

Wellington Farm Forestry PC1, Stream 3 Submission

Presented by Eric Cairns,
Secretary Wgtn FFA



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We're planting willows to stabilise riverbanks.
We're rebuilding rock structures to protect homes and businesses.

For the aroha of this place, Greater Wellington are providing
flood protection work alongside Te Awa Kairangi / Hutt River,
protecting 200,000 residents and their livelihoods.

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Photo is from GW publicity as published in the Leader June 2024

Rebuttal Evidence

- Agree with:
 - That CCF/Permanent Forest for harvest and replanting be controlled by NESCF, even in catchments where TASVC is not met
 - That 5 year trend data be used to assess TAS VC rather than the most recent monitoring record
- Disagree with
 - The temperature change calculations submitted by Dr Greer in respect of SFS Grade
 - Dr Greer does not address the "reasonableness" of Hutt Boulcott TASVC set at Class A
 - P.R19 appears to be incorrectly drafted

In addition to the points on the slide, There appears to be divergent policy directions. Shannon Watson/Dr Greer are all about focussing on surficial erosion as the main contributor to Total Annual Sediment Loads (steep land more likely to scour). However, the Erosion Susceptibility mapping is all about identifying risk of shallow land slide. In a change of tack, potentially erosion prone land is proposed to be a factor in granting restricted discretionary consents where TAS fails.

Insufficient Stringency to override NESCF

- Whilst NESCF does allow for councils to override it in order to achieve objectives of NPSFM, the case is weak and erosion issues in these two whatua are far less severe than in many other regions.
- In order to justify overriding NESCF, GW need to demonstrate that **exceptional circumstances exist** in these two whatiatua compared to generally prevailing conditions.
- We suggest that failure to meet TASVC is a common occurrence throughout NZ.
- Only a few smaller pFMU currently fail TASVC (except Boulcott, under challenge). Boulcott VC is already well above NBL
- There is no acknowledgement that bedding in NESCF along with better enforcement and improved training could also contribute to achieving VC objectives
- Note that several pFMU with significant levels of Plantation Forestry actually meet TASVC.

Our first position is to support the submission by NZFFA referring to insufficient Stringency

Fallback Choice is Controlled Consent for Forestry on potentially high erosion risk land only where TASVC fails

- Potentially high-risk slopes (>26°) have higher risk of surficial erosion
- Controlled consent will still allow GW **to apply conditions** that can be enforced
- Consent will safeguard business and supply chain continuity
- That low risk (less steep) sites are not saddled with unnecessary costs

In the event that the commissioners reject our argument of stringency, Surficial erosion will include forestry earthworks., but we agree with Mr Blyth, that there is a relatively low risk of shallow landslides on forestry land within these Whaitua We say that existing best practice (as detailed in NZFOA manuals), along with adhering to NESCF conditions, provides adequate control. If conditions cannot be met, harvesting activity would escalate to discretionary consent anyway There is no need for certified Forestry Management Plans (another expense that adds little value) For any earthwork activity, this must be backed up by site visits (including to permitted activity sites) and training. Obviously, there is cost recovery applying to monitoring permitted activity.

Consents still add a significant cost. These fees should not be charged too far in advance of available revenue.

Next fallback choice is supporting Restricted Discretionary Activity where TASVC fails

- Acknowledge that NESCF, as it currently operates, could do better
- Acknowledge that Forestry interests need to be seen to improve their environmental performance
- Question whether additional regulation will actually deliver sought after TASVC
- This option will disproportionately affect woodlots

This choice is predicated by:

water plans and review of TAS and climate change effects

In combination with training, methods 44 a, b and c

Preference that low risk activities defer to operate under NESCF (which can escalate to discretionary control if conditions are not met)

Improved environmental performance is part of Public License to Operate, even though much of the Ecosystem Services provided by plantation forestry are invisible to the public. (avoided risk of erosion)

WH.R20, monitoring records and receiving water bodies

Latest monitoring point quoted

- Most recent monitoring record for VC dictates whether NESCF prevails or whether Restricted Discretionary activity applies
- Restriction on activity should refer to median value over the longer term (5 yrs), not to the most recent record.

Receiving Bodies

- WH.P28 and S42a clearly intend that the VC status of receiving water bodies would also dictate where restricted discretionary activity was applied.
- WH.R20 fails to mention receiving bodies

Rebuttal evidence from Dr Greer has picked up on this.

WH.R20 is obscure, and does not reflect what should be happening.

Revised notes to and Rule P.R19 typo?

