

IAWF POSITION STATEMENT: HEALTH & WELLBEING IN THE WILDLAND FIRE SECTOR

Content warning: The IAWF recognises that information about mental health can be a potential trigger for related experiences of anxiety, depression, trauma, Post-Traumatic Stress and suicide. Some helpful resources and contact information are included at the end of this position statement and on the IAWF website. The IAWF encourages anyone who is, or knows someone who may be, experiencing symptoms such as those identified below to seek support.

The International Association of Wildland Fire (IAWF) is an independent, non-profit organization. For more than 35 years the IAWF has facilitated global communication on wildland fire topics, bringing together diverse experts to consider and address important contemporary issues for the wildland fire community.

The IAWF membership spans all continents. Its membership is diverse, multi-generational and interdisciplinary, including wildland fire managers, land managers, scientists and agency personnel across all career stages and levels of seniority.

Overview and purpose

This IAWF position statement articulates the IAWF's commitment to promoting health and wellbeing for wildland fire practitioners, their families and support communities. In this statement, practitioners refers broadly to wildland fire managers, firefighters, aviators, land managers, scientists, agency and non-government personnel, volunteers and contractors. Additionally, in this statement, health and wellbeing is defined in the broadest terms to include cultural, social, ecological, physical, mental and professional wellbeing. The IAWF also recognises that strategies for improving health and wellbeing are also far more than medical, individual, static or problem-based considerations, and can include cultural, social and environmental approaches and interventions.

The IAWF is not an organisation with dedicated staff or expertise in mental health and wellbeing. Many other organisations, particularly fire and health-specific bodies operating at national and sub-national scales, are already working hard to address the deeply complex challenges identified here. Nevertheless, by publishing this position statement, the IAWF seeks to articulate key messages emerging from recent research and pathways for enhancing health and wellbeing in the wildland fire sector, to add its global voice to existing calls for urgent action on this important issue.

I. Proposed audiences

This position statement:

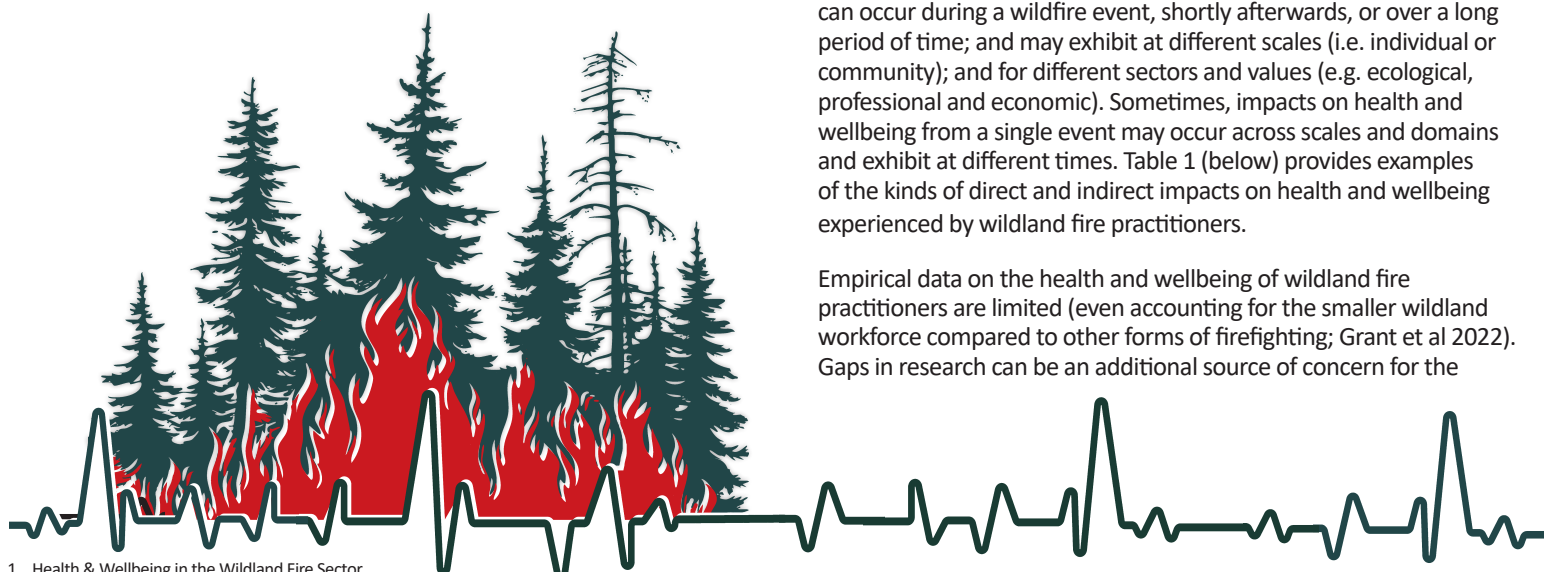
- articulates and demonstrates the IAWF's commitment on this issue to its membership, that is, wildland fire practitioners, their families and support communities;
- is also designed to promote the need for richer and more positive approaches to health and wellbeing, including by supporting advocacy to governments, agencies (i.e. employers) and policy makers (i.e. with responsibility for improving health and employment laws) – that is, those to whom the IAWF advocates on behalf of the wildland fire community; and
- may also be used to generate self-reflection by, and discussion between, wildland fire practitioners and health researchers and practitioners, to support iterative improvements in awareness, treatment and support for fire practitioners experiencing poor health.

