

**POLICY RECOMMENDATIONS**

Protecting BC workers in a warming climate: Recommendations for WorkSafeBC

June 2026

By Susanna Klassen and Anelyse M. Weiler

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About Understanding Precarity in British Columbia (UP-BC)

Understanding Precarity in BC (UP-BC) is a research and public engagement initiative investigating precarious work and multi-dimensional precarity in British Columbia. UP-BC is jointly led by Simon Fraser University's Morgan Centre for Labour Research and BC Policy Solutions and it's supported by the Social Science and Humanities Research Council of Canada (SSHRC). For more information about UP-BC, visit understandingprecarity.ca.

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Table of contents

Key messages	5
Introduction	6
Heat in the workplace	6
BC Heat Exposure Regulations	6
Our research	7
Purpose of this report	7
Findings and Recommendations	8
1. Implement a straightforward trigger temperature approach	8
2. Prioritize worker involvement in regulatory development	9
3. Update protocols to reflect current evidence	10
3.1 Acclimatization protocols	10
3.2 Shade and other engineering controls	11
3.3 Accessible, cool, free drinking water	12
3.4 Rest breaks without pay disruption	13
3.5 Sanitation facilities	13
3.6 Worker training	14
4. Unique vulnerabilities facing precarious workers	15
4.1 Protect workers from employer retaliation	16
5. Strengthen enforcement systems	18
5.1 Develop enforcement partnerships with worker groups	18
5.2 Enforce regulations proactively	18
5.3 'Name and shame' bad bosses	19
6. Support improvements and coordination beyond OHS regulations	19
6.1 End the sub-minimum piece rate wage for hand harvesters	19
6.2 Adopt hazard pay to compensate for lost wages	20
6.3 Establish rigorous, dignified housing standards for migrant workers	20
6.4 Enable permanent resident status for migrant workers	21
6.5 End the three-month wait period before migrant workers can access medical coverage	22
6.6 Improve access to unionization and worker bargaining power	22
7. Act with urgency to update regulations so that no additional workers die from extreme heat in BC	23
Conclusion	24
References	26

Key messages

BC's current heat exposure regulations are outdated and insufficient to protect workers from the risks of extreme heat.

Despite current regulatory gaps, BC has the potential to be a model for occupational heat regulations and other climate change-related protections.

Because agricultural workers tend to face greater occupational vulnerabilities to heat stress than the average BC worker, the recommendations below are offered to inform revision of the BC Thermal Exposure regulations to ensure the most vulnerable workers are protected.

Our research provides seven recommendations for the government of BC to improve its heat exposure regulations:

1. Implement a straightforward trigger temperature approach.
2. Prioritize worker involvement in developing regulations.
3. Update protocols to reflect current research, especially for acclimatization, shade, drinking water access, rest breaks without pay disruption, sanitation and worker training.
4. Unique vulnerabilities facing precarious workers.
 - 4.1. Protect workers from employer retaliation.
5. Strengthen enforcement systems.
 - 5.1. Develop enforcement partnerships with worker groups.
 - 5.2. Enforce regulations proactively.
 - 5.3. 'Name and shame' bad bosses.
6. Support improvements and coordination beyond Occupational, Health and Safety (OHS) regulations.
 - 6.1. End the sub-minimum piece-rate wage for hand harvesters.
 - 6.2. Adopt hazard pay to compensate for lost wages.
 - 6.3. Establish rigorous, dignified housing standards for migrant workers.
 - 6.4. Provide permanent resident status for migrant workers.
 - 6.5. End the three-month waiting period before migrant workers can access the BC Medical Services Plan (MSP).
 - 6.6. Improve access to unionization and worker bargaining power.
7. Act with urgency to update regulations so that no additional workers die from extreme heat in BC.



Introduction

Heat in the workplace

As climate change intensifies, workers face heightened threats to their health and safety.

Smoke from wildfires, flooding from atmospheric rivers, heat domes and other extreme events are introducing new, more frequent and more severe risks to workers (Applebaum et al., 2016). During extreme weather, workers may be unable to change activities, go inside or otherwise adjust their exposure.

Excessive heat is among the most-pressing threats (WHO & WMO, 2025).

Hotter temperatures reduce productivity and increase the likelihood of workplace injury (Parsons et al., 2022). Between 2001-2021, BC workers faced risks of heat-related illness that were 4.33 times higher during heatwaves compared to non-heatwave days (Guo et al., 2024). Most importantly, extreme heat can be deadly for workers because it puts immense stress on vital organs like the heart and kidneys (ILO, 2024b). It can also amplify the deleterious health effects of occupational hazards such as pesticides and air pollution. These risks can be especially high in industries like agriculture where workers often do physically demanding work in shadeless fields. Many agricultural workers have precarious jobs, making it risky for them to refuse to work in dangerous conditions (Weiler et al., 2020). For example, one study found that agricultural workers in the United States are 35 times more likely to die of heat-related illness than workers in other industries (Gubernot et al., 2015).

BC Heat Exposure Regulations

Because of these urgent risks, governments around the world are taking concerted action to make sure employers are responsible for keeping workers safe and ensuring that workers can protect themselves in their workplace (ILO, 2024a). British Columbia's OHS regulations related to extreme heat were established in 2005—earlier than in many North American jurisdictions. These rules (found in the [Thermal Exposure](#) section of OHS regulation Part 7) legally obligate employers to address heat risks by implementing work-rest cycles, providing cool water and seeking medical care for affected workers.

While other jurisdictions have shown leadership by updating regulations with the latest research to correspond with hotter temperatures, BC has lagged behind. Heat exposure regulations in BC have not been updated since they were created over 20 years ago. Since then, the risks of heat exposure have escalated (Mullins-Jaime et al., 2026). The American Conference of Governmental Industrial Hygienists Threshold Limit Values are often referred to as the gold standard for protecting workers against heat illness in occupational settings. They are referenced in the BC regulations and have been updated several times since 2005. Many US states have created and revised similar regulations and a federal US regulation has been drafted. Municipalities have similarly introduced bylaws and policies to protect workers amid rising temperatures (e.g., City of Phoenix, 2026), and unions have started to incorporate extreme heat into their collective agreements (Simms & Harris, 2023; Unifor, 2021). BC's regulations do not yet reflect the

latest protocols and approaches to effectively protect workers from the risks of extreme heat. These policy precedents provide excellent examples for BC to adopt when updating its regulations.