- The intent of S42a reports was to require restricted conditional consent only where TASVC was **NOT MET**.
- As drafted in rebuttal, P.R19 says restricted discretionary activity is now required where TASVC **IS MET** and the previous clause P.R20 is deleted

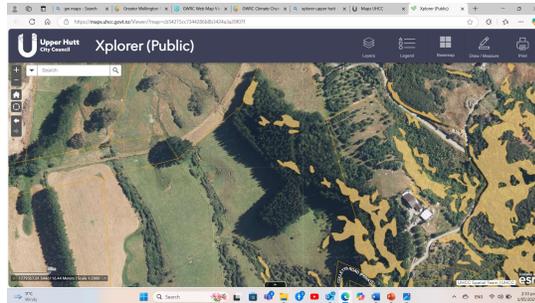
- **Please clarify**

Clearly, where TASVC is met, there is no need to restricted discretionary provisions

Minimum areas and low risk exemptions

- There are a few existing small commercial forests not on potentially erosion prone steep land and not close to water bodies.
- The photo here is from UH City where hazardous slope overlay is in orange ($>26^{\circ}$), Colletts Road
- There will be more small woodlots on less steep land, and away from water bodies.

Example of small block with yellow hazardous slope overlay



Acknowledge exemption for CFF/permanent, but the requirement for restricted conditional consent for other low risk forests is unreasonable. It also disproportionately penalises smaller forests.

In catchments where TAS is not met, costs to prepare an application for resource consent may be \$8-9k (information from some forestry management companies). Add in GW administrative costs plus inspections. Increasing compliance costs and lack of scale make small scale forestry less and less attractive, and I would suggest, that where ETS obligations allow changes in land use, that pastoral farming or subdivision to smaller residential blocks will prevail as being more profitable and less risky land uses, both of which are likely to produce more sediment than forestry operations in the long term, and to generate more greenhouse gases.

Relitigating Water Quality TASVC

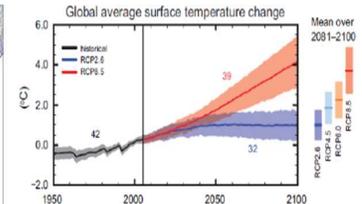
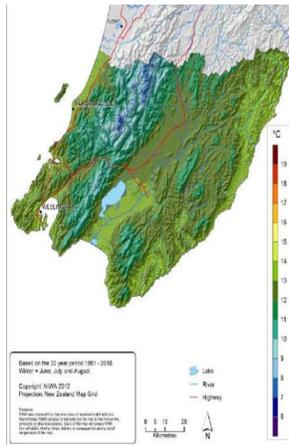
- The appears to me to be a change in proposed rules after Stream 2 hearings were completed.
- A have previously mentioned GW bulldozer activity in the Hutt as possibly affecting sediment measures at Boulcott
- Shannon Watson proposed rule changes concerning forestry activity in FMUs where TASVC were not met. I was focussed on Mangaroa, not being aware that the status of TASVC at Boulcott could affect the whole catchment
- The rule now refers to Suspended Fine Sediment, not VC

I ask the panel accept this evidence on the base of fairness. It is very hard for an amateur body to cover so much territory and to anticipate all possible contingencies.

A change of wording for Rule P.R19, replacing the term visual clarity with suspended fine sediment creates issues, because the Whaitua reports, Wai Ora states and NBL refer to visual clarity, for which various measures of suspended fine sediment are only proxy values.

TAS VC and Warming Climate

- Since 1980, and until 2025 the Global mean annual temperature for has risen about 1°C.
- 1950-2010 average temperatures for much of the Upper Hutt area were in the 11-12°C range
- TASVC depends on SFS Class
- A drop to SFS class 2 would reduce TAS to either the greater of baseline values or NBL of 0.93m.



Above : graph of projected global average surface temperature, according to different RCP values, from the IPCC. The red line shows the trend for RCP8.5. RCP 4.5 would be an intermediate trend between the lines for RCP2.6 (blue) and RCP8.5.

Left : Current annual average temperature for Wellington Region (1951-2010)

Global Temp changes interpolated from the supplied graph, but different to next slide. The SFS classes quoted in the NPSFM (2020) link back to 1950-1980 temperature data

This really needs updated data e.g. from NIWA, but it costs.....

The projected global temperature increases show here date calculated 15 years ago, and could now be forecasted as worse than shown

I have estimated average temperature changes from the charts available from NIWA, copied here.

