April 4, 2022

To:
Dale Ogden, manager, Denver Flight Standards District Office, FAA
Luke Collison, principal inspector, Denver Flight Standards District Office, FAA
Derek Smith, APOI, Denver Fight Standards District Office, FAA

Copy to:
Jim Elwood, airport director, Jackson Hole Airport
Members of Jackson Hole Airport Board
Tricia O'Connor, supervisor, Bridger-Teton National Forest
Frank Durbian, manager, National Elk Refuge
Chip Jenkins, superintendent, Grand Teton National Park
Tony Chambers, owner and pilot, Wind River Air

Dear stewards of our national airspace,

I am writing to provide new evidence that last year the scenic helicopter tour operator Wind River Air flew more than 99 percent of its flights lower than 2000 feet above ground level over two federally protected territories in Wyoming – the Gros Ventre National Wilderness and the National Elk Refuge.

I espciallly invite your attention to the following subset of these flights – one that is noisy for humans and scary for wildlife:

At least 61 flights buzzed the Gros Ventre Wilderness at very low altitudes -- lower than 500 feet above ground level. At least 84 flights skimmed over the National Elk Refuge at these same very low altitudes – lower than 500 feet above ground level.

My "ask" of the FAA is this: Please broaden your ongoing investigation into Wind River Air's 19 overflights of Grand Teton National Park to include these 61 very low overflights of the Gros Ventre Wilderness and 84 very low overflights of the National Elk Refuge.

I submit this complaint as co-owner of Flat Creek Ranch, which is located less than a mile from the Gros Ventre Wilderness six miles from the National Elk Refuge. Our ranch has a long-standing interest in safe and quiet skies.

I am not talking about low-altitude flight segments during takeoff and landings from the Jackson Hole Airport. These are flight segments at least three miles away from the airport

Nor am I raising the alarm about overflights of protected areas that happened only occasionally. Or flights that were high enough so that Wind River Air could plausibly claim it came pretty close to complying the with the FAA's 2000 feet altitude advisory.

My findings are not rooted in rumor. They are based on radar data that reached the Jackson Hole Airport from inside the cockpit of the WRA helicopter between April and December 2021.

In this letter I will tee up two questions for the FAA's Denver Flight Standards Office concerning the operations of Wind River Air (WRA) in its Robinson R44 helicopter (tail number N307WR).

1. **Should the FAA take action (or do nothing) if a helicopter scenic tour operator makes a commercial business by knowingly defying the FAA's advisory to pilots that they should "make every effort to fly not less than 2,000 feet above ground level (AGL), weather permitting" above federally-designated wilderness areas and wildlife refuges?**

2. **Should the FAA take action (or do nothing) if a helicopter tour operator exposes its passengers to the risk of bird-strike accidents by flying low over prime bird habitat in a type of helicopter that is not compliant with the FAA's advisory that helicopter windshields should be impact-resistant?**

DEFIANCE OF THE FAA ALTITUDE ADVISORY

As we all know, on September 17, 2004 the FAA issued Advisory Circular number AC 91-36D. It asked all pilots of helicopters and other aircraft to "make every effort to fly not less than 2,000 feet above ground level (AGL), weather permitting" over what it called "noise-sensitive areas." The FAA advisory circular is still in effect today. It defined "noise-sensitive" with admirable clarity:

For the purposes of this AC, an area is "noise-sensitive" if noise interferes with normal activities associated with the area's use. Examples of noise-sensitive areas include residential, educational, health, and religious structures and sites, and parks, recreational areas (including areas with wilderness characteristics), wildlife refuges, and cultural and historical sites where a quiet setting is a generally recognized feature or attribute.[1]

To measure the extent to which Wind River Air has complied with the FAA altitude advisory, I have used the Wyoming Public Records Act to obtain the radar tracking data on Wind River Air's flights from April through December 2021 originating at the Jackson Hole Airport. In response to my requests, the Airport has released to me computer files totaling 57,000 lines of raw data on last year's radar flight tracks by the Wind River Air helicopter.