II. Background: what is already known about health and wellbeing in wildland fire sector?

Many wildland fire practitioners operate in challenging, often remote conditions, for long periods of time. They are exposed to high levels of fatigue and heat stress, and suffer high rates of physical and mental injury, stress and trauma. The World Health Organization (2022) has indicated that, between 1998 and 2017, wildfires affected millions of people including '2400 attributable deaths worldwide from suffocation, injuries, and burns'; and increased rates of illness and death from smoke-related air pollution, triggering respiratory and cardiovascular diseases and exacerbating underlying health conditions such as asthma (e.g. Navarro et al 2020; World Health Organization 2022); along with post-traumatic stress, mental illness and other impacts on psychosocial wellbeing. Wildland fire practitioners are both witnesses to, and repeated victims of, these direct physical, mental and psychosocial impacts and injuries.

Working in the wildland fire sector can also cause indirect impacts on health and wellbeing. For example, a job in wildland fire can limit the availability of alternative job prospects because of the operational tempo of deployments or chronic or acute fire-related injuries; and may trigger relationship breakdowns linked to post-traumatic stress or long absences while deployed. Both direct and indirect impacts can occur during a wildfire event, shortly afterwards, or over a long period of time; and may exhibit at different scales (i.e. individual or community); and for different sectors and values (e.g. ecological, professional and economic). Sometimes, impacts on health and wellbeing from a single event may occur across scales and domains and exhibit at different times. Table 1 (below) provides examples of the kinds of direct and indirect impacts on health and wellbeing experienced by wildland fire practitioners.

Empirical data on the health and wellbeing of wildland fire practitioners are limited (even accounting for the smaller wildland workforce compared to other forms of firefighting; Grant et al 2022). Gaps in research can be an additional source of concern for the



sector (Pelletier et al 2022; Grant et al 2022). This is particularly true for long-term health risks, including elevated risks that may be faced by wildland fire practitioners (over and above that of the public) of contracting some forms of cancer and cardiovascular diseases (e.g., Wu 2021; Korsiak et al 2022). Limitations in wildland fire-specific research may occur, in part, because despite their experiences of physical and mental stress, injury and trauma (Ushery et al 2018; To et al 2021), wildland fire practitioners may not (and often do not) proactively seek help, particularly for mental health-related concerns. Reasons for this reluctance can include organizational culture, and a fear of being seen as weak or unfit for duty (Johnson et al 2020; Ushery et al 2018); and can result in substance abuse, burnout and disproportionately high rates of suicide (DeGrosky 2018; Stanley et al 2015). While there is little academic scholarship on the question, the authors and reviewers of this position statement have consistently heard that wildland fire practitioners risk being discriminated against if they report mental health concerns in employer screening forms and processes. Some former wildland fire practitioners have reported that they were declared unfit for duty or even had their employment terminated after seeking support or treatment for mental health issues.

