

Submission Number: NND.001.00755

Submission Of: Duncan Gardner

Your Details

Email address:

Phone:

Preferred means of contact: Email

What is your submission based on? I am making this submission based on my personal situation

What was your personal situation in relation to the 2019-20 Bushfires?

Where do you live? Western Australia

Your Submission

In your experience, what areas of the bushfire emergency response worked well?

In your experience, what areas of the bushfire emergency response didn't work well?

In your experience, what needs to change to improve arrangements for preparation, mitigation, response and recovery coordination for national natural disaster arrangements in Australia?

A national framework for reporting is a good idea. But national regulations would be very bad, as natural disasters, and bush fires in particular, need a very localised approach. Bush fire risk can vary dramatically in a few kilometres or less, so any approach must allow for that. Individuals must be allowed to control their own level of risk, for without control there cannot be responsibility.

Is there anything else you would like to tell the Royal Commission?

Do you agree to your submission being published? Yes I agree to my submission being published in my name

Supporting material provided:

RoyalCommissionNaturalDisaster.pdf

efficacy of past and current vegetation and land management policy.pdf

Submission to the Royal Commission into National Natural Disaster Arrangements

I have been a volunteer firefighter since 2007, and a consultant for a risk management company since 2003. I live in Western Australia.

Risk management is solely about risk & reward. To repeat, it is only about cost & benefit. Any foreseeable risk can be entirely mitigated if we are prepared to pay the cost - we are quite capable of constructing buildings that are capable of withstanding any cyclone, bushfire or flood. Of course the cost would be too high in terms of financial cost, positioning, loss of current buildings, livability etc. if applied to all existing buildings in Australia. It is the balance between cost & benefit that needs to be found.

Legally that risk & reward balance is mainly regulated for employers, who are bound by Occupational Health & Safety legislation. There is a duty of care with the *objective of preventing occupational injuries and diseases*. This results in standards and practices that are very risk-averse - for good reason. The duty of care of government and individuals are much lower, however, and must leave room for individual choice. It is quite legal (and desirable for individual freedom) for people to be able to perform dangerous actions that imperil their lives and property, so long as they do not imperil others - although they may be a burden on others via emergency services, the health system etc. Thus attempting to summit Mount Everest, with a massive 1:20 chance of death, is entirely legal.

There is a temptation for government to restrict people's behaviour to make them safe from physical or financial harm. In practice there are few occasions when legislation is passed for individuals protection (rather than the protection of others) - car seat belts for example - and even that is not retrospective (old cars do not need to be fitted). Another example is house smoke detectors, a low cost item that must be fitted in new homes, but not older homes, and does not need to be maintained or inspected.

Enforcing construction standards (i.e. when building a new home only) for safety purposes, as we do now, clearly makes sense - to prevent electrical fires, avoid asbestosis, reduce the chance of bushfire ember attack, reduce the impact of cyclone or flooding. It also makes sense encourage (by means of subsidy) individuals to retrofit inexpensive measures to homes. Though clearly it is not practical to retrofit all homes with all measures, massively expensive, and it would become a constant process as construction standards continue to evolve. There would and should never be legislation to force people to retrospectively upgrade construction.

This should be kept in mind when considering any thought of clearing around homes that might be applied retrospectively, and require ongoing maintenance and inspection. There should be full consideration of the cost & benefit, compared with other options; for example smoke detectors that are cheap to purchase and maintain, given that structural house fires are 6.5 times more frequent than houses being involved in bushfires (John McAneney, 2009).

A consistent national reporting framework sounds sensible. National standards may be good or a huge mistake depending on how they are framed. Having a set of building requirements for cyclone prone areas, in bands according to risk, appears a good approach. However trying to do the same with bushfire is impossible. The risk of bushfire varies dramatically on both a landscape scale (with Victoria, ACT and NSW being especially prone) and locally. The Australian Standards on Construction (AS 3959) are lengthy, but still fail to distinguish between all vegetation types - there is a huge variety in this continent. And they completely ignore the likelihood of a fire, which determines the risk level. Even a standard approach to bushfires in a single Local Government Authority proves to be a huge problem, as the risk can vary greatly.