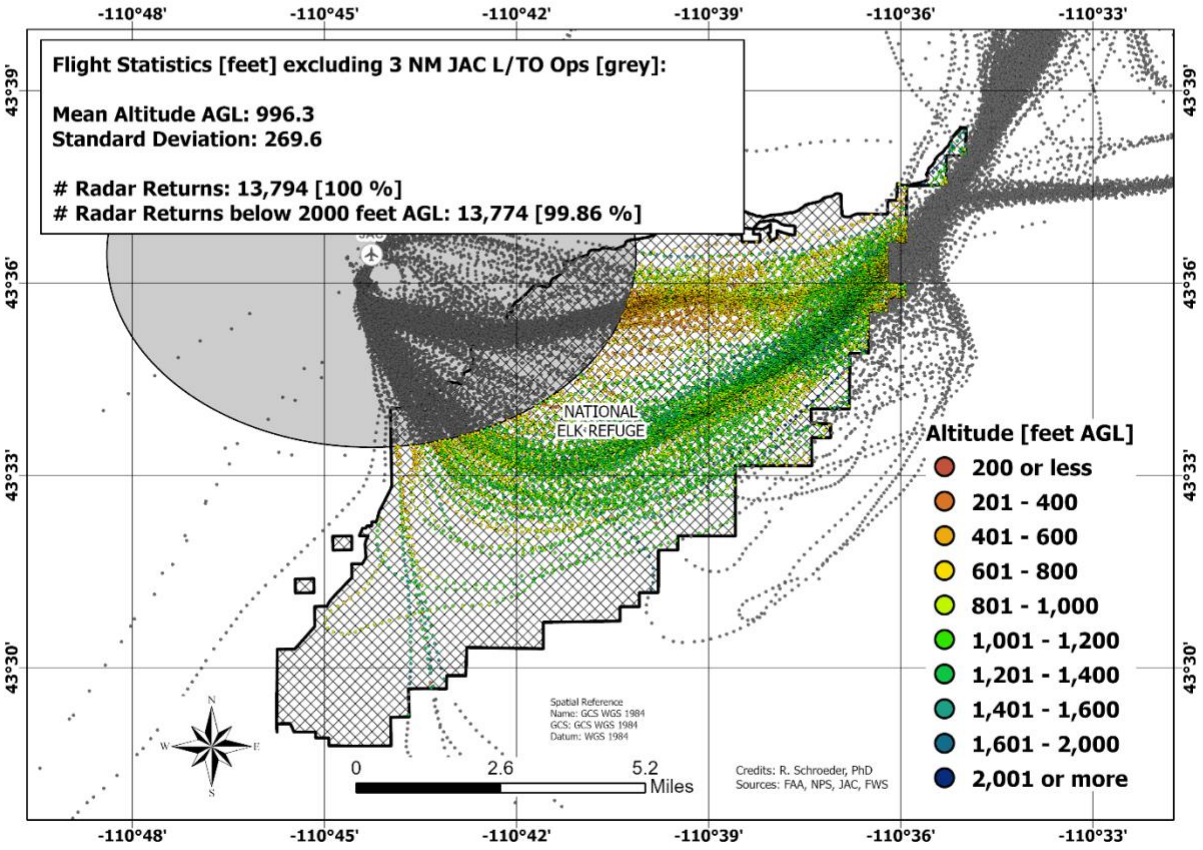
This evidence has been generated by the WRA helicopter's onboard automatic dependent surveillance-broadcast system (ASD-B). Two years ago, the Jackson Hole Airport Board had the foresight to require WRA's helicopter to have the ASD-B system activated whenever operating to and/or from the Jackson Hole Airport.

To obtain an accurate analysis of this voluminous flight track information, I contracted with an expert consultant and pilot, Dr. Ronny Schroeder, who is assistant professor of GIS and Remote Sensing of Embry-Riddle Aeronautical University in Prescott, AZ. Dr. Schroeder converted the raw data in the computer file into maps and spreadsheets.

