# Environmental Appeal Board

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| **Citation:** | *Wartels et al v. Administrator, Integrated Pest Management Act*, 2023 BCEAB 14 |
| **Decision Nos.:** | EAB-IPM-23-A002(a), EAB-IPM-23-A003(a), EAB-IPM-23-A005(a), EAB-IPM-23-A006(a), EAB-IPM-23-A007(a), EAB-IPM-23-A008(a), EAB-IPM-23-A009(a), EAB-IPM-23-A010(a), EAB-IPM-23-A011(a), EAB-IPM-23-A012(a), EAB-IPM-23-A013(a), EAB-IPM-23-A014(a), EAB-IPM-23-A015(a) |
| **Decision Date:** | 2023-05-15 |
| **Method of Hearing:** | Conducted by way of written submissions concluding on May 2, 2023 |
| **Decision Type:** | Stay Application Decision |
| **Panel:** | Darrell Le Houillier, Chair |
| **Appealed Under:** | *Integrated Pest Management Act,* SBC 2003, c. 58 |

**Between:**

Larry Wartels, Canadian Christian Lobby, Kathryn McMullen, Dr. Jennifer Tynan, Lynne Mackie, Dan Peruzzo, Dr. Evan Frangou, Dino Pagliardi

**Appellants**

**And:**

Administrator, *Integrated Pest Management Act*

**Respondent**

**And:**

Ministry of Forests

**Third Party**

**Appearing on Behalf of the Parties:**

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| For the Appellants: | Benjamin Isitt, Counsel for Dr. Jennifer Tynan<br>Sean Hern, Counsel for Dr. Jennifer Tynan<br>Self-represented, all other Appellants |
| For the Respondent: | Amanda Macdonald, Counsel<br>Megan Parisotto, Counsel |

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| For the Third Party: | Amanda Macdonald, Counsel<br>Megan Parisotto, Counsel |

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# DECISION ON STAY APPLICATION

## INTRODUCTION

[1] This appeal concerns three permits (the "Permits") issued on March 13, 2023, under the *Integrated Pest Management Act*, S.B.C. 2003, c. 58 (the "*Act*"). The Permits were issued by Peter Lawrie, the Authorizations Section Head (the "Respondent"), with the Ministry of Environment and Climate Change Strategy (the "Ministry").

[2] The Permits authorize the Ministry of Forests (the "Third Party") to apply a pesticide, Foray® 48B, P.C.P No. 24977 (the "Pesticide") in specified areas, subject to certain terms and conditions. The Pesticide is intended to combat the spread of the *Lymantria dispar dispar* (the "Spongy Moth").

[3] Each of the Permits allows the Third Party to conduct four aerial treatments of the Pesticide in specified treatment areas, each of which includes public and private land. The Permits and their associated treatment areas are:

- Pesticide Use Permit No. 738-0036-23-23 (the "Port Alberni/Campbell River Permit"), which defines two treatment areas in or around Port Alberni and Campbell River;
- Pesticide Use Permit No. 738-0035-23-23 (the "Victoria Permit"), which defines three treatment areas in or around Victoria; and
- Amended Pesticide Use Permit No. 738-0032-21-24 (the "Courtenay Permit"), which defines two treatment areas in or around Courtenay.

[4] The Environmental Appeal Board (the "Board") received 14 appeals, each appealing one of the Permits. When a permit issued under the *Act* is appealed, it remains effective; that is, the pesticide application authorized under that permit can still take place. The Board can, however, order that permits appealed to it be "stayed", meaning that they cease to be effective for as long as the Board orders (usually, until the appeal is decided on its merits). Where a permit is stayed, the pesticide application cannot proceed until the stay is complete (again, usually when the appeal(s) of that permit is/are decided on their merits).

[5] In this case, the Board received an application for a stay of each of the Permits, lasting until the Board issues decisions on the merits of the associated appeals. The Respondent and Third Party did not consent to a stay because the Pesticide is effective in combating the Spongy Moth only at certain phases of its development. This is impacted by various factors, including weather conditions at the time. A delay of even a few weeks would render the Pesticide ineffective. To be effective in 2023, the Pesticide must be applied, with repeated treatments, between roughly early-to-mid May and mid-to-late June.

[6] The Board informed all those who appealed any of the Permits about the stay applications, and held a case management conference to determine whether it could hold

an expedited hearing on the merits before the spraying was complete, or whether it would need to decide the stay applications.

[7] After consulting with the parties about the time required to complete a procedurally fair process to decide the appeals on their merits, the Board concluded that it could not do so before the Pesticide applications were to complete. The main reasons were delays associated with the disclosure of documents from one party to the others, with obtaining and disclosing expert evidence, and with allowing the parties time to prepare for an oral hearing or for the oral hearing component to a hybrid hearing. As a result, the Board concluded that any decision on the merits would be completed after the Pesticide applications were likely to be complete (unless the appeals are otherwise dismissed or withdrawn).

[8] Furthermore, if the Permits are stayed, the Pesticide applications will not happen. The stays would last until decisions on the merits were complete, and the Board could not complete those decisions until after the window during which the Pesticide applications could be effective in eradicating the Spongy Moths within the treatment areas.

[9] As a result, the stay applications will determine whether the Pesticide applications take place in 2023. If the stay applications are denied, the Pesticide applications will proceed; if the stay applications are granted, the Pesticide applications will not.

[10] There are four appellants who opted to provide submissions with respect to the stay applications. Dr. Jennifer Tynan appealed all of the Permits and brought a stay application with respect to each of them. The Canadian Christian Lobby also appealed each of the Permits, and supported Dr. Tynan's stay applications. Dr. Evan Frangou and Larry Wartels each appealed only the Victoria Permit, and supported Dr. Tynan's application with respect to that permit. There were other appellants to each of the Permits; however, they did not provide submissions with respect to the stay applications.

[11] Due to the similarity of the Permits and the issues under appeal, as well as the fact that many of the Appellants adopted the submissions of other appellants in this stay application, the stay applications will, for the most part, be considered and decided together. When there is need for comment on one of the Permits in particular, I will do so.

## BACKGROUND

### Permitting process

[12] The first step in the issuance of the Permits was an application by the Third Party to spray the Pesticide in or around the treatment areas defined in the Permits. This request was made following an assessment of Spongy Moth populations throughout British Columbia, and with an aim to prevent the spread of, and to eradicate, local populations of the Spongy Moth.

[13] While the Third Party funds eradication efforts, the decision to pursue pesticide-based eradication is made by the Spongy Moth Technical Advisory Committee ("SMTAC"), established by the British Columbia Plant Protection Advisory Council. The SMTAC includes various scientific "experts" (as described by the Respondent and Third Party) from Federal, Provincial, and Municipal governments; non-profit agencies; and the public. These individuals have not been accepted as expert witnesses for the purpose of this appeal or this stay application.

[14] Prior to the applications for the 2023 Pesticide sprays, the SMTAC reviewed results from a Spongy Moth eradication and trapping program conducted in various locations in British Columbia in 2022, and made recommendations for each population of Spongy Moths in the province. Recommendations were for aerial spraying, ground spraying, mass trapping, or to take no action. According to the Respondent and Third Party, if left untreated, Spongy Moths would cause significant damage to urban forests, orchards, farms, critical habitats, and native insect populations, including pollinators. If populations were to spread to agricultural areas in Washington, Oregon, and California, the Respondent and Third Party say native and forest ecosystems would be threatened, as would North American food security.

[15] The permit applications from the Third Party were reviewed by an integrated pest management officer, Ms. Eby. Ms. Eby is employed by the Ministry, and referred the application to the Ministry's Integrated Pest Management Committee. This Committee is comprised of the Respondent, representatives from various British Columbian ministries (agriculture, environment, forests, and health), and any others as the Minister of the Environment considers appropriate. Ms. Eby also prepared a technical assessment and recommendation with respect to each of the Permits, and provided those to the Respondent. The Respondent considered the advice of the Integrated Pest Management Committee and Ms. Eby before issuing the Permits.

## Public Notification and Comment

[16] As part of the application process for a permit to use pesticides in British Columbia, the applicant is required to fulfill certain public notification requirements. These are set out in section 60 of the *Integrated Pest Management Regulation*, B.C. Reg. 44/2023 (the "*Regulation*"), and the Third Party says it exceeded those requirements. According to the Third Party, its public notification efforts were and will be, for all treatment areas authorized by the Permits:

- posting to a government website, to which people can subscribe and receive email notifications of any changes to that site, and which includes a dedicated telephone number (the "Spongy Moth Information Line") and email address for inquiries related to Spongy Moths;

- postcards delivered to all residences and businesses within 300 meters of treatment areas designated in the Permits, providing information regarding online public notification forums and the planned treatments;
- newspaper advertisements in or around treatment areas described in the Permits, advertising about the Permit applications;
- a media bulletin that was published by a number of newspapers, outlining the general details and objectives of the program;
- 24-hour notices of upcoming sprays, plus notices of completed sprays, posted on the provincial website and mentioned on the Spongy Moth information Line;
- virtual open houses, with recordings of the events posted to the provincial website;
- advertisement of the Permits in local newspapers;
- a media bulletin that provides anticipated spray dates and other program information;
- postcards to remind all residents and businesses of spraying 7–10 days before the first treatment;
- posting of lawn signs on all street and path entries to treatment areas;
- posting of LED highway signs on all major highways entering treatment areas; and
- email notifications sent 24 hours before spraying, sent to all schools, daycares, care homes, hospitals, medical health officers, and local mayors in treatment areas.

