

3.10 Air quality maps ## 03-225- 03-225 01 00

347 (point 1)	Federated Farmers Of New Zealand Inc, North Canterbury Branch	Amend all maps to a scale of 1:50,000.
347 (point 2)	Federated Farmers Of New Zealand Inc, North Canterbury Branch	Delete rural land from the Christchurch Clean Air Zones 1 and 2 from the maps.
379 (point 1)	Christchurch City Council, Civic Offices	Clarify the boundaries contained in the clean air zone maps.

ConsiderationSubmission 347 (point 1)

Submission 347 relates generally to maps in Chapters 1, 2 and 3 of the NRRP. The outcome sought is that the maps are redrafted to be 1:50,000 in scale.

The maps in chapters 1, 2 and 3 of the Proposed NRRP are drawn at a variety of scales considered to be appropriate for the information which they are depicting. With respect to Figures OVR1-1 and OVR1-2 this submission is considered in relation to Figure OVR1-1: The Canterbury region, ## 01-002 11 00, 347, and Figure OVR1-2: Territorial authorities in the Canterbury region, ##01-003 01 00, 347. In relation to Figures TGW2-1 and TGW2-2, the submission is considered in Figure TGW2-1: Areas Affected by Ngai Tahu claims Settlement Act 1998 ## 02-005 01 00 – 02-005 02 00, 347 and Figure TGW2-2: Marae locations and runanga boundaries for the purpose of resource consent ## 02-007 01 00, 347. Those analyses are adopted.

Turning to the maps in Chapter 3, the Commissioners note that there are two types of map. The first, Map AQL(A) - Christchurch Clean Air Zones, is an overview map showing the general location of the zones. The second type comprises Maps AQL1 to AQL24. These maps show the boundaries of the Christchurch Clean Air Zones 1 and 2 zones. They are at a 1:20,000 scale.

Map AQL(A) performs two functions. First it is an index to Maps AQL1 to AQL24. Secondly it shows in broad terms the extent of the Christchurch Clean Air Zone 1 inside the boundaries shown on Maps AQL1 to AQL24. The Commissioners consider that it is at sufficient scale to achieve this.

The scale of Maps AQL1-AQL24 is larger than sought by the submitter (at a scale of 1:20,000). Therefore, the effect of the submission would be to seek to decrease the scale of these maps. This would reduce the readability of the maps, making it more difficult to determine the boundaries of the Christchurch Clean Air Zones 1 and 2. This would impact on the administration of Chapter 3. It is therefore recommended that the submission be rejected.

Submission 347 (point 2)

Submitter 347 sought the exclusion of rural land from the Clean Air Zones 1 and 2. No specific reasons were given.

The relief sought by the submitter is consistent with the submitter's position on Policy AQL21 (see Policy AQL21: Restrict discharges to air from outdoor burning in the Christchurch Clean Air Zones ## 03-051 31 00, 116, 144, 347 and Rule AQL 35 (see Rule AQL 35 Outdoor burning in winter in the Christchurch Clean Air Zones 1 and 2 – non complying ## 03-094 01 00, 116, 347 (pg 168)). The consideration with respect to Policy AQL21 is relevant and it is adopted. There is a significant amount of rural land within the Christchurch Clean Air Zone 2. This can generally be described as that land not forming part of the urban area of Christchurch but within Christchurch City. There is also rural land within Christchurch Clean Air Zone 1 (e.g. in the Marshlands area).

Removing rural land from the Christchurch Clean Air Zones 1 and 2 would have the effect that the following rules would not apply to the excluded rural land:

- Clean Air Zone 1:
 - Small scale burning devices – Rules AQL7, AQL8, AQL9, AQL10 and AQL11
 - Large scale fuel burning devices – Rules AQL13, AQL14, AQL15, AQL16, AQL17, AQL18, AQL19, AQL20 and AQL21
 - Outdoor burning – Rules AQL30, AQL31, AQL32, and AQL35
- Clean Air Zone 2:
 - Small scale burning devices – Rule AQL7
 - Large scale fuel burning devices – Rules AQL13, AQL14, AQL15, AQL16, AQL17, AQL18, AQL19, AQL20 and AQL21
 - Outdoor burning – Rule AQL35

In the Commissioners' view, it is the effects of the discharge of contaminants from a variety of sources which need to be considered under Chapter 3, regardless of whether the land is zoned rural or otherwise. The cumulative effects contribute to the contaminants in the Christchurch airshed, regardless of the land's zoning.