Our research

To evaluate how effectively current US and Canadian heat regulations protect workers, we conducted 50 interviews with union representatives and people from other labour groups, occupational health experts, researchers and policy experts (see Appendix). Because agricultural workers face particular risks from heat exposure, our interviews focused on the experiences of farmworkers. However, our findings are broadly applicable to other groups of workers. Our data-gathering focused on select jurisdictions with occupational heat protections in place (BC, Washington State, Oregon, California and Colorado). We also examined jurisdictions where there has been significant advocacy and organizing for worker heat protections (Ontario and Florida). This report also builds on our previous research about the risks and legal protections for agricultural workers in Canada and the United States (Klassen et al., 2025).

Purpose of this report

WorkSafeBC is planning to revise the **Thermal Exposure regulation** (including the Heat Exposure section) as part of its 2026 workplan (WorkSafeBC, 2026). This report summarizes insights from our research to inform WorkSafeBC's review of these regulations. While our focus was on heat protections for outdoor farmworkers, we spoke with several occupational health experts, representatives from labour organizations and non-profit groups whose expertise spans multiple industries. Agricultural workers tend to face greater occupational vulnerabilities to heat stress than the average BC worker because they often have precarious immigration status, earn low wages, are rarely unionized, engage in taxing physical labour and usually work outdoors without shade. Many of these same conditions apply to other high-risk sectors like construction (Dong et al., 2019) and indoor food service (Worker Solidarity Network, 2023). As such, the insights and recommendations presented here are ideal to inform the revision of the BC heat exposure regulations to ensure protection of the most vulnerable workers.

Findings and Recommendations

BC's current occupational heat exposure regulations are insufficient to protect workers from the risks of extreme heat. Our research found that the current regulations: (1) lack clarity regarding when/under what circumstances protective measures are required; (2) are outdated in terms of the content of the measures themselves; (3) are not widely known by workers and (4) are poorly enforced. Despite these shortcomings, BC has

the potential to be a model for occupational heat protections due to its longstanding and broadly applicable thermal exposure protections, which include heat and cold safeguards for both indoor and outdoor workers. These are our recommendations to better protect BC workers from the risks of extreme heat.

1. Implement a straightforward trigger temperature approach

There are two foundational issues with the structure of current BC heat exposure regulations governing heat exposure: 1.) the series of three different scenarios for which the regulations apply and 2.) the regulations' reliance on the American Conference of Governmental Industrial Hygienists Threshold Limit Values (as opposed to specifically outlining temperature thresholds or measures in the regulation itself). A trigger temperature or temperature threshold is a predetermined temperature at which heat-related requirements come into effect. Without reference to an explicit and measurable temperature threshold, the three criteria listed in the current regulation are not clear for workers or employers and do not provide a clear mechanism to enforce the regulations. All jurisdictions in the United States and some in Canada use a two-tier threshold or trigger temperature to establish clear conditions under which heat measures are required. For example, in Washington State the lower tier trigger temperature is 80°F (26.7°C), and the high heat measures are triggered at 90°F (32.2°C) (Washington State Department of Labor & Industries, n.d.). Washington State also has a

lower trigger temperature at 52°F (11.1°C) for circumstances when employees are wearing non-breathable clothing (such as PPE worn to protect workers from pesticides).

"We want to make our rules easily understandable and know [that] people walk away knowing what compliance is."
—government agency representative
(Washington State)

Our research shows that a clear and easily measurable trigger temperature is crucial to ensure compliance with heat regulations. Interviewees described the importance of employers and workers being able to use simple devices (e.g., a phone or thermometer) to ascertain if requirements in addition to heat protection regulations should apply. While using more sophisticated measurements such as the Wet Bulb Globe Temperature is often viewed as the gold standard for approximating the actual experience of heat, the devices required to measure Wet Bulb Globe Temperature are still largely inaccessible to workers and employers due to cost and difficulty of operation. In

response, Ontario occupational hygienists have developed near equivalent procedures to the American Conference of Governmental Industrial Hygienists Threshold Limit Values—which rely on Wet Bulb Globe Temperature—by using only ambient temperature and the humidex (OHCOW, 2024). Scott et al. (2025) also provide an overview of different metrics and trigger temperature thresholds in US states. Alongside input from worker groups in BC, these examples could help inform the implementation of a trigger temperature model in BC's regulation. **We recommend that WorkSafeBC revise the current heat exposure regulations to include an explicit and easily measurable trigger temperature approach to ensure clarity for workers and employers and to support stronger compliance and enforcement.**

“Without trigger temperatures, that's where you get into this problem where nobody knows what's expected of anybody. Nobody even knows when to be especially vigilant about the symptoms of heat [stress]... If you

don't have temperature triggers, what you're really saying to employers and workers alike is, all of you need to be amateur epidemiologists. So that you can recognize the symptoms of heat stress in this kind of guidance vacuum.

Whereas... if you have those triggers – and often the initial trigger, there's not a lot of mandatory stuff that happens – that's the traffic signal, that's the yellow light, that's the warning light. . . People will be more aware of what could possibly go wrong, physically, and there are tools to help them if it starts to go wrong. And then at the higher temperature trigger. . . we know from medical science, this is where things are, in fact, going to start happening, and they can get very serious very fast...

I think without [trigger temperatures], you're setting people up to still get hurt.”
—policy expert, national legal organization (United States).

2. Prioritize worker involvement in regulatory development

Workers have valuable expertise on how to mitigate extreme heat on the job. To ensure that new heat stress rules reflect workplace realities, workers and labour organization representatives must be central participants in revising regulations and enforcement. In our study, American interviewees shared repeatedly how having workers at the table improved the quality and effectiveness of regulations. One participant shared their experience of drafting a set of state regulations where insufficient collaboration with worker groups led to major omissions in the first draft of the rules. As a

result, they had to be redrafted, meaning time and resources were wasted.

