

EDMONTON INTERNATIONAL AIRPORT

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Noise Advisory Committee

Interim Report

December 2020

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1.0 Executive Summary

Edmonton Airports noise office has compiled a summary report detailing trends in noise complaints received from January 2020 until the end of November 2020. A significant reduction in air traffic due to the covid-19 pandemic has supported an overall reduction in noise concerns due to less aviation noise in the region. At the Edmonton International Airport there has been an 84 percent decrease in noise complaints relative to 2019. Edmonton International Airport has also observed a decrease in new individuals reporting complaints, which is a positive trend. The noise office reviewed Runway 12 departure data and for Noise Abatement Procedure conformance and is pleased that the compliance rate remains above 99 percent.

At Villeneuve Airport noise complaints have decreased 63 percent relative to 2019. Helicopter complaints linked to Villeneuve increased slightly from 15 in 2019 to 17 in 2020, however no helicopter concerns have been received from since May 2020. Due to consistent helicopter complaints from nearby landowners, Edmonton Airports in alignment with Nav Canada developed and implemented a Helicopter Training Procedure. The implementation of the procedure is a significant milestone in supporting our relationship with those landowners and continuing to preserve operations at ZVL.

2.0 Introduction

Edmonton Regional Airports Authority (Edmonton Airports or EA) is pleased to provide to the Noise Advisory Committee (NAC) this report which identifies trends in noise complaints received from January 2020 until the end of November 2020. Complaints received in December 2020 will be included in the spring, 2021 update. Due to ongoing health risks of COVID-19, Edmonton Airports has decided to provide the NAC with an update in report form to replace the planned in-person year-end meeting.

Edmonton Airports operates the Edmonton International Airport (EIA) and Villeneuve Airport (ZVL). A dedicated noise office is maintained to track and respond to noise complaints attributed flights associated with our airports. The noise office provides support to public in the Edmonton Metropolitan Region with investigation and education on aircraft noise occurring across the region.

Aircraft noise complaints from surrounding communities are managed by Edmonton Airports through formation of the NAC. Membership of the NAC includes:

- City of Leduc administration and a resident representative,
- City of Edmonton administration,

- Leduc County councilors, a resident representative, and administration,
- Town of Devon council,
- City of Beaumont council,
- NAV CANADA,
- Transport Canada,
- Airline representative(s), and
- Edmonton Airports.

The committee reviews noise complaint statistics and trends recorded by the airport authority. Additionally, the committee functions as a forum for information exchange on airport operations and aircraft noise.

3.0 Edmonton International Airport

3.1 Background

Edmonton International Airport is the primary airport servicing the Edmonton region and northern Alberta. It acts as a major point of call in the Canada Transcontinental Air System and for international flights to Europe via the Transpolar Route. Situated within Leduc County, EIA borders the City of Edmonton to the north along Highway 19 and the Queen Elizabeth II Highway to the east. Surrounding communities include the City of Leduc, City of Edmonton, City of Beaumont, Town of Devon, Town of Calmar, Leduc County and Parkland County.

EIA operates two runways (Runways 02/20 and 12/30) in an open 'V' configuration (Figure 1). The flight patterns and distribution of aircraft using EIA are influenced by many factors including prevailing wind direction and speed, the origin/destination airport, aircraft performance characteristics, local weather, visual ground reference points, instructions provided by air traffic control to maintain safety in the airspace, and regulatory requirements under the Canadian Aviation Regulations.

EIA operates 24 hours per day, 365 days per year, and there are no restrictions preventing aircraft from arriving or departing, day or night. Depending on the type of activity (commercial passenger, cargo, charter or military), destination, and runway used; aircraft can be over areas surrounding the airport at almost any time.

Figure 1. Edmonton International Airport Runway Configuration.



Noise generated by aircraft is not a typical factor considered in aircraft operations but can be in special cases where Noise Abatement Procedures (NAPs) are created to reduce the impact of aircraft noise on places around airports. NAPs are developed through a rigorous regulatory development process overseen and scrutinized by Transport Canada and can only be justified by significant validated community complaints about aircraft noise. NAPs are developed to reduce aircraft noise exposure to areas around an airport; however, they can often cause significant impacts to airport and airline operational viability and efficiency. The development of NAPs for EIA falls under the purview of the EIA Noise Advisory Committee.

Currently there is one NAP for EIA, which influences departures from Runway 12, and applies only to turbo jet and turbo fan powered aircraft. The affected aircraft departing to the southeast are not to turn right until they have progressed past a ground-based navigational aid (the Leduc Beacon), taking the aircraft beyond the heavily populated areas of Leduc (Figure 2). As the NAP is a regulatory requirement, all pilots are required to follow the procedure unless there are overriding circumstances that would affect the safe operation of the aircraft (such as wind or weather). There are no other NAPs for EIA and so aircraft are unconstrained when operating in the surrounding vicinity.

Figure 2. Edmonton International Airport Runway 12 Noise Abatement Procedure.



3.2 Total Noise Complaints Received

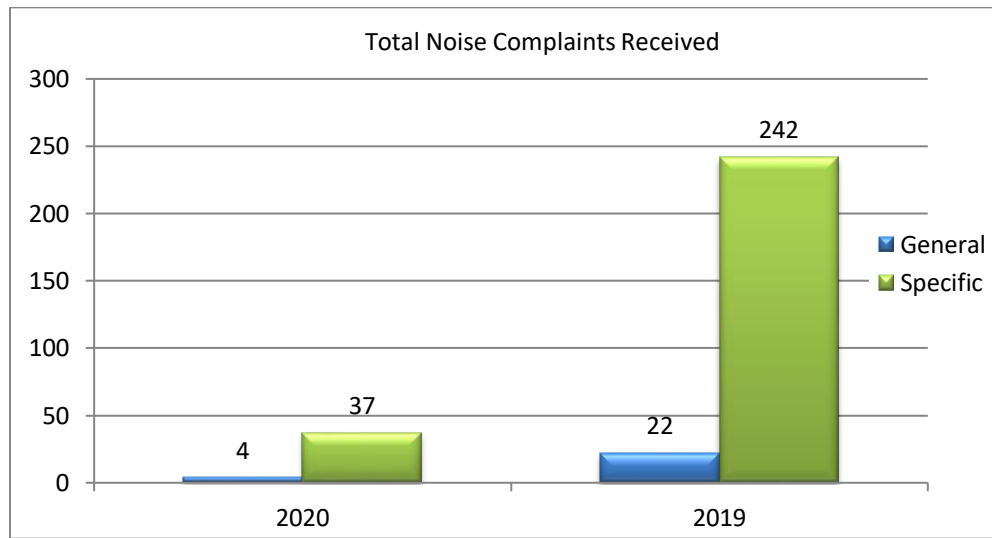
From January 2020 to the end of November 2020, EIA received a total of 41 noise complaints that were attributed to aircraft arriving or departing the airport. Of the 41 complaints, 37 were registered as specific complaints while 4 were registered as general complaints.