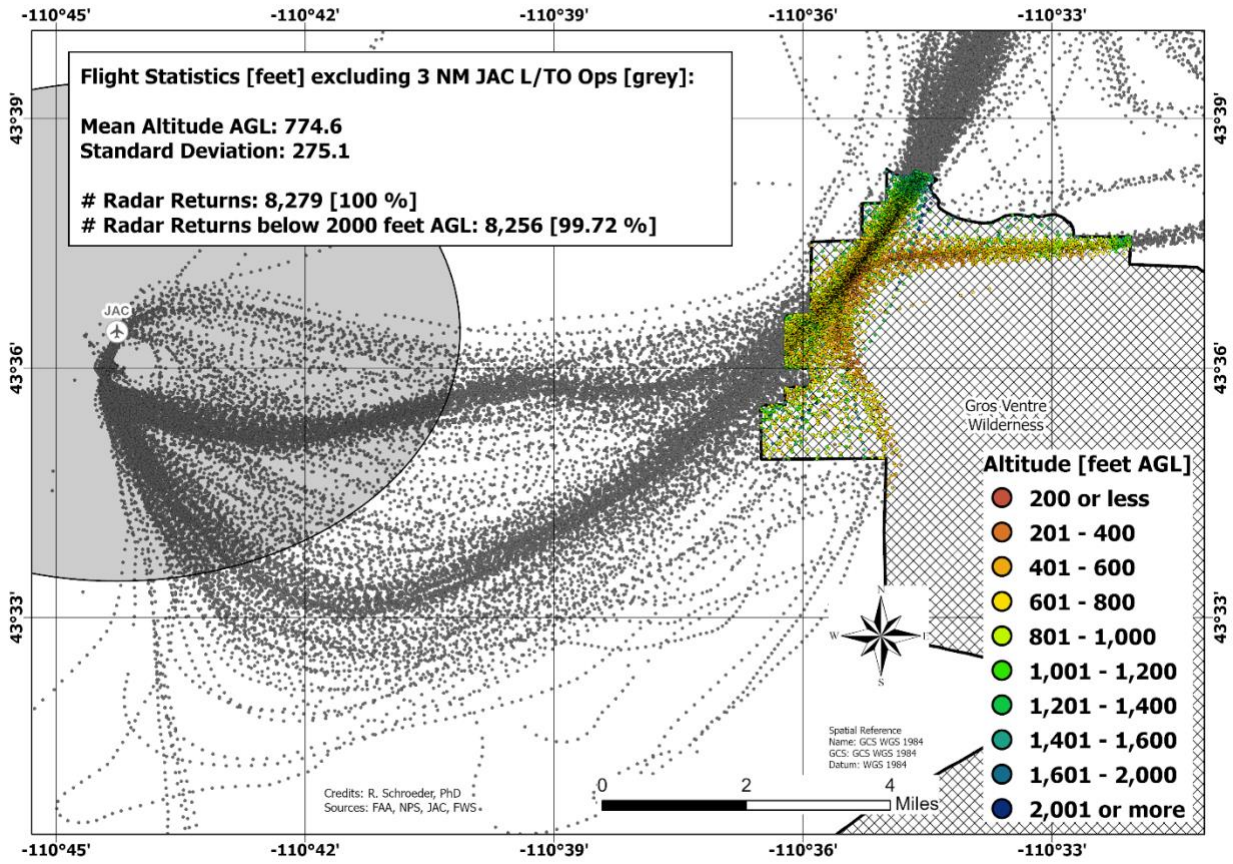
Below are two of his maps displaying Wild River Air's radar flight tracks over the Gros Ventre Wilderness and the National Elk Refuge. Please note his findings in the box at the top of the maps: 1) When flying over the National Elk Refuge at least three miles away from the airport, the WRA helicopter's flight tracks were below 2000 feet above ground level 99.86 percent of the time. 2) When flying over the Gros Ventre Wilderness at least three miles from the airport, the WRA helicopter's flight tracks were below 2000 feet above ground level 99.72 percent of the time.

