May 17, 2021

Dear Saanich Council,

I am writing to submit a petition calling for Saanich Council to:

- Ban gas-powered leaf blowers,
- Support a recycling program for obsolete machines,
- Regulate the use of electric blowers to ensure their noise output is below safe thresholds, and in compliance with Saanich's noise suppression bylaw.

Leaf blowers, particularly gas-powered leaf blowers, contribute to noise pollution, produce excessive and dangerous exhaust emissions, and re-suspend dust, all contributing to negative health and environmental impacts. It is for this reason that 544 residents from Saanich and the surrounding area have signed this petition.

I hope that Council will consider the petition and take action to tackle the issue of noise pollution in Saanich. As a good starting point, I would advise Council to request staff to review Saanich's *Noise Suppression Bylaw* (Bylaw – 7059), with the goal of modernizing and updating these bylaws. Saanich's *Noise Suppression Bylaw* was last updated in 1993 and has some serious shortcomings, some of which I outline below.

It is also my hope, and the hope of the signatories of this petition, that revised *Noise Suppression Bylaws* in Saanich would include provisions restricting the use of leaf blowers as outlined above. Other landscaping tools similar to gas-powered leaf blowers should also be considered, as while leaf blowers may be particularly noxious, other tools have similar negative impacts. I would recommend that a ban on gas-powered leaf blowers (and other similar tools) be phased in over the course of a few years in order to allow for a smooth transition of both the district and local commercial fleets.

Noise pollution is too often forgotten as we attempt to tackle other forms of pollution –like air and water pollution. However, addressing noise pollution in Saanich is important. As I will outline in the following letter, the case for tackling noise pollution, and in particular, gas-powered leaf blowers, is a strong one.

I look forward to collaborating with Saanich Council on this issue, as we all work towards improving the health and well-being of Saanich residents and our environment.

Sincerely,

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Negative Health Impacts of Noise Pollution

In addition to being a huge annoyance and negatively impacting well-being, noise pollution can have serious and long-term impacts on our health.[1] Noise pollution:

- Disturbs sleep, and poor quality sleeps results in stress, fatigue, and other negative health effects.[2]
- Can also interfere with cognitive functions, including attention, concentration, memory, reading ability, and decreases motivation, with numerous studies documenting the impact of excessive noise on such things as children's reading comprehension and long term memory.[3]
- Has been reported to be associated with myocardial infarction,[4] cardiovascular disease,[5] hypertension,[6] mental disorders,[7] immune system issues and birth defects,[8] and it can exacerbate other existing health conditions.[9] Studies have also found that these effects are often felt most acutely by those living in lower income neighbourhoods.[10]

Given the well-established evidence, we should take noise pollution seriously, and seek to reduce it wherever possible. While there are numerous sources of noise pollution, particularly in a busy district like Saanich, one particularly noxious source comes from gas-powered leaf blowers.

Leaf Blowers and Noise Pollution

Leaf blowers produce noise well above healthy limits, as high as 115 decibels at the source, and 64-78 decibels within 15 meters, and more than 80 decibels for older models.[11] For comparison, normal breathing is 10 decibels, a soft whisper 30, normal conversation 60, city traffic or a noisy restaurant 80, a rock concert 110-120, a chainsaw 110, and a shotgun blast 170.[12] Bear in mind that decibels are measured on a logarithmic scale, which means that an increase of 10 decibels is equivalent to a tenfold increase in sound intensity, or roughly a doubling of loudness.[13]

Work Safe BC stipulates that employers must provide hearing protection to workers who are or who may be exposed to noise levels exceeding 82 decibels.[14] And noise at this level for eight hours can cause irreparable hearing damage.[15] As such, noise pollution from leaf blowers can potentially harm workers.