Many wildland and urban fire agencies and health professionals are now actively working to tackle inter-generational, organizational, and team cultures that have perpetuated unhealthy approaches to wildland fire (e.g. NIWF 2022), and the impacts of these approaches on the health of fire practitioners and their communities. In the table that follows, we set out examples of the broad range of direct and indirect impacts on the health and wellbeing of wildland fire practitioners (Table 1). Important messages emerging from the scholarship about improving wellbeing and addressing the drivers of illness, injury and trauma in wildland fire include that:

- Wildland fire practitioners are consistently exposed (directed or ordered) to traumatic and stressful environments and experiences in the course of their work (Wright et al 2022; NIWF 2022).
- First responders, including wildland fire practitioners, may refuse to engage with mental health treatments for a range of reasons, including actual or perceived barriers to access, limited exposure/understanding of treatment arrangements, and to avoid economic, relational and/or social impacts (including actual/perceived stigma).
- Cultural safety (including safety from institutionalized racism, inequitable power structures and structural limitations in access to healthcare), is a crucial prerequisite for reducing inequities in exposure to, treatment for, and recovery from the mental and physical health impacts described in Table 1, and for effectively facilitating wellbeing (e.g. Curtis et al 2019).
- Climate change is increasing the length and severity of fire seasons, which will require fire crews to be on call

or deployed for longer periods in the coming years. At the same time, one of the most important strategies for reducing the severity and impact of these changing fire regimes is to actively engage in prescribed burning in the 'off-season', across landscapes and jurisdictions. In effect, the need to increase prescribed fire across many landscapes will reduce the time that wildland fire practitioners must rest, recover and heal from long and intense fire campaigns (IAWF Climate Position Statement; IAWF Prescribed Burning Position Statement).

- Agencies and other bodies that employ wildland fire practitioners must commit substantial resources and sustained effort to health-related education, training and other interventions to contribute enhanced wellbeing, greater resilience, and long-term support for those experiencing injury and trauma, including stress and grief (e.g. Leduc et al 2022; Pearce & Komaromy 2022; Johnson et al 2020; DeGrosky 2018; van der Kolk 2014 at xvi, 443).
- Acknowledging that employees are far more than an economic measure, fostering better health and wellbeing represents a potential cost saving. That is, investment in the health and wellbeing of highly trained and highly skilled staff offers an opportunity to manage the costs of staff turnover from burnout and illness, and of recruiting and training high numbers of new staff, particularly as climate and workforce pressures change and intensify.

These challenges have been evident for some time, in the wildland fire sector and in other emergency management and first-responder positions. However, existing efforts have not consistently and successfully mitigated the harm experienced by many people and communities in these sectors. As the climate changes and wildfire events expand in their scale, scope and duration, these are challenges that the IAWF have identified as critically important and worthy of greater commitment and effort.

III. Connection between this position statement and the IAWF position statements on climate change and prescribed burning

The size, frequency and damage caused by wildfires are increasing because of climate change (UNEP 2022; IAWF climate and fire position statements). Climate change is a threat multiplier for health, just as it is for many other impacts. For example, climate driven wildfire regimes exacerbate underlying health concerns such as asthma and lung diseases (among many other health impacts) at increasingly broad scales. In 2019/2020, smoke from Australia's Black Summer wildfires traveled around the entire globe (e.g. French et al 2021; Li et al 2021) causing spikes in hospitalization and premature deaths. In addition, a recent scoping review identified new forms of health impact for wildland fire practitioners that are directly connected to climate change, including ecological grief, eco-anxiety, and 'solastalgia', which describes the distress caused by environmental change and loss that impacts people even as they remain directly connected to their home environment (Albrecht et al 2007; To et al 2021).

This position statement builds directly on the IAWF's commitment to 'continue to provide opportunities for research, knowledge and experience sharing... in relation to how wildland fire and those who work in fire and smoke research or wildland fire management can adapt to and mitigate the impacts of climate change' (IAWF 2021). This position statement also represents a call to action for the sector (see Part V), supported by evidence-based pathways for enhancing health and wellbeing among wildland firefighters and their communities and environments (Part IV).