Complaints are categorized as specific when the concerned party provides detailed information that allows the noise office to correlate the complaint to a specific operation. These details include the time of noise event, location observed and other identifiable information that would support the investigative process. Complaints are categorized as general when the concerned party provides limited information or wide-ranging statements that do not allow EA to navigate to specific operations resulting in complaint. For example, “it has been noisy all day” compared to “a plane flew over my home in southwest Leduc at 2:30 today”.

Compared to 2019, noise complaints in 2020 attributed to EIA operations are significantly lower. This can be attributed to the decreased operations in 2020. Noise complaints in 2020 followed a similar trend of previous years in that they were more specific than general in content. The noise office has

focused efforts to follow-up with individuals to provide additional details to allow more thorough investigation of complaints. Receiving more fulsome data has allowed EA to better understand specific operations resulting in a complaint.

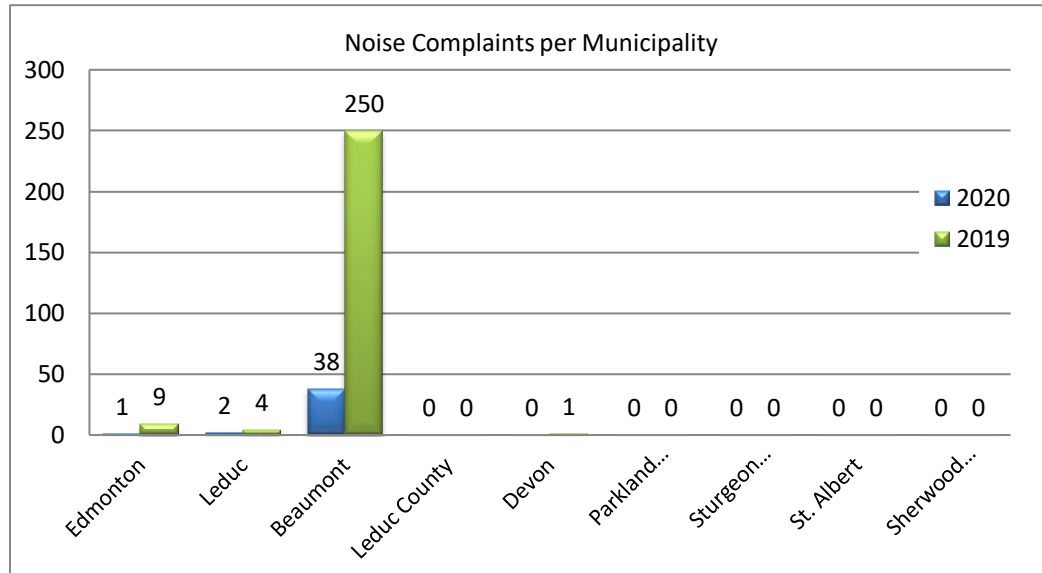
Figure 3. Total Noise Complaints Received at EIA showing January to November 2020 compared to 2019.



3.3 Noise Complaints per Municipality

Similar to 2019, the majority of noise complaints attributed to EIA operations have originated from the City of Beaumont (38 of 41 total complaints). Of the 38 complaints, 37 were reported from one individual. This individual is a known to report many complaints and in 2019 registered 233 of the 264 complaints (88 percent). Through investigation, it has been shown that this individual essentially reports complaints about any aircraft flying in the vicinity of Beaumont.

Figure 4. EIA Noise Complaints by Municipality, January to November 2020 compared to 2019.



3.4 Noise Complaints Attributed to Specific Aircraft Operations

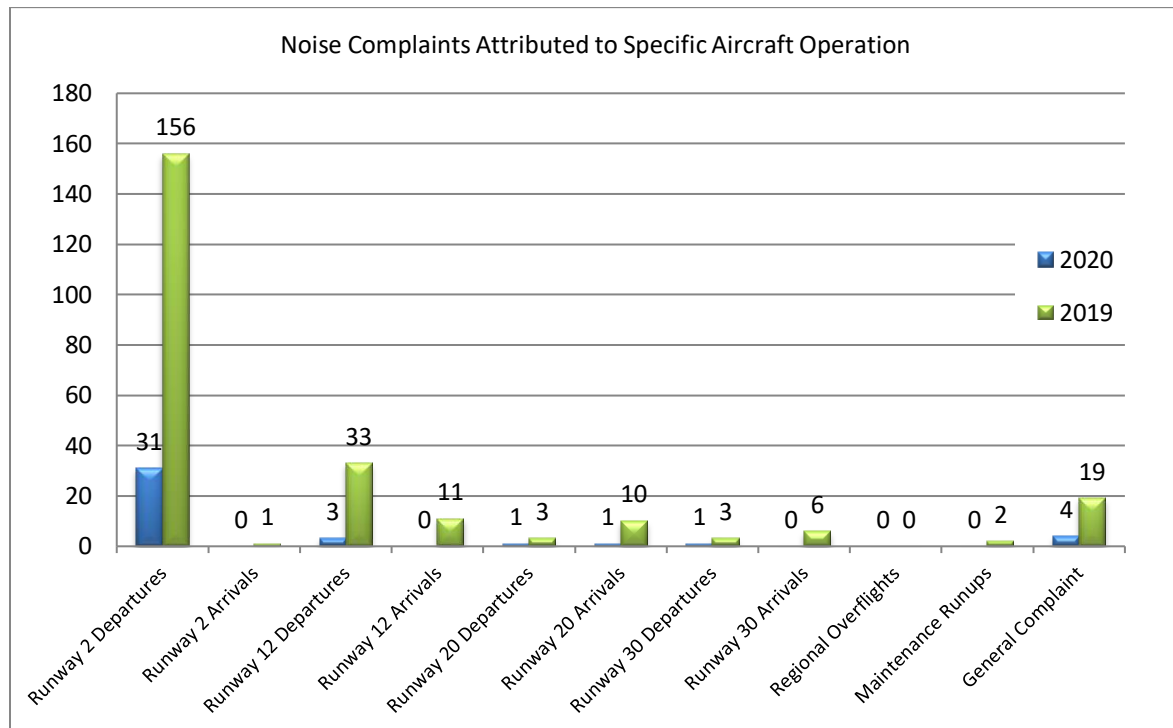
Based on the location of the noise complaints and acknowledging that many complaints were received from the City of Beaumont, the data suggests that operations using Runway 02/20 are resulting in the greatest number of complaints. Runway 02 departures and Runway 20 arrivals result in the greatest flight density over or near Beaumont and the data reflects this.