Our main submission goes into this in more detail, but we think the SFS classes used in the NPSFM were from the old 1951-1980 data set, and since then there has been about a 1 degree increase in average temperature (Globally)

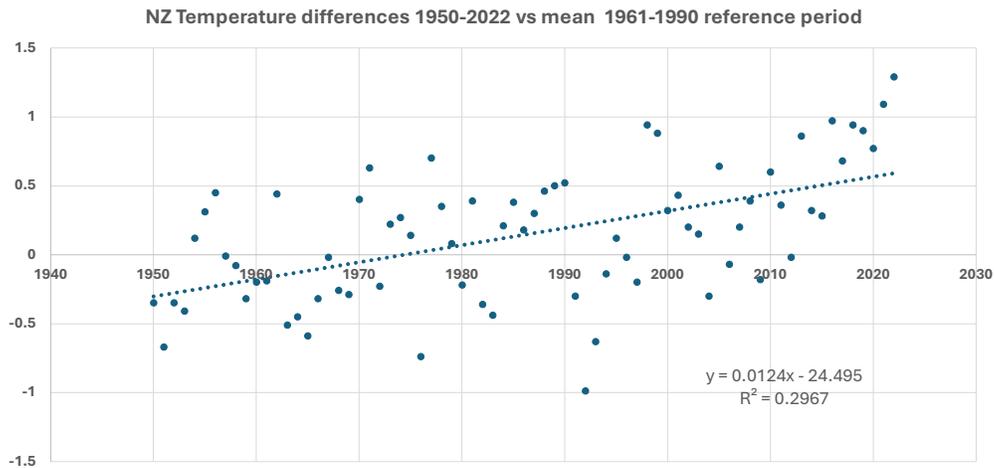
It is highly probable that several key rivers in the TaOP and TWaT whitua would change their SFS status if reclassified on current temperature data.

Some of them (Waiwhetu, Hulls creek at Pinehaven, Upper Hutt, Porirua and Taupo Stream were already designated at SFS class 2, so have much lower TASVC than SFS Class 3 rivers.

It is predicted that average temperature will be significantly higher before 2040, which

is the target date for several TASVC to be achieved

NZ Mean Air Temperatures 1950-2022



In Response to Dr Greer, I have found better data obtained in tabular form from Stats NZ website, who accessed it from NIWA

The mean air temperature changes are averaged over seven weather stations
[Temperature | Stats NZ](#)

This 52 year trend shows **0.124** degree per decade (vs 0.090 degrees quoted by Greer for Wgtn area 1930-2017), a bit lower than the Global increases quoted at 0.18 deg/decade since 1981 [Monthly Climate Reports | Global Climate Report | Annual 2020 | National Centers for Environmental Information \(NCEI\)](#) quote The global annual temperature has increased at an average rate of 0.08°C (0.14°F) per decade since 1880 and over twice that rate (+0.18°C / +0.32°F) since 1981.

NZ is close to our National average temperature change range, according to the Stats NZ web article

Note that Wgtn temperature trend for the **shorter 1972-2022 period (30 years) was 0.17** degrees per decade, but the data is noisy (and affected by Mt Pinatubo eruption), so my 52 year time period is conservative, but possibly more reliable

From the trend line, the temperature increase between **1965** and 2025 is 0.74 degrees
Between **1965 and 2040, the increase calculates as 0.93 degrees**

Projected Mean Air Temperature Rises since 1965

River	Mean Air temp 1950-1980	Adjusted for 2025 according to rise quoted by Greer (+0.009°C/yr)	Adjusted for 2040 according to rise quoted by Greer (+0.009°C/yr)	Adjusted for 2025 +0.0124°C/yr	Adjusted for 2040 +0.0124°C/yr
Makara	11.93	12.47	12.61	12.67	12.86
Hutt	10.63	11.17	11.31	11.37	11.56
Mangaroa	10.90	11.44	11.58	11.64	11.83
Horokiri	11.57	12.11	12.25	12.31	12.50

Apologise for Formatting issue here.

As a result of Dr Greer challenging my hypothesis, I have drawn on additional data. Neither of us obtained spatial catchment data from NIWA (as it costs), But NZ Statistics show enough to add to Dr Greer's data and to apply a difference to the 1950-1980 means used for SFS Class and National River Classifications

The time frame considered for temperature trends makes a difference, as there is a lot of noise. I have chosen to use 1950-2022, a **52 year period**. As stated for the previous slide, Wgtn temperature trend for the **shorter 1972-2022 period was 0.17** degrees per decade, more than the **0.124°C** factor that I have conservatively elected to use. Dr Greer chose to use 0.09°C/decade based on a 1930-2017 dataset. The rate of air temperature warming Globally, has increased markedly in the last decade, although that may not be obvious when only one site is considered

Dr Greer should have calculated changes **since the mid time point of the 1950-1980 data set, not from the end at 1980** (since temperature is increasing during this period

Both Horokiri and Makara streams are already above 12 degrees, so their TAS VC should be reviewed

Consideration should be given to mean air temperature expected by 2040, since that is the timeframe for when TAS are expected to be met.