[1] https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_91-36D.pdf

Flight Above Ground Level (AGL) over National Elk Refuge



Flight Above Ground Level (AGL) over Gros Ventre Wilderness



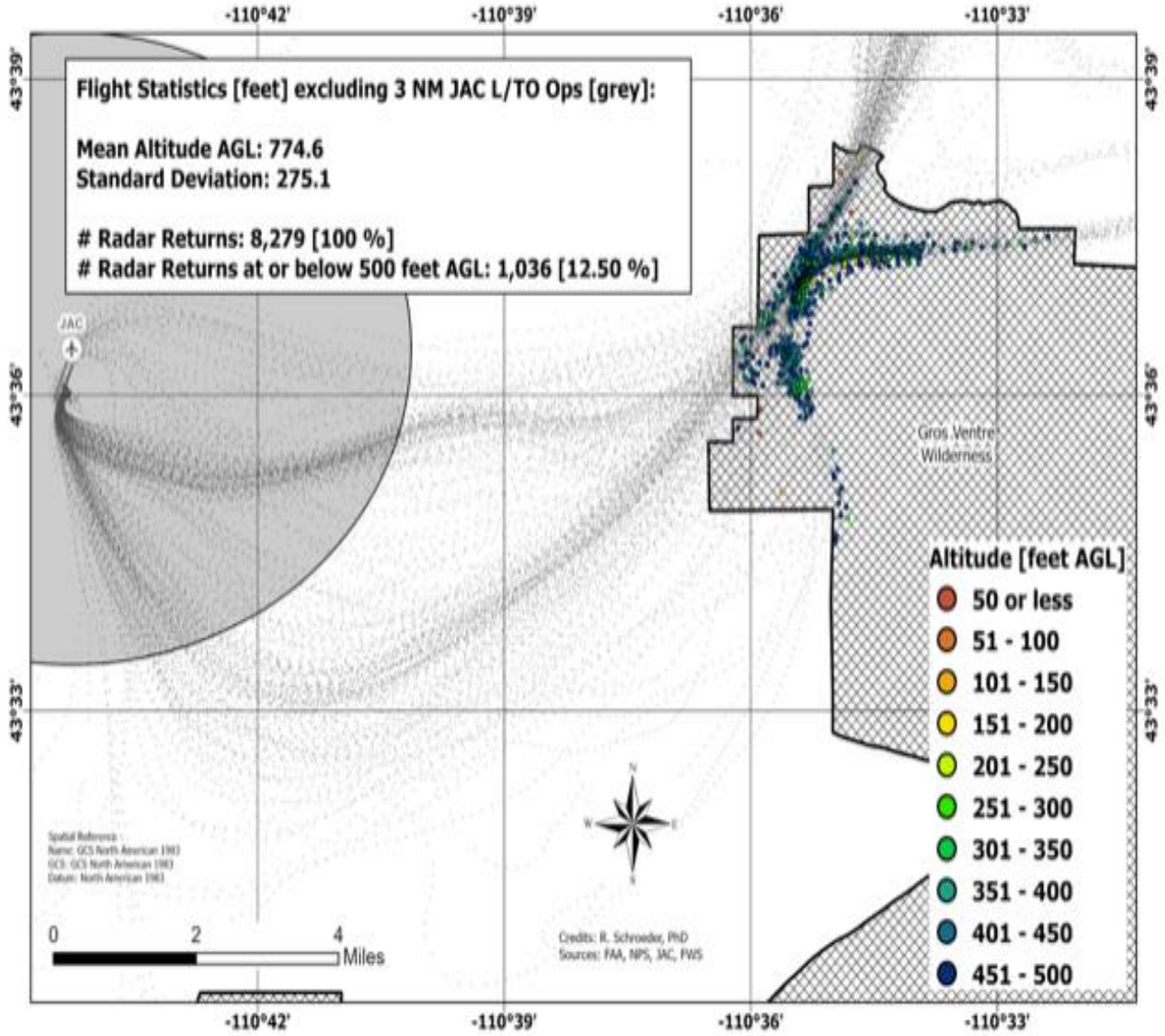
The flight track data also show that at least 61 of these flights over the Gros Ventre Wilderness and at least 84 of these flights over the National Elk Refuge were at less than 500 feet above ground level. I have attached to this email a spreadsheet containing track-by-track data on these very low flights.[2]

In the next two pages you will find Dr. Schroeder's maps of these flights over the Wilderness Area and the Elk Refuge below 500 feet above ground level. As you will see from the Elk Refuge map, a shocking number of the radar returns are from as low as 50-100 feet above ground level.

[2] 2022-03-31 WRA Flight Tracks Below 500 ft AGL over Gros Ventre Wilderness and National Elk Refuge, attached to this email. Column A on this spreadsheet was derived from calculations by Joe Albright. The rest of the spreadsheet was prepared by Dr. Ronny Schroeder.