Unlike other types of small engine, like lawn mowers, noise from leaf blowers has low frequency components, which allows it to travel long distances, penetrate building walls, and persist at high levels far from the source.[16] Noise pollution of this kind is linked with many adverse health issues, sleep disturbance, and can be an acute source of annoyance.[17]

Leaf Blowers and Air Pollution

Leaf blowers are noxious in other ways: they kick up dust and particulate matter, which can exacerbate respiratory issues and other health issues by re-suspending dust which can contain a number of harmful particles.[18]

They are also bad for the environment and produce excessive air pollutants. Most gas-powered leaf blowers rely on obsolete 2-stroke engines, which are considerably less efficient than other engines.[19] The California EPA estimated that operating a commercial leaf blower for one hour would emit more smog-forming pollutants than driving a 2017 Toyota Camry for about 1,100 miles.[20]

A 2011 test compared the emissions of two different leaf blowers to those of a Ford F-150 SVT Raptor crew cab.[21] This test calculated that to equate the hydrocarbon emissions of about a half-hour of yard work with a two-stroke leaf blower, "you'd have to drive a Raptor for 3,887 miles, or the distance from northern Texas to Anchorage, Alaska."[22]

The experiment concluded that a four-stroke leaf blower produces 6.8 times more oxides of nitrogen (pollutants involved in smog and acid rain), 13.5 times more carbon monoxide, and 36 times non-methane hydrocarbons (mostly unburned gas, which is poisonous and carcinogenic), as compared with the truck. The two-stroke engine produced twice as much oxides of nitrogen, 23 times as much carbon monoxide and 299 times the non-methane hydrocarbons.[23]

Saanich has begun to step up and take climate change seriously, and tackling the emissions from gas-powered leaf blowers will help contribute to these efforts.[24] It is imperative that we accelerate our efforts to transition away from fossil fuels, and tackling tools like gas-powered leaf blowers must be a component of these efforts.

Other Negative Environmental Impacts

The use of leaf blowers can negatively impact soil quality. Leaf blowers can blow away important top soil and damage plants, "they also compact your soil making it harder for air and water to permeate and blow away recently applied dry fertilizers."[25] Removing thin mulch layers of leaf particulate and grass clippings also starves soil microbes, reduces the soils ability to absorb and retain water.[26]

Leaf blowers can also be fatal to insect life in several ways: they can outright kill insects, and they can remove or degrade insect habitat.[27] Declining insect populations impacts the health of other species and ecosystems. Noise pollution has also been found to adversely affect bird populations by interfering with mating.[28]

There are Alternatives

Fortunately, there are numerous alternatives to gas-powered leaf blowers.[29] Electric leaf blowers are 40 to 70% quieter than gas machines, and as much as 90% more efficient.[30] Manual methods, like rakes and brooms, are even more efficient, dramatically quieter, produce less dust, and have other added benefits like increasing physical activity.[31]

Solutions

Urban noise is not inevitable; cities can minimize noise by altering infrastructure design and by enforcing and improving existing noise bylaws.[32] It's time for Saanich to take noise pollution seriously, and to step up and take action on leaf blowers.

Hundreds of jurisdictions across North America have already banned gas-powered leaf blowers or severely restricted their use.[33] The City of Ojai, California, recently went a step further and prohibited almost all gas-powered landscaping equipment and transitioned its entire fleet of landscaping equipment to electric.[34]

As such, I call on Saanich to ban gas-powered leaf blowers, support a recycling program for obsolete machines, and to regulate the use of electric blowers to ensure their noise output is below safe thresholds, and in compliance with Saanich's noise suppression bylaw.

Problems with Saanich's Noise Suppression Ordinances

Banning gas-powered leaf blowers could be easily accomplished through a revision of Saanich's *Noise Suppression Ordinances* (Bylaw No. 7059). However, while Council is considering such a motion, it may also want to consider a more thorough updating and modernizing the *Noise Suppression Ordinances.* This bylaw was last revised in 1993, and considerable progress has been made with respect to noise suppression since this time. Likewise, the bylaws the wording of this bylaw makes it unenforceable in many respects.

For example, under the current wording, this bylaw defines 'Continuous Sound' (1.a) as "means any sound occurring for a duration of more than 3 minutes, or occurring continually, sporadically or erratically but totalling more than 3 minutes in any 15 minute period of time." These definitions have a number of important omissions, such as lacking an explanation of what constitutes a 'lawn mower.'

The bylaw then offers 2.a – "No person shall make or cause to be made any noise or sound in or on a highway or elsewhere in the Municipality which disturbs or tends to disturb the quiet, peace, rest, enjoyment, comfort or convenience of the neighbourhood or of persons in the vicinity thereof."

And provides exemptions under clause 11:

"(k) The use of a lawnmower between the hours of 8:00 a.m. and 9:00 p.m. on any day."