[17] Communications disclosed by the Respondent indicates that one staff member recommended using LED highway signs on all arterial routes as well as highways, but this was not pursued due to budgetary constraints, and because highway signs were used for safety, not for program notification.

[18] The Third Party and Respondent noted that Babita Bains, a provincial forest entomologist employed by the Third Party, also contacted two homeless shelters and the Greater Victoria Coalition to end Homelessness to advise about the sprays. According to Ms. Bains, the Greater Victoria Coalition to End Homelessness advised there were no established populations of homeless people in or around the treatment area, although there may be transient homeless people in those areas at any given time.

[19] Ms. Bains also reportedly contacted all mayors, municipal districts, regional district councils, members of the Legislative Assembly, health authorities, and First Nations, for or within all treatment areas, and received no concerns about the proposed Pesticide sprays.

[20] Ms. Bains advised that the community notices encourage members of the public to spread the word about the Pesticide treatments, in the hopes of having more of the community informed about the program.

[21] Dr. Tynan and Dr. Frangou say that the Respondent or the Third Party, or both, provided information that was skewed in favour of the use of the Pesticide, and was

misleading to the public, during this process. Dr. Tynan notes that, in letters to both mayors and First Nations in or around spray areas, the Third Party represented that the Pesticide would not harm or affect humans and various animals. Dr. Tynan says the Third Party has repeatedly communicated to the public that the Pesticide has no known associated toxic effects on humans, other mammals, plants, birds, fish, or non-target insects (aside from butterflies and moths). She referenced slides shown during the open house events, and a newspaper article that cited the Third Party as having stated that "Scientific studies have concluded it poses no threat to people and does not harm mammals, birds, fish, plants, reptiles, amphibians, bees or other insects."

[22] Dr. Tynan notes that these representations were made despite Ms. Eby's technical memo discussing the potential for the Pesticide to irritate the eyes and skin, and to possibly cause food-borne illness in humans.

[23] Dr. Tynan enclosed with her submissions to the Board, letters written by various individuals during the public engagement phase who wrote to Ms. Bains to advise that the Third Party's comments about the Pesticide or Btk being harmless to people and/or other animal species were misleading, with various studies referred to in support of that comment. Dr. Tynan herself wrote one such letter, and urged the Third Party to not spray the Pesticide over urban areas but rather conduct necessary research and seek alternative, more effective means of dealing with the Spongy Moth problem.

[24] According to Dr. Tynan, after the public engagement phase of the Respondent's decision-making process ended, Ms. Bains advised a member of the public that "… some individuals may have unexpected health impacts if they are exposed to [the Pesticide] when it is being sprayed." Dr. Tynan enclosed an email to that effect, with her submissions to the Board. Ms. Bains also later conceded that Btk or the Pesticide would be better described as "low risk" or very low risk", rather than harmless.

[25] Dr. Tynan was also concerned that the Respondent failed to consider all information provided during the public consultation. Dr. Tynan provided to the Board a March 17, 2023 email from Ms. Bain, to a member of the public (after the date the Permits were issued) that stated that she had not received two "expert reports" (as Dr. Tynan referred to them, and are summarized later in this preliminary decision), despite the fact that Dr. Tynan says she provided it during the public consultation phase of the application for the Permits.

[26] To this point, Ms. Bains provided evidence that she was unaware that the individual to whom she wrote the email was associated with Dr. Tynan or a community group with which she is affiliated. Ms. Bains says she received the reports from Dr. Tynan and reviewed them during the public consultation phase of the permitting process; she just had not received them from the individual she had emailed.

[27] Dr. Frangou assessed the efficacy of the public notification requirements in the Victoria Permit treatment area by polling members of the Esquimalt Community Connection Facebook group (Esquimalt being one area included in the treatment areas

defined in the Victoria Permit). Dr. Frangou stated that of 358 respondents, 272 indicated they were unaware of any plan to apply pesticides aerially in the area.

[28] Dr. Tynan also reports having spoken to hundreds of people in the spray areas defined in the Permits, and believes that most are unaware of the spraying program authorized by the Permits.

## Treatment Areas

[29] Dr. Tynan researched the spray areas defined in the Port Alberni/Campbell River Permit. She says these areas include Indigenous reserve lands, farmland, natural areas (including waterways, wetlands, riparian areas, shorelines with walking trails, and forests), parks, educational facilities institutions (including elementary schools, a middle school, a secondary school, and a college), and residential housing. The population of the treatment areas is, according to Dr. Tynan, roughly 4,500, including roughly 600 members of First Nations. Dr. Tynan says the treatment areas contain a youth center and a youth health center, both serving the local First Nations.

[30] Dr. Tynan researched the spray areas defined in the Victoria Permit. She says these areas include Indigenous reserve lands, military housing, farmland, community parks and recreational facilities, health care facilities (including a women's clinic and hospitals), educational facilities (Royal Roads University, a Justice Institute campus, childcare centers, and elementary, middle, and secondary schools), and natural lands (including waterways, wetlands, a lagoon, shorelines, and forests). The population in these spray areas totals about 10,650 people, according to Dr. Tynan. She says there is also a library, a senior citizens association, a seniors' home, a recovery center, arenas, a library, a community center, and a historical site in the treatment areas.

[31] Dr. Tynan researched the spray areas defined in the Courtenay Permit. She says these areas include residential housing, farmland, natural areas (including wetlands, watercourses, and a forest), parks, and educational facilities (including early learning centers and a variety of schools). The population of the treatment areas totals, according to Dr. Tynan, roughly 3,750 people, including those found in two mobile home parks.

## The Pesticide

[32] The Pesticide's active, moth-eradicating ingredient is *Bacillus thuringiensis var. kurstaki* ("Btk"), a bacterium that has long been used to kill insect larvae. Dr. Tynan's evidence pertaining to the Pesticide, or this active ingredient, comes in the form of peer-reviewed journal articles, and opinions by those she describes as experts.

[33] The Pesticide is registered with the Pest Management Regulatory Agency ("PMRA"), a branch of Health Canada. This registration is required to sell a pesticide in Canada, and requires the registering entity to submit tests and studies that Health Canada uses to assess health risks, environmental risks, and the value of the pesticide to be registered.

This requires risk assessment and may result in Health Canada issuing directions for the use of any registered pesticide. Any individual using the Pesticide, including the Third Party, is required to follow any such directions.

[34] The PMRA most recently considered the registration of products containing Btk in 2010. The PMRA mandated that such products must display labels warning that they are potential sensitizers and eye irritants, unless product-specific testing shows otherwise. Warning labels must also advise to avoid skin contact and to wear respiratory protection while handling the products. These products should also not be used to control aquatic pests or on water intended for drinking without further treatment.

[35] According to an undated Health Canada publication, Btk poses little risk to human health, with no documented cases of toxicity or endocrine disruption despite its many years of use in Canada and around the world. Btk is a natural organism in the environment, to which the average person would be exposed multiple times in their lives, even without exposure to any Btk-based products. Health Canada says members of the public are unlikely to experience any symptoms if exposed to Btk spray, but still can take precautions to avoid exposure, just as they might to avoid pollen or other airborne materials on days when there are air quality advisories issued.

[36] According to Ms. Bains, the Pesticide had been used in British Columbia since 1979, with only "a few" complaints of adverse health effects, with at least two (the only two complaints made in the past decade) resolving in the short-term.

[37] The Respondent and Third Party also provided a number of documents from different jurisdictions around the world, describing the risks and benefits of using Btk-bearing substances or the Pesticide, or both.

[38] The Third Party has prepared an operations manual for the handling, storage, and application of the Pesticide, and which provides guidance on spill response and contamination procedures. According to Ms. Bains, the Third Party also complies with directions from Health Canada on the application of the Pesticide, and take various measures to ensure that the Pesticide is sprayed in the defined treatment areas in a way that minimizes exposure to individuals in those areas.

