

September 23, 2015

To: Haines Borough Mayor and Assembly Members

Re: Helicopter Noise Study

As you review the Helicopter Noise Study by Mead and Hunt, please take the time to become familiar with how the data is presented and whether the conclusions convey complete, accurate information. As I will point out, the conclusions are incomplete and somewhat misleading.

First, the statement that typical noise measurements at “wooded residential” land use is generally around 51 DNL means little unless the study provides a definition of “wooded residential.” It does not. I searched a number of municipal codes in Alaska and did not find “wooded residential” as a zoning category. I did find one use of “wooded residential” for Vilas County, Wisconsin, however this zone does not allow airports/heliports as permitted or conditional use. The claim that “wooded residential” is a similar land use to the site of the Study is completely unsubstantiated.

Study, Conclusions, Page 5-2:

Typical noise measurements at an average “wooded residential” land use is generally around 51 DNL. This means that the measured average noise level at the three sites fairly closely matches, or is quieter than what would be expected in wooded residential or quieter land use types. However, it is important to note that these comparisons do not link to any specific noise standard or regulation, but rather give a generalized comparison between what is typical in similar land uses and the results measured during this Study.

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The Study mentions that 51 DNL is average for “wooded residential” land use but the source of this information is not given. The most misleading statement in the discussion of “wooded residential” is that the “three sites outside the helipad ranged from 30-51 DNL.” On the very same page in the report (Conclusion, Page 5-2), “Table 5-1: **POTENTIAL DNL AND TAA LEVELS WITH VARIOUS LEVELS OF THEORETICAL ACTIVITY**” extends the DNL levels for up to 20 helicopter flights per day. Table 5-1 states the DNL range for 2-20 flights per day at sites other than the helipad is 31-62 DNL. More than 20 helicopter flights/day would result in even higher DNL levels.

DNL levels depend on how many flights will actually occur at a heliport. This is an unknown number for the proposed heliport. While the current heliport proposal by SEABA is for the heli-ski season only, if a lodge were built on the property the heliport could evolve into year-round use with an increased DNL.

Please keep in mind that all the DNL levels in the report are based on only 9 flights (except the chart on Page 5-2) It is unclear whether the DNL levels were calculated on 9 flights/day, or 1.3 flights/day or 2.3 flights/day.

Study, Conclusions, Page 5-2:

The measurement survey measured 9 flight events at the Helipad during the 7 day period with a range of 0 to 4 flight events per day and an average of 1.3 flight events per day (for days with helicopter operations the average was 2.3 flights events per day).

Another misleading part of report is the use of the FAA 'guideline' that residential uses are compatible with noise up to 65 DNL. The Study correctly points out that currently the Haines Borough does not have any noise standards.

Study, Page iv:

Since there are no local or state noise standards in effect, the federal standard for noise and land use compatibility developed by the Federal Aviation Administration for helicopter and aircraft activity will be the basis of this report.

However, the FAA specifically states that its guidelines (such as the 65 DNL threshold) are not to be substituted for local land use regulations based on local needs and values.

[http://www.faa.gov/airports/environmental/environmental\\_desk\\_ref/media/desk\\_ref\\_chap17.pdf](http://www.faa.gov/airports/environmental/environmental_desk_ref/media/desk_ref_chap17.pdf)

"The responsibility for determining the acceptable and permissible land uses ...rests with the local authorities...Part 150 is not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses. " -14 CFR Part 150, Table 1.

Currently, the FAA is conducting a study to re-evaluate its 65 DNL guideline. New information may result in a lower DNL or a new type of measurement, particularly for helicopter noise which the FAA says does not have a 'well-correlated metric':

[http://www.faa.gov/regulations\\_policies/policy\\_guidance/envir\\_policy/media/04nov-30-rtc.pdf](http://www.faa.gov/regulations_policies/policy_guidance/envir_policy/media/04nov-30-rtc.pdf)

As discussed in "effects on individuals" (Section 3), there are multiple noise metrics utilized to assess noise (EPNL, ASEL, DNL, etc). However, civil helicopter annoyance assessments utilize the same acoustic methodology adopted for airplanes with no distinction for helicopter's unique noise character. As a result, the annoyance of unaccustomed, impulsive helicopter noise has not been fully substantiated by a well-correlated metric. The FAA favors the chartering a technical effort to focus on low-frequency noise metric to evaluate helicopter annoyance.

It is misleading that the Study base the report exclusively on the FAA guideline. There are other federal agencies and organizations that use guidelines lower than 65 DNL. Notice that Massachusetts considers 10 dbA above ambient sound as noise pollution. Other agencies also refer to reducing DNL for low ambient environments. Some abbreviations in the chart are: ANSI---American National Standards Institute, EC---European Community, and OECD---Organization for Economic Cooperation and Development.