There are a couple of issues with this clause. First, because the term lawnmower is not defined in the bylaws, the bylaws technically prohibit the operation of any other lawn maintenance, landscaping, or similar equipment for no more than 3 minutes (see 1.a, cited above). This puts enforcement staff in the problematic position of needing to interpret what constitutes a 'lawn mower' for the purposes of enforcing the bylaws. It is my understanding that this term is interpreted very expansively to include a wide range of lawn maintenance/landscaping equipment that are not lawn mowers.

Apart from structural elements, this clause could be improved, as many jurisdictions have different regulations pertaining to the use of landscaping equipment for weekdays and weekends. Saanich may want to consider this. When reviewing the bylaws, Saanich will of course want to consider

Saanich's Leaf Blower Fleet

Saanich aspires to be a leader in tackling climate change, and as such, we should start by transitioning the district's fleet of leaf blowers away from fossil fuels. Saanich staff, through an FOI (FOI 98-19), helpfully provided a list of all of the leaf blowers in Saanich's fleet (see Table 1).

Table 1: Saanich's Fleet of Leaf Blowers[35]

Department	# of Leaf Blowers	# Gas-Powered	% Gas-Powered
Recreation Operations	8	No make and model data recorded.	No make and model data recorded.
Public Works	24	23	95.8%
Parks Department	51	45	88.2%
Total	**83**	-	-

This FOI also provided a detailed breakdown of makes and models of leaf blowers in the Parks and Public Works inventories. Within the Saanich Park's inventory, the expected life expectancy of each machine was also provided, and it is informative to note that the life expectancy of leaf blowers in this fleet were between 5 and 7 years. This provides a guideline to help Council establish a reasonable period for a phased in ban – a ban, phased in over 3 years, for example, would allow Saanich and other actors within the district, to gradually transition their fleets away from gas-powered tools with minimal impact on budgets.

I sincerely hope that Saanich will take action to ban gas-powered leaf blowers in the district, and step up to reduce noise pollution.

End Notes

[1] Bhatia, R. (2014, May 20). "Noise pollution: Managing the challenge of urban sounds." *Earth Journalism Network*. Available at https://earthjournalism.net/resources/noise-pollution-managing-the-challenge-of-urban-sounds (retrieved May 13, 2021); Davies, W.J. *et al*. (2012). "Perceptions of soundscapes: An interdisciplinary approach." *Applied Acoustics*, *74*:2, p.224-231; World Health organization (WHO), Regional Office for Europe. (2011). "Burden of disease from environmental noise: Quantification of healthy life years lost in Europe." *WHO*. Available at https://www.who.int/quantifying_ehimpacts/publications/e94888.pdf (retrieved May 10, 2021); and see Quiet Clean D.C. (n.d). "Gas-powered leaf blowers: Public health issues." Available at http://www.quietcleandc.com/two-stroke-engine-public-health-issues (retrieved May 12, 2021).

[2] Bhatia 2014.

[3] Evans, G.W., Hygge, S., & Bullinger, M. (1995). "Chronic noise and psychological stress." *Psychological Science*, *6*:6, 333-338. Available at https://journals.sagepub.com/doi/10.1111/j.1467-9280.1995.tb00522.x (retrieved May 16, 2021); and see Evans, Gary W, & Maxwell, Lorraine. (1997). "Chronic noise exposure and reading deficits: The mediating effects of language acquisition." *Environment and Behavior*, *29*:5, p.638-656; and see Stansfeld,

Stephen A., & Matheson, Mark P. (2003, December). "Noise pollution: Non-auditory effects on health." *British Medical Bulletin*, *68*:1, p.243-257; and see Bhatia 2014.

[4] Héritier, H., *et al*. (2019, February). "A systematic analysis of mutual effects of transportation noise and air pollution exposure on myocardial infarction mortality: A nationwide cohort study in Switzerland." *European Heart Journal*, *40*:7, p.598-603. Available at https://academic.oup.com/eurheartj/article/40/7/598/5144026 (retrieved May 16, 2021).

[5] Knipschild, P. (1977). "Medical effects of aircraft noise: Community cardiovascular survey." *International Archives of Occupational and Environmental Health*. 40, p.185-190.Available at https://link.springer.com/article/10.1007/BF01842081 (retrieved May 16, 2021).