“That's very important, getting those standards into place. But I think it is equally important - the process of getting there and making sure that workers are really at the center of that process. And that, from the outset, they're explaining how heat manifests in their workplace, what they think would be protective.



As policy is being debated, they're part of the public comment period, they're part of giving testimony, that lawmakers and policy makers understand that they are accountable to these workers to put the good standard in place, and that there's a strong role for them in enforcement. One of the challenges, at least in this country, for OSH Law is that it very heavily depends on workers coming forward, kind of blowing the whistle if something is unsafe. Having them be really strongly involved in the monitoring, enforcement, and inspection processes, I think, is also really important.

It's got to be worker-centered from the outset. They're involved in every process, and then they're part of creating and enforcing that really strong standard.”
—policy expert/advocate, national legal organization (United States)

“When it comes to developing these policies and procedures and regulations. . . [workers] know the work environment, they know what they need. Ensuring that they are part of the conversation is extremely important and does make for successful regulations.”
—policy expert/advocate, national agricultural labour organization (United States)

“Too often there is no opportunity for workers to take part in developing the heat safety plan, in giving feedback on the training. It's very top heavy with no real input from the workers themselves. And they're the ones that are out there in the fields doing the stuff. They should have a say in how to keep themselves safe.”
—policy expert/advocate, national non-governmental organization (United States)

We recommend that WorkSafeBC prioritize developing relationships with workers and the groups that support them, with a focus on precarious and migrant workers. Groups like the Migrant Workers Centre, RAMA Okanagan, Fuerza Migrante, Sanctuary Health, the Worker Solidarity Network and the BC Federation of Labour can share invaluable insights for an effective and efficient revision of the heat exposure regulations. This will also be an opportunity to build partnerships for more strategic, effective and proactive enforcement models to ensure employers comply with the updated rules (see recommendation 5).

3. Update protocols to reflect current evidence

Interviewees we spoke with emphasized the importance of several measures to effectively protect workers from the risks of extreme heat. The recommendations below reflect gaps in BC's current regulations and should be integrated to

ensure appropriate protections are in place once trigger temperatures are reached.

3.1 Acclimatization protocols

Most fatalities from heat-related illnesses occur in the first days of beginning or returning to

work (Arbury et al., 2016; Tustin et al., 2018). Heat acclimatization is an effective strategy to improve workers' tolerance to working in heat, especially for new or returning workers (Bonauto et al., 2007; Jackson & Rosenberg, 2010). Research suggests that agricultural workers face barriers to proper acclimatization especially for the length of time required to acclimatize and appropriate water intake (Stoecklin-Marais et al., 2013). Seasonal agricultural workers, in particular, may not be accustomed to the levels of exertion required when they begin or return to their jobs.

Our interviews mirrored this evidence. Interviewees frequently raised the importance of a mandatory acclimatization protocol to ensure workers have time to adjust to the conditions and pace of work. Notably, they describe having to contend with racist arguments made by industry representatives that immigrants can withstand more heat. They also shared reasons why seasonal migrant workers might be in particular need of acclimatization protocols because of the distance they travel to reach their work destination and incorrect assumptions about the temperatures where they are coming from.

"I think the biggest piece of all ... is the consideration for acclimatization... How long do you need to acclimatize?

There's a lack of understanding, particularly for migrant workers coming at the peak of the harvest. There is a perception of 'Oh well, they're coming from Mexico, therefore they're going to be used to this heat.' Well, in the highlands and some of these areas, they're not used to it. Even the time spent not working during the journey from when they're coming from their home to the job... They might not be acclimatized [anymore]."

—Amy Liebman, Migrant Clinicians Network (United States).

Because BC heat exposure regulations do not contain any requirements related to acclimatization protocols we recommend they be added in the upcoming review. Echoing recommendations from the Canadian Environmental Law Association (CELA) (Abel & Wilson, 2024), BC's acclimatization protocol could be modelled on the standards of the US National Institute for Occupational Safety and Health (NIOSH, 2016).

3.2 Shade and other engineering controls

For outdoor workers, shade is one of the most-important engineering controls to reduce exposure to heat. Because most agricultural fields are shadeless by necessity (most crops require full sunlight), providing workers with accessible, mobile structures (e.g., shade tents) that block sunlight but maintain airflow is an ideal way to improve farmworker safety. Research shows that shade provided by vines or fruit trees is inadequate (Flunker et al., 2024).

The experts we interviewed said shade requirements are among the strongest and most proactive measures for heat regulations, but they also described complexities of ensuring these requirements are properly implemented. A worker advocate we spoke with in California said there are outstanding issues with the adequacy of shade structures such as tents being too small to fit all workers. A Washington State government official emphasized that regulation should not be too rigid and prescriptive on the specifics of the shade structure. Instead, his agency worked with employers to find creative, flexible ways to provide adequate shade for workers and to comply with regulations.

We recommend that WorkSafeBC develop more detailed requirements to provide shade and other engineering structures for workers to cool down. To ensure the requirement is adequate, we suggest working with labour groups in different sectors and WorkSafeBC can then support employers with flexible solutions to ensure they are compliant with the new regulations.

“The shade requirement probably had the biggest impact. Even though there are still a lot of employers who seem to be unsure what compliance is, what full coverage shade is, or complaining about it being too expensive, just conceptually, it's easier... I've seen more producers in support of that requirement, and at least talking about complying with it.”

—Jenifer Rodriguez, attorney, Colorado Legal Services (Colorado)

• • •

“Sometimes it just seems like [employers will] do the regulations, but to the very bare minimum, where it looks like there's a place of shade. But it's not enough shade for all the workers to be under. So, the majority of the time, they'll go in their cars to take a break from the heat, because there's nowhere else to go.

But technically, the farmer or the contractor did what they had to do, right? There's a ‘place of shade,’ but there's not enough for everybody.”