For the reasons outlined in relation to Policy AQL21: Restrict discharges to air from outdoor burning in the Christchurch Clean Air Zones ## 03-051 31 00, 116, 144, 347, it is recommended that the submission be rejected..

Submission 379(point 1)

Submitter 379 sought clarification of the boundaries contained in the Clean Air Zone maps. No specific changes were sought. However, in the submission it is identified that all of Christchurch does not fall within either Christchurch Clean Air Zone 1 or 2 in the Port Hills area.

The Commissioners share the submitter's concern. Maps AQL1 to AQL 24 are in many respects unclear. The zone boundaries do not seem to necessarily follow roads - or cadastral or title boundaries. Street names and other geographical features are not named. The Commissioners consider that Maps AQL1 to AQL 24 need to show with considerably more precision where the various zone boundaries lie. It is therefore recommended that the submission be accepted. It is likely that ECan will have to undertake a variation to achieve the degree of precision the Commissioners consider is necessary.

Recommendation

Reject

Submissions 347 (points 1 and 2).

Accept

Submission 379 (point 1).

Amendment Required

That ECan consider a variation redrawing maps AQL1 to AQL 24 to show with greater precision where zone boundaries lie, eg. by referring to street and road names, or to other geographical features, or by following property boundaries, or a combination of the above.

Map AQL (A) ## 03-227 01 00

1	A. & J. Wilson	Set the boundary between Zones 1 and 2 at the upper altitude limit of the inversion layer, and the boundary between zones 1 and 2 at the eastern end of McCormack's Bay causeway.
161	M. J. Hamilton	Small settlements like Kainga and Stewarts Gully should be outside Clean Air Zone. Areas above the inversion layer should not be included.
168	Airways Corporation of NZ	Append airport designations, aerodrome obstacles limitation surfaces and airport flight path plans identified in the District Plans applicable to the Canterbury Region in the Regional Plan.
273 (point 1)	H. B. & J. J. Thomas	Consider retaining the 1998 Clean Air Zone as Zone 1 of the Regional Plan.
273 (point 2)	H. B. & J. J. Thomas	All new rule - where there are different Clean Air Zones applying over a single property, the property owner or the tenant may select the rules of the preferred zone and apply them to the property as a whole.
358	G. A. Northcote	Amend Christchurch Clean Air Zone 1 to exclude the area west of Russley Road, Yaldhurst Road, Pond Road and Buchanans Road. Also amend the Christchurch Clean Air Zone 1 to exclude the hill suburbs east of Ferrymead Bridge. (Refer submission for map.)
380	J. Bird	Some parts of Christchurch e.g. Sumner and Mt Pleasant should not be part of the Air Quality scheme.
391	Carter Holt Harvey Panels MDF Ltd	Retain the geographical limits of the Clean Air 1 and 2 zones as shown on the maps.
F112	Solid Energy New Zealand Ltd	Oppose submission 168.
F401	NZ Vegetable & Potato Growers Fed. Inc. and NZ Fruitgrowers' Fed Inc.	Oppose submission 391.

Consideration

Submission 1

Submitter 1 sought that the boundary between Christchurch Clean Air Zones 1 and 2 should be set at the upper altitude limit of the inversion layer, and that the boundary should be set at the eastern end of McCormack's Bay causeway.

This issue is examined extensively in the section 32 report (paras. 33.4 Airshed boundary pgs 195 to 202). Clean Air Zone 1 includes areas of poor air quality, and Clean Air Zone 2 acts as a buffer, recognising the contribution of discharges in this zone to the air quality problem in Clean Air Zone 1 (pg. 202).