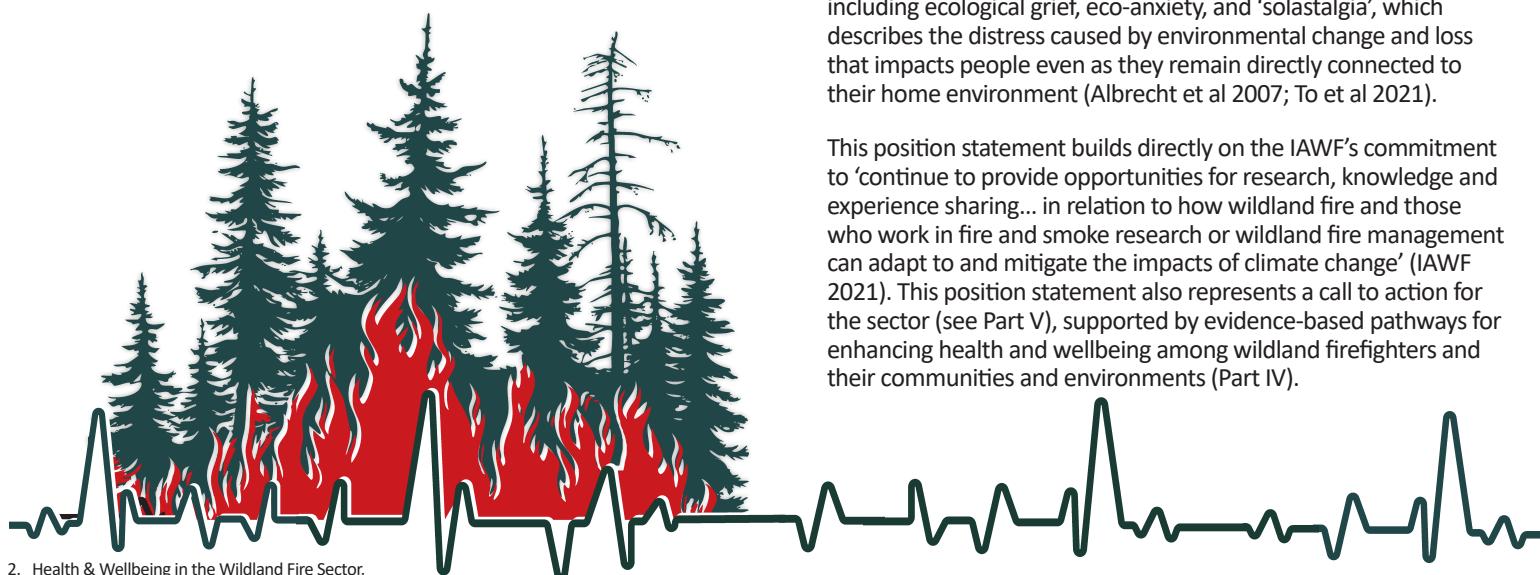


Table 1. Examples of direct and indirect impacts on the health and wellbeing of wildland fire practitioners		
	Direct	Indirect
Personal	Physical, mental, emotional, cultural and psychosocial stress and injuries from fire, smoke, heat, and exposure to distressing scenes as a first-responder, incident manager or investigator, as well as extended (including remote) deployment and long-term/slow-onset morbidity from smoke, firefighting chemicals and heavy equipment. Decreased reproductive health, sleep deprivation, heat stress, chronic injuries, ongoing stress and repeat exposure to trauma.	Long-term impacts on mental health, trust, physical and emotional health, domestic relationships, substance abuse, financial security and alternative work prospects. Experiences with uninformed physical and mental health services and providers.
Communal	Absence from families, friends and communities during fire seasons (becoming longer as the climate changes), missing key family and/or community events and milestones. Effects of absence, injury or poor health on networks of relationships and community functioning over time.	Physical and mental health implications of observing wildland fire impacts on close family and friends and experiences of absence in periods of communal trauma (i.e. evacuations, loss of homes, property, culture, connection and livelihoods) from fires.
Cultural	Systemic harm from culturally unsafe workplaces and environments (that is, conditions that harm First Nations' and culturally and linguistically diverse peoples' cultural, spiritual, emotional and physical health).	Cultural, physical and mental health implications of observing wildland fire impacts on elders, kin, Country, friends and community, and experiences of absence in periods of communal trauma (i.e. evacuations, loss of homes, property, significant sites, culture, connection and livelihoods) from fires.
Financial and Economic	Cost/absence of sufficient insurance for injuries, lost work time from physical or mental injuries and risk of ineligibility for future insurance cover. Long-term costs of treating mental and physical health, including risk of long-term decline or slow-onset health impacts.	Injuries and trauma affecting opportunities for alternative employment. Cost of treatment for health impacts exacerbated (but not caused) by firefighting (e.g. asthma, arthritis).
Ecological	Dislocation from ecological systems, including through a perception of vegetation primarily as 'fuel', or 'risk'. Fear and hypervigilance about ecosystems and the risk of fire. Repeated exposure to environmental harm and ecological loss as a first responder, incident manager, land manager or scientist causing distress, depression, fear, dislocation and trauma.	Degraded ecological context exacerbating personal, communal, cultural and spiritual trauma and dislocation. Intergenerational impacts of wildfire feedback loops for climate and environmental decline.