31 complaints in 2020 were attributed to Runway 02 departures and one (1) complaint correlated to a Runway 20 arrival. Similarly, in 2019, the complaint investigation found most complaints were from Runway 02 departures, as complaints were heavily concentrated from the repeat Beaumont individual reporting complaints.

Runway 12 departures and Runway 30 arrivals create the most air traffic over the City of Leduc. A Noise Abatement Procedure (NAP) is in place restricting right turns for departing aircraft from Runway 12, limiting noise exposure over City of Leduc residential areas (further discussed in Section 2.9). Three (3) noise complaints received were attributed to Runway 12 Departures and zero (0) complaints correlated to Runway 30 arrivals. A reduction in complaints from the City of Leduc compared to 2019 is a positive trend for complaints attributed to Runway 12 and Runway 30 operations.

Additionally, EIA received one (1) complaint attributed to a Runway 20 departure and one (1) complaint due to a Runway 30 departure, which depart to the southwest and northwest respectively. Four (4) complaints were not assigned a runway operation as there was insufficient information provided by the individual to determine the runway.

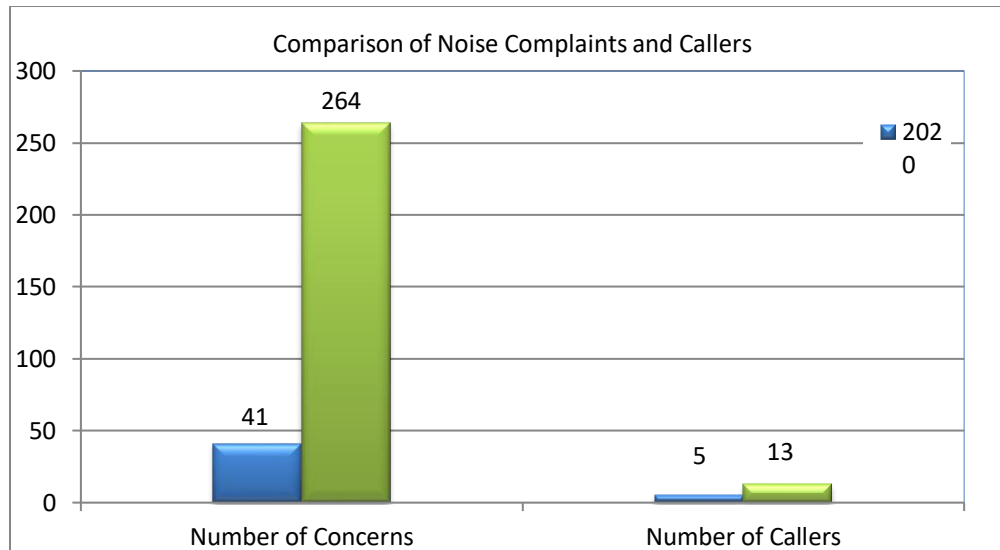
Figure 5. EIA Noise Complaints by Aircraft Operation showing January to November 2020 compared to 2019.



3.5 Comparison of Noise Complaints and Callers

In 2020, the 41 complaints were received from five (5) individuals, with 37 of the complaints from one individual in Beaumont. Similar complaint density occurred in 2019 where 233 of the 264 complaints were registered from the same Beaumont resident. Not discounting the complaints of the one individual in Beaumont, but if those complaints were removed from the remaining complaints, complaints have decreased from 31 in 2019 to four (4) in 2020. The overall reduction in complaints and number of persons reporting complaints is positive, however the reduction also correlates with decreased flight traffic.

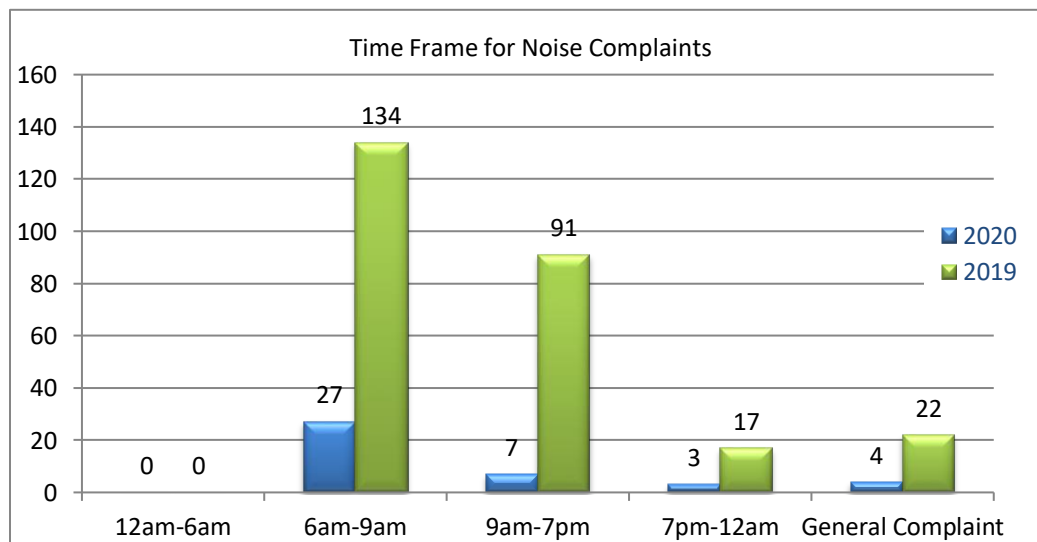
Figure 6. EIA Comparison of Noise Complaints and Callers January to November 2020 compared to 2019.



3.6 Time Frame for Noise Complaints

Noise complaints received in 2020 occurred largely in the morning hours (6AM – 9AM) with 27 complaints while seven (7) complaints were received from 9AM – 7PM and three (3) complaints from 7PM – 12AM. No complaints were received for aircraft operations from 12AM – 6AM which is the most disruptive time that would impact residents sleep schedules. A similar trend was observed in 2019 where the majority of complaints were received in the 6AM – 9AM and 9AM – 7PM timeframes.

Figure 7. Timeframe of EIA Noise Complaints showing January to November 2020 compared to 2019.