—Hijas del campo, farmworker organization (California)

3.3 Accessible, cool, free drinking water

While the provision of drinking water is already included in BC regulations, a key finding from

our research was the need for the regulations to be explicit about where water is located and the cost to workers. Those we interviewed emphasized that regulations should mandate where water is located on the work site and that it should be provided at no cost to workers.

“One of the things that I don't like in the California standard, and this is true in other standards too, is that it says that water has to be as close as practicable to the workers. A couple of years ago, an enforcement case actually helped provoke some clarification of what that means in California because, [in] this one particular case, these grape farm workers had to climb through a bunch of trellises to get to the water. It was close to them. It was very close, but it was on the other side of a bunch of shrubbery so they couldn't get to it easily.

I think that that was a really small but important signal to people who are writing regulations in other states that that's a problem that needs to be addressed. So for example, now what we're starting to see is more distance or time requirements, like workers can't be required to walk more than X number of miles or X number of minutes to get to the water.”

—policy expert/advocate, national non-governmental organization (United States)

Moreover, in speaking with BC worker groups it was clear that employers do not always comply with existing requirements to provide water for workers perhaps because they lack the clarity needed to be properly enforced. **We recommend that BC's regulations be revised to more explicitly specify the proximity of water to the worksite and that it be provided at no cost to workers.**

"I'm hearing that they don't [have access to water]... we have provided water bottles and lunch boxes, and they use those lunch boxes, but they often don't feel they can take the time to go back, refill the water bottle and come back to work. So, they only drink whatever they're able to carry in that water bottle, and if it runs out, it runs out.

I know that a lot of them do talk about feeling thirsty and, depending on the workplace, some of them do feel that they can take a break for water, but most of them don't."

—organizer, migrant farmworker organization (BC)

3.4 Rest breaks without pay disruption

While the current BC regulations do contain a requirement for employers to implement a "work-rest cycle, acceptable to the [WorkSafeBC] Board", there is no language that specifies the conditions, length or other details of these rest breaks to which workers are entitled. Ensuring workers are taking frequent breaks is especially important for outdoor workers doing physically demanding work. Research shows that implementing appropriate work-rest cycles can have a positive impact on productivity (Hansson et al., 2024). At the same time, OHS interventions that may reduce workable hours (e.g., mandatory rest breaks) need to consider the economic impacts this would have on workers (Dally & Newman, 2024). Because of fear of retaliation and power imbalances experienced by most workers (see Recommendation 4), interviewees emphasized that rest breaks under the regulation should be paid so that workers can realistically afford to take those breaks.

"Certainly rest breaks are important ... ensuring that there are required rest breaks

– paid required rest breaks – because if they're not paid, if they're not required, workers are not going to take them.

—policy expert/advocate, national agricultural labour organization (United States)

Commenting on proposed Ontario heat regulations, the Migrant Workers Alliance for Change similarly emphasized the importance of heat stress-related breaks being paid at the rate of regular wages. Otherwise "workers will pay the financial costs of health and safety regulations" and "low wage workers [would] face a disincentive to take heat stress breaks" (Migrant Workers Alliance for Change, 2023, p. 6). **We recommend that WorkSafeBC specify that rest breaks are required and occur without pay disruption for workers. We also suggest exploring options for tailoring the duration of breaks following the Humidex Based Response Plan developed by the Occupational Health Clinics for Ontario Workers (OHCOW, 2024).**

3.5 Sanitation facilities

Our research shows that a lack of access to sanitation facilities undermines hydration-related requirements of heat rules and puts workers at further risk of heat-related illness. This is an especially crucial issue for workers in field settings where sanitation facilities are often inadequate and located far from worksites. As a result, workers don't hydrate properly because they fear losing wages.

Having appropriate and well-located sanitation facilities is especially important for female workers. Research has shown that high risk of sexual violence near lavatories for female farmworkers means they may avoid drinking, eating and using the bathroom while working



(Moyce et al., 2016; Reyes Rocha & Sexsmith, 2024), heightening the risk of dehydration and acute kidney injury (Venugopal et al., 2016). The importance of sanitation facilities for female worker health, in particular, was described by a worker advocate from Oregon. She said that a lack of adequate sanitation facilities can heighten food safety risks, reinforcing the need for improvements in washroom access for workers in tandem with improved hydration.

“In the work setting, it usually comes up when workers complain about not enough potable water in proximity to where they are or frequency of availability of the water. Because they’re supposed to drink four glasses of water or something like that. Not that they do. But ideally they should...

And then the lack of toilet sanitation - how far it is from where people are. Because if they’re working on piece rate, you want to hurry up and work, plus they have to make the quota. To this day, outdoor toilets for workers who are working on food crops can be up to a quarter mile away. The ratio is one toilet for every 20 people. So you can imagine a lot of people skip it. Particularly women, you know, with urinary infection and other issues.

In some areas people talk about relieving themselves in the field. Of course there’s food [safety] issues with that.”
—Nargess Shadbeh, lawyer, Director,
Oregon Law Center’s Farmworker Program
(Oregon)

Reports from workers in Canada echo the importance of sanitation facilities for reducing heat illness and injury (Abel & Wilson, 2024; OHCOW, 2023). **We recommend that WorkSafeBC include a requirement that all workers have access to sanitation facilities in**

close proximity to the worksite and that the appropriate proximity be determined with workers’ input from a variety of sectors.

3.6 Worker training

Education for workers is crucial to reduce the risks of occupational heat exposure, especially training about what’s included in the regulations, rights and protections related to refusing unsafe work and how to file a complaint if rules aren’t followed. Further, workers should be trained on how to identify the symptoms of heat stress. Existing research with Latino and migrant farmworkers in the United States highlights the importance of tailoring materials to specific worker populations (Arcury et al., 2017). This includes addressing cultural beliefs that may act as barriers to protective practices against heat-related illness (Lam et al., 2013) and ensuring communication materials correspond with workers’ languages and literacy levels.

Interviewees spoke at length about the importance of including tailored worker training as part of heat regulations education because it teaches workers to take precautions in the heat. In particular, employers and managers telling workers about the importance of taking care of themselves in the heat helps shift workplace culture and counteract workplace power imbalances that make workers afraid to ask for what they are entitled to. For example, attorney Kate Suisman spoke about the positive impact of the worker training requirement in Oregon, even in a relatively short amount of time since the rules were adopted.