Institutional	Workplace cultures, operational budgets and staff retention success in the wildland fire sector may directly affect the health and wellbeing of wildland fire practitioners, including to the extent that agencies and employers recognise, anticipate, support and provide effective treatment for staff experiencing poor mental health and wellbeing.	Cumulative stress, repeated trauma and attempts to mitigate unsustainable workloads may cause experienced and highly qualified fire practitioners to avoid promotion to management positions. If this occurs, this may affect institutional succession planning, knowledge transmission and long-term capabilities.

Table 1. Examples of the impacts of wildland firefighting on multiple aspects of health and wellbeing



Examples of tools and mechanisms for enhancing health and wellbeing	
Individual	<ul style="list-style-type: none"> • individual responsibility for health, fitness, readiness, recovery and resilience • peer-to-peer mentoring • training for team leaders to recognise risk factors and warning signs, to facilitate interventions • individualized health action plans • participation in Honest, Open and Transparent Storytelling ('HOT Stories') • technology to monitor and improve sleep, rest, work and stress such as personal monitoring devices connected to mobile apps • access to expert support (e.g. first responder trauma informed treating psychologists or counsellors) • undertake preventative training or resilience building to mitigate risks of acute stress or post-traumatic stress (e.g. Ellis and Korman 2022)
Workplace	<ul style="list-style-type: none"> • co-designed workplace health plans • resilience as a performance metric (with workplace training and support to ensure workers are equipped to meet it) • cultural competency and cultural safety training to create and sustain safe workplaces • mandatory training for team leaders to promote (or 'mainstream') emotional intelligence, as a stepping stone towards passionate leadership that promotes teamwork, belonging, diversity, inclusion, trust, fairness and respect as well as excellence and courage • structures and spaces in workplaces for Honest, Open and Transparent Storytelling ('HOT Stories') • Reconciliation Action Plans, with explicit attention to building knowledge and respect for cultural methods, ways of knowing, wellbeing and safety
Systemic	<ul style="list-style-type: none"> • research identifying pathways for reform to legislation, regulations and policy • advocating for health, safety and wellbeing in legislation, regulations, policy • cross-agency collaboration and streamlining to improve practices and outcomes while reducing duplication • health and insurance policies providing access to preventative health, wellbeing and safety measures (such as those listed above) as well as emergency care

Table 2. Examples of tools and mechanisms for enhancing health and wellbeing in the wildland fire sector