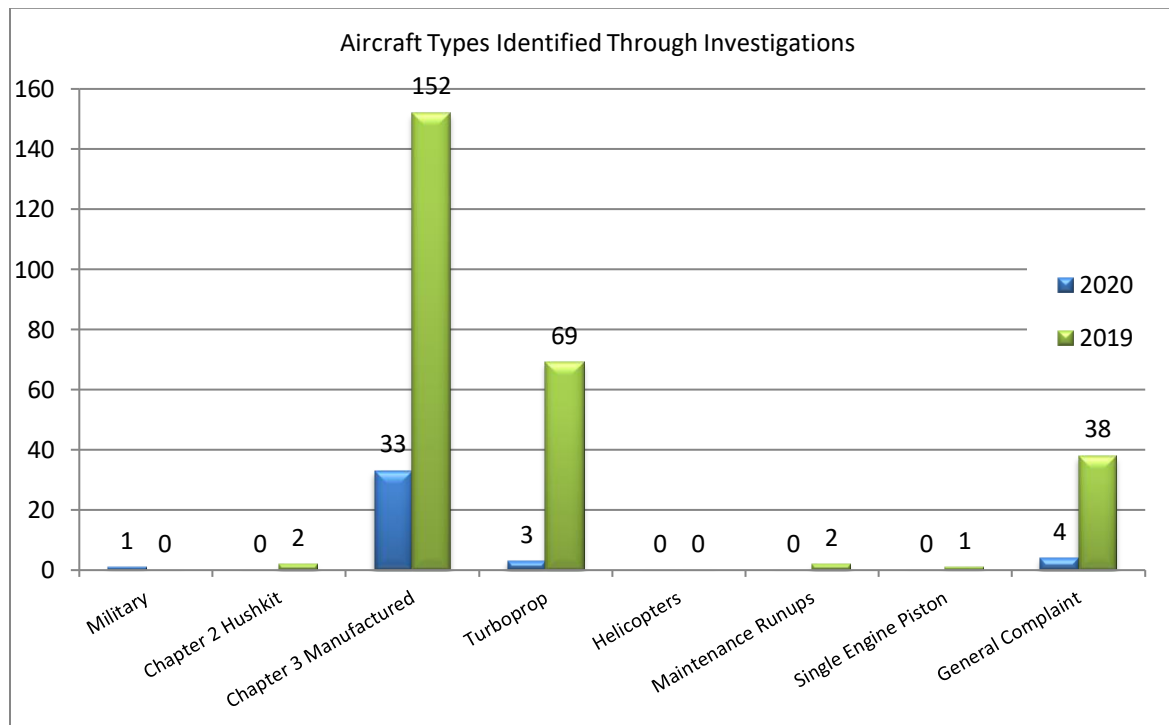


3.7 Aircraft Types Identified Through Investigation

Through the investigative process, the noise office records the aircraft type involved in the complaint to understand the type of noise the individual may have been subjected to. Older aircraft are being phased out of service and more efficient and quieter aircraft are replacing them. Chapter 2 hushkit fitted aircraft are being phased out of service and EIA has seen an overall decrease in Chapter 2 related complaints. A decrease in Chapter 2 related operations and resulting complaints is a positive trend as these aircraft provide significantly more noise over the areas they fly. The majority of aircraft movements from EIA are Chapter 3 aircraft which is reflected in the data.

In 2020, one (1) military Hercules plane departure generated a complaint over Beaumont and three (3) turboprop generated complaints; the remainder (33) were from Chapter 3 aircraft. In 2019, aircraft types displayed a similar distribution of Chapter 3 and Turboprop aircraft resulting in complaint.

Figure 8. EIA Noise Complaints by Aircraft Type, January to November 2020 compared to 2019.

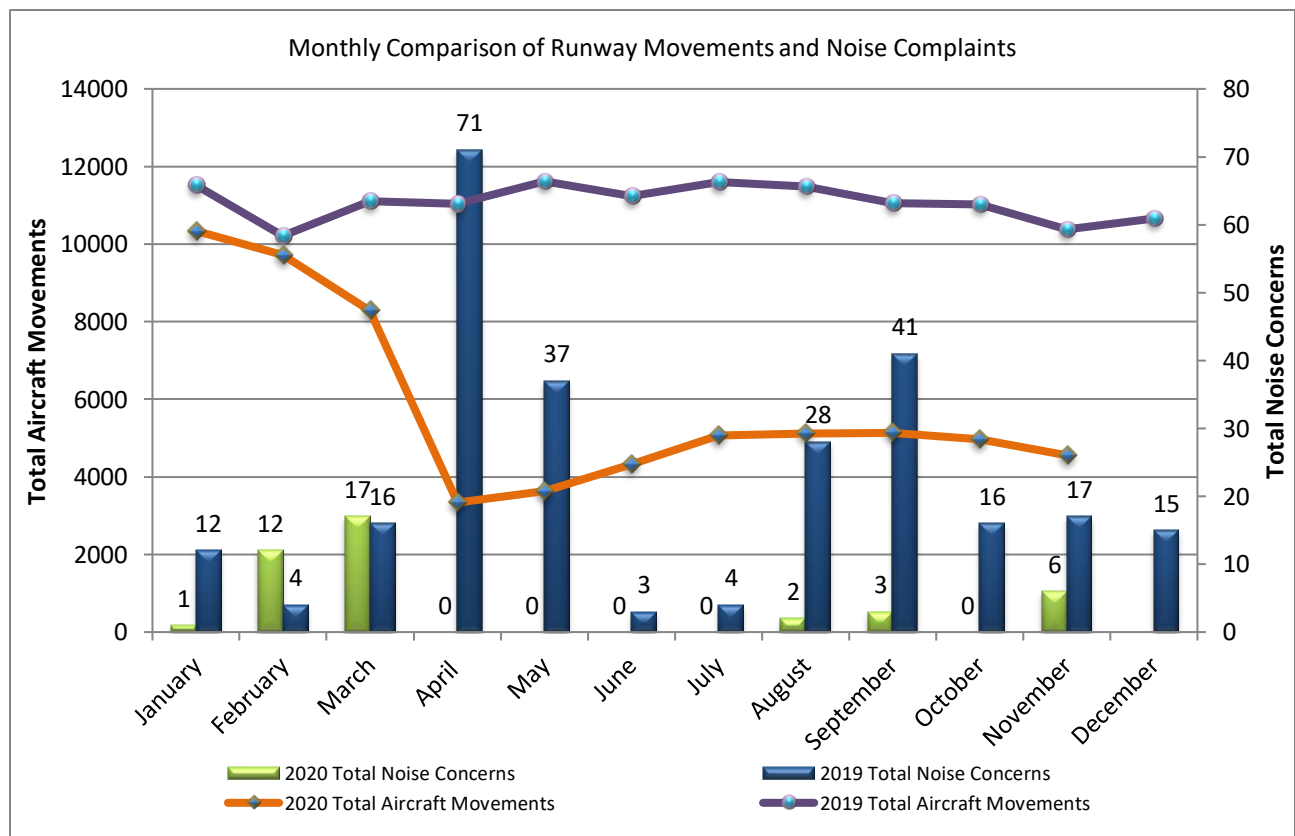


3.8 Monthly Comparison of Runway Movements and Noise Complaints

As COVID-19 began impacting operations in early 2020, a sharp decrease in flight operations relative to 2019 levels occurred and is shown in Figure 9. This sharp decrease in traffic correlates with reduced complaints related to arriving and departing aircraft from EIA.