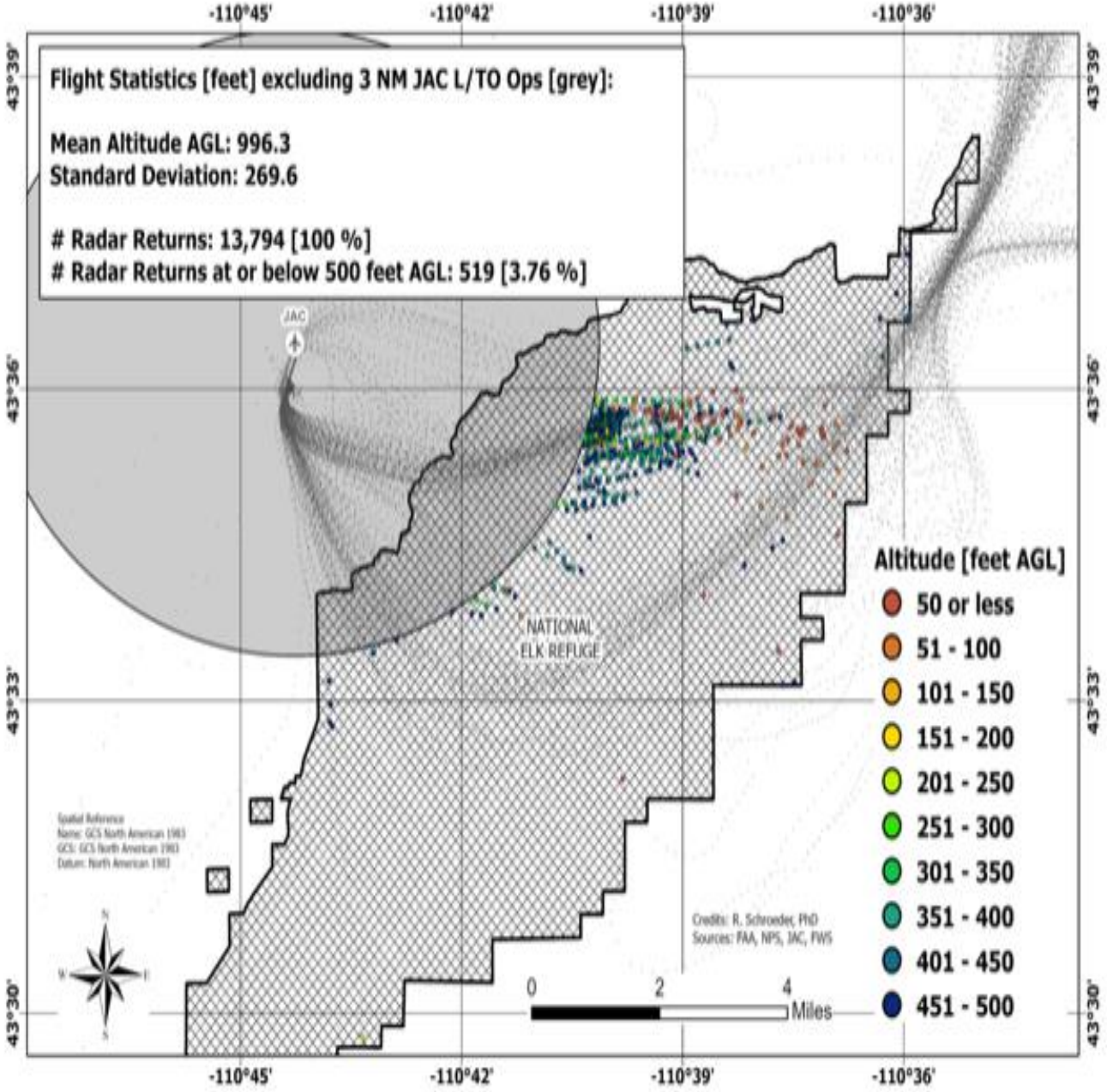
Flight Above Ground Level (AGL) over Gros Ventre Wilderness

- 500 feet or less -



Flight Above Ground Level (AGL) over National Elk Refuge

- 500 feet or less -



RISK OF BIRD STRIKE ACCIDENT IN A ROBINSON R-44

Now let's turn to my second question -- should the FAA take action (or do nothing) if a helicopter tour operator exposes its passengers to the risk of a bird-strike accident by flying low over prime bird habitat in a type of helicopter that does not comply with the FAA's Rotorcraft Bird Strike advisory.

Let me begin by commending the FAA for taking seriously the risks to passengers and pilots of bird-strike accidents involving helicopters.