“...The last thing I’ll mention is just how important the training before the exposure to heat is, and we have a very detailed list of

what the employer needs to train [workers] on.

So that felt like a good backbone to the rule...the rules were written in a way that gives workers a lot more opportunity to stay safe. You really have to understand: what are the symptoms? What are the risks? How to help yourself and how to help others? We do a lot of trainings in the community, and we hear from a good number of workers that they know about the rules and that they've been trained. Not everyone; I'd say half. . . That's a good number for a relatively new protection."

—Kate Suisman, attorney, Northwest Workers Justice Project (Oregon)

The power of worker education was echoed by an Ontario healthcare practitioner who works in a variety of workplaces to help workers prevent extreme heat exposure.

"If you create all these rules and fancy machines in order to manage [heat], and all you're doing is trying to tell somebody whether or not it's too hot, which they already know, you're shifting the balance of power onto the hygienists with the machines...

However, if you read the fine print of the [American Conference of Governmental

Industrial Hygienists Threshold Limit Values], it says, 'No matter what you measure, if somebody has symptoms, ignore the numbers, and deal with the symptoms.' Ultimately it comes down to monitoring the symptoms. Who better to do that than a worker who's been trained to recognize those symptoms? And who's been trained to know how to alleviate those symptoms with rest and with water and shade, etc.?"

—healthcare practitioner (Ontario)

While the current BC regulations do contain a reference to worker education and training in Section 5.54 of OHS regulations (Exposure Control Plan), there is no reference to education or training in the heat exposure regulations and no stipulations about the kind or extent of worker training. This is insufficient and does little to ensure workers are trained on the signs and symptoms of heat illness, what they can expect from their employer when extreme heat is present and how to assert their rights. **We recommend that WorkSafeBC include a clearer, more-detailed requirement on worker education in the heat exposure regulations. Education should be symptom-focused and include guidance about linguistic and cultural accessibility, similar to what is in place in Oregon.**

4. Unique vulnerabilities facing precarious workers

Interviewees noted that workers' ability to access heat protections in practice depended heavily on measures that counteracted their unique vulnerabilities and lack of bargaining power. Previous Canadian and international research demonstrates that low-wage, immigrant workers face greater occupational

health and safety risks. For example, in the United States, the country's lowest-paid workers experience approximately five times as many heat-related injuries as the highest-paid workers (Park et al., 2021).



When workers face significant pressures to retain their jobs and earn as much as possible, heat regulations alone may not prompt them to undertake protective behaviours such as hydrating, resting in the shade, working more slowly or fewer hours. Poorly designed heat exposure requirements may be unpopular among low-income workers if they have the unintended consequence of reducing their earnings. Furthermore, workers with a precarious immigration status, such as those hired through the Seasonal Agricultural Worker Program (SAWP), face pressure to prove they are 'ideal' workers who deserve a positive end-of-season employer evaluation and future rehiring (McLaughlin, 2010). An equity-based understanding of the socio-economic pressures facing precarious workers should inform the design of all OHS regulations and is reflected in our recommended updates to the heat exposure regulations presented here.

"No one should be doing any work without consulting with the workers about what the potential policies should look like...Because it is about their life, it is about their income, it is about their stay here. It is also about the precarious immigration status, right?

Of course, as an advocate I would like to see policy on maximum temperature allowed at work. But at the same time, if I ask the workers, probably they would have a different point of view: "Will this protection affect greatly the income that we have for our families? Will it affect the number of hours that I do work?" Changing a policy without considering the impact on the income of people, that will be damaging to the larger migrant communities....What will happen if workers are being told that they can only work from 5 to 10 in the morning and they cannot work the rest of the day

because the temperature is too high? They won't be happy if there is no income."
—advocate, migrant worker organization (BC)

4.1 Protect workers from employer retaliation

Many workers in BC experience a power relationship with employers that is highly skewed toward the interests of the latter. For employment standards, BC's current enforcement regime is complaint-based rather than proactive (BCESC, 2022). Research also highlights under-reporting and claims suppression for injured workers in BC (Neis et al., 2025). Therefore, when workers try to assert their rights, they may face employer retaliation and struggle to access a fair grievance procedure. Access to legal representation is unaffordable, unavailable or impractical for many workers. Notably, workers in the most dangerous worksites are the least likely to exercise their employment rights due to fear of retaliation (Foster et al., 2018). For workers without permanent residency or Canadian citizenship, speaking up means risking loss of immigration/residency status and future job placement.

"There's some employers that are aware of these [rules], and then they take care of their workers, and that's perfect. But most employers don't.

Workers don't really have the avenues to assert their rights. Maybe they know that they shouldn't be working... a lot of workers know; they call us and for example, there's wildfires, and there's smoke, and the recommendations at the regional and local level are: don't go out and do exercise. But the workers are outside working. They tell us, 'We know this is terrible, but our

employer's forcing us to do that, and if we say no, we'll lose our job.”

—Fernanda Novoa, University of BC Okanagan (BC)

Interviewees consistently raised concerns about employers retaliating against workers (e.g., by firing them) for accessing their rights or complaining about working conditions. They explained how this undermined the effectiveness of otherwise well-designed heat protections. While many of these issues with employer retaliation could be curtailed by proactive enforcement and permanent residency status for workers (see recommendations 5 and 6.4, respectively), interviewees also shared several ways that OHS regulations could be written in a way that limits employer retaliation against employees who complain about OHS violations. For example, a representative from a US legal organization said they advocate that all heat regulations include a requirement that workers not only be educated about anti-retaliation protections they are entitled to, but that employers must relay that information to workers to ensure both parties are aware of these anti-retaliation protections.

“When we're giving feedback or testimony on [heat] standards, we will often say, ‘Part of the written heat plan has to have in writing, ‘Here's this law, the statute about retaliation, you cannot be retaliated against for these kinds of activities.’ And then in the training, they have to hear the employer say it. Like, the employer has to say it as part of the training, so that they hear it there, too. That doesn't necessarily mean it's going to overcome all of the fear, but it's at least a way to sort of fold in the ‘know your rights’ about that retaliation provision within this heat protection standard.”