Annual noise profiles generally have decreased complaints during winter months when less people are outside, and more windows are closed at residences. In summer months, more people are outside, and it is common to receive more complaints. This trend was true in 2019, when spring months resulted in an increase in complaints, however this trend was not observed in 2020. EIA received zero (0) noise complaints from April to July and two (2) complaints in August. Three (3) complaints were reported in September and six (6) in November, however all but one of these were from the Beaumont resident.

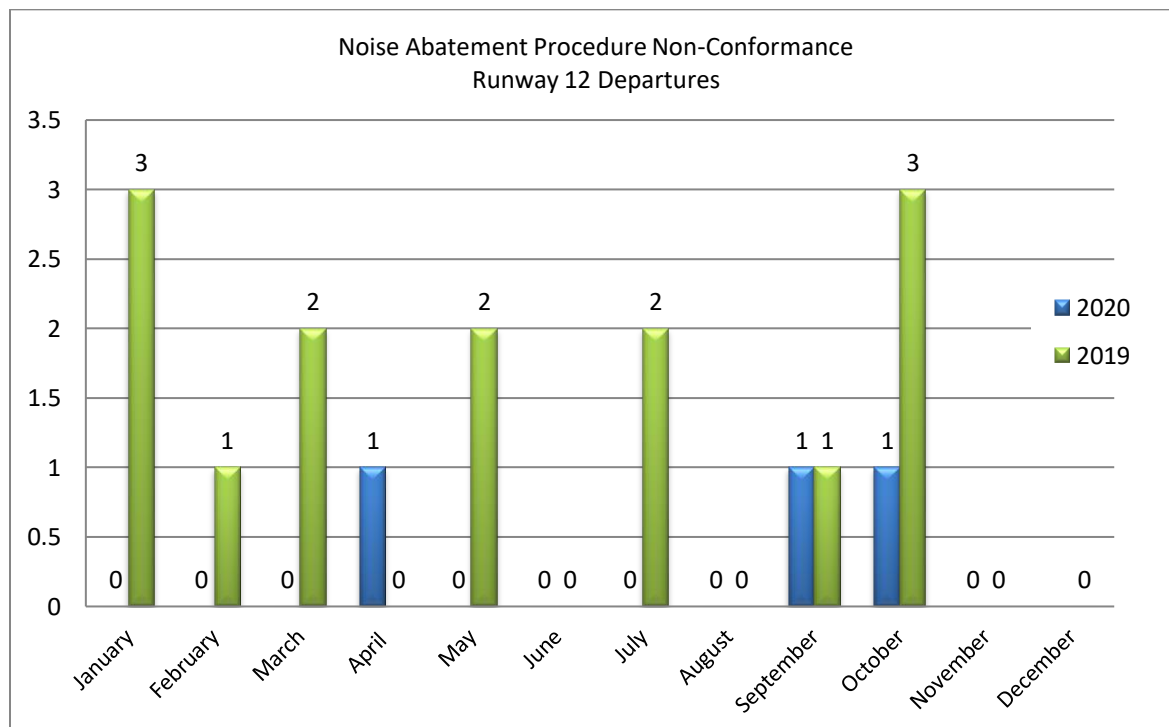
Figure 9. EIA Monthly Comparison of Runway Movements and Noise Complaints.



3.9 Noise Abatement Procedure Non-Conformance Runway 12 Departures

The EIA noise office conducts monthly conformance reviews of aircraft departing from Runway 12. Approximately 50 percent of all Runway 12 departing flights are reviewed for conformance. Operators not in compliance with the Noise Abatement Procedure are sent a letter requesting their pilots review the noise abatement procedure. The letter also contains details of the incident including the flight tracking information. From January 2020 to November 2020, the noise office reviewed 3,527 aircraft departures and identified only three (3) flights that did not conform to the procedure, generating a compliance rate of 99.91 percent. In 2019, 5,335 flight tracks were reviewed resulting in 14 non-conforming flights and a 99.74 percent compliance rate.

Figure 10. EIA Noise Abatement Procedure Conformance showing January to November 2020 compared to 2019.



3.10 Noise Complaints Received Unrelated to EIA

In 2020, air traffic to and from EIA decreased relative to 2019 traffic levels. This resulted in reduced noise complaint statistics correlated to EIA flight operations.

The noise office responded to 22 additional complaints from the Edmonton Metropolitan Region for aircraft noise that was unrelated to EIA arrivals and departures (e.g. small fixed wing aircraft operating around the City of Edmonton). Two factors may have contributed to this; one being that more people are working from home observing aircraft activity they would normally be absent from, and the second may be due to less overall aviation noise making the reduced number of aircraft operating more noticeable or disruptive to the observer.

As aircraft activity returns to previous levels, the noise office is prepared to receive an increase in complaints. As residents have adapted to a new normal in 2020 for reduced background aviation noise, the future resumption of flights may be more noticeable to community members. As well, if working from home becomes more common, residents at home may notice aircraft noise that they would have formerly been absent from.

3.11 Summary

Overall, from January to the end of November 2020, there has been an 84 percent decrease in noise complaints at EIA relative to 2019. Decreased overall complaints and less new individuals reporting complaints is a positive trend for noise management but has the caveat of acknowledging significantly reduced operations from EIA. The noise office is pleased to continue encouraging specific complaints that allow our flight tracking software to best correlate specific operations that generated the complaint. Noise Abatement Procedure conformance remains at an above 99 percent compliance rate which is encouraging for limiting noise to City of Leduc residents.

4.0 Villeneuve Airport

4.1 Background

Villeneuve Airport (ZVL) is a general aviation airport located northwest of the City of Edmonton in Sturgeon County. It is the primary flight-training facility for the region and operates two Runways (Runway 16-34 and Runway 08-26). In 2013 Runway 08-26 was extended from 3,500 to 5,000 feet.