Maps AQL18, AQL19 and AQL21 – AQL24, show that the boundary of the Clean Air Zone 1 generally follows the more intensively developed areas of the Port Hills. How this relates to the inversion layer height depends upon the precise height of the inversion layer. As the Commissioners understand it, determining the exact height of this layer cannot be done with precision – it changes from night to night. Moreover on any given night there may be a number of inversion heights. The relief sought by the submitter is not therefore practicable.

Turning to the proposed exclusion of the urban area to the east of McCormacks Bay causeway, this includes Redcliffs, Sumner and Taylors Mistake. While their contribution to air quality in other parts of Christchurch may be limited, Redcliffs and Sumner are considered to be likely to have air quality issues associated with PM₁₀. Taylors Mistake is dealt with below, ## 03-251 01 00.

It is recommended that the submission is rejected.

Submissions 161, 273 (point 1), 358, 380, 391, F401

Submitters 161, 273 (point 1), 358, 380 seek changes to the Christchurch Clean Air zones to exclude parts of Christchurch. Submitter 391 (opposed by submitter F401) seeks the boundaries should be retained as publicly notified. Submitters 161 and 380 sought that areas are removed from the Clean Air Zones – small settlements and part of the Port Hills. Submitters 273 and 358 sought that the Clean Air Zone 1 boundary should be moved to exclude land. That would incorporate the land into the Clean Air Zone 2.

The establishment and delineation of the Christchurch Clean Air zones was examined in the section 32 report (para. 33.4 Airshed boundary pgs 195 to 202). Clean Air Zone 1 includes areas of poor air quality, and Clean Air Zone 2 acts as a buffer, recognising the contribution discharges in this zone made to the air quality problem in Clean Air Zone 1 (pg. 202). At page 197 of the section 32 Report it is stated that *“future changes of the surrounding land use including the subdivision of land need to be taken into account as this may result in high-density housing and the combined emissions might result in poor air quality.”*

The back-trajectory information presented by Dr Zavar-Reza included within the Christchurch airshed a large majority of the areas the submitters seek to remove - it included the Port Hills but excluded Taylors Mistake. Dr Zavar-Reza demonstrated that PM₁₀ moves from one part of that airshed to another, influencing PM₁₀ concentrations away from the point of discharge. There was no material presented to deny this material and the Commissioners therefore accept it.

Monitoring at Sumner has identified a PM₁₀ exceedence issue. The cause of this is not clear, but it is considered that it is likely to be a mixture of combustion discharges and natural sea salts. Without alternative data substantiating either no exceedences, or that exceedences are caused by natural particulates, the Commissioners do not recommend that locations east of the Ferrymead Bridge (with the exception of Taylors Mistake – see Map AQL 24 ## 03-251 01 00, 100) are excluded from Zone 1. To exclude these areas would create a risk of exceeding the PM₁₀ standards set in Objective AQL3 and the NES.

With respect to changing various areas from Clean Air Zone 1 to Clean Air Zone 2, the implications are that:

- discharges from existing open fires would not be prohibited from the operative date of Rule AQL7;
- discharges from small scale fuel burning devices would not be prohibited from new dwellings, and existing dwellings without small scale fuel burning devices (Rule AQL9).

Environment Canterbury's monitoring data only provides a partial picture of PM₁₀ levels in Christchurch. It is possible (and in some cases likely) that the locations identified by the submitters (e.g. area west of Russley Road, Yaldhurst Road, Pond Road and Buchanans Road, and Kennedys Bush Road) do not have localised PM₁₀ exceedence issues. However, it is considered likely that discharges from these locations contributes to the PM₁₀ exceedence issue for greater Christchurch.

Recent predictions are that the targets set in Objective AQL3 and the NES will not be met. The implications of not meeting the NES target are significant for those sectors whose emissions of PM₁₀ are not a permitted activity (e.g. the business sector).

Therefore, while the rationale for the difference between the Christchurch Clean Air Zones 1 and 2 may suggest that a number of City edge locations could be zoned Christchurch Clean Air Zone 2, to do so would be likely to result in more PM₁₀ loading of the wider Christchurch air shed. This would be to move away from the achievement of Objective AQL3 and the NES. Accordingly, it is recommended that the submissions are rejected - except for submission 391 which should be accepted.