—policy expert/advocate, national legal organization (United States)

Interviewees also pointed out that workers are mistrustful of complaint-based processes even when they are supposed to be anonymous. **We recommend that WorkSafeBC address concerns with employer retaliation by requiring that ‘know your rights’ training involving the employer be included in heat stress training. In addition, WorkSafeBC should adopt mechanisms for workers to confidentially report concerns and receive pro-bono legal support in case of employer retaliation (e.g., anonymous tip line or app).**

“...Everything is so complaint-driven that I [the worker] have to be the one to call the Ministry [of Labour] if my employer's not providing us with adequate water while we're working, then... like, are they gonna identify me ...

I was talking to someone at the beginning of the growing season, and someone on their farm had called the Service Canada number. And the farmer, the employer, found out... knew who it was, because someone gave that person up. Even though it's anonymous, you're in a small space, right? I feel like there's a lot of issues around it being that the onus is always on the worker. That's extremely problematic in a work system that's very unbalanced.”
—Carrie Sinkowski, community developer, Community Legal Clinic Brant Haldimand Norfolk (Ontario)

5. Strengthen enforcement systems

Interviewees in BC were unanimous that existing OHS regulations are not strongly enforced. Existing research shows that when WorkSafeBC inspections occur, they can result in changes in workplace hazard management (Macpherson et al., 2021). The following recommendations are based on the weaknesses of BC enforcement regimes mentioned by interviewees and reflect successful strategies that other jurisdictions have employed to improve enforcement.

5.1 Develop enforcement partnerships with worker groups

One of the most-significant lessons learned from other jurisdictions is that it is crucial to involve workers and community organizations in developing regulations and in enforcing them. This is one of the best ways to address the shortcomings of a complaints-based enforcement system, especially in industries where workers are unlikely to complain due to workplace and employment precarity (Fine, 2017; Vosko et al., 2019). Jenn Round, from the Workplace Justice Lab, describes how co-enforcement proactively looks at increasing compliance in specific industries in collaboration with worker advocates and community organizations rather than only focusing on investigating complaints.

“There’s sort of this premise that when a worker experiences a violation, they’ll go to the agency and file a complaint, and then the agency will react to that complaint, and that will solve the issue. And that is not a working model of enforcement. It’s not effective, it’s not efficient (...) So, in a few different states, there’s strategic enforcement partnerships, specifically in the ag industry. They’re sort of like a table of

agency staff, usually investigators, sometimes lawyers, and then managers ... Then, the community side, so that could be unions, worker centers, worker advocates, legal nonprofits, etcetera. Those tables meet on a regular basis. Generally, it’s monthly, to come together to create a strategy for their specific industry to try to intervene [and figure out how] we affect the behavior of employers outside of those that are investigated . . . because we’re never going to be able to do [as many] cases as there are violations. The only way to get widespread compliance is to really impact the behaviour of other employers.”

—Jenn Round, Workplace Justice Lab, Northwestern University

We recommend that WorkSafeBC develop and strengthen enforcement partnerships with worker groups to improve compliance in high-risk industries.

5.2 Enforce regulations proactively

A major theme from our interviews was the importance of establishing regulatory enforcement mechanisms with ‘teeth’ so that workers’ rights on paper exist in practice. This requires adequate funding and training within the Employment Standards Branch (BCESC, 2022). A complaint-based enforcement system places the burden on workers to prove their workplace rights have been violated, a system that can lead to under-reporting of violations and potential misdirection of enforcement efforts (Foster et al., 2018).

While public-facing WorkSafeBC materials (e.g., website) indicate that inspections are proactive, our research suggests this is far from the norm. **We recommend, based on these weaknesses,**

investing in proactive, in-person, unannounced inspections by well-trained, multilingual compliance teams and increasing the severity of penalties for violations.

“There are things in the legislation that probably can be improved... don't call the farmer, don't let them know you're coming [to conduct an inspection]... I don't know if changing anything in the regulation will change the behavior of employers, to be honest with you, unless there are real consequences, like higher fines and things that they themselves can feel that it's affecting them. While none of that happens, then the worker will continue suffering.”
—Ingrid Mendez, executive director, Migrant Workers Centre (BC)

5.3 ‘Name and shame’ bad bosses

Interviewees also advocated publicizing cases where employers violate rules, especially the most egregious ones, to improve employer compliance. One US study found that publicizing a facility's violations of OHS rules led to improvements in compliance that were equivalent to conducting 210 inspections (Johnson, 2020). Accordingly, “regulation by shaming” is a cost-effective way to encourage employer compliance. **We recommend publicizing cases in which employers have violated rules to foster a culture of compliance among employees and optimize resources allocated for inspection.**

6. Support improvements and coordination beyond OHS regulations

Although WorkSafeBC's heat exposure regulations provide a crucial starting point for addressing the heightened health risks posed by climate change, the effectiveness of heat protections should occur in tandem with broader changes beyond OHS regulations.

6.1 End the sub-minimum piece rate wage for hand harvesters

Legally, BC employers have the option of paying a ‘piece-rate wage’ that is less than the hourly minimum wage. The sub-minimum piece-rate wage applies to agricultural workers who are hand-harvesting one of 15 crops, including cherries, mushrooms and daffodils. This wage is based on the gross volume or weight harvested, such as a 0.767 m³ bin of apples. The BC government's own commissioned research confirms that some older South Asian immigrant farmworker women in the blueberry sector are earning a sub-minimum piece rate

wage (Taylor & Gonzalez, 2019). Fairey (2022) characterizes BC's piece-rate system as “legislated wage suppression.” Further, advocates have asserted that BC's piece-rate wage is racially discriminatory given that it disproportionately affects the economic wellbeing of racialized immigrant agricultural workers (Fairey & Weiler, 2023).