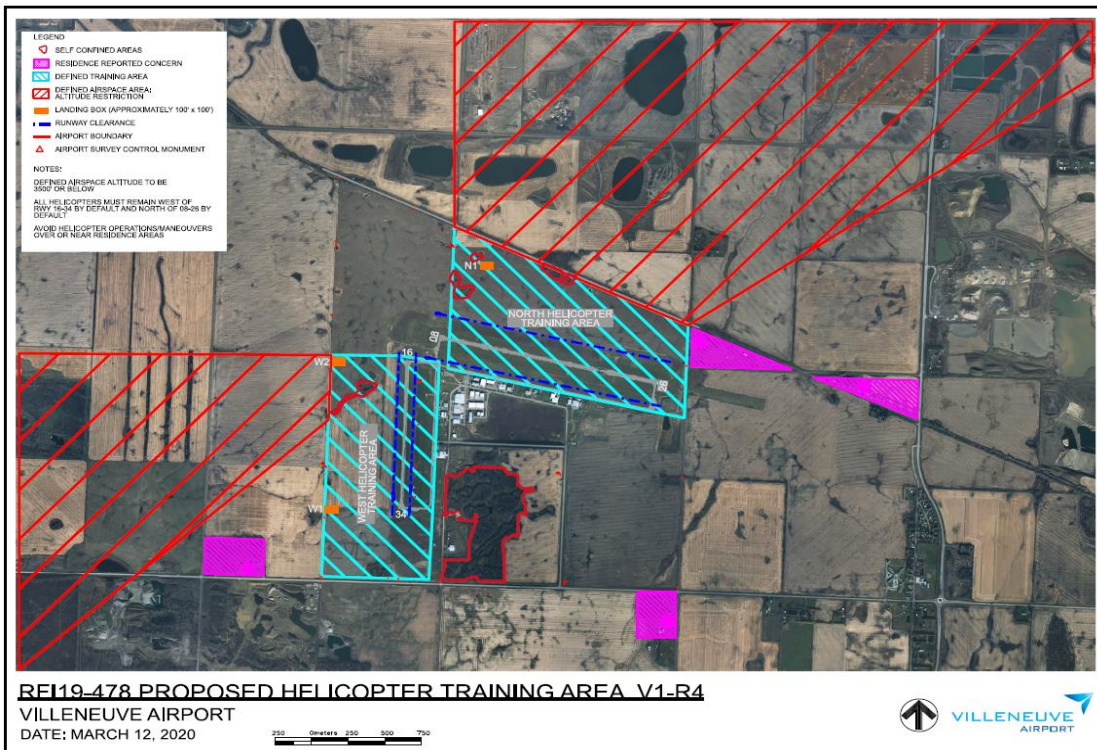
The area directly surrounding Villeneuve is concentrated by farmland, gravel operations and rural acreages. Past the immediate area of ZVL is the Hamlet of Villeneuve, the Hamlet of Calahoo, the City of Spruce Grove, the City of St. Albert, and Parkland County. As Villeneuve Airport is the primary flight-training facility for the region, most aircraft activity occurs over a small area nearby the airport.

4.2 Helicopter Training Area Procedure

Over the past several years, Edmonton Airports received feedback from residents in the immediate vicinity of ZVL that the helicopter noise was disruptive. During training exercises, helicopters may conduct ‘circuits’ where they take off from the runway threshold, complete a circular shaped loop, and return to the threshold. The helicopters may also hover over areas during training resulting in continuous noise over the area they are operating.

Based on this feedback, Edmonton Airports initiated reviews with Nav Canada to devise a procedure that would limit helicopter noise to the adjacent landowners while continuing to preserve continuous operations for users of ZVL. The goal of the procedure was to shift helicopter training away from the south and east sides of ZVL and establish training areas to the direct north and west. After significant consultation with Nav Canada, on April 15, 2020 this procedure was finalized and submitted to the Canadian Flight Supplement (CFS) for publishing. The new procedure has been communicated to all users of ZVL to follow, independent of the timeline to complete publishing in the CFS. This significant effort by Nav Canada and Edmonton Airports demonstrated our commitment to acting on community feedback and working with our neighbors.

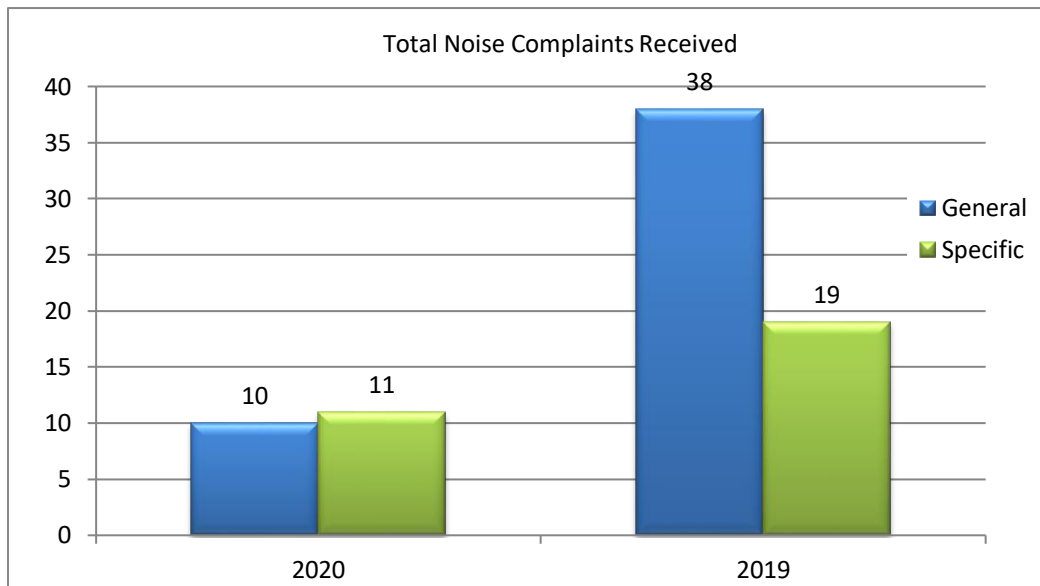
Figure 11. ZVL Helicopter Training Procedure.



4.3 Total Noise Complaints Received

In 2020, the noise office has recorded 21 complaints from ZVL with 11 of these specific and 10 general. In 2019, 57 complaints were registered, 38 specific and 19 general. Similar to EIA, ZVL has seen a decrease in flight activity that is contributing to reduced complaints. 19 of the 21 complaints received in 2020 were from two individuals in the direct vicinity of ZVL, both have been reporting noise complaints for several years.