IV. **Pathways for enhancing health and wellbeing in the wildland fire sector**

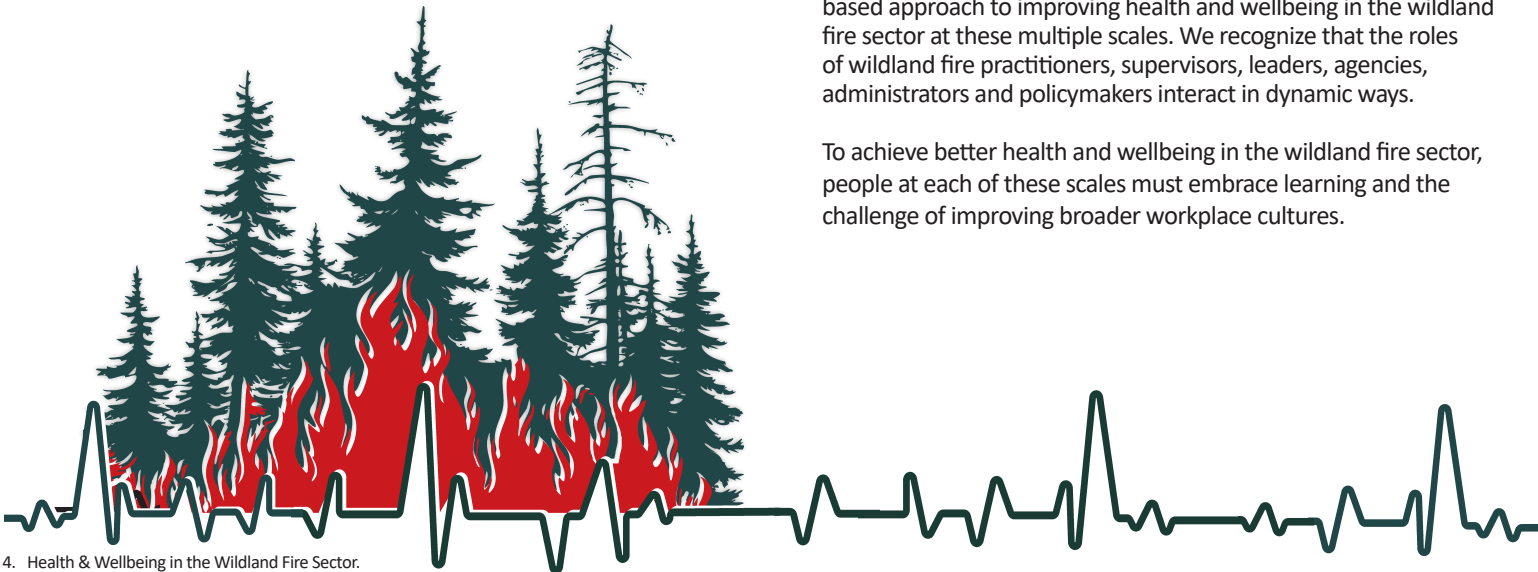
There is growing recognition of the impacts on the health and wellbeing of individual wildland fire practitioners and the broader wildland fire sector, including among government agencies, researchers and health professionals. For example, a wide range of resources for wildland fire practitioners and their communities are now available online, including the IAWF’s ‘Workforce Resilience Ignite Talk Series’ <<https://www.iawfonline.org/events/webinars/>> and the Northern Rockies Fire Science Network’s ‘Wildland Firefighter Health: Hot Topic’ resources <<https://www.nrfirescience.org/hot-topics/wildland-firefighter-health>> (see also, ‘Additional Resources’, below).

Nevertheless, the academic, agency and non-government literature demonstrates that action can, and should, be taken at

individual, workplace and systemic scales simultaneously. These actions can interact across scales. Actions at one scale (such as workplace training and policies) can open new opportunities at other scales (e.g. bolstering the case for systemic change to government laws or insurance policies) and/or reinforce emerging trends at other scales (e.g. more consistent support for individual health and wellbeing plans). We highlight a range of options at each scale in Table 2, drawing on a detailed literature review (see Appendix 1 for the full results of that literature review, including references and examples).

People will only be able to use these tools and mechanisms if the financial, emotional and cultural barriers to accessing and using them are removed. Facilitating their practical availability is crucial for their uptake, and the ultimate goal of enhancing health and wellbeing in the wildland fire sector. Uptake of the tools and mechanisms listed in Table 2 will also require resources and effort to be dedicated to multiple scales of health, safety and wellbeing simultaneously, including individual, workplace and systemic scales. Figure 1 illustrates a forward-looking, learning-based approach to improving health and wellbeing in the wildland fire sector at these multiple scales. We recognize that the roles of wildland fire practitioners, supervisors, leaders, agencies, administrators and policymakers interact in dynamic ways.

To achieve better health and wellbeing in the wildland fire sector, people at each of these scales must embrace learning and the challenge of improving broader workplace cultures.