In March 2016, the FAA's Aviation Rulemaking Advisory Committee established the Rotorcraft Bird Strike Working Group to provide recommendations on how to enhance safety of helicopter travel in the event of bird strikes. In April 2016, the FAA considered the bird strike issue important enough to publish the following explanation in the Federal Register: "The FAA has observed increased strikes to the rotorcraft windshield area with a force of impact that has directly endangered occupants and elevated the risk to safe rotorcraft operations. Bird penetration into the cockpit and cabin areas has become increasingly common, elevating the probability of potential serious injuries or fatalities to occupants."[3]

The Rotorcraft Bird Strike Working Group was created in part because of an accident in which eight people were killed on January 4, 2009, when a Sikorsky helicopter crashed in Morgan City, Louisiana, after a bird strike with a red-tailed hawk.

[3] https://www.federalregister.gov/documents/2016/04/27/2016-09781/aviation-rulemaking-advisory-committee-new-task

In November 2017, this Working Group recommended that the FAA should mandate that that helicopters with a maximum occupancy of 7 to 9 must install a "bird strike resistant windshield" strong enough to insure continued safe flight after impact with a bird weighing 2.2 pounds.[4]

The Working Group did not mandate that smaller helicopters be retrofitted to so that their occupants would be protected by include bird strike resistant windshields. Such a mandate for smaller civilian helicopters was determined to be not "economically viable."

The Working Group did, however, report to FAA superiors that operators of smaller helicopters maximum occupancy of 4-6 "should" comply with the same bird strike safety measures as larger helicopters.

More than four years have elapsed and the FAA has not adopted new regulations mandating that all owners of civilian helicopters retrofit safety windshields to project occupants against injury or death from bird strike accidents.

However, on September 13, 2021, The FAA did issue Special Airworthiness Information Bulletin AIR-21-17 which advised helicopter pilots that "reasonable flight planning and in-flight decisions can keep the rotorcraft away from bird rich environments and prevent bird strikes". It also suggested that helicopter owners should consider installing bird strike resistant windshields.

One of the FAA's suggestions in AIR-21-17 that clearly applies in the case of WRA's unfortunate pattern of low-level flights over bird-rich terrain:

> ***Increase Altitude.*** **Increase altitude as quickly as possible and practical, when allowed by other flight variables. There is a 32% decrease of bird strike likelihood for every 1,000 feet gained above 500 feet AGL[5]**

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[4] https://www.faa.gov/regulations_policies/rulemaking/committees/documents/media/ARAC%20RBSWG%20Final%20Report.pdf

[5] https://rotormedia.com/wp-content/uploads/2021/09/AIR-21-17.pdf

Here are two reasons why I believe the FAA should react to the evidence in this letter by somehow inducing WRA to change its practice of flying low more than 99 percent of the time over bird-rich territory in the three "noise sensitive" public lands near the Jackson Hole Airport:

1) The helicopter WRA is flying is a Robinson R44. Over the past 15 years, the R44 has been involved in at least 71 bird-strike incidents, according to the FAA's own Wildlife Strike Database.[6] Six people have been injured in these "incidents". After a 2016 bird-strike accident in England, the British Government's aircraft accident investigation bureau concluded: "The Robinson R44 windscreen is not designed to withstand bird strikes and the design requirements do not require it to do so."[7] In another incident in December 2020 – this one in Westchester County, NY -- a collision between an R44 and a Northern Flicker weighing only a few ounces caused a R44's windshield to shatter, leaving shards of glass in the cockpit.[8] Several helicopter manufacturers have voluntarily complied with FAA recommendations about retrofitting safety windshields in cockpits. The Robinson Helicopter Company is not one of them. But it has designed an "impact-resistant" windshield which it is offering R-44s as an upgrade to owners who want to pay for them.[9]

2) The territory over which WRA's helicopter is flying low is rich with birds, including bald eagles, golden eagles, sage grouse, ospreys, ravens and red-tailed hawks. "Approximately 175 species of birds have been observed on the National Elk Refuge," according to the 2016 Comprehensive Conservation Plan of the National Elk Reserve.[10]

Some parts of the National Elk Refuge are particularly sensitive because they are home to iconic species. The Refuge's Comprehensive Conservation plan states: "In the fall, as many as 100 bald eagles have been seen at one time in the

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[6] https://wildlife.faa.gov/home

[7] https://www.gov.uk/government/publications/air-accident-monthly-bulletin-november-2016

[8] https://www.faa.gov/airports/airport_safety/wildlife/media/significant-wildife-strikes-1990-jan-2021.pdf. See photograph of the remains of the Northern Flicker in the R-44 cockpit on page 9.