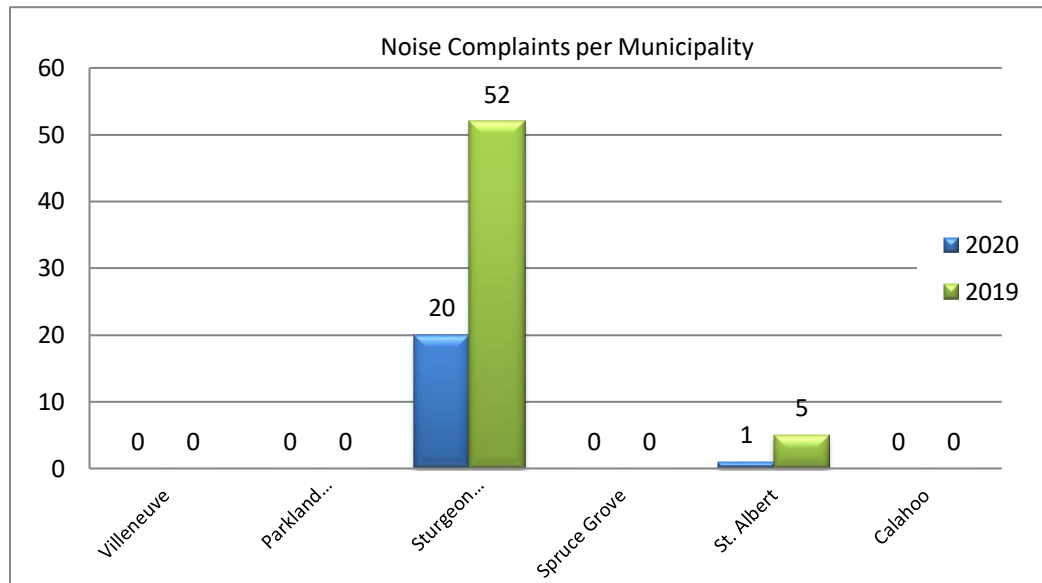
Figure 12. ZVL Total Noise Complaints showing January to November 2020 compared to 2019.



4.4 Noise Complaints per Municipality

Similar to 2019, the noise complaints received are largely from residents of Sturgeon County (20 of 21 in 2020 and 52 of 57 in 2019). Since the main activity occurring at ZVL is training, training circuits remain in the direct vicinity of ZVL. Flight operations after departure from ZVL that are in operation (e.g. recreational aviation in the Edmonton region) are not in the scope of ZVL noise management.

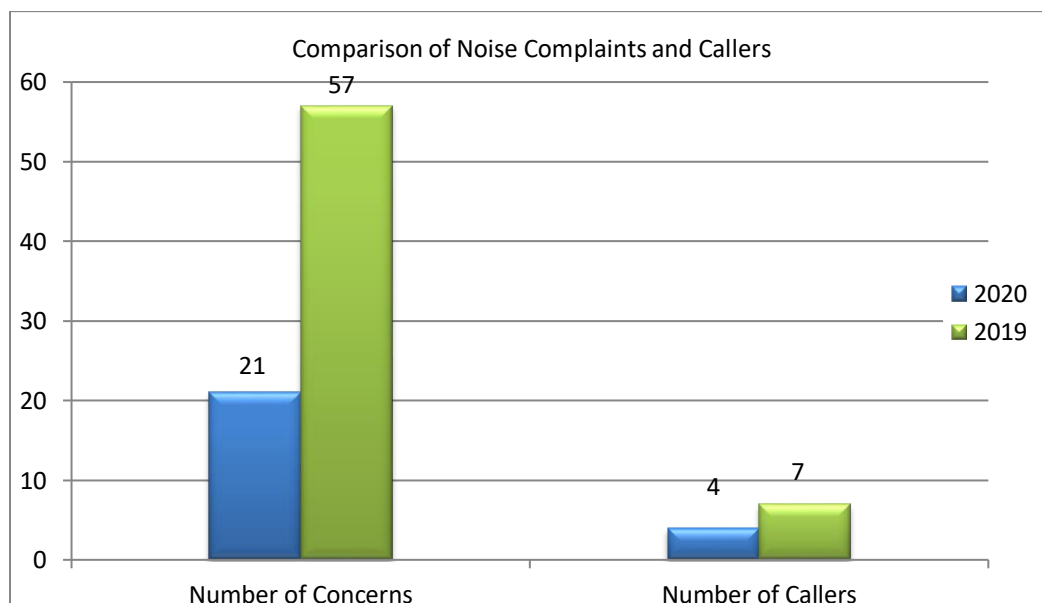
Figure 13. ZVL Noise Complaints by Municipality, January to November 2020 compared to 2019.



4.5 Comparison of Noise Complaints and Callers

2020 noise complaints were received from four (4) residents of Sturgeon County, while in 2019 complaints were received from seven (7) residents, showing a slight decrease. Of the four (4) individuals in 2020; two (2) are directly adjacent to ZVL and have filed several complaints in previous years, one (1) is new, and one (1) has filed limited complaints in the past.

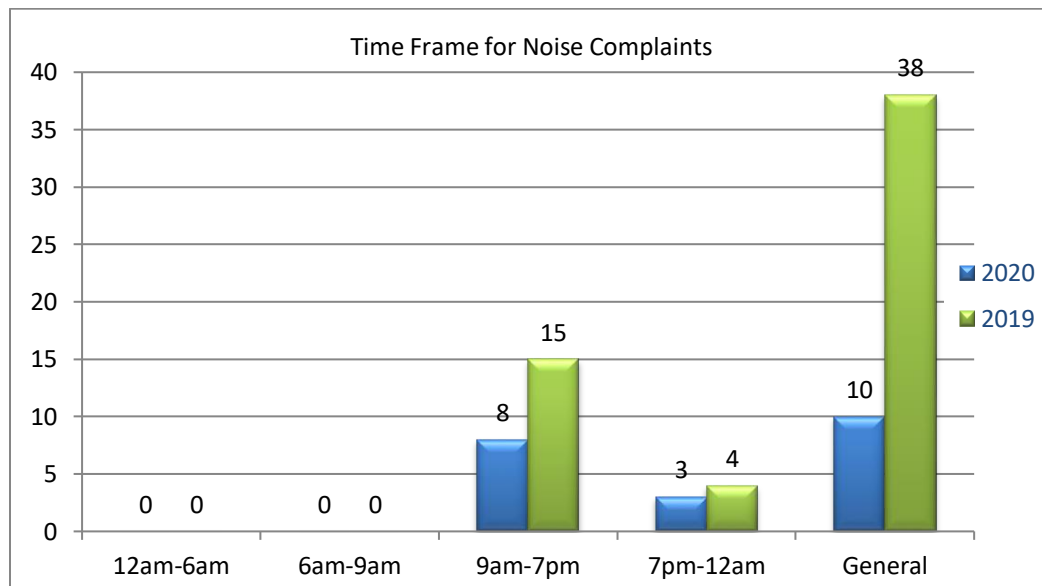
Figure 14. ZVL Noise Complaints and Callers showing January to November 2020 compared to 2019.



4.6 Time Frame for Noise Complaints

Noise complaints from ZVL that are general in nature are not assigned a timeframe, therefore are categorized as general. Of the specific complaints in 2020, the noise office observed concentrations in the 9AM – 7PM and 7PM – 12AM ranges. The distribution of complaint time matches the trend observed in 2019. Training activities, flying clubs and recreational activities naturally occur more often through daylight hours which is representative in the data. The noise office has received complaints in the past regarding night training activity, however this was not observed in 2020 and is an infrequent component of ZVL activity.

