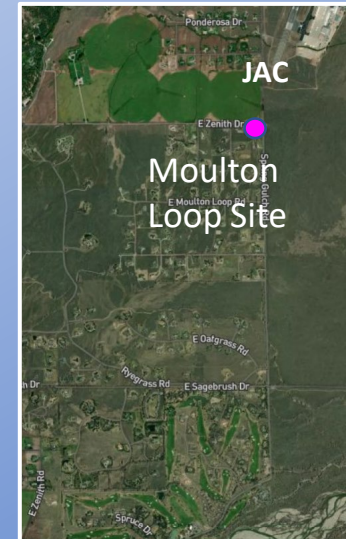
\*2021 Data is last 12 Months (Nov 2020 through Oct 2021)



# Historical Changes in DNL Noise Levels- 65 DNL



# Historical Changes in Number and Loudness of Noise Events



Other Lower Noise Level Events are those events that do not generate a high enough noise level to interrupt conversation

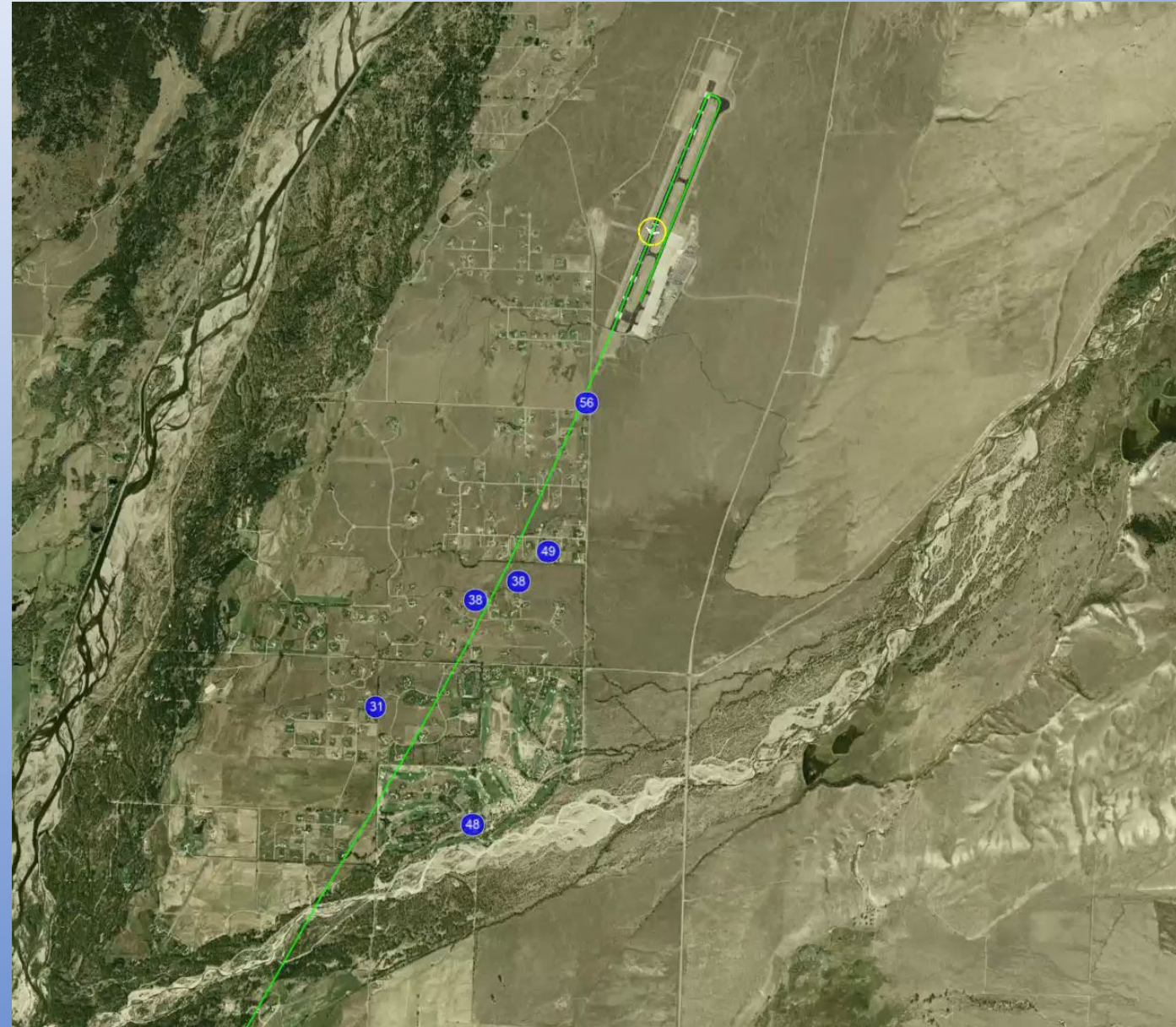


- ❖ Jackson Hole Airport has supplemented the DNL metric with other measures such as:
  - Single event Maximum noise levels
  - Number of events (Number of events per day noise is above a various noise levels)
  - Time Above (Minutes per day noise is above a various noise levels)
  - Voluntary Fly Quiet Program
  
- Note these supplemental metrics were used in the Part 150 evaluation



# Noise Monitoring Status Update

- ❖ Annual reporting is being updated to provide more expanded full year of information (starting with 2021 annual report)
- ❖ Portable noise monitoring results are providing a baseline for the noise levels





# Summary – History and Progress

- ❖ Use Agreement created the foundation of the Noise Abatement program
- ❖ Trends include
  - Operations have increased, with minimal DNL change, resulting in increased focus on supplemental metrics to examine community concerns
  - Fleet changes show trends in adoption of newer generation (quieter) aircraft and fewer older (louder) aircraft, along with a shift from prop aircraft to jet aircraft.
  - Aircraft are continuing to follow the flight procedure goals with greater than 90% compliance and showing trends of increased utilization.
  - Compliance with our voluntary curfew program has been increasing.
  - Fly Quiet shows a continued overall trend of improvement.





# Summary – Continuous Improvement

- ❖ Future Potential Actions may include:
  - Consideration of Southern Flight Procedure Study and Study Involvement Taskforce
  - Fly Quiet enhancements
  - Continued emphasis in promoting noise sensitive flight procedures with airlines and other users
  - Continue to identify and pursue ways to reduce the environmental footprint of the Airport including noise