There have been numerous Royal Commissions and inquiries into natural disasters. Fire is viewed differently from others, in that there is the approach that the risk can be mitigated by modifying the environment. It sounds logical - if we reduce the bush, we reduce bush fires, whereas Cyclones cannot be influenced in any way. In practice studies show it has little or no effect (Lamont, 2020) (Thornton, 2020).

Prescribed burning is a tool we can use carefully and infrequently. As always, there are interactions between the biodiversity and habitation. It makes no sense to destroy the environment (by hazard reduction measures) to reduce risk to immediate properties, and then increase the rate of climate change that increases risk to all properties.

It has become apparent that fire hazard reduction on a large scale is in every way too costly in practice. In terms of the ongoing financial cost every single year, both to government and individuals; in environmental cost with loss of biodiversity; for climate change in permanently reducing bush and the emissions directly caused; impact of smoke on health (e.g. asthma) and business (e.g. wineries); in reduction in standard of living for people living in the bush and tourists visiting. In the area of WA in which I fight fires, hazard reduction is perhaps the single biggest cause of bushfires, be it escaped burns (e.g. Margaret River Nov 2011 that destroyed 32 homes) or mechanical clearing (Bobcat fire two months ago, or a slasher hitting rocks).

The way in which bushfire impact can be successfully mitigated is similar as for other natural disasters. For new development, where they are sited (difficult for cyclones that affect a large area), and for new & existing building in construction. For new construction this has been happening for a while, but there are still issues with respect to bushfires - for example in WA homes cannot be built in a location that would require BAL-40 or FZ (Bushfire Attack Level 40 or Flame Zone) construction. Which is counter-productive - it makes more sense to construct a building once to a high level, that require bush to be cleared and maintained and inspected on an ongoing basis.

Existing development should be handled in a similar manner to other threats. Some states have subsidies for upgrading buildings, for example Queensland's Household Resilience Program for cyclones. There have been insulation subsidies that combat climate change. It would be much more cost-effective in the long term to upgrade buildings to survive bushfires, that trying to eliminate bushfires.

There is a specific issue in Western Australia is that the 1954 Bush Fires Act is being misused (because it has no safeguards) to enforce retrospective clearing around properties. These houses were built to take advantage of their position in the bush - shade from trees rather than air conditioning, residents and tourists to be immersed in nature. Requiring new Asset Protection Zones and new firebreaks requires acres of land be cleared per property, results in thousands of acres of prime bushland being destroyed. Along with the very reason houses were built there. Taking control from people by means of regulation, also removes some measure of responsibility.

A key element that is missing from the discussion is quantifying the costs and efficiency of fire mitigation. One of the major aspects of fire *prevention* is being tackled to good effect - the electricity network. The cost of the worst bush fires is huge in lives lost, health, financial terms, biodiversity, tourism etc. and much work is done to quantify that. But the cost and effectiveness of *mitigation* is not so well studied. A recent study (Arriagada, 2020) estimated that more than half the healthcare impacts of fire in Western Australia were due to prescribed burns, not wildfires. Burning an area too frequently - 7-20 years, reduces biodiversity (Spingett, 1976), yet in the recent NSW fires, only prescribed burning undertaken in the last 12 months was effective (NSW RFS Commissioner Shane Fitzsimmons, Jan 2020). Aerial support has exploded over recent years, and while they have their uses, they can never extinguish large fires. Clearing an APZ (Asset Protection Zone) costs thousands (\$16,000 quoted recently), and maintenance can take 200 hours/annum, or \$3,000. That is for one property, so it would be amazing to get an estimate across Australia of typical costs,

multiplied by affected properties. What is missing is an estimate of the costs (financial and others) of fire mitigation practices, and their especially their effectiveness in preventing the spread and impact of bushfires. Of course this is difficult, especially as fire risk varies dramatically across Australia, but it is pointless to continue down the same path without knowing if it will actually help.

Bushfires also need to be placed in the context of other natural disasters for Australia, and other hazards. It is commonly known that road accidents are a significant cause of death, but few would think of drowning, for example - 276 people drowned in Australia in 2019, up from 250 in 2018 (RLSSA, 2019). Surely the government should be able to look at all of Australia's hazards - natural disasters, structural fires, accidental death, health issues, the current pandemic - and have an idea of the impacts and costs so resources can be allocated appropriately.