## Peer-Reviewed Journal Articles

[39] Dr. Tynan included several journal articles with her submissions to the Board. Those were:

- Calderoni et al, "*Bacillus thuringiensis* membrane-damaging toxins acting on mammalian cells" (2014) 361 FEMS Microbial 95, which describes infectious diseases in humans and other mammals, including infections of the gastrointestinal system, respiratory system, eyes, wounds, and burns;
- Green at al, "Public Health Implications of the Microbial Pesticide, *Bacillus thuringiensis*: an Epidemiological Study, Oregon, 1985–86" (1990) 80:7 AJPH 848 (the

"Green Study"), which described a two-year Btk spraying program over an area with 120,000 residents, during which laboratory cultures for infections were monitored, and revealed three potential *Bacillus thuringiensis* infections resulting from the spray program, although more frequent contaminations by *Bacillus thuringiensis* were observed;

- Tayabali and Seligy, "Human Cell Exposure Assays of *Bacillus thuringiensis* Commercial Insecticides: Production of *Bacillus cereus*-Like Cytolytic Effects from Outgrowth of Spores" (2000), 108 Environ Health Perspect 919, which described the impact of *Bacillus thuringiensis* on human cells, but stated that effects on humans would depend on the quantity of vegetative cells cytolytic exoproducts from *Bacillus thuringiensis*, as well as the immune response of exposed individuals;
- Riviera et al, "Common occurrence of enterotoxin genes and enterotoxicity in *Bacillus thuringiensis*" (2000), 190 FEMS Microbial 151 (the "Riviera Study"), which indicated that *Bacillus thuringiensis* produced enterotoxins, similar to other bacteria, that could cause food poisoning in humans;
- Hernandez et al, "*Bacillus thuringiensis* subsp. *konkukian* (Serotype H34) Superinfection: Case Report and Experimental Evidence of Pathogenicity in Immunosuppressed Mice" (1998), 36:7 J. Clin. Microbiol 2138, which describes a case of *Bacillus thuringiensis* infection in a soldier wounded by a land mine; and
- Jackson et al, "*Bacillus cereus* and *Bacillus thuringiensis* isolated in a gastroenteritis outbreak investigation" (1995), 21 Lett. Appl. Microbiol 103, which summarized findings made during an outbreak of gastrointestinal symptoms presumptively related to Norwalk virus, that both *Bacillus cereus* and *Bacillus thuringiensis* were found to produce cytotoxic effects and likely contributed to the outbreak.

[40] She also described reading other peer-reviewed articles in her rebuttal submissions, but did not make specific reference to their contents.

[41] Dr. Frangou referenced, but did not include, journal articles in his submissions. He reported that these articles support a conclusion that 20–25% of individuals exposed to Btk and/or the Pesticide in a treatment in New Zealand reported some deterioration in their health.

[42] The Respondent and Third Party referenced, in their submissions, various scholarly articles that they say supported the conclusion that the Pesticide posed a low risk to human health.

## Opinion Evidence

[43] Dr. Tynan provided a report from Dr. Per Granum, whom Dr. Tynan described as "… an expert in microbiology and pharmacology."

[44] In his report, Dr. Granum stated that the Riviera Study found Btk produced enterotoxins that can result in food poisoning in humans, with sufficient bacterial load, as a result of endotoxin production. Such poisoning is associated with up to respiratory issues, eye infections, and diarrhea that resolves within 24 hours.

[45] Dr. Granum added that Btk also produces collagenase, which can cause severe eye infections that require rapid treatment, but can be resistant to the first treatment option used by most medical doctors.

[46] Dr. Granum stated that Btk also produces δ-endotoxins, a class of toxins which have species specificity and have been used as a bioinsecticide. In Btk, these δ-endotoxins are found in crystals that cannot be dissolved in human bodies, although Btk spraying has been shown to "… cause problems, specifically for people with asthma." Dr. Granum stated that Btk's δ-endotoxins can trigger allergic reactions and lung infections, with immunocompromised people and premature babies being at highest risk for lung infections.

[47] According to Dr. Per Granum, the use of Btk over urban areas poses risks greater than applications over rural areas. Dr. Granum recommends risk assessment before conducting an urban application, and risk management afterward.

[48] In support of this conclusion, Dr. Granum referenced a study: Washington State Department of Health, Report of Health Surveillance Activities: Aerial Spraying for Asian Gypsy Mot, Seattle, May 2000, July 2001 (the "Seattle Study"), which followed three applications of the Pesticide over Seattle, Washington. This study reportedly indicated that, after the three Pesticide applications in Seattle, 59 people reported symptoms "… including cough, wheezing, headache, trouble breathing, sore throats, nasal congestion, irritated eyes, skin rashes, upper respiratory and nasal symptoms, flu-like or viral symptoms, worsening asthma and/or asthma attacks, and allergic bronchitis."

[49] Dr. Tynan provided a report from Dr. Stephen King, whom she described as "… an expert in toxicology and epidemiology." Dr. King described himself as an environmental and occupational health scientist, toxicologist, and epidemiologist. Dr. King completed a literature review, describing two events where the Pesticide was used in New Zealand as well as the Seattle Study, also referenced by Dr. Granum and described above.

[50] The two studies from New Zealand were:

- a 2003 study from West Auckland, which found, following application of the Pesticide, increased symptoms and particularly: sleep disturbance, dizziness, difficulty concentrating, throat irritation, itchy noses, diarrhea, and other gastrointestinal complaints.

  The 2003 study noted that those who had previously suffered from hay fever showed a significant increase in symptoms. The study also noted that aerial spraying of the Pesticide "… is associated with some adverse health consequences in terms of significant increased in upper airway,

gastrointestinal, and neuropsychiatric symptoms, as well as a reduction in overall perception of health in the exposed population."

- a 2003 report from the West Auckland Public Health Service, noting that 200 letters from the public had been delivered to a local government body, describing various health impacts from approximately 235 people, which were attributed to applications of Pesticide.

[51] Dr. King stated that the Pesticide contains hydrochloric acid, sulfuric acid, and sodium hydroxide, which are toxic to humans and may be responsible for some of the health effects described above. Dr. King considered that the similarity in symptoms across these studies/reports is unlikely due to coincidence; rather the spraying of the Pesticide "… preceded the onset of the reported symptoms and medical conditions among the affected individuals, indicative of an exposure-related cause and effect relationship."

[52] Dr. King also noted studies from Virginia and Oregon, which described adverse effects of the Pesticide on non-target species, with significant lethality to butterflies and impacts to species diversity in those study areas.

[53] Dr. King concluded that the Pesticide has toxic properties and can adversely affect human health, as well as non-target animal species.

[54] Ms. Bains also provided an opinion. She believes that those health effects likely relate to the Pesticide's acidity, and that these effects may be mitigated if individuals in and around treatment areas follow recommendations to remain indoors during treatments, and for up to 30 to 60 minutes afterward.

[55] The Respondent and Third Party also relied upon an opinion attributed to Jennifer Heron, a provincial invertebrate conversation specialist with the Ministry of Water, Land and Resource Stewardship. She reportedly concluded that there were no species at risk in the treatment areas described in the Permits, and that any impacted insect populations (moths and butterflies developing at the same time as the Spongy Moth) would likely recover within three years.

[56] With her reply, Dr. Tynan provided additional opinions from Dr. Granum and Dr. King.

[57] Dr. Granum's letter advises that *Bacillus cereus* and *Bacillus thuringiensis* are nearly identical and, if it were not for the historical distinctions in naming, they would be considered the same species. Dr. Granum also stated that symptoms of food poisoning through Btk is unlikely to result in sufferers seeking medical attention or that self-reporting would capture the true extent of exposures, given less than total knowledge of the spraying program. Dr. Granum referenced, in support of his opinion, the Seattle Study and the same New Zealand study referenced in his first report.

[58] Dr. King's letter references several studies and states that dispersion of sprayed Btk may be up to 1,000 meters from the spray zone, and that remaining indoors during spraying may not protect individuals from Btk exposure. In urban environments, Btk can

be re-aerosolized and can persist for up to four years. Dr. King also reported on toxicological studies related to toxins created by Btk at various dosages.

## ISSUE

[59] Should the Board grant a stay of the Permits pending a final decision on the merits of these appeals?

## POSITIONS OF THE PARTIES

[60] Because this stay will be determinative of whether the Pesticide is sprayed in 2023, I consider it important to outline the positions of the parties with respect to the appeals.

### The Appellants

[61] Dr. Tynan says that the Permits authorize the Third Party to spray 36,000 litres of the Pesticide over various Vancouver Island communities, including tens of thousands of residents, in May and June 2023. Dr. Tynan notes that spray areas include hospitals, schools, and other educational facilities, as well as various low-income residents, marginalized individuals, and those with compromised health conditions.

[62] Dr. Tynan also argues that there is insufficient public notice provided about the spray program. Dr. Tynan says that where someone "… looks into the matter, the government tells them that the [P]esticide causes no harm despite not requiring the party spraying the [P]esticide to comprehensively monitor and catalogue the effects of its application on humans and the environment." Dr. Tynan argues that the misleading information provided by the Respondent and Third Party prevent potentially exposed individuals from making informed decisions about whether they wish to insulate themselves from exposure to the Pesticide during spraying events. This misinformation also formed the basis for ill-informed agreement from at least one health authority, when commenting on the proposed spray program.

[63] Dr. Tynan also says that the Permits authorize the Pesticide to be sprayed in a way that will impact countless non-human animal species and plant species, including sensitive species in various riparian and shoreline areas.