Factors affecting Median VC at Boulcott

- Total annual sediment yield in the wider catchments with uncertain amount of accumulation in lower reaches
- Any minor but frequent sources of SFS upstream
- Flood control measures (Bulldozing in river bed)
- More frequent high flow events
- Higher flow rates low in catchment, so increased base flows compared to upstream monitoring sites

Te Awa Kairangi at Kennedy Good Bridge, 2 May 2025



Reminding you, that the SFS class (and therefore NBL for clarity) is **not** dependent on position in the catchment, or vegetation cover, or nature of topsoil, but all these do affect VC.

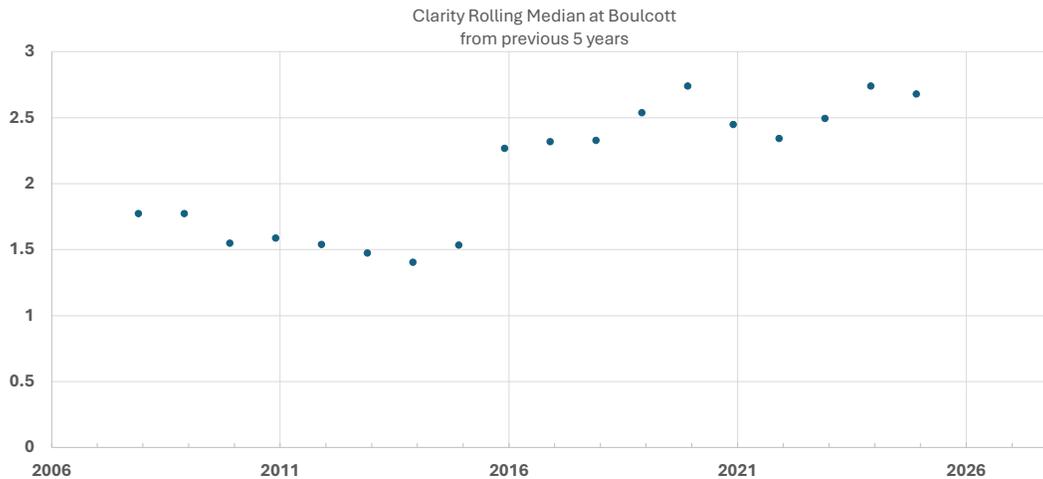
So VC at Boulcott is never going to be as good as the forested tributaries. According to Dr Greer, even naturally produced SFS will accumulate in downstream reaches, so even under natural conditions, the clarity of downstream reaches will be worse than upper reaches

Under climate change, with higher and more frequent flood flows, whilst possibly not affecting the median flow very much, still bring in sediment that can slowly leak under low flow conditions. That is in part, entirely NATURAL

Higher flow rates low in a catchment, by definition, have more ability to disturb accumulated sediment.

The slide here is looking upstream from Kennedy Good Bridge, near the Boulcott sampling site. The river is in moderate flood. (approx. 74 m³/s)

Clarity, Rolling 5 year Median at Boulcott



This is my calculations using publicly available data. I'm happy to make my spreadsheets available.

2008 is 1st 5yr median data available. The 2025 five year median data is short of a few months.

What happened after the period 2011 to 2016? It would be quite helpful to identify changes in land use over this period (To my knowledge, forestry harvesting has been relatively constant, but may have been a bit lower prior to 2016 due to depressed export prices) The period after 2016 is when harvesting of small woodlots expanded. The clear water inputs from tributaries align with high spikes of VC at Boulcott. (readings over 8M)

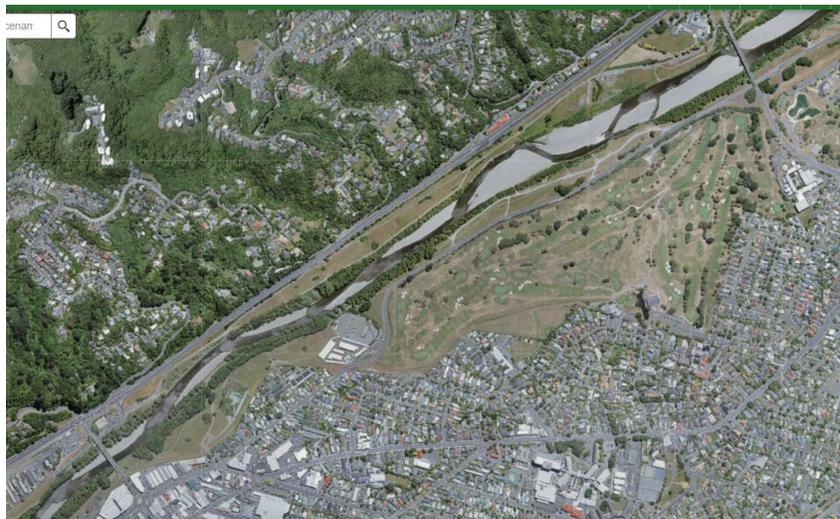
Query technology changes?