In summary, widescale land management for hazard reduction purposes has been shown to have little (some studies say no) impact on bushfires, but is definitely financially costly, every year, is environmentally damaging to biodiversity & habitat, detrimental to health, lifestyle, tourism & businesses and causes bushfires. It should only be carried out in a very small targeted scale (a few acres) with full regard to all impacts. There is much to learn from Aboriginal burning practices here.

We must stop trying to adapt the environment to our needs, accelerating climate change and compounding the impact of natural disasters. Instead we should adapt our behavior, our towns & homes, so that they are resilient, without denying people the right to choose the level of risk they are comfortable with - in dense bush, next to the ocean, or in a cyclone prone area.

Duncan Gardner 24 iv 2020

All views are mine and do not represent any public or private organisation

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This was originally to be a submission for Inquiry into the efficacy of past and current vegetation and land management policy, practice and legislation and their effect on the intensity and frequency of bushfires and subsequent risk to property, life and the environment. However that closed early, and I was told submissions were to be directed to the Royal Commission into National Natural Disaster Arrangements instead.

I have been a Firefighter since 2007, and a consultant for a risk management company since 2003. I live in Western Australia, and my response is focussed on that.

1. ***It is vital to realise that all fire-related issues must have a local approach. It is wrong and dangerous to try to apply the same rules across different terrain, vegetation, weather conditions etc.***

The Fire Danger Index for Western Australia is 80, compared with 80-100 for NSW, and 100 for Victoria and the ACT (excluding Alpine resorts) (Standards Australia, 10th March 2009, p. 15). Thus it should be expected that the most rigorous of WA requirements should be significantly less than those adopted in the Eastern States. Note that the **maximum possible** fuel load for Marri-Jarrah-Karri or Jarrah dominant forest is 29 tonnes/ha (FESA, May 2007). The fuel load in the Victorian fires (Kilmore East) was at least 40-50 tonnes/ha (Teague, McLeod, & Pascoe, July 2010).

Even within a local area, for example my LGA, we have coastal areas that have dominant SW winds from the South coast area, and also have ocean to the West and North, so simply never get hot dry winds. The bush still burns, but never at the intensity of bush a hundred km inland.

2. ***The costs and effectiveness of fire prevention and mitigation should be quantified. Too often these are hidden.***

There would be a lot of information on government spending on prescribed burning, and on career & volunteer fire services for mitigation. However, the cost of prescribed burning or other activities on private land is hidden. I estimate I spend 100 hours/annum on clearing for legislated inspections - other firefighters estimate over 200 hours/annum. It's not usual, locally, to pay \$2500 to prepare a block for an annual inspection.

Also the cost of prevention should include the cost of fires caused by such activities, such as the Margaret River fire in 2013 that destroyed 30 houses.

3. ***Previous disasters and incidents have taught us that more (government) legislation means less (individual) responsibility.***

The inquiry into the Piper Alpha disaster in 1988 showed there was a culture of following the regulations, without considering if that was enough. The more governance and legislation there is around fire, the less people will treat it as their responsibility.

The Perth Hills Bushfire Review (Keelty, 16th June 2011) (p13) states "*Fundamental to the concept of disaster resilience, is that individuals and communities should be more self-reliant and prepared to take responsibility for the risks they live with.*" Thus a) there is a higher risk (by implication, acceptable), and b) individuals and communities should take responsibility, not government.

4. ***Safety and fire are generally treated as the overriding concern. In reality (and correctly), it is significant but not the most important issue to individuals.***

In organisations there is generally a duty of care. In a work environment an employee can rightly expect not to be in danger. Risks are reduced SFAIRP - So far as is reasonably practicable.

It is not, however, local, state or federal governments responsibility to create a risk free environment for citizens. If it were, then risky activities would be forbidden - climbing

mountains, drinking alcohol, smoking, driving etc. Government takes some steps towards reducing risk, but these are limited to actions that are not onerous, and have well demonstrated effectiveness, and are not retrospective. Thus modern cars have seat belts, but old ones do not. Houses (in WA at least) must have smoke detectors only when the house is sold, but they do not have to be maintained and are not inspected. People are free to live with their chosen level of risk, and it is always higher risk than they imagine. They are very keen not to be put at risk by others, but in their personal lives, most people do not eat the most healthy food or do enough exercise; they use mobile phones when driving or listen to (distracting) music, they go fishing and swim in shark-infested waters.