[6] Zhao, Y.M., Zhang, S.Z., Selvin, S., & Spear, R.C. (1991). "A dose response relation for noise induced hypertension." *British Journal of Industrial Medicine*, *48*:3, p.179-184. Available at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1035346/ (retrieved May 16, 2021); and see Lang, T., Fouriaud, C., & Jacquinet-Salord, M.C. (1992). "Length of occupational noise exposure and blood pressure." *International Archives of Occupational and Environmental Health*, *63*:6, p.369-372. Available at https://pubmed.ncbi.nlm.nih.gov/1544682/ (retrieved May 16, 2021).

[7] Stansfeld, S.A., & Matheson, M.P. (2003, December). "Noise pollution: Non-auditory effects on health." *British Medical Bulletin*, *68*:1, p.243-257. Available at https://academic.oup.com/bmb/article/68/1/243/421340 (retrieved May 16, 2021).

[8] Geravandi, S., *et al*. (2015). "Noise pollution and health effects." *Jundishapur Journal of Health Sciences*, *7*:1, e60312. Available at https://sites.kowsarpub.com/jjhs/articles/60312.html (retrieved May 16, 2021).

[9] Manninen, O. (1986, December). "Hormonal, cardiovascular and hearing responses in men due to combined exposures to noise, whole body vibrations and different temperatures." In *Recent advances in researches on the combines effects of environmental factors*. Ed. A. Okada & O. Manninen. Japan: KYOEI Company Ltd. Available at https://www.researchgate.net/publication/298208869_HORMONAL_CARDIOVASCULAR_AND_HEARING_RESPONSES_IN_MEN_DUE_TO_COMBINED_EXPOSURES_TO_NOISE_WHOLE_BODY_VIBRATIONS_AND_DIFFERENT_TEMPERATURES/citations (retrieved February 10, 2019); and see Stansfeld & Matheson 2003.

[10] McMullan, T. (2019, April 25). "Cities are louder than ever – and it's the poor who supper most." *The Guardian*. Available at https://www.theguardian.com/cities/2019/apr/25/cities-are-louder-than-ever-and-its-the-poor-who-suffer-most?fbclid=IwAR1Lui7Ejj3J7MadEQCYRH-EI7qmWS84uifvyzc1JvxqRdqeIdn4SgFfLTk (retrieved May 16, 2021); Casey, J.A. *et al*. (2017). "Race/Ethnicity, socioeconomic status, residential segregation, and spatial variations in noise exposure in the contiguous United States." *Environmental Health Perspectives*, *125*:7. Available at https://ehp.niehs.nih.gov/doi/10.1289/ehp898 (retrieved May 16, 2021).

[11] Fenn Lefferts, J. (2015, March 29). "In the war vs. loud leaf blowers, a strategic retreat." *The Boston Globe*. Available at https://www.bostonglobe.com/metro/regionals/west/2015/03/28/war-loud-leaf-blowers-strategic-retreat/Gpgr0hxSoCzNprgfDNlSAN/story.html (retrieved May 16, 2021).

[12] Centre for Hearing and Communication. (n.d.). "Common environmental noise levels." Available at http://chchearing.org/noise/common-environmental-noise-levels/ (retrieved May 16, 2021); and see Robertson, L. (2017, May 25). "Do noisy leaf blowers drive you crazy? You're not alone." *Miami Herald*. Available at https://www.miamiherald.com/news/local/article152515714.html (retrieved May 12, 2021).

[13] Woodford, C. (2020, September 22). "Sound level (decibel) meters." *Explain That Stuff.com*. Available at https://www.explainthatstuff.com/soundlevelmeters.html (retrieved May 16, 2021).

[14] See 7.3 at WorkSafeBC. (n.d.). "Division 1 – Noise Exposure." Available at https://www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/ohs-regulation/part-07-noise-vibration-radiation-and-temperature#SectionNumber:7.2. (retrieved May 16, 2021).

[15] Centre for Hearing and Communication n.d.; Robertson 2017.

[16] Walker, E., & Banks, J.L. (2017). "Characteristics of lawn and garden equipment sound: A community pilot study." *Journal of Environmental and Toxicological Studies*, *1*:1. Available at https://sciforschenonline.org/journals/environmental-toxicological-studies/JETS-1-106.php (retrieved May 16, 2021).