I don't interpret this as evidence of pulses of SFS slowly moving through, the data over any five year period are quite noisy.

Required Median is >2.95M, For the last 10 years, this site has been above the NBL of 2.2m, but there is a way to go. Is close to the "Natural State" actually achievable?

Reset TASVC for Hutt Boulcott

- The TAS is set too high.
- It is very unlikely that Hutt at Boulcott could ever reach the “Natural State” SFS Class 3, State A.
- The cost burden and uncertainty of gaining consent for forestry activities is unreasonable



Dr Greer agrees with us that TASVC for Boulcott effectively requires a return of the catchment to “Natural State”, a very unlikely scenario. But recent years, VC ~2.5m, have been pretty good considering that forestry activities have been expanding.

There is a significant cost burden for gaining either consent or restricted conditional consent, especially for small blocks. Multiple separate consents will be required over the lifecycle of a forest.

Costs early on must be amortised until harvest, and it is quite likely that harvesting technology, markets and political climate will have changed over the intervening 30 years.

Our main supplementary submission recommends that TAS VC for Boulcott be **reset based on baseline values**, which are still substantially above the National Bottom Line, but reflect the high quality state of tributary rivers.

Summary

- First Preference: Insufficient stringency to override NESCF and therefore WH.R20 needs to be amended.
- Second Preference: For GW to control forestry only on potentially high risk erosion land in the pFMU where TAS VC is not met
- Third Preference: to support Restricted Discretionary Forestry Activity in pFMU where TAS VC is not met
- In all scenarios, much improved enforcement of conditions is required, along with education and Water Plans to gather the facts and review TAS settings

One by one, the initial arguments that GW has used to justify consented activity for forestry, and therefore the need to override the NESCF, have fallen over.

The erodible land classifications didn't stack up, so the proposal to retire out forestry harvest from the 10% or more of steepest land has been withdrawn.

Mangaroa River TAS VC was substantially reduced in the face of natural sources of colour, CDOM.

Calculated % reductions in Annual Sediment Load are subject to significant uncertainty, especially concerning meeting median VC at relevant flow rates, so we don't really know whether proposed land use mitigations will undershoot or overshoot the mark.

Horokiri, Whakatikei, Akatarawa, Pakuratahi still meet TASVC, in spite of many years of forestry harvesting. No one actually knows how much SFS can be trapped downstream. The 4 rivers mentioned are fairly long, and if slugs of SFS moving downstream were an issue you would think that they would (at least sometimes) show up at the monitoring points. There is no evidence presented that they do show up.

TASVC for Hutt at Boulcott is under serious challenge as being unreasonable, by not taking into account higher flow rates (position in the catchment), flood control activities and land use changes that are irreversible (urbanisation and farming/forestry).

Whilst all people in the forestry business accept that forestry activities can contribute SFS to water bodies, we believe that improvements in harvesting practises and improving compliance with NESCF is enough for Forestry to do its bit to achieve TASVC, Several major catchments with substantial PF have always managed to comply with TASVC, even with use of older technology.

We say that there is not enough hard evidence to single out forestry, or sufficient magnitude of failed TASVC to warrant overriding NESCF.

Summary, Continued

- WH.R20 needs clarification on use of latest data (should be median VC data from at least 5 years time period)
- WH.R20 is inconsistent with Policy WH.P28 (and S42A forestry report) regarding receiving water bodies
- Need to review TASVC for Hutt at Boulcott, please reduce TASVC to baseline state
- Both Makara Stream and Horkiri Stream are now well above 12degreesC, and their SFS class should be reviewed.
- The “typo” in the rebuttal P.R19 needs to refer to land where TAS Suspended Sediment is not met.

Yes, the WIP did recommend as Class A SFS for Boulcott, but was based, as I am told, largely on the technical advice received. The committee no doubt believed that the TAS was reasonable and achievable. The WIP wouldn't have seen the rolling 5 year averages that I have produced

As it stands, the overly ambitious Class A Target Attribute State for Visual Clarity it has become weaponised, and holds all land users upstream to ransom.

Presentation Ends