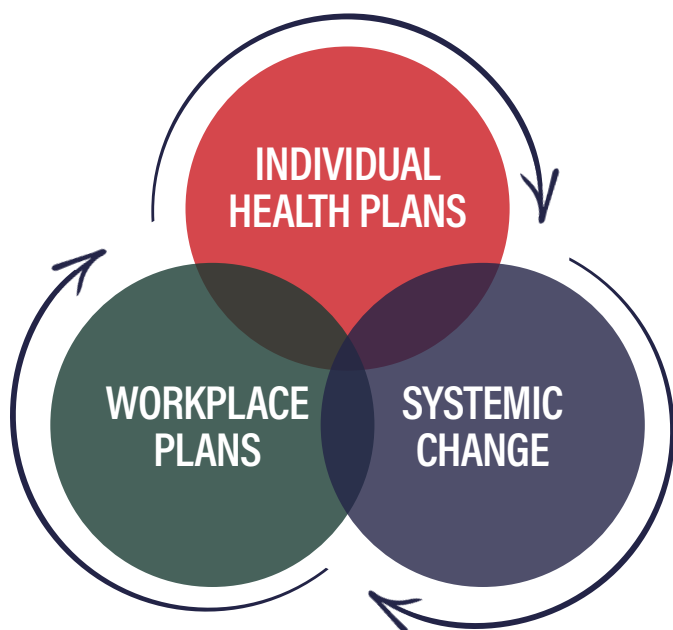


Figure 1. Conceptual, learning-based, dynamic and multi-scale approach to improving health and wellbeing.

V. IAWF call to action: governments, agencies and policymakers

The Vision: IAWF seeks to promote and contribute to the mental, cultural, physical and emotional safety of wildland fire practitioners worldwide; and to foster meaningful connections within and across wildland fire practitioner communities, to help build resilience and sustain health and wellbeing.

To achieve this vision, the IAWF proposes four actions:

1. **Understand the range of stressors** affecting wildland fire practitioners, including the compounding and interacting direct and indirect effects of those stressors on health, wellbeing and ‘connectedness’.
2. **Foster safety, tolerance and diversity in all its forms**, along with open communication about health and wellbeing for wildland fire practitioners across countries, cultures and contexts.
3. **Promote a culture of active support** for wildland fire practitioners to manage these stressors and build and maintain physical, emotional, cultural and other forms of health and wellbeing.
4. **Develop and communicate holistic and nuanced messages** about health and wellbeing for wildland fire practitioners; including to policymakers, fire agencies,

fire practitioners, and non-government organisations associated with wildland fire, including those in support, communication and service provision roles.