ToR 1: Past and current practices of land and vegetation management;

5. ***When done correctly, prescribed burning helps controlling fires for a period. When done badly it can make fires spread faster.***

There are numerous studies on this. On the recent NSW fires, Commissioner Shane Fitzsimmons said (Jan 2020) "We're only seeing effective amelioration on fire spread through hazard reduction areas that have been done in the last 12 months."

Poor clearing, particularly parkland clearing, produces an environment of trees and weeds, which enables a fire to move much faster than it would through bush with undergrowth.

While burning is part of natural life cycle, "*too-frequent fires may cause a change in vegetation structure or localised extinction of a plant species*" (FESA, 2000, p. 19). This is certainly the case for burning more often than 5-7 years - "*In [Jarrah and Karri] forests, species diversity and density are reduced after burning and do not recover their pre-burning values during a normal prescribed burning rotation. Prescribed burning on a five to seven year rotation is likely to permanently simplify the litter fauna and flora, with far-reaching effects on forest and hygiene.*" (Spingett, 1976) - and in some cases more than 20 years. Frequent burning/clearing usually increases maintenance work and risk by introducing fast growing grasses and weeds, as there is no native ground cover. These grasses and weeds need frequent slashing, are more quickly ignited, and carry fire faster - "*Repeated burns can increase the flammability of vegetation*" (Bowman, 2009). "*Many grass weeds dry off in summer, adding to the amount of fine fuel which will carry a fire easily. After burning, the grasses return in even greater abundance, making the fire problem even worse and further degrading the native bush. This is known as the fire-weed cycle.*" (FESA, 2000, p. 17).

6. ***Clearing (mechanically and by burning) is a significant (in my experience, in my area, the biggest single) cause of bushfires.***

Within an hour of starting this submission, I was called to a fire started by a bobcat that was clearing regrowth from a firebreak - as the owner had received a work order to do this immediately. In February!

7. ***Broad targets for prescribed burning encourage large burns away from habitation, but these are often of little benefit in preventing serious bushfire consequences.***

It is very complicated, and getting more so, to organise a prescribed burn due to a combination of factors, including risk of an escape, and effect of smoke. Therefore to achieve prescribed burning targets, large burns are performed far from habitation. Where they are of little benefit.

8. ***There is insufficient regard to environmental and climate impact for large prescribed burns.***

Large burns cannot be finely controlled, and are more likely to cause environmental damage by burning through sensitive areas, or revisiting previous burned land more frequently than appropriate. There is a huge release of carbon dioxide, some of which would otherwise be captured in the bush.

ToR 2: Whether current legislation and regulation is in conflict or causes confusion for landholders;

9. ***It is telling that the only ToR to be significantly different from those initially stated is this one. It was originally " the impact of current legislation and regulatory responses for landholders ". This impact of legislated fire preparation on rural residential landholders in WA is huge.***
10. ***Legislated clearing for APZ (Asset Protection Zone) is in conflict with lifestyle.***
Most people who move into bush blocks do so in order to be in the bush, if they wanted parkland cleared they would have bought that style of land. It is astounding that living in the bush, one of the most basic Australian lifestyles, is being destroyed.
11. ***Legislated clearing for APZ (Asset Protection Zone) is in conflict with environmental values.***
Leaf litter is necessary for healthy bush, and cannot be eliminated where there is vegetation. Indeed even maintaining it at a very low level, e.g. 5mm or 2 tonnes/ha, is a practical impossibility where there are trees. Trees can drop a lot of leaves in a short period, and cockatoos can similarly generate a lot of litter, several times a year. Also 10cm is too short for many small plants that are not shrubs but low ground cover. This effectively destroys over an acre of bushland per building. *"The result of constant removal of leaf litter will be inevitable degradation of the soil fertility on the site. The effects would most easily be visualised as a downward spiral."* (Department of Environment and Conservation).
The Victorian Commission states *"The expert panel accepted that considerable weight should be given to biodiversity conservation—not only for native vegetation but for all flora and fauna and particularly threatened species—in planning"* (Teague, McLeod, & Pascoe, July 2010, pp. 244, Vol II).
12. ***Legislated clearing for APZ (Asset Protection Zone) is an accidental consequence and misuse of the WA Bush Fires Act.***
The Bush Fires Act 1954 (Government of Western Australia, 2010) was not designed to enforce Building Protection Zone. It was designed for emergency use, and has **no environmental** or other concerns. The powers are draconian, with no safeguards or right of appeal. It vests in Local Government Authorities a vast amount of power, accidentally as the Act is being misused by a dubious interpretation of the work fire-break in Section 33 *"Local government may require occupier of land to plough or clear fire-break"*.
13. ***Legislated clearing for APZ (Asset Protection Zone) is draconian; and invasion of privacy and personal rights.***
Use of the Bush Fires Act 1954 (Government of Western Australia, 2010) for this purpose almost certainly breaches fundamental legislative scrutiny principals for Western Australia, (Legislative Council of Western Australia, 2-4 March 2005, p. 15). There is not even a right of appeal.
14. ***Legislated clearing for APZ (Asset Protection Zone) cause fear and anxiety of annual inspections, and has been stated as the main reason for people selling their homes.***
I know of people that used to live locally, that sold up because they could not bear the strain