[64] Dr. Tynan says the Respondent's aims in granting the Permits was to protect the commercial value of trees, and the associated revenue streams of the Third Party. Dr. Tynan says that protecting this unquantified revenue is not worth a serious, negative impact to human health, particularly given that alternative moth control methods have not been adequately explored or considered.

[65] Dr. Tynan also argues that it was unreasonable for the Respondent to issue the Permits because he failed to consider, or failed to give appropriate weight to, evidence

submitted to him during a public consultation period leading up to the issuance of the Permits. According to Dr. Tynan, this evidence establishes harms to both human and environmental health arising from the aerial spray of the Pesticide in urban areas. Dr. Tynan says the Respondent likely did not adequately consider the evidence she provided, including the two "expert reports" by Dr. Granum and Dr. King, given that Ms. Bains said she had not received those reports after the close of the public comment period, although she later clarified that she had.

[66] Dr. Tynan also argues that the Respondent violated the rules of procedural fairness by providing the public misleading information during the public consultation period. Specifically, Dr. Tynan says the Third Party provided misleading information about the toxicity of the Pesticide during the public engagement process, and as a result, the Permits should be rescinded or returned to the Respondent, with directions to allow for further public comment, without misleading information being presented to the public.

[67] Dr. Tynan also says that there is a reasonable apprehension of bias on the part of the Respondent in favour of the Third Party. Specifically, Dr. Tynan says a member of the public raised concerns about the use of the Pesticide in Colwood, British Columbia in March 2023, and a representative of the Respondent responded, instead of a representative of the Third Party, defending the use of the Pesticide. Dr. Tynan adds that this is also consistent with what she has been told by other concerned members of the public.

[68] Dr. Tynan also argues that, by holding public engagement sessions via videoconference or teleconference, the Respondent created a public engagement mechanism that was less procedurally fair than in previous years, when in-person meetings were scheduled. Dr. Tynan argues that unhoused, low-income, racialized, and Indigenous persons likely have a lesser ability to teleconference and videoconference than do many members of the public, and some have lesser literacy as well. Dr. Tynan argues these concerns raise human rights concerns and questions regarding compliance with the *Declaration on the Rights of Indigenous Peoples Act*, S.B.C. 2019, c. 44.

[69] Dr. Tynan's submissions were adopted by the other appellants who provided submissions on the stay application. Additional submissions were also received by Dr. Frangou and Mr. Wartels.

[70] Dr. Frangou argues that, given the populations present in the Permits' treatment areas, the exposures would be sufficient, even if 99.99% safe, to expect someone to have a serious reaction to the spraying of the Pesticide. He argues that British Columbia should protect its most vulnerable. He also says the Pesticide would negatively affect non-target animal species.

[71] Dr. Frangou also argued that the poor public notification requirements in the Permits and misleading information spread by the Respondent or the Third Party, or both, exacerbate this risk. Individuals that might otherwise insulate themselves from the risks associated with the Pesticide spraying are deprived of the opportunity to do so, and those

that might investigate the risks by checking government websites receive one-sided information in favour of Pesticide spraying.

[72] Mr. Wartels argues, beyond his support for Dr. Tynan's submissions, that the precautionary principle should indicate that the Pesticide should not be used, because it has been "insufficiently studied" for cancer, endocrine disruption, and as a developmental or reproductive toxicant, according to the Pesticide Action Network North America.

## The Respondent and Third Party

[73] The Respondent and Third Party say that the Pesticide does not pose an unreasonable risk to human or environmental health in or around the spray areas. They say that the aerial dispersion of the Pesticide, as authorized in the Permits, is safe and is the only effective way to combat the spread of the Spongy Moths, which would pose significant ecological and economic risks. They say that informed consent is not required of each person that could potentially be exposed to the Pesticide, but they have an extensive program of public engagement and notification associated with the spray program authorized in the Permits.

[74] The Respondent and Third Party say that the procedural fairness concerns of the Appellants are not properly considered within the scope of a stay application, and could be addressed in the merits of these appeals; however, they argue that the Board's processes would cure any procedural fairness concerns in any event.

[75] The Respondent disagrees that having videoconference public information sessions instead of in-person ones hinders the ability of low-income individuals to participate. The Respondent argues that there are different barriers to attending in-person sessions and they have noticed increased attendance at online sessions, compared to historical, in-person sessions. The Respondent also disagrees that low-income individuals and marginalized individuals have reduced access to print media and the Internet, but the Third Party would be open to improving its public outreach. Furthermore, the Respondent notes that Dr. Tynan did not provide any evidence from potentially impacted First Nations, whereas the Third Party says it engaged with all potentially impacted First Nations and none had any concerns with the spray program authorized in the Permits.

## Appellants' replies

[76] Dr. Tynan replies that the Board should consider the procedural fairness questions the appellants pose in this appeal, given that the stay decision will be determinative of whether the spraying takes place in 2023, and may be dispositive of the appeals overall, if the appeals are subsequently dismissed. This would deprive the Board of its jurisdiction to supervise compliance with the Regulation.

## DISCUSSION AND ANALYSIS

[77] Section 25 of the *Administrative Tribunals Act*, S.B.C. 2004, c. 45 (the "*ATA*") allows the Board to order a stay of a matter that is before it. The central decision on stay applications, and the one outlining the test used by the Board is found in *RJR-MacDonald Inc. v. Canada (Attorney General)* (1994), 111 D.L.R. (4th) 385 (S.C.C.) ("*RJR-MacDonald*"). The test involves the following three parts:

> 1) whether the appeal raises a serious issue;
>
> 2) whether the applicant for a stay will likely suffer irreparable harm if a stay is refused; and
>
> 3) whether any harm that the applicant will likely suffer if a stay is refused exceeds any harm that may occur if a stay is granted (the "balance of convenience" test).

[78] The party seeking a stay of a decision under appeal has the burden of proving each of the three steps in the *RJR-MacDonald* test. In this application, it is the Appellants who must prove these steps on a balance of probabilities.

[79] While a stay of proceedings is always carefully considered, it takes on additional importance in circumstances, such as this one, where the determination of the stay also has the effect of determining whether the rights at issue in an appeal can be exercised. This circumstance was acknowledged by the Supreme Court of Canada in *RJR-MacDonald* where it noted that "[t]wo exceptions apply to the general rule that a judge should not engage in an extensive review of the merits. The first arises when the result of the interlocutory motion will in effect amount to a final determination of the action." This excerpt was recently referenced, with approval, in *R. v. Canadian Broadcasting Corp*., 2018 SCC 5 (CanLII).

[80] Consequently, when the outcome of a stay application will determine whether certain legal rights are exercised, the *RJR-MacDonald* test is slightly modified. Rather than an assessment of the final two stages of the test (the first stage is unaffected by a consideration of the merits) occurring without a consideration of the merits of the appeal, they will be considered in light of the anticipated results of the hearing on the merits of this appeal (*RJR-MacDonald* at para. 54).

[81] I will consider the three stages of the test in *RJR-MacDonald* individually.

### Is there a serious issue to be tried?

[82] In considering whether a stay should be granted, the first stage of the *RJR-MacDonald* test seeks to establish if there is a serious issue to be tried during a hearing on the merits of an appeal.

[83] The Court in *RJR-MacDonald* held, and it has since been repeated often in the applicable case law, that the first stage of the test has a low threshold. The party bringing the stay application will only fail at this stage of the test if the merits of the case are frivolous or vexatious, or if the appeal is of a pure question of law. Previous panels of this Board have considered the *RJR-MacDonald* test and provide guidance as to what may be considered to be frivolous or vexatious, and the parties to this application have pointed me towards numerous examples.

[84] Significantly, the parties all submit that the first stage of the *RJR-MacDonald* test is met in these circumstances. I agree. These questions are not vexatious or frivolous, nor are they pure questions of law. I find that there is a serious issue to be tried in this appeal.

### Is it likely the applicant will suffer irreparable harm if a stay is refused?

#### Appellants' Submissions

[85] Dr. Tynan argues that, if the stay is refused, she, her children, and other humans, will likely suffer irreparable harm as a result of the Pesticide being sprayed. Dr. Tynan says that the Board should not consider only the harm to the parties to the application, but to others as well, referencing *RJR-MacDonald* and *Carvalho v. British Columbia (Medical Services Commission)*, 2016 BCSC 1603 ("*Carvalho*"). Dr. Tynan specifically notes that those affected in and around the treatment areas authorized under the Permit may suffer "… irritations of the skin, eyes, and respiratory tract …", including "… dry skin[;] chapped lips[;] itchy, red and burning eyes[;] runny nose and nasal stuffiness". Dr. Tynan says there is no monetary compensation available for these impacts.

[86] Dr. Tynan references a 2000 report from Canada's Department of Health which reported that *Bacillus thuringiensis* products "… have an inherit capacity to lyse human cells … and may also act as immune sensitizers." That 2000 report adds that "… what is lacking is a critical understanding of conditions that might concern high-risk groups, those unable to manage microbe invasions through impaired immune responses, the very young, the elderly."