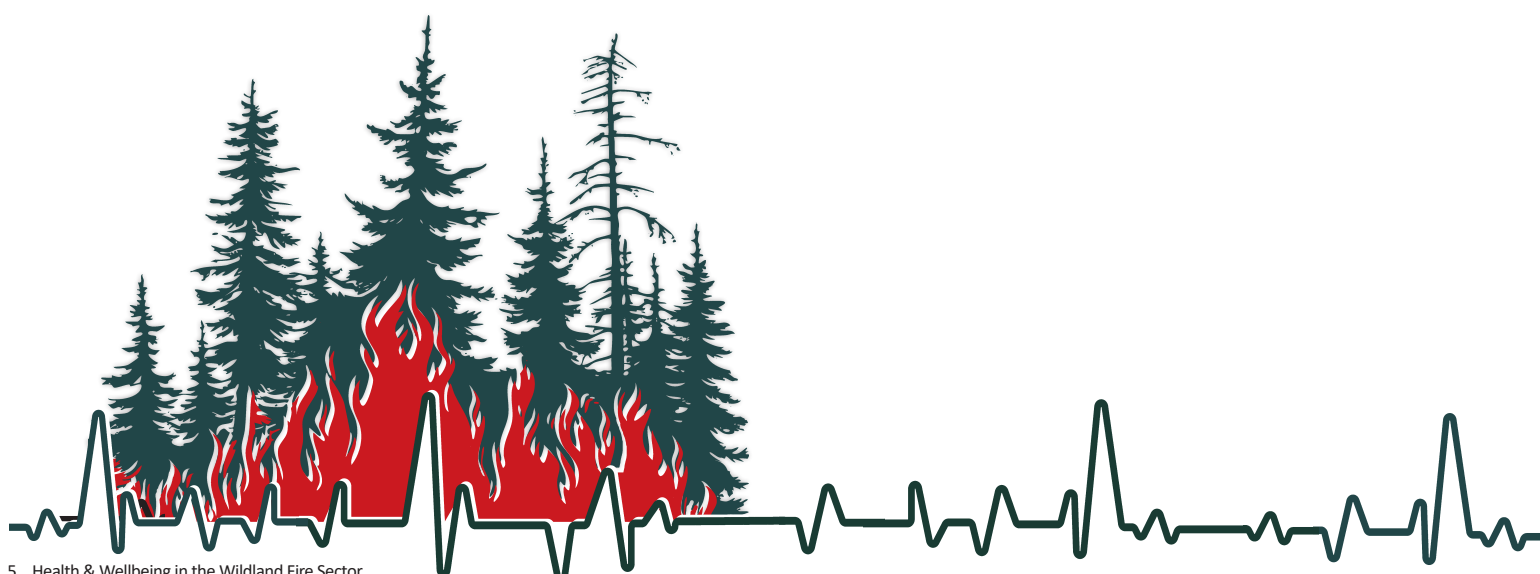
The IAWF, through its Diversity, Equity & Inclusivity Committee, intends to lead by example by ensuring that the vision and actions expressed above are integral to our environment, social and governance (ESG) framework and are evident in our global endeavours. IAWF Health & Wellbeing Action Plans will be informed by our ESG framework and this position statement, and will align with the IAWF’s position statements on climate and prescribed burning, highlighting impacts on health and wellbeing and guidance for advocacy to support law, policy and practical reform.

This document provides an overarching statement of the IAWF position on issues of mental health and wellbeing. The IAWF may develop brief, subsidiary ‘action plan’ documents that sit under this position statement, focusing in more detail on specific concerns, recommendations or reforms for promoting health and wellbeing in the wildland fire sector. For example, action plans may be developed with a focus on specific issues such as: environmental, clinical, cultural, communal, professional, mental, emotional, physical, seasonal, and familial health and wellbeing in the wildland fire sector.

VI. Our commitment

The IAWF commits to:

- **advocating for improving understanding and responses** to the full range of stressors influencing health and wellbeing, in and across the wildland fire sector and communities;
- **creating and cultivating safe spaces** for conversation, empowerment, connection and mentoring at IAWF-supported events and in IAWF programs;
- **partnering with agencies and other organisations to promote the importance of health and wellbeing** in the wildland fire sector, including by co-developing and disseminating educational and other resources and opportunities to IAWF’s members and networks;
- **advocating for improvements in policies, practices, workplace cultures and norms** that negatively affect health and wellbeing of the wildland fire community, across the world; and
- **investigating new partnerships** to facilitate access to new resources, guidance and support for members of the wildland fire sector and their families, communities and environments.



Additional resources

IAWF's 'Workforce Resilience Ignite Talk Series' <<https://www.iawfonline.org/events/webinars/>>.

Northern Rockies Fire Science Network's 'Wildland Firefighter Health Series' <<https://www.nrfirescience.org/event/wildland-firefighter-health-series-current-knowledge-body-mind-and-well-being>>.

Northern Rockies Fire Science Network's 'Wildland Firefighter Health: Hot Topic' resources <<https://www.nrfirescience.org/hot-topics/wildland-firefighter-health>>.

Giving Voice to Cultural Safety of Indigenous Wildland Firefighters in Canada project <<http://www.turtleislandconsulting.ca/cultural-safety.html>>.

First Responder Trauma Services 501c3' <<https://911overwatch.org/meet-the-people>>.

Fire Adapted Network, 'Practitioner Wellbeing and Mental Health: Learning Group Resources' (2024) <<https://fireadaptednetwork.org/wp-content/uploads/2023/10/Practitioner-Wellbeing.pdf>>.

Disclaimer: the IAWF does not necessarily endorse resources on this list and this list is not comprehensive. The list is not intended to replace professional services or individualised support but rather, to provide a starting point for building awareness and engagement, encouraging access to resources and support for building resilience and recovery.

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