of complying with bushfire legislation. Others that had children in tears because they overheard their parents being told they were living in a death trap.

15. **Legislated clearing for APZ (Asset Protection Zone) is onerous and expensive for individuals to comply with, and LGAs to enforce.**

As mentioned earlier, it can take 100-200 hours/annum to comply with the local firebreak notice. Yesterday I heard of someone who was quoted \$16,000 to comply. The LGA also has had to employ extra staff to undertake the inspections.

16. **Legislated clearing for APZ (Asset Protection Zone) is inconsistent with other legislation.**

Even though this is only for protecting a house, not lives, it is retrospectively enforced. Even seat belts and smoke detectors are not.

17. **Legislated clearing for APZ (Asset Protection Zone) does not take into account building construction or other factors such as sprinkler systems, alternative exits, fire-fighting pumps.**

This is a bizarre feature of the local regulations. A brand new home built to the latest regulations or above, has to comply with the same clearance as a fifty-year old timber shack. It doesn't matter if a house exceeds all standards, has sprinklers and even a shelter. That is all ignored.

18. **Legislated clearing for APZ (Asset Protection Zone) is less effective and more costly to implement and maintain than other options, principally building construction.**

"Most homes damaged during a bush fire are due to ember attack" (FESA, 2009), with embers able to travel 10km or more. At a debrief from the WA Yarloop fire, the Incident Controller said 'a 1km firebreak would not have helped'. Clearing has to be continually maintained, but building construction methods are a once only cost. By ember-proofing a home it will be safe from any fire that does not reach the property. Using BAL (Bushfire Attack Level) ratings, a building can be protected against bushland (or other buildings) that catch fire nearby, up to BAL-FZ which means actual Flame Zone.

19. **Legislated clearing for APZ (Asset Protection Zone) is based on guidelines that should not be enforced retrospectively.**

The WAPS Guidelines (WAPC & FESA, May 2010) (p2) state "*The performance criteria and acceptable solutions contained in the guidelines are **not intended to be enforced retrospectively** on existing development in established urban areas, existing townsites or existing subdivisions.*" And (p4) "*Issues involving landscape protection (ie visual landscape character) and bushland retention/impact on conservation values will also be considered during the planning process.*"

ToR 3: The science and research behind activities such as hazard reduction burning, clearing and rehabilitation;

20. **Science is often ignored or suppressed.**

There are a huge number of studies on hazard reduction clearing. They usually show a small or no difference in fire suppression. The issue is that **IF** a bushfire runs into an area that is recently burnt, it is easier to control. So firefighters will rightly point out that this is effective. However, most of the range of bushfires is through areas that have not been recently burnt, as even a 5% target is impractical.

In WA, the conservation department (was DEC, now DBCA), forbade it's staff to talk about fire issues because there was such a drive from government to have FESA (Fire & Emergency Services) control the conversation.

Politics usually comes into play and it is better for government to be seen to be doing

something, even if it may be ineffective. So much the better if they can attack an opponent for allegedly not supporting hazard reduction clearing.

21. ***The science, legislation and guidelines are often simplified for pragmatic reasons, which is wrong as this is a complex issue.***

Naturally there is a drive to simplify legislation and guidelines. The Australian Standards on Construction (AS 3959) are lengthy, but still fail to distinguish between all vegetation types - there is a huge variety in this continent. And they completely ignore the likelihood of a fire, which determines the risk level.