[87] Dr. Tynan also references a 1999 report from the British Columbia Capital Health Region Office, which stated that continued monitoring was needed to identify rare or unexpected effects of exposure to the Btk, and to understand local consequences of aerial spraying of Btk. The report added that health studies were required before any spraying program was to begin.

[88] Dr. Tynan says no such study has been done, to her knowledge, and there has similarly been insufficient investigation to understand the health impacts among vulnerable populations, including those with impaired immune responses, the young, and the elderly. Dr. Tynan notes that there may be a broad range of negative health outcomes for those exposed to the Pesticide, yet there is nothing in the Permits or the Third Party's methodology that allows for reporting, monitoring, and analysis of the health impacts associated with spraying the Pesticide.

[89] Furthermore, Dr. Tynan argues that unhoused persons and those without access to bank accounts or funds in particular may also lack the ability to start appeals with the Board, and may lack access to the Respondent. She says that the reduced ability of unhoused, low-income, racialized, and Indigenous persons to access the Respondent's and the Board's processes warrants particular attention, when considering the question of irreparable harm.

[90] In other instances, Dr. Tynan asserts that there is an unacceptable "risk of irreparable harm" suffered by those within the treatment areas.

[91] Dr. Tynan also argues that non-human animals and plants will suffer irreparable harm because they are not legal persons in British Columbia and therefore lack an avenue for financial compensation. Dr. Tynan notes that the Board has previously concluded that harm to wildlife as a result of pesticide application can amount to irreparable harm (see *City of Port Moody et al. v. Deputy Administrator, Pesticide Control Act*, Decision No. 98-PES-05(a), July 20, 1998).

[92] Dr. Frangou argues that the literature establishes some degree of adverse human effect as a result of the proposed Pesticide spraying. He argues this is irreparable as a result of potentially irreversible health effects and the lack of effective public notification.

## Respondent and Third Party's Submissions

[93] The Respondent and Third Party provided joint submissions. As their positions with respect to the stay application are the same, their submissions are referred to simply as the Respondent's submissions, for ease.

[94] The Respondent refers to *RJR-MacDonald* and says that "irreparable" refers to the nature of the harm, rather than its magnitude, such as where a business suffers permanent market loss or irrevocable damage to its business operations, or where natural resources are permanently lost. The Respondent notes that the Board has concluded that "… some potential for minor harm to humans related to irritations caused by potential exposure …" are not enough. The Respondent notes that this comment was in the context of considering whether an aerial application of the Pesticide in certain areas of British Columbia constituted irreparable harm.[1]

[95] The Respondent notes that a stay requires a solid evidentiary foundation that established irreparable harm; speculation is not enough.[2] The Respondent says that this is a stricter test than would be considered in a decision on the merits, where the Board could

[1] See *Frangou v. British Columbia (Administrator, Integrated Pest Management Act)*, EAB-IPM-22-A001(b) to EAB-IPM-22-A008(b), June 3, 2022) ("*Frangou*").

[2] See *Vancouver Aquarium Marine Science Centre v. Charbonneau*, 2017 BCCA 395, at para. 60, and *Olynyk v. British Columbia (Assistant Water Manager)*, EAB-WSA-20-A009(a) and EAB-WSA-20-A012(a), April 30, 2021, at para. 40.

consider whether the application of the Pesticide would have an unreasonable adverse effect.

[96] With respect to concerns about the Pesticide generally, the Respondent notes that in *Canadian Earth Care Society v. British Columbia (Environmental Appeal Board)*, 2010 B.C.E.A. No. 14, 51 C.E.L.R. (3d) 106, the Court of Appeal upheld that the Board could assume a federally registered pesticide to be generally safe, and the Board was correct to consider, in that case, whether there were any characteristics of particular sites that prevented the safe application of a pesticide, whether the proposed pesticide application is contrary to the registration intent or restrictions on that pesticide, or whether a permit-holder could safely apply the pesticide. The Respondent notes that the Board has previously assumed Btk to be generally safe, based on the authority above.[3]

[97] The Respondent says that this presumption of general safety is sufficient in this case. Similarly, the Respondent says that he preferred the stringent requirements of Health Canada over isolated journal articles provided during the public engagement phase of the applications that ultimately led to the issuance of the Permits.

[98] While the Respondent acknowledges that the Board can consider evidence of toxicity of a pesticide generally, the Respondent says that the systematic and extensive review process associated with obtaining and maintaining registration of a pesticide should be given significant weight. The Respondent argues that, in this case, Health Canada has concluded that Btk poses little threat to human health, even with direct handling. Health Canada further says that Btk is naturally occurring, and individuals likely experience multiple exposures throughout their lives even without exposure to the Pesticide, and can avoid such exposures as easily as they would pollen or other airborne materials during days with air quality advisories.

[99] With respect to the journal articles provided by the appellants, the Respondent says that the articles cannot be applied to the circumstances of this case. In some cases, the treatment methodology is different. In others, the bacteria referenced in the study is other than that within in the Pesticide.

[100] Furthermore, with respect to the opinion evidence provided, the Respondent argues that no expert witnesses have been tendered or accepted by the Board. The timeframe involved in the stay application has meant that expert reports could not be exchanged in accordance with the Board's rules.

[101] The Respondent also describes its public notification program as extensive, with particular care taken to contact vulnerable populations through outreach to health authorities, homeless shelters, municipalities, and First Nations in or around the spray areas designated in the Permits. Furthermore, every home and business with an address registered with Canada Post has received or will receive post cards, or both; people entering spray areas around the time of treatment are advised via signage; and 24-hour

[3] See *Jones v. British Columbia (Ministry of Environment)*, EAB-2010-IPM-001(a), April 14, 2010.

notices are sent to all schools, registered daycares, care homes, and hospitals. Furthermore, spraying is set to occur in early mornings to minimize impacts to people within the spray areas defined in the Permits.

[102] The Respondent also says that the appellants did not provide evidence that establishes that any vulnerable populations will be irreparably harmed by the spray program authorized in the Permits.

### Appellants' Reply Submissions

[103] Dr. Tynan argues that the public outreach and notification conducted with respect to the spraying authorized by the Permits was misleading and insufficient, and does not allow the public to make informed decisions about minimizing their exposure to the Pesticide. Furthermore, Dr. Tynan says that this misleading information means that the public, including a health authority, did not have an accurate understanding of the risks associated with the Pesticide when they were given the opportunity to comment on the proposed Pesticide spraying.

[104] With respect to the highway signs in particular, Dr. Tynan notes that the Respondent did not explain the distinction between using highway signs for safety, rather than for program notification. Dr. Tynan says that the internal communications from the Respondent indicate that safety was being sacrificed due to budgetary constraints, a state of affairs that Dr. Tynan described as concerning.

[105] Dr. Tynan also says that the postcards were not mailed with enough time to allow for public engagement at the videoconferencing sessions, and furthermore, says that she knows of many people in the spray area who did not receive any postcards or other notifications at all.

[106] Dr. Tynan adds, with respect to public notification, that the Third Party did not state that it contacted the Municipality of Saanich, despite the fact that it comprises part of the spray areas defined in the Victoria Permit.

[107] Dr. Tynan notes that the composition of the SMTAC is unknown, as is its deliberative process. As a result, Dr. Tynan argues that no weight should be given to the SMTAC's recommendations.

[108] With respect to the PMRA, Dr. Tynan notes that registration of pesticides is based on information available at the time and that re-assessments are required to ensure the continued value and acceptability of pesticides as further information becomes available. Further, Dr. Tynan notes that PMRA's registration of a pesticide does not factor in site-specific contexts and needs, including the particular vulnerabilities of human populations in affected areas. To the extent that the Respondent or Third Party rely on PMRA to consider health-related questions, Dr. Tynan argues that this is an abdication of the responsibility in section 8 of the *Act*, for the Respondent to consider the risk of "… harm to humans, animals or the environment …" when considering issuing a permit authorizing the use of pesticides in British Columbia. Dr. Tynan raises the same concern with respect

to the Respondent and Third Party's position that health assessments and risk assessments fall under the purview of relevant health authorities.

[109] Dr. Tynan argues that the evidence does not establish that PMRA considered the evidence of Dr. Granum or Dr. King, or the literature they reference, and that this evidence accordingly needed to be considered by the Board.

[110] Dr. Tynan argues that the Respondent and Third Party presented insufficient evidence to establish any health or environmental effects associated with the presence of Spongy Moths or the establishment of a population on Vancouver Island. Dr. Tynan rather references further literature and proposes that environmental effects would be similar to that experienced where Spongy Moths are present in eastern Canada and the United States, with periodic outbreaks that are not a problem for healthy trees and forests. Dr. Tynan critiques the Respondent and Third Party's position, given in particular that the composition of native forests in British Columbia, with its high proportion of coniferous trees, which the Respondent and Third Party concede are not threatened by Spongy Moths.