From a health and safety perspective, piece-rate wages can magnify agricultural workers' risk of heat-related illness such as acute kidney injury because such harvesting is done extremely quickly and workers skip breaks to cool down or hydrate because they'll lose pay (Chicas et al., 2024; Lam et al., 2013; Moyce et al., 2017). One worker advocate in Florida described how the intense pace of work induced by the piece-rate wage is especially problematic when combined with the widespread lack of access to field sanitation facilities.



“So we'll tell people: ‘You need to hydrate, you need to take breaks.’ And they'll tell us, ‘No, if I hydrate, then I have to walk to the bathroom, which is 20 minutes away. And because I'm not paid an hourly wage, I'm paid by how much I pick. I'm not going to hydrate because I don't want to waste 20, 40 minutes going to the bathroom and minimize my income.’”

—representative, agricultural labour organization (Florida)

We recommend that the BC Ministry of Labour replace the agricultural piece-rate wage with an hourly minimum wage, including piece rates as an optional incentive given the archaic, discriminatory quality of BC's piece-rate wage system and its potential to heighten risks of heat-related illness for agricultural workers. This recommendation is consistent with recommendations made by the government-appointed Fair Wages Commission (2023).

6.2 Adopt hazard pay to compensate for lost wages

We recommend that the BC Ministry of Labour adopt hazard pay to compensate workers who are exposed to heat stress, which would address the economic vulnerability facing many workers. As noted above, we also recommend that employers should be required to provide free, cool, accessible drinking water and paid breaks.

“If the heat is so high, and the farmworkers feel like they're in danger, for their health, they should be allowed to go home and cool down and be paid for the rest of the day [emphasis added]. Because it's not their fault that they can't work... We believe that should be part of any heat rules; that the

workers should be allowed to determine for themselves based on how they're feeling.

For example, if you've got 50 workers. And it's 85 degrees [Fahrenheit], and out of those 50 workers, you've got 1 to 2 workers that are already dizzy, that are already showing symptoms of heat stress, then they should stop. Go home, cool off, relax, drink, get hydrated, and then come back in the morning... Or after the temperature starts to go down in the evening. But they should stop, because... that cumulative impact of heat stress on a body over and over and over again...

—Rosalinda Guillen, executive director, Community to Community Development (Washington State)

6.3 Establish rigorous, dignified housing standards for migrant workers

A worker's housing is a significant determinant of health and safety, particularly when workers live in employer-provided accommodations (Weiler & Caxaj, 2024). Although housing is considered outside the jurisdiction of WorkSafeBC, as it is not technically a workplace, employer-provided accommodations present a major concern for heat exposure. Many workers hired through the Temporary Foreign Worker Program reside in employer-provided accommodations with poor heating, cooling and ventilation (Caxaj & Weiler, 2025). Such accommodation offers little reprieve from excessive heat at work and may even be hotter than it is outside. In their study of migrant farmworker housing provided by employers in BC, Arefin et al. (2024) reported that “indoor housing temperatures were consistently higher than outside temperatures and never cooled below those outside.” In one of our interviews, a migrant worker advocate said that addressing workplace heat regulations without addressing

housing standards would only address half the problem.

We recommend that the BC Ministry of Health coordinate with municipal and federal government agencies to adopt rigorous, healthy housing standards for employer-provided accommodations (CoNaMI, 2025).

“There are very few farms that will do their due diligence, and will at least have some kind of air conditioning for workers. I can probably count them with my fingers. We brought a donation of air conditioners that we got to a couple of farms in the past, and [workers] were told by the employer that they were gonna charge them extra for electricity if they used it. Same with fans. [Employers] take them [away] or tell [workers] that they are going to be charged extra.” —Ingrid Mendez, executive director, Migrant Workers Centre

6.4 Enable permanent resident status for migrant workers

Workers with precarious immigration status face significant barriers to access workplace rights, including the right to protection from extreme heat because raising complaints may lead to repatriation. Migrant workers, therefore, are much easier to exploit. Throughout our interviews, advocates emphasized the importance of providing migrant workers with secure immigration status to guarantee the bundle of rights associated with permanent residency rather than the structural disempowerment that is emblematic of the current Temporary Foreign Worker Program. **We recommend coordination between provincial and federal governments to enable**

permanent resident status for migrant workers.

“If [migrant workers] get [permanent resident] status then they won’t fear that they are being abused. They are being forced to work under extreme conditions, weather conditions...

The employer will know that, and will provide better supports, and will follow regulations, and will follow everything. You and I, if we’re working in a place that we don’t like, we file a complaint. Because we know we can go somewhere else...

For employers to follow regulations—no matter which kind of regulations, housing, whatever it is. Knowing that they don’t have the power over these workers. Right now they know they have the power, so, no matter what the regulation is, they will not follow, or they will pretend they follow, but then they will go back to their practices. They will continue doing the abuse and exploitation they’ve been doing. Status for workers is really what we need, so that this can stop.”

—Ingrid Mendez, executive director, Migrant Workers Centre

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“I would say that the main barrier is also the lack of interest from the provincial government. There is a lack of interest [about] migrant workers. They throw the ball to the federals. The federals throw the ball to provinces. And then there is a lack of interest despite the workforce that the migrant workers are in BC, there is not enough interest in supporting workers. As the United Nations report says this week, the conditions of slavery of the workers is



prominent, the lack of permanent residence makes [workers] afraid because they cannot denounce anything to WorkSafe or employment standards because of their lack of status, right?

Then nothing will be better than [permanent resident] status! Considering policy on maximum temperature is important, but for me and for the Migrant Rights Network that I am part of, permanent residence is the most important tool for people to make use of their rights. [Otherwise], they won't be able to make use of their rights."

—advocate, migrant worker organization (BC)

6.5 End the three-month wait period before migrant workers can access medical coverage

Currently, new and returning migrant workers must wait for three months before they can access Medical Services Plan (MSP) coverage in BC. Employers are required to provide employees with access to private insurance during this three-month interim period. However, because health care facilities in BC typically do not recognize the private insurance, low-wage workers must pay significant up-front costs, which constitute a significant barrier to health care access (Fahey et al., 2008). This waiting period makes it very challenging for workers who might have been exposed to extreme heat in the workplace to access medical attention. In Quebec and Ontario, migrant agricultural workers can access health care on arrival. Ontario and New Brunswick have eliminated the wait period, while Alberta and Nova Scotia have created exceptions for some temporary residents.