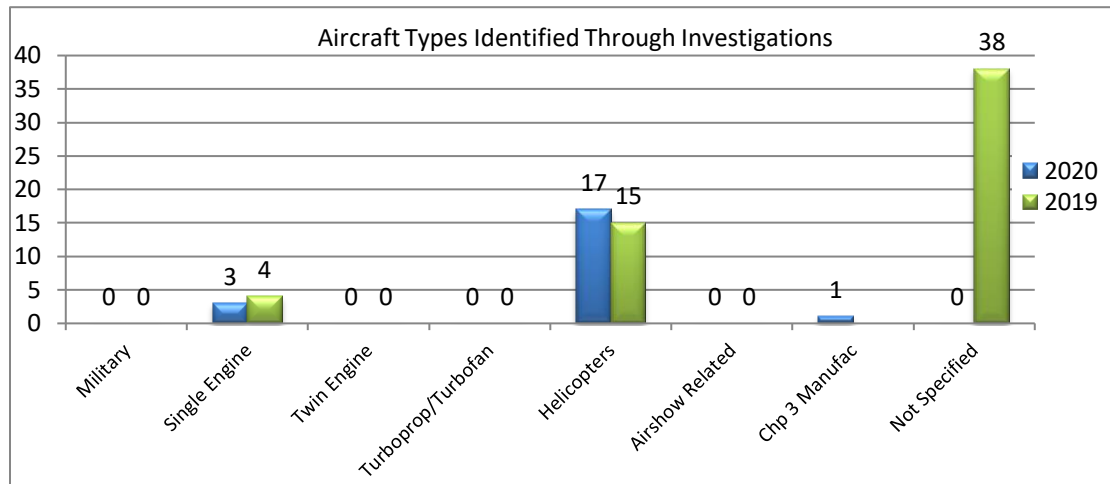
Figure 15. ZVL Timeframe for Noise Complaints, January to November 2020 compared to 2019.



4.7 Aircraft Types Identified Through Investigation

Helicopter activity has resulted in the most complaints relative to other aircraft types operating at ZVL. In 2020, 17 of the complaints were related to helicopters (15 in 2019), while only three (3) were from single engine fixed wing activity. One chapter 3 aircraft complaint was recorded as result of Nav Canada conducting required Instrument Landing Systems (ILS) Flight Checks. At least twice each year Nav Canada completes ILS checks where the aircraft completes repeat approaches to the runways at low altitudes, which would be unusual for observing residents familiar with the airspace.

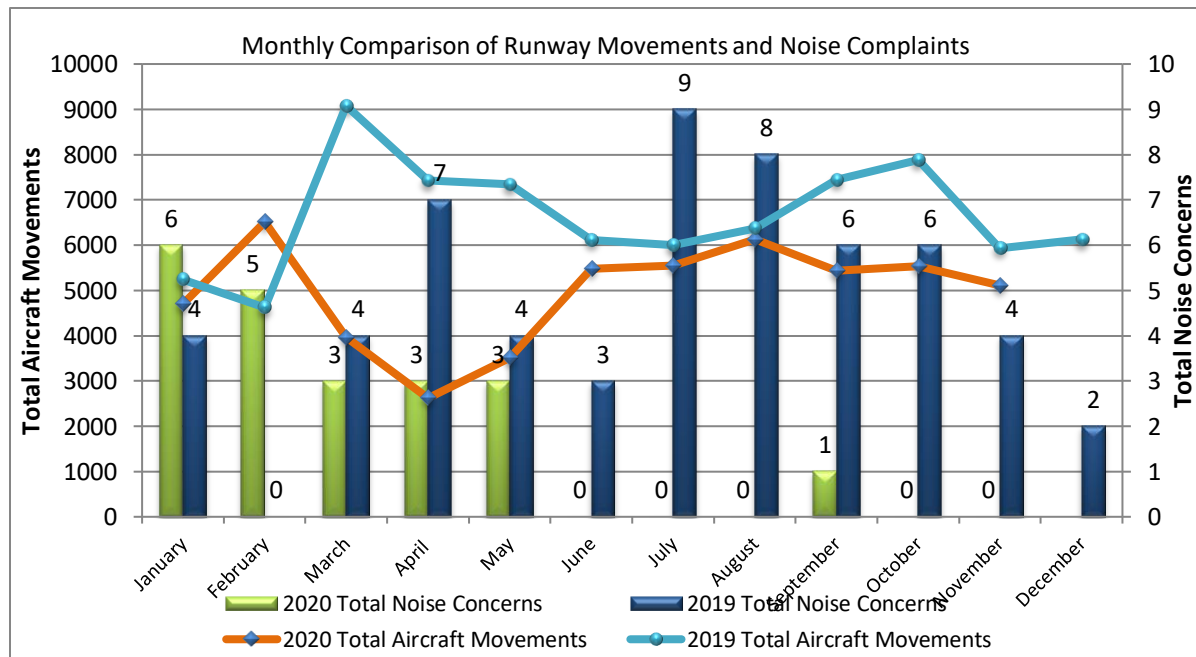
Figure 16. ZVL Noise Complaint Aircraft Types showing January to November 2020 compared to 2019.



4.8 Monthly Comparison of Runway Movements and Noise Complaints

Similar to EIA as the COVID-19 pandemic impacts aviation, an overall decrease in activity is shown. The decrease may have limited the number of complaints; however, the trend is not as significant as at EIA. Spring helicopter training resulted in the noise office communicating frequently with the two (2) adjacent individuals who registered 19 of the 21 total complaints. From May to November, only one (1) complaint was registered and received in the month of September.

Figure 17. ZVL Monthly Comparison of Runway Movements and Noise Complaints.



4.9 Summary

Overall, noise complaints received attributed to ZVL operations have decreased 63 percent relative to 2019 complaints. Helicopter complaints linked to ZVL operations increased from 15 in 2019 to 17 in 2020, however no concerns related to helicopters have been received since May 10, 2020. The noise office has received the majority of complaints from nearby landowners in Sturgeon County, which is aligned with the concentration of training operations in the vicinity of ZVL. The timeframe of noise complaints correlates with the training activities, where during daylight hours complaints have been received. Helicopter training activity has historically resulted in complaints from the nearby landowners. The implementation of the helicopter training procedure at ZVL is a significant milestone in supporting our relationship with those landowners and continuing to preserve operations at ZVL.

5.0 Closing

This report has provided a summary of noise complaint data that the Edmonton Airports noise office has received in 2020. The 2020 data at EIA showed a reduction in noise complaints compared to 2019 data and this is primarily attributed to the reduction in aircraft movements at EIA due to the COVID-19 pandemic. A similar trend occurred at the Villeneuve Airport where aircraft movements and noise complaints were down in 2020 compared to 2019.