[111] Dr. Tynan also says that the Respondent and Third Party do not provide sufficient evidence to support the conclusion that it is more economical to confront Spongy Moth populations now, rather than when they are established. Similarly, Dr. Tynan says that concerns about economic impact from restricted movement of people and goods is not adequately supported by the evidence, and neither is the concerns expressed about agricultural impacts.

[112] Dr. Tynan further argues that insufficient attention was paid to the complexity and expense of aerial spraying of the Pesticide, with its associated risks and violation of "privacy rights". Dr. Tynan says the Respondent and Third Party did not provide any evidence to support that aerial spraying is more economical than any other treatment method.

[113] Dr. Tynan also says that the Respondent and Third Party do not seem to appreciate that re-introduction of the Spongy Moth into British Columbia is inevitable and that populations in sprayed areas previously may have died off naturally, as unsustainable, just as the Respondent and Third Party say may have happened with populations that disappeared with mass trapping.

[114] Dr. Tynan argues that the Seattle study summarized above shows adverse health effects from 59 people, and argues this is too high a number. This indicates a need for further data collection, in conjunction with the spraying program, at a minimum. Dr. Tynan says relying on self-reporting or medical clinic and hospital visits are insufficient, as would be relying on the Pesticide's manufacturer to collect, maintain, and report on health impacts associated with the spraying program.

Panel's Findings

[115] At this stage of the *RJR-MacDonald* test, I must determine if the applicants for the stay order will suffer irreparable harm if a stay of the Permits is refused.

[116] The Court in *RJR-MacDonald,* at paragraphs 63 and 64, provided guidance as to what harm will be considered to be irreparable:

> At this stage the only issue to be decided is whether a refusal to grant relief could so adversely affect the [applicant's] own interest that the harm could not be remedied if the eventual decision on the merits does not accord with the result of the interlocutory application.
>
> "Irreparable" refers to the nature of the harm suffered rather than its magnitude. It is harm which either cannot be quantified in monetary terms or which cannot be cured, usually because one party cannot collect damages from the other. Examples of the former include instances where one party will be put out of business by the court's decision ...; where one party will suffer permanent market loss or irrevocable damage to its business reputation... or where a permanent loss of natural resources will be the result when a challenged activity is not enjoined. ...

[117] Dr. Tynan argued, quoting *RJR-MacDonald*, that adjudicators were cautioned in that case, to "... reject an approach which excludes consideration of any harm not directly suffered by a party to the application." This quote was in the context of the third portion of the applicable test, the balance of convenience.

[118] Dr. Tynan also referenced paragraph 72 of *Carvalho* in support of this argument. That portion of Carvalho adopts the earlier quote from *RJR-MacDonald*, but also specifically notes that "... at the second stage only irreparable harm to the applicant is relevant ...". It is accordingly clear from the authorities referenced by Dr. Tynan that the question is whether the applicants for the stay order will suffer irreparable harm.

[119] At both this stage and the one to follow, the anticipated results of the hearing on the merits of this appeal should be borne in mind (*RJR-MacDonald* at para. 54). As such, the evidence and submissions from the parties pertaining to the merits of the appeals will be considered in assessing whether the applicants for the stay will likely suffer irreparable harm if the stay is denied.

[120] It is unclear whether I should also consider the possibility of irreparable harm to Dr. Tynan's dependent children. For the purposes of this analysis, I have done so, because my conclusions are no different than if I considered only the potential for irreparable harm to the applicants.

[121] The test that must be applied at this stage of analysis is not a consideration of if irreparable harm **may** result if the stay is not granted, but that it **will**. Speculative or potential harm cannot satisfy this stage of the test. The BC Court of Appeal, at paragraph 60 of *Vancouver Aquarium Marine Science Centre v. Charbonneau*, 2017 BCCA 395, stated this succinctly when finding:

> [[T]here surely must be a foundation, beyond mere speculation, that irreparable harm will result. Interlocutory injunctive relief pending the trial of the issues is a significant remedy, and should be invoked only when the test in *RJR-MacDonald* is satisfied on a sound evidentiary foundation.

[122] Dr. Tynan argues that anyone in and around the treatment areas authorized under the Permit **may**, or is at risk, to suffer "… irritations of the skin, eyes, and respiratory tract …", including "… dry skin[;] chapped lips[;] itchy, red and burning eyes[;] runny nose and nasal stuffiness". Dr. Tynan says there is no monetary compensation available for those adverse impacts. However, the possibility of suffering any symptoms is not enough; it must be likely that they will be suffered.

[123] Furthermore, the lack of scientific consensus or the need for further study is insufficient to qualify as irreparable harm. Again, uncertainty about the risk of harm, including irreparable harm, is insufficient for this stage of the *RJR-MacDonald* test. The precautionary principle is not incorporated into the *Act*, the Board's processes for stay applications, or into the *RJR-MacDonald* test for stay applications, which the Board uses to decide such applications. The question in the second branch of the test is whether the applicants for the stay will likely suffer irreparable harm.

[124] Dr. Tynan has not produced sufficient evidence to establish that likelihood. She supplied scientific or medical journal articles, and reports or letters from those she described as "experts", but they were not qualified as experts pursuant to the Board's Rules. Dr. Tynan also did not request any variation of the Rules to allow for a more expedited submission of expert evidence.

[125] However, even if I considered the scientific and medical information that Dr. Tynan submitted, she still has not established any symptoms from humans are likely to result, and specifically not her or her dependent children. I am willing to suppose, in the context of this appeal and having taken a generous approach to the medical and scientific information as described above, that Btk and the Pesticide may produce adverse effects on humans. This includes the "… capacity to lyse human cells … and act as immune sensitizers", as described in the Department of Health report from 2000. I am likewise willing to accept, for the purposes of this decision, that some concentrations of Btk can result in infectious diseases in humans and other animals, cytolytic effects on human and animal cells, and food poisoning in humans. The medical and scientific information, however, does not allow these effects to be inferred in the context of the spraying authorized by the Permit, as the question of exposure concentration was not addressed in any way that would allow these medical or scientific findings to be correlated to the Btk or Pesticide concentration to which anyone in the treatment areas defined by the Permits is likely to be exposed.

[126] Even where studies described effects due to pesticide spraying, these effects were often based on subjective reports of symptoms. There is insufficient evidence to conclude what proportion of these described effects, if any, can be attributed to the spraying of pesticides or exposure to Btk in those contexts. This is true, for example, of the Seattle

Study. Other studies were not provided to the Board, but seemed to suggest that they measured the reporting of symptoms, without analysis to determine that any pesticide spraying was causative.

[127] Furthermore, there is insufficient evidence to correlate the quantity or proportion of symptoms reported in one application with the spraying authorized in the Permits, as there may be variables associated with spraying methodology, weather conditions, and steps taken to insulate the population from exposure, among others.

[128] The one study included by Dr. Tynan which spoke to causality was the Green Study, in which spraying over 120,000 residents over a period of two years resulted in three potential *Bacillus thuringiensis* infections, although no causative link was confirmed in any case. While I recognize that it may by that there may be under-reporting of symptoms, there is nonetheless insufficient evidence to conclude that there is a likely risk of adverse effects on humans as a result of the spraying authorized in the Permits. Reports of symptoms from individuals in other places and contexts who believe they suffered some symptoms as a result of pesticide-spraying does not amount to a "sound evidentiary foundation" to conclude that any of the applicants are likely to suffer irreparable harm as a result of the spraying authorized in the Permits.

[129] In reaching this conclusion I have also considered Dr. King's evidence, that other chemical constituents of the Pesticide are toxic to humans and may cause some of the symptoms attributed to pesticide spraying in various studies. This line of evidence is not persuasive to me because of the same concerns about speculation and the lack of consideration of exposure concentrations.

[130] Although I appreciate that Dr. Tynan is concerned about vulnerable populations exposed to the Pesticide through spraying authorized in the Permits, it is important to remember that the question of irreparable harm must be addressed with respect to an applicant for a stay. There is insufficient evidence to conclude that Dr. Tynan, her children, or any other appellant who provided submissions with respect to this stay application have any characteristics of vulnerability that concerned Dr. Tynan.

[131] As was the case in *Frangou*, there is "… some potential for minor harm to humans related to irritations caused by potential exposure …", but not enough to establish that any of the applicants are likely to experience irreparable harm.

[132] Similarly, the applicants have not provided a sound evidentiary foundation for concluding that they will suffer any irreparable harm as a result of environmental impacts from spraying authorized under the Permits. They did not describe how any harm to the environment would result in irreparable harm to them, but even if this were assumed, the evidence they provided pertains to other environments, such as those found within Virginia and Oregon. It is not clear that the same species are present in the spray areas defined in the Permits, or that the impacts would be similar. Furthermore, there is insufficient evidence to conclude that any harm that arises, for example to other caterpillars who are susceptible to the Pesticide during treatment times, would be irreparable.