22. ***While a consistent framework is a good idea, there is massive variation in bushfires between states, LGAs and even within an LGA. The same 'rules' cannot be applied without detailed local knowledge.***

It is not disputed that fires behave very differently across Australia. There are broad weather conditions that mean the Eastern States experience hot dry winds from the centre. In mountainous terrain, inaccessible fires can build in size. Some vegetation types build high fuel levels. Even within an LGA, the conditions can vary dramatically from the coast to inland, with different wind, humidity, topography & vegetation, meaning fire speed and ember distance changes. The ability to recover from clearing or fires varies dramatically. The wildlife habitat is also wildly different.

23. ***The science is very clear on the effect of hazard reduction clearing on the environment.***

With one exception, hazard reduction clearing is bad for the environment. Clearing (rather than burning) is always bad, as the impact of machines, and spread of disease and weeds is always a negative. Burning is generally bad - it is usually at the wrong time of year for plants to flower and seed, or for nesting birds etc. It is usually undertaken too often.

Hazard Reduction burning is only good for the environment when it is a side effect of an environmental burn, undertaken to help the bush. Such a burn would be performed very carefully with respect to all the flora & fauna in the area, and at an appropriate frequency. Usually it would only be performed once, and if repeated probably not within 15 years - dependant on the ecology. It would be performed on a small area only, as it would be specific to the vegetation type.

Parkland Clearing is particularly bad. This Trees & Weeds clearing is entirely unnatural, and supports little flora & fauna. It also needs annual maintenance, and means that fires will travel faster than an uncleared area.

While burning is part of natural life cycle, "*too-frequent fires may cause a change in vegetation structure or localised extinction of a plant species*" (FESA, 2000, p. 19). This is certainly the case for burning more often than 5-7 years - "*In [Jarrah and Karri] forests, species diversity and density are reduced after burning and do not recover their pre-burning values during a normal prescribed burning rotation. Prescribed burning on a five to seven year rotation is likely to permanently simplify the litter fauna and flora, with far-reaching effects on forest and hygiene.*" (Spingett, 1976) - and in some cases more than 20 years.

ToR 4: Legislative capability at local, state and federal levels requiring landholders to reduce fire risk on their properties;

24. ***There should not be legislative capability, beyond maintaining pre-existing firebreaks at the original standard.***

It is wrong in too many ways.

* Retrospective

- * Ineffective
- * Onerous
- * Environmentally Disastrous
- * Expensive for individuals and government
- * Invasion of individual privacy & rights
- * Not going to save lives

25. ***Current legislative capability does not align with risk level, derived from the frequency/likelihood of fires.***

Current WA legislation completely ignores the history and likelihood of fires. This is akin to applying Cyclone building requirements across the state, or across the country. For Cyclones it is recognised they only frequent parts of NT, QLD & WA, so building requirements apply to specific areas, with a banding. For example, level 4 has an *Annual Probability of Exceedance* of 1:2000. So it is bizarre that the WA map of fire prone areas does not take into account fire frequency.

26. ***Legislation should be used elsewhere first.***

If there is a drive to use legislation, the cost & effectiveness should be considered first. Compare the cost and effectiveness of Hazard Reduction Clearing for preventing fires resulting in lives lost with other risks. Clearing comes at huge costs in terms of money, environmental damage, risk of causing fires, loss of visual amenity, privacy, rights etc. Quantify that, and also quantify the number of lives that may be saved. Depending on the study that will be zero, or may be a small percentage nationally. The result is likely to be less than 1 accidental bushfire death/year. Compare that to other causes of accidental death - drowning for example - 291 people drowned in Australia in 2017, up from 266 in 2015 and 282 in 2016 (Royal Life Saving National Drowning Report, 2017).

27. ***Legislation must not prioritise building protection over the environment or personal choice.***

It's our Australian way of life.

Vegetation and land management can help, but it is clearly getting more costly, difficult and environmentally damaging to perform. Studies have shown that it not possible, nor desirable, to reach anywhere near the scale at which it would significantly reduce fire risk on a landscape level. It is vital that such management that is undertaken is environmentally sensitive, or we destroy the flora & fauna which make the bush the place we choose to live in and visit. I am of the opinion that the effort would be better directed to building construction requirements and retro-fitting that does not require maintenance and inspection, and does not impact the environment, lifestyle, visual amenity, tourism etc.

Duncan Gardner

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