[17] See *inter alia* Odom, J. (2017, December 14). "The reason why leaf blowers are singled out as the noisiest landscaping tool." *Total Landscape Care*. Available at https://www.totallandscapecare.com/green-industry-news/the-reason-why-leaf-blowers-are-singled-out-as-the-noisiest-landscaping-tool/ (retrieved May 16, 2021); and see Quiet Communities.org. (2017, December 15). "Gas leaf blower noise impact." Available at

https://www.quietcommunities.org/gas-leaf-blower-noise-impact/ (retrieved May 16, 2021); van den Berg, M. (2005, February). "Influence of low frequency noise on health and well-being." *Ministry of Environment, The Netherlands*, informal document number GRB-41-8. Available at http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.520.3328&rep=rep1&type=pdf (retrieved May 12, 2021); Leventhall, H.G. (2004). "Low frequency noise and annoyance." *Noise & Health*, 6:23, p.59-72; Persson Waye, K., Bengtsson, J., Kjellberg, A., & Benton, S. (2001). "Low frequency noise 'pollution' interferes with performance." *Noise & Health*, *4*:13, p.33-49; Persson Waye, K. (2004). "Effects of low frequency noise on sleep." *Noise & Health*, *6*:23, p.87-91; Findeis, H., & Peters, E. (2004). "Disturbing effects of low frequency sound immissions and vibrations in residential buildings." *Noise & Health*, *6*:23, p.29-35.

[18] Dremann, S. (2015, August 24). "More than hot air." Palo Alto Online. Available at https://paloaltoonline.com/news/2015/08/21/more-than-hot-air (retrieved May 16, 2021); American Lung Association. (2020, September 11). "10 tips to protect yourself from unhealthy air." Available at https://www.lung.org/clean-air/outdoors/10-tips-to-protect-yourself (retrieved May 16, 2021); Sever, M. (2019, November 7). "Road dust: A health hazard hidden in plain sight." *EOS*. Available at https://eos.org/articles/road-dust-a-health-hazard-hidden-in-plain-sight?fbclid=IwAR0A1n0t9xJBvikZONDscAX_SXlW8KN0NoR1fkl689C3xbB51IFppqDu_Wo. (retrieved May 16, 2021).

[19] Fallows, J. (2019, April). "Get off my lawn: How a small group of activists (our correspondent amon them) got leaf blowers banned in the nation's capital." *The Atlantic*. Available at https://www.theatlantic.com/magazine/archive/2019/04/james-fallows-leaf-blower-ban/583210/ (retrieved May 16, 2021).

[20] California Air Resources Board. (n.d). "Fact sheet: Small engines in California." Available at https://ww3.arb.ca.gov/msprog/offroad/sm_en_fs.pdf?mod=article_inline (retrieved May 16, 2021).

[21] Kavanagh, J. (2011, December 5). "Emissions test: Car vs. truck vs. leaf blower." Edmonds. Available at https://www.edmunds.com/car-reviews/features/emissions-test-car-vs-truck-vs-leaf-blower.html (retrieved May 16, 2021).

[22] Dremann, S. (2015, August 31). "Air district report: Leaf blowers present health risks." *The Almanac*, Palo Alto, USA. Available at https://www.almanacnews.com/news/2015/08/31/air-district-report-leaf-blowers-present-health-risks (retrieved May 15, 2021).

[23] Kavanagh 2011.

[24] Saanich. (2019, October 9). "Saanich enacts accelerated actions in response to the climate emergency." Media release. Available at https://www.saanich.ca/EN/main/news-events/news-archives/2019-news/saanich-enacts-accelerated-actions-in-response-to-the-climate-emergency.html (retrieved May 10, 2021).

[25] Soils Alive. (2013, August 20). "How leaf blowers destroy your topsoil!" Available at https://soilsalive.com/how-leaf-blowers-destroy-your-topsoil/ (retrieved May 12, 2021); and see. Chiartas, J. (2016, March 1). "Leaves left on the ground really become soil?" *Soils Matter*. Available at https://soilsmatter.wordpress.com/2016/03/01/leaves-left-on-the-ground-really-become-soil/ (retrieved May 16, 2021).

[26] Soils Alive. (2016, December 6). "Leaf blowers: Is the convenience worth the risk to your soil?" Available at https://soilsalive.com/leaf-blowers-is-the-convenience-worth-the-risk-to-your-soil/ (retrieved May 12, 2021); Bedford City, New York. (n.d.). "Gas-powered leaf blowers – Time to rethink." Available at https://bedfordny.gov/wp-content/uploads/2018/04/Gas-powered-Leaf-Blowers-Time-to-rethink-1.pdf (retrieved May 16, 2021); Leave Leaves Alone. (n.d.). "Home." Available at https://www.leaveleavesalone.org/ (retrieved May 16, 2021).