[133] In reaching this conclusion, I have not considered the effect of the registration of the Pesticide with PMRA or the recommendations, as described by the Respondent and Third Party, of the SMTAC. I have not needed to do so; the applicants bear the burden of proof in establishing that there is a likelihood of irreparable harm. They have not managed to do so with respect to impacts to human health or the environment.

[134] It follows that there is no sound evidentiary foundation to conclude that if Btk from the spraying authorized in the Permits persists longer than the Respondent and Third Party project, or if it is more widely distributed (which would, I note, decrease the concentration in any given area), this would amount to likely irreparable harm to any of the applicants.

[135] It also follows that whether the public is less informed than the Third Party's notification strategy aims for likewise does not amount to irreparable harm to any of the applicants. First, the applicants are all aware of the spraying and the schedule (insofar as projected dates and times can be known at any given point). Second, there has not been a demonstrated likelihood of irreparable harm associated with exposure to the Pesticide, as part of the spraying authorized under the Permits. Accordingly, even if the appellants were unable to mitigate any risk of exposure, it is a risk that has not been established to likely result in irreparable harm. Additionally, I note that the Regulation does not require each individual to be fully informed.

[136] I also recognize the applicants' concerns about misleading information being distributed by the Respondent, the Third Party, or both, insofar as the risks associated with Btk and the Pesticide are concerned. Ms. Bains has agreed that she could have been more clear in her communications, and I agree; however, the applicants for the stay understand that there are risks associated with the Pesticide being sprayed in accordance with the Permits (and believe the risk greater than the Respondent and Third Party do). Further, while I agree the Respondent or Third Party could have been more clear in providing information as to potential effects of the Pesticide, the inaccuracy, based on the information provided to me, seems minor.

[137] After reviewing the evidence provided by the applicants, I have seen only subjective reports of adverse effects on humans who correlate symptoms to exposure for unknown reasons. The only study provided that attempts to address causation, the Green Study, found no confirmed health impacts. Ms. Bains' classification of the Pesticide and Btk as "harmless" is likely untrue at some levels of exposure, but where pesticide spraying is concerned, there have been only subjective reports of adverse impacts, with no confirmed causative link, including to any symptoms that required medical treatment. I accordingly do not think there was any deliberate misrepresentation of the facts by Ms. Bains. The applicants have not established that have or will suffer irreparable harm from any inaccuracies in the information provided during the permitting process, and it is unclear if there was any prejudice to anyone as a result of inaccurate information provided during the public comment phase of the permitting process.

[138] It is possible that others may have objected to the Permits if they had been given more accurate information; however, it is speculative to say so. They might have concluded that there was no risk of irreparable harm, as I have done based on the information provided to me, or they may have been willing to bear the risks because of perceived benefits of Spongy Moth eradication. Each of these possibilities is speculative. The appellants have not identified anyone who would have objected, or does object, to the Pesticide being sprayed as authorized in the Permits. While the appellants have identified a potential procedural fairness issue in the permitting process, they have not identified anyone who says they have suffered prejudice as a result. If they had done so, and if that person had filed an appeal and applied for a stay, the outcome may have been different.

[139] Lastly, while Dr. Tynan referenced "privacy rights" in her submissions, she did not explain what these rights were or how the spray program authorized under the Permits infringes upon those rights, let alone whether such infringement amounts to irreparable harm. Accordingly, there is insufficient evidence to conclude that there is any irreparable harm arising from the violation of any privacy rights in this case.

[140] Furthermore, I note that the Respondent does not need to establish that there would be health or environmental effects associated with ongoing or established Spongy Moth populations on Vancouver Island. They do not need to establish that the aerial spraying of the Pesticide authorized in the Permit is the most economical or efficient way of treating the presence of Spongy Moths, or that Spongy Moths should be treated at all. While I must consider the evidence associated with the merits of these appeals because this stay decision may decide their outcome, the burden of proof is on the applicant applicants. Furthermore, they must establish that it is likely that they will experience irreparable harm in order for their stay application to succeed. They have not done so and, for that reason, I deny their stay application.

[141] For reasons described below, I will proceed to consider the third stage of the *RJR-MacDonald* test.

### Is any harm that the applicant will likely suffer if a stay is refused greater than any harm that may occur if a stay is granted?

Appellants' Submissions

[142] Dr. Tynan argues that, if the stay is denied, she, her children, other humans (including low-income and other marginalized persons that faced "substantial procedural barriers" to participating in the Respondent's and the Board's processes), non-human animals, and plants will be exposed to adverse effects from the applications of the Pesticide. Dr. Tynan notes, in particular, that there are butterfly and non-invasive moth species that will be affected by the Pesticide.

[143] Dr. Tynan says that, if a stay is granted, there is a negligible risk of international trade implications or restrictions on the export of lumber and, in fact, such restrictions would be a benefit to British Columbia as that lumber could be used domestically. Dr.

Tynan argues that the Spongy Moth eradication program has been going on in British Columbia since 1979, yet the moth persists. Dr. Tynan says losing one year of Pesticide spraying is unlikely to result in an unmanageable increase in the population of the Spongy Moth. The fact that spraying is required in different areas of the province in different years suggests that the spraying program is not essential, according to Dr. Tynan.

[144] Dr. Tynan further argues that the Third Party acknowledges mass trapping of Spongy Moths as an alternative to use of the Pesticide, noting that the Third Party's website on "Treatments" noted that "… mass trapping can be used as a treatment in small areas with good access for setting up traps." Mass trapping had been used in British Columbia from 1999 to 2008, with mixed results.

[145] Dr. Tynan adds that the Board should consider the precautionary principle in weighing the balance of convenience. Dr. Tynan references the definition of that principle found in section 2(1)(a) of the *Canadian Environmental Protection Act*, S.C. 1999, c. 33 (the "*CEPA*"): "… where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation …". Dr. Tynan says there is no scientific consensus on the Pesticide's impacts on human and ecological health, and that accordingly, the precautionary principle supports the granting of the stay.

[146] Finally, Dr. Tynan argues that granting a stay in this case would be consistent with numerous, previous decisions of the Board, but beyond listing some, provides no further argument on that point.

[147] Dr. Frangou argues that any economic incentive in favour of the Pesticide application is modest, and wonders if it would be offset entirely if lumber were processed prior to export. Furthermore, Dr. Frangou argues that the prolonged treatment efforts in British Columbia establish that eradication of the Spongy Moth would not occur, even with Pesticide spraying.

## Respondent and Third Party's Submissions

[148] The Respondent and Third Party argue that the balance of convenience favours denying the stay application, particularly given that the public interest favours the denial of the stay application. Referencing *RJR-MacDonald*, the Respondent and Third Party assert that they can establish their actions are in the public interest upon proof that they are charged with the duty of promoting or protecting the public interest, and with some indication that the activity in question was undertaken pursuant to that duty.

[149] The Respondent and the Third Party note that the Third Party has the legislative authority to carry out spraying of Btk to prevent the spread of insects, pests, and diseases that are destructive to plants, under the *Plant Protection Act*, R.S.B.C. 1996, c. 365 (the "*PPA*") and the *Lymantria Moth Eradication Regulation*, B.C. Reg. 100/2022 (the "*Lymantria Regulation*"). The Respondent and Third Party argue that it is in the public interest to eradicate the Spongy Moth.

[150] The Respondent and Third Party disagree with the suggestion that eradication strategies have not been successful in British Columbia. Rather, according to the Third Party, Spongy Moth populations have been eradicated and new populations have been re-introduced, showing the need for ongoing vigilance against these pests.

[151] The Respondent and Third Party also say that the only alternatives to the use of the Pesticide involve: removal of all broad leaf trees, the manual removal of all egg masses from trees and other objects within treatment areas, and mass trapping. All are impractical for different reasons, according to the Third Party, with mass trapping requiring small, low-density populations of Spongy Moths, and a large network of traps that require significant tree canopy. The Respondent and Third Party say these conditions are not present in all treatment areas authorized under the Permits.

[152] Furthermore, the Respondent and Third Party say aerial spraying of the Pesticide is required where Spongy Moth populations are dispersed over a large area, or where host vegetation is too high for ground-based treatments (typically over 20-feet tall). Ground spraying is also more invasive to private property, according to the Third Party.

[153] The Respondent and Third Party argue that whether treatment is recommended depends on the local Spongy Moth populations detected in recent surveys, population trends, and site-specific considerations. That treatment is not indicated as required in some places within British Columbia does not indicate that treatment is not indicated anywhere. Furthermore, simply because mass trapping is a viable solution in one area does not mean it will be universally indicated or effective. Where mass trapping has seemingly been successful, population densities were low and may not have been viable in any event; the mass trapping may not have been what eradicated the Spongy Moth in those areas, at those times.