We echo calls from advocacy organizations such as the Migrant Workers Centre and Sanctuary Health and recommend that BC's Ministry of Health and the Medical Services Commission eliminate the three-month MSP coverage waiting period for migrant workers.

6.6 Improve access to unionization and worker bargaining power

Many of the workers in BC who face the greatest risks of occupational heat exposure lack a collective voice in the workplace and are non-unionized (Worker Solidarity Network, 2023). Unions can help educate workers on their rights, provide legal support and counterbalance the power of employers and industry. The current approach to labour relations in BC, however, is based on a model that emerged shortly after World War II where unions were established at individual worksites of large industrial firms. Labour law scholars have argued that this model is highly outdated, particularly in the private sector (Slinn, 2022). **We recommend investigating proposals for improving workers' access to unionization, successfully establishing collective agreements and increased bargaining power through sectoral bargaining.**

"The more marginalized the worker, for any reason, the less protected they are by the standards. And that's true of any occupational health and safety standard. The workers that are best protected are white, English-speaking, unionized, relatively urban, middle to high income, and that's the pattern that we see."
—policy expert/advocate, national non-governmental organization (United States)

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“Power imbalance is inherent to the H2A program [U.S. program that is similar to the Canadian SAWP] because workers are often reliant on employers to provide lodging, food, water, and other necessities, as well as to invite them back the next growing season. Every year, I hear from workers who say they don't want to report violations (like a lack of shade or water) because they fear retaliation. While we haven't seen any unions form yet, Colorado farm workers have the right to unionize as of 2021. Historically, unions play a vital role in addressing power imbalances...”

—Jenifer Rodriguez, attorney, Colorado Legal Services (Colorado)

“We know that the only true liberated worker is the one that has a union contract and has no fear they're, like, telling the truth, and there's no fear of retaliation. So, I think the existing... the existence of organized workers into a formal union is probably one of the strongest voices that you can bring into any process of... developing just heat rules that are really going to protect workers.”

—Rosalinda Guillen, executive director, Community to Community Development (Washington State)

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7. Act with urgency to update regulations so that no additional workers die from extreme heat in BC

Given the pace of the climate emergency, quickly updating laws and policies is crucial to protect workers' health and safety. While we recognize the importance of due process, a sluggish pace of regulatory change and failure to act in a bold, timely manner can lead to denial of workers' basic rights and even to workplace deaths. As noted, BC's extreme heat regulations have not been updated since 2005. In the summer of 2021, the Pacific Northwest experienced a record-shattering heat dome that was associated with a general productivity decline of \$34-\$84 million in BC (Lee & Parfitt, 2022). It also led to 619 deaths among the general BC population. Among BC workers, the heatwave resulted in a 327% increase in heat-related illness claims compared to prior summers. Underreporting heat-related illness suggests the true incidence rate was likely even higher (Guo et al., 2024, p. 545). Yet even this costly, deadly 2021 heatwave has failed to

expedite updates to BC's extreme heat regulations.

Our interviews with labour leaders and government officials in the United States demonstrate that extreme heat regulations can be updated quickly without sacrificing adequate research, consultation and education. For example, Oregon adopted temporary heat protections for farmworkers less than two weeks after Guatemalan farmworker Sebastian Francisco Perez died of heat exhaustion in Oregon on June 26, 2021. By May 9, 2022, the state adopted permanent rules to protect agricultural workers and all other workers from heat-related illness. Between the time of the temporary protection and the permanent rule, the state met monthly with a rulemaking advisory committee that included advocates, public health experts, industry and state agencies. Overall, the advocates we interviewed



(including five interviewees based in Oregon and several more who have knowledge of the Oregon example) expressed satisfaction with the permanent rule and the engagement process.

Conclusion

In this study, we evaluated the effectiveness of current US and Canadian occupational heat regulations. We presented primary research from 50 interviews with unions and other labour groups, occupational health experts, researchers and policy organizations. Our geographical scope included jurisdictions that have established occupational heat protections for workers (BC, Washington State, Oregon, California and Colorado), along with jurisdictions where there has been notable advocacy and organizing for worker heat protections even though heat protections have yet to be introduced (Ontario and Florida).

Several other US jurisdictions have developed, enacted and revised occupational heat protections that will reduce workers' suffering and death from heat illness. These protections are just the beginning of the push to build climate justice into our regulatory and institutional frameworks especially when it comes to protecting those most vulnerable to the health-related impacts of climate change. As climate change intensifies, governments will need solid foundations on which to build their efforts, including robust evidence, policy precedents and relationships of trust with affected stakeholders. WorkSafeBC's revision of the heat exposure regulations is an opportunity to build such a foundation.

Because agricultural workers tend to face greater occupational vulnerabilities to heat

We recommend that WorkSafeBC act with urgency to update heat exposure regulations to reduce unnecessary human suffering and to ensure no workers die from extreme heat in BC.

stress than the average BC worker, our recommendations can inform revision of the BC heat exposure regulations to ensure that the most vulnerable workers are protected. These recommendations align with a plethora of research that can support WorkSafeBC as it updates its heat exposure regulations (e.g., Abel & Wilson, 2024; Klassen et al., 2025; Migrant Workers Alliance for Change, 2023; NIOSH, 2016; OHCOW, 2023; Scott et al., 2025). We hope WorkSafeBC will take advantage of these abundant resources as a starting point as well as dedicated collaboration with worker groups as outlined in recommendation #2.

Despite improvements needed in BC's extreme heat regulations, the Province is well-positioned to be a leader on climate-related regulatory protections. For instance, other jurisdictions are only now developing rules to address the risk of cold exposure and streamlining thermal protections for indoor and outdoor workers (BlueGreen Alliance, 2025). WorkSafeBC could steward a world-class regulation if it acts with urgency and care, putting workers at the centre of its effort.

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