[9] https://robinsonheli.com/news/robinsons-impact-resistant-windshields/

[10] https://www.fws.gov/mountain-prairie/refuges/planningpdfs/NER/NER_FinalCCP_Book_2016-1110(reduced).pdf

cottonwood trees within the elk and bison hunting areas on the refuge. … Typically, 5–20 bald eagles may be active on the refuge during the winter."[11] The Refuge's conservation plan also states: "Most trumpeter swan nesting occurs [in the spring] in Flat Creek Marsh southwest of Miller Butte, with occasional nesting activity in the Pierre's Pond and Romney Pond complexes on the northern end of the refuge. In addition, there may be as many as 200 trumpeter swans on the refuge during fall migration, and 50 trumpeter swans may winter on the refuge. "[12]

CONCLUSION

Let me suggest how I believe the FAA should answer the two questions I posed at the beginning of this letter.

> **1) Should the FAA take action (or do nothing) if a helicopter scenic tour operator makes a commercial business by knowingly defying the FAA's advisory to pilots that they should "make every effort to fly not less than 2,000 feet above ground level (AGL), weather permitting" above federally-designated wilderness areas and wildlife refuges?**

MY ANSWER: The FAA has the power to issue "enforcement actions" ranging from fines to suspension or revocation of licenses. During the first three months of 2021, the FAA issued 55 "enforcement actions" ranging upwards from a $500 fine to suspension or revocation of an operating certificate. In my judgment, the FAA should put WRA on notice that it risks an "enforcement action" if it continues to entertain guests of our community by flying below 2,000 feet AGL over "noise sensitive" Grand Teton National Park, the Gros Ventre Wilderness or the National Refuge.

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[11] https://www.fws.gov/mountain-prairie/refuges/planningpdfs/NER/NER_FinalCCP_Book_2016-1110(reduced).pdf

[12] https://www.fws.gov/mountain-prairie/refuges/planningpdfs/NER/NER_FinalCCP_Book_2016-1110(reduced).pdf

2) Should the FAA take action (or do nothing) if a helicopter tour operator exposes its passengers to the risk of bird-strike accidents by flying low over prime bird habitat in a type of helicopter that is not compliant with the FAA's advisory that helicopter windshields should be impact-resistant.

MY ANSWER: The FAA should call WRA's attention to FAA Special Airworthiness Information Bulletin AIR-21-17, which renews the FAA's warnings of the risks of bird-strikes and suggests mitigation strategies.

The FAA should particularly stress to WRA the importance of this recommendation TO helicopter pilots: "*Increase Altitude.* Increase altitude as quickly as possible and practical, when allowed by other flight variables. There is a 32% decrease of bird strike likelihood for every 1,000 feet gained above 500 feet AGL"[13]

The FAA should also determine whether WRA has installed the Robinson Helicopter Company's upgraded "tough energy-absorbing polycarbonate" windshields. In December 2021 I emailed Tony Chambers, WRA's owner and pilot, asking whether his helicopter already has one of the improved windshields. He has not replied.

Two years ago, the Robinson Helicopter Company announced that is selling these new "impact-resistant windshields [to] improve bird-strike protection." Robinson said that new, improved windshield for the R-44 would cost $6,800 throughout 2020.[14]

"Robinson believes the new windshields will be particularly beneficial to pilots flying at low altitudes or in other environments where the risk of a bird strike is greater," the company said in a statement on its website. The announcement featured a video of an upgraded windshield resisting a blow with a sledgehammer.[15]

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[13] https://rotormedia.com/wp-content/uploads/2021/09/AIR-21-17.pdf

[14] https://robinsonheli.com/news/robinsons-impact-resistant-windshields/

[15] https://robinsonheli.com/news/robinsons-impact-resistant-windshields/

I thank you for your consideration of my complaint and am ready to answer any questions you might have.

All best,

Joe Albright, co-owner
Flat Creek Ranch
Jackson, WY 83001
joe@flatcreekranch.com