[154] The Respondent and Third Party say that the spread of spongy moths can cause skin, eye, and respiratory irritation, as well as allergic reactions, in humans. There are also indirect risks from expanding Spongy Moth populations, including larvae and waste making the ground slippery, and trees affected by defoliation creating a risk of falling tree limbs. Furthermore, the Respondent and Third Party argue that the Spongy Moth is an invasive species and, if it becomes established in Vancouver Island, it may disrupt local ecosystems and agriculture, including fruit orchards. Furthermore, the endangered Garry Oak (and populations of animals dependent on it) and ornamental trees are susceptible to the Spongy Moth. The defoliation resulting from an established Spongy Moth population would affect urban communities, deprive pollinators of food and shelter, and provide synergistic opportunities for other pests.

[155] The Respondent specifically denies that there is an economic motivation for the Spongy Moth eradication program; rather, it is to follow the SMTAC's recommendations, which are aimed at protecting the environment of British Columbia from this invasive pest. It is also true, however, that other jurisdictions responding to the establishment of a Spongy Moth population in British Columbia could result in disruptions to the flow of people and trade goods into and out of British Columbia. Trade restrictions could impact a

variety of industries, including agriculture, nurseries, and recreational facilities. The Respondent says that while resource allocation is a political question, it is likely more economical to eradicate Spongy Moth populations at an early stage, rather than have municipalities and private landowners struggle against an established population of the pests, in order to maintain urban forests and safeguard agricultural production.

[156] The Respondent also disagrees that missing one year of a treatment window will allow the Spongy Moth population to increase unmanageably. The Respondent says an interim stay granted by the Board in 2022 prevented treatment during the first spray window of that year, and resulted in the need for further spraying in 2023. The Respondent also says that, even though treatments do not always eradicate the population in an area in one year, they may do so over multiple years. The Respondent cited an example from Surrey, where two years of aerial spraying did not eradicate the population, but curtailed it. Physical access issues made trap placement, and therefore moth detection, more difficult, but once those issues were resolved, the eradication was successful in the third year of aerial spraying.

[157] The Respondent says that the precautionary principle does not apply to the Province of British Columbia's exercise of powers, but rather to the exercise of federal powers. The Respondent argues that Health Canada's registration of the Pesticide accordingly incorporated this principle, and in any event, if it were applied to the question of Spongy Moth eradication, the lack of total scientific consensus should not be used as a reason to postpone treatment, as treatment would prevent environmental degradation.

### Appellants' Reply Submissions

[158] Dr. Tynan argues that the Respondent and Third Party provided a vague and inconsistent rationale for the aerial spraying program authorized in the Permits. Accordingly, Dr. Tynan says, they have not demonstrated irreparable harm, for the purpose of the balance of convenience test.

[159] Dr. Tynan also says the proposed aerial spraying authorized by the Permits is a significant overreaction to the presence of anywhere from 12 to 56 moths in a given treatment area, as shown by the Respondent's documents.

### Panel's Findings

[160] Because the applicants have not established that they are likely to experience irreparable harm as a result of the spraying authorized in the Permits, I do not need to decide the balance of convenience; however, as the parties provided extensive arguments on this branch of the test, I wish to provide a few comments.

[161] First, Dr. Tynan argued extensively about the vulnerability of certain populations, including low-incoming, marginalized persons, and Indigenous populations. She focused on barriers they may have had engaging in public outreach during the permitting process, and the Board's services. There is, however, no evidence that anyone who wished to

participate in either process was unable to do so. The comments provided by Dr. Tynan in this respect were largely speculative and based on broad generalizations. I am particularly concerned about comments made about Indigenous communities, where those communities have not expressed a concern, and where representations are made that question their capacity to participate in public outreach or appeals, without any evidence in support.

[162] There is a similar lack of evidence in support of arguments that there may be economic benefits to not exporting raw lumber in the event of a larger or more sustained Spongy Moth population in Vancouver Island. There is similarly a lack of evidence to support that there would be negligible risk of international trade implications or restrictions. These were, instead, presented as speculative assertions.

[163] Likewise, there is a lack of evidence to support the conclusion that, because treatments for Spongy Moths have been occurring for many years in British Columbia, this means that treatments are ineffective. Spongy Moths are prevalent in many places in the world, and, as the Respondent and Third Party suggest, it may just as easily be that they have been brought to British Columbia repeatedly, even annually, with the transportation of people and goods into the province.

[164] Furthermore, while both parties agree that there is some risk of adverse health effects in people exposed to the Pesticide, in some concentrations, the Appellants have disagreed that there is sufficient evidence to conclude that there are any possible health effects related to exposure to Spongy Moths. This was noted, however, at page 852 of the Green Report:

> Many of the complaints from the public perceived … were related to skin rashes, angioedema, eye irritation, and respiratory involvement. It could be argued that these symptoms are more consistent with disease caused by the insect itself than [Btk]. There have been reports of major outbreaks of dermatitis in the Northeastern United States involving thousands of persons exposed to [Spongy Moth] larvae. Dermatitis in these outbreaks was attributed to irritation by the setae or hairlike projections of the [Spongy Moth] caterpillar. Associated symptoms of workers exposed to the larvae included rhinitis, irritation of the eyes, and dyspnea. Wheal and flare reactions have occurred in response to scratch tests in persons with a history of exposure to [Spongy Moths]. Eighty ng/organism of histamine have been extracted from these setae. [footnote references excluded]

[165] One argument advanced by the applicants concerns the precautionary principle, as defined in the *CEPA*. As noted by the Respondent and Third Party, this is legislation that applies to the Federal government and does not necessarily apply in the provincial context. This is especially true in a case like this, where the Legislature in British Columbia has set a different standard for the granting of permits under the *Act*. Section 6(3) of the *Act* gives the Respondent the discretion to issue a permit where it the application satisfies the criteria in subsection (a), the applicant satisfies certain criteria in subsections (b) and

(c), and where the "… pesticide use authorized by the permit will not cause an unreasonable adverse effect."

[166] The applicants did not provide any persuasive argument why the Respondent (or any other Administrator designated under the *Act*) should follow the precautionary principle when exercising their discretion to issue a permit; it was simply asserted, and the foundation for that assertion is not clear. Furthermore, as noted by the Respondent and Third Party, it is not a given that the precautionary principle invariably favours inaction; combating an invasive species could amount to "… cost-effective measures to prevent environmental degradation …".

[167] I also note that the Respondent made arguments that were not fully supported by evidence, including some associated with economic risk should Spongy Moth populations be allowed to persist or expand in British Columbia, the relative cost of combating the Spongy Moth before it becomes established in British Columbia as opposed to afterward, the proportionality of the response outlined in the Permits, or the ecological risk associated with the persistence or proliferation of the Spongy Moth in British Columbia; however, the Respondent and the Third Party are entitled to the public interest presumption as outlined in *RJR-MacDonald*.

[168] The presumption favours the Respondent because he has been entrusted with the duty, under the *Act*, to issue permits that authorize the use of pesticides in British Columbia. The Respondent must weigh, one hand, the benefits and risks associated with the persistence or elimination of pests and invasive insects in British Columbia, and on the other the environmental and health risks associated with the use of those pesticides which may eliminate them. This is a multi-factorial consideration that "… includes the concerns of society generally …". The Court in *RJR-MacDonald*, described this as an element of decision-making in the public interest. The Respondent issued the Permits in furtherance of that duty.

[169] There is an open question whether the presumption also favours the Third Party. The parties did not squarely address the issue and I do not need to make a finding on it; however, I note that staff in the employ of the Third Party are designated as inspectors under the *PPA*'s *Lymantria Regulation*. This authorizes staff of the Third Party to carry out measures intended to eradicate the Spongy Moth, including by spraying Btk aerially, over an area contained in the spray area defined by the Victoria Permit. The parties did not argue whether this is sufficient to give rise to the presumption and, if so, whether the Third Party benefits from the presumption in all areas designated by the Permits, or only in the area over which they have authority under the *Lymantria Regulation*.

[170] In any event, however, the Respondent is the decision maker and benefits from a presumption that his decision was made in the public interest. The applicants have not provided sufficient evidence to rebut that presumption, and the Respondent does not need to add further evidence to support it. Furthermore, the appellants have not provided sufficient evidence to establish that the harm they would suffer, or that the public would suffer, as a result of the stay being denied outweighs this public interest presumption.

This conclusion is based on the findings made for all the reasons above, with respect to the second and third branches of the test.

[171] As such, even if I were to consider the third portion of the test from *RJR-MacDonald* in the context of this stay application, I would conclude that the balance of convenience favours the Respondent. I would accordingly deny the stay application on that basis.

## DECISION

[172] In reaching this decision, I have considered all the evidence and submissions that were provided, as well as the pleadings submitted by all parties in this case. Because this stay is dispositive of whether spraying as authorized under the Permits occurs, I considered not only the narrow question of the stay application, but also the broader context of the grounds of appeal, the information provided to date, and the anticipated outcome of an appeal on the merits based on the available information, as required as part of the test from *RJR-MacDonald*.

[173] After having reviewed all this information, and for the reasons provided above, I deny the stay application.

"Darrell Le Houillier"

Darrell Le Houillier, Chair
Environmental Appeal Board