**Table 2: Agencies and Organizations specifying criteria less than 65db DNL**

|                                      | Residential noise impact Standard                                                                                                                                                          | Natural or Historic park noise impact standard                                                             |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| World Health Organization            | 50db DNL: Maximum to prevent serious annoyance<br><br>55db DNL: Serious Annoyance and unhealthy environment                                                                                | Advise use of reduced thresholds to account for low ambient or sensitive receptors                         |
| Commonwealth of Massachusetts        | 10dbA above ambient: what constitutes noise as a condition of air pollution DEP 90-001 (note: ambient is on the order of 30-45dbA in Hanscom communities) (note: this is not a DNL metric) | None                                                                                                       |
| EPA                                  | 45db DNL: Quiet suburban or rural community<br><br>55db DNL: level required to protect health and welfare                                                                                  | Advise use of a normalization factor to reduce threshold to account for low ambient or sensitive receptors |
| Federal Energy Regulatory Commission | 55db DNL: Maximum limit for noise in residential environment                                                                                                                               | None                                                                                                       |
| Federal Transit Administration       | 50db DNL: Impact for an existing 40db DNL environment                                                                                                                                      | Specifies reduced thresholds to account for low ambient or sensitive receptors                             |
| Federal Railroad Administration      | 50db DNL: Impact for an existing 40db DNL environment                                                                                                                                      | None                                                                                                       |
| Surface Transportation Board         | 50db DNL: Impact for an existing 40db DNL environment                                                                                                                                      | None                                                                                                       |
| National Research Council            | 40db DNL: Full environmental review required for existing 45db DNL environment<br><br>55db DNL: Serious noise impact                                                                       | Specifies reduced thresholds to account for low ambient or sensitive receptors                             |
| ANSI                                 | 55db DNL: Significant impact                                                                                                                                                               | None                                                                                                       |
| EC Country Regulations               | 45db DNL: No new residential construction permitted in some countries                                                                                                                      | None                                                                                                       |
| World Bank                           | 55db DNL: Noise limit for any new development                                                                                                                                              | None                                                                                                       |
| OECD                                 | 50db DNL: Significant impact in rural environment<br><br>55db DNL: Significant Impact urban environment                                                                                    | Advise use of a normalization factor to reduce threshold to account for low ambient or sensitive receptors |

Note that this list contains 12 standard bodies that use a lower standard than the FAA 65db DNL criteria. The World Health Organization and the National Research Council should be considered the primary authorities on acceptable levels of pollutants because they are scientific organizations charged with this type of standard setting. Both of these agencies specify 55db DNL as a level of significant impact, and further they both suggest even lower levels for lower ambient conditions or sensitive noise receptors. (end quote)

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When DNL levels were being established, the EPA recommended that DNL be corrected (or normalized) by adding or subtracting points to the measured DNL of intruding noise.

<http://www.nonoise.org/library/schomer/assessmentofnoiseannoyance.pdf>

[PDF 24]:

Table 7. Corrections to be added to the measured DNL of intruding noise to obtain normalized DNL (EPA, 1974)

Quiet suburban or rural community (remote from large cities and from industrial activity and trucking)

+10

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No prior experience with the intruding noise

+5

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To summarize:

- 1) The study's reference to "wooded residential" is incomplete and misleading. The neighborhood surrounding the proposed heliport is not zoned "wooded residential" nor does the Study define the term "wooded residential." To imply that the neighborhood surrounding the proposed heliport is like other "wooded residential" neighborhoods with about a 51 DNL is simply unfounded.
- 2) The number of flights at a heliport can't be determined before it is in use. In the case of SEABA's proposed heliport, client demand would determine the number of flights, possibly year-round if a lodge is built. DNL levels throughout the Study are calculated using a theoretical number of helicopter flights. As a result, the real DNL number can't be known at this time.
- 3) The use of the DNL metric for helicopters is questioned by the FAA itself. The FAA is currently conducting a study to re-evaluate its guideline that below 65 DNL is compatible with residential uses.

4) The FAA sets the 65 DNL guideline for its own use. That guideline may change in the future. There are other agencies, states, and organizations that have lower DNL guidelines. The EPA recommends a + or - point system to correct (normalize) DNL in certain circumstances. The EPA point correction could add 15 points to the DNL of the proposed heliport.

Heliports are a Conditional Use in the General Use Zone to provide a higher level of scrutiny and we, as residents of that zone, expect our property value and quality of life to be protected through the Conditional Use Permit (CUP) process. We rely on you, our elected officials, to ensure our neighborhoods are protected from unwanted heliports and helicopter noise. If changes are made to the CUP process, please **increase** the protection from unwanted heliports and helicopter noise in the General Use Zone.

The Study statistics make one thing perfectly clear...granting SEABA a CUP for a heliport would put a very loud heavy industrial activity in a very quiet neighborhood. Creating sacrificial neighborhoods for the sake of private heli-ski companies is certainly not in keeping with our values.

I hope these comments help clarify and expand the information contained in the Helicopter Noise Study.

Sincerely,  
Carolyn Weishahn