[27] Ruppenthal, A. (2019, October 2). "Fearing the 'insect apocalypse'? Renowned entomologist says 'get rid of your lawn.'" *WTTW*. Available at https://news.wttw.com/2019/10/02/fearing-insect-apocalypse-renowned-entomologist-says-get-rid-your-lawn?fbclid=IwAR0TQosaO78_qgwIKm5dXVWTBuwrvRlt_lnikpEQ63mtmrOOXw7QjYExR4A (retrieved May 16, 2021).

[28] Habib, L., Bayne, E.M., & Boutin, S. (2006, September 14). "Chronic industrial noise affects pairing success and age structure of oven birds *Seiurus aurocapilla*." *Journal of Applied Ecology*, 44:1, 176-184; and see Goudarzi, S. (2007). "Noise pollution threatens birds." Live Science. Available at https://www.livescience.com/4283-noise-pollution-threatens-birds.html?fbclid=IwAR32mX3h1YSDpPPOUPgJ3ChUzDm70URj2nPanYHmfZJWM3Lh1hVw8mkeJq8 (retrieved May 15, 2021); Cardoza, M. (2021, Spring). "Why cities are taking action to limit loud and polluting

lawn care." Audubon Magazine. Available at https://www.audubon.org/magazine/spring-2021/why-cities-are-taking-action-limit-loud-and (retrieved May 16, 2021).

[29] How I Get Rid Of. (2020, October 1). "What is the best battery powered leaf blower?" Available at https://howigetridof.com/best-battery-powered-leaf-blower/ (retrieved May 16, 2021); Den Garden. (2019, May 2). "Alternatives to gas-powered leaf blowers." Available at https://dengarden.com/landscaping/Gas-Powered-Leaf-Blowers-Now-Illegal (retrieved May 16, 2021).

[30] Orozco, L. (2018, August 3). "Ventura County community one of first in state to permanently shelve gas powered leaf blowers." KCLU. Available at https://www.kclu.org/local-news/2018-08-03/ventura-county-community-one-of-first-in-state-to-permanently-shelve-gas-powered-leaf-blowers#stream/0 (retrieved May 14, 2021).

[31] Dremann 2015.

[32] Dzhambov, A.M., & Dimitrova, D.D. (2014, May-June). "Urban green spaces' effectiveness as a psychological buffer for the negative health impact of noise pollution: A systematic review." *Noise Health*, 16:70, 157-165.

[33] See Lawn & Landscape. (2004, October 1). "Leaf blowers banned in Vancouver District." Available at https://www.lawnandlandscape.com/article/leaf-blowers-banned-in-vancouver-district/#:~:text=VANCOUVER%2C%20British%20Columbia.,densely%20populated%20high%2Drise%20neighborhood. (retrieved May 16, 2021); Kopun, F. (2020, September 18). "Councillors ask for report on banning as-powered leaf blowers in Toronto." *Toronto Star*. Available at https://www.thestar.com/news/gta/2020/09/17/councillors-ask-for-report-on-banning-gas-powered-leaf-blowers-in-toronto.html (retrieved May 16, 2021); Osler, J. (2018, June 7). "More municipalities blowing off noisy landscaping tools." CBC News. Available at https://www.cbc.ca/news/canada/more-municipalities-blowing-off-noisy-landscaping-tools-1.4695956 (retrieved May 15, 2021); Toth, P. (n.d.). "Leaf blower noise restrictions in the USA." Backyard Gadget. Available at https://backyardgadget.com/leaf-blower-noise-restrictions-in-the-usa/ (retrieved May 15, 2021).

[34] Massman-Johnson, L. (2018, August 14). "Electric landscaping celebrated at Ojai." Quiet Communities. Available at https://quietcommunities.org/electric-landscaping-celebrated-in-ojai/ (retrieved May 16, 2021); and see City of Ojai. (n.d.). "Reminder: City of Ojai bans use of most gas-powered landscaping equipment & most construction prohibited on weekends." Available at https://ojaicity.org/reminder-city-of-ojai-bans-use-of-most-gas-powered-landscaping-equipment-most-construction-prohibited-on-weekends/ (retrieved May 16, 2021).

[35] District of Saanich. (2019, September 5). "Request for access to information No. 98-19 – Re: Saanich's inventory of leaf blowers."