Submission 168, F112

Submitter 168 sought that all the relevant airport designations, aerodrome obstacle limitation surfaces and airport flight path plans identified in the District Plans applicable to the Canterbury Region are shown on the maps in Chapter 3. The relevant provisions are not identified within the submission.

Appending the provisions sought, whatever these may be, would have no obvious effect. It is not required to fulfil Environment Canterbury's powers, functions and duties (section 67(1) of the RMA). The Commissioner can see no point in doing so. It is recommended that the submission be rejected.

Submission 273 (point 2)

These submitters are concerned about properties which are part in one zone and part in another.

The Commissioners agree that this is a problem. It follows on from the lack of precision in maps AQL1 to AQL24. The Commissioners have already recommended that this needs to be resolved probably through a variation. That may solve the problem - generally the Commissioners consider that a property should either be within a zone or outside it. This however may not be practicable or possible. Nevertheless, the Commissioners do not consider that a rule such as that proposed by the submitter is sensible. They accept however that the problem needs to be resolved. They recommend that Ecan consider a variation in this regard. It is recommended that the submission be accepted in part.

Recommendations

Reject

Submissions 161, 168, 273 (point 1), 358, 380, F401.

Accept

Submissions 391, F112.

Accept in part

Submission 273 (point 2).

Amendment Required

That ECan consider a variation to deal with properties that fall in part in one zone and in part in another.

Map AQL 19 ## 03-246 01 00

323	J. Hamilton	Change the boundary of Zone 1 to run across the NE slopes of Kitchener's Knob and follow the crest of the spur in a NNW direction, beside Hoon Hay Valley to the 160m contour. Then run west down a subsidiary spur, to the NE corner of the Halswell Quarry Park, follow the Park boundary along Cashmere and Kennedy's Bush roads, skirt the foot of the hills to rejoin the proposed boundary. Refer submission for map of new boundary.
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Consideration

Submission 323

Submitter 323 sought that the Christchurch Zone 1 boundary shall be changed to exclude the Kennedy's Bush Road area, and provided an alternative boundary. The effect would be to realign the Christchurch Clean Air Zone 1 boundary from a part west of Hyndhope Road, to the north (behind) the existing development associated with Hyndhope Road, to the north of (behind) Halswell Quarry and the existing development associated with Kennedy's Bush Road, rejoining the current boundary approximately at the point it leaves Kennedy's Bush Road (approximately 200m amsl).

The substance of this submission is considered above (see Map AQL (A) ## 03-227 01 00, 161, 273 (point 1), 358, 380, 391, F401). The analysis is adopted. The recommendation is the same – that the submission be rejected.

Recommendation

Reject

Submission 323.

Amendment Required

None required.

Map AQL 22 ## 03-249 01 00

335	A. R. Creed	Amend Map AQL 22 to exempt the area above Cashmere, Centaurus and Port Hills Roads from log burner restrictions.
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Consideration

Submission 335

Submitter 335 sought that “..an area exempt from logburner regulations above the beginning line of Port Hills, i.e. the line being Cashmere Road, Centaurus Road, Port Hills Road etc” should be exempt for the log burner restrictions. The reasons given in the submission is that discharges on the Port Hills do not contribute to the pollution of Christchurch, particularly where the log burner is located above the inversion layer.

The substance of this submission is considered above (see Map AQL (A) ## 03-227 01 00, 161, 273 (point 1), 358, 380, 391, F401). The analysis is adopted. The recommendation is the same – that no change be made and that the submission be rejected.

Recommendation

Reject

Submission 335.

Amendment Required

None required.

Map AQL 23 ## 03-250 01 00

100	T. A. Sundstrum	Retain the outer boundary of Zone 2 as shown on map AQL23.
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Consideration

Submission 100

Submitter 100 sought that the outer boundary of Christchurch Clean Air Zone 2 shown on Map 23 should be retained in its current location.

No recommendation is being made to change this boundary. Accordingly, it is recommended that this submission is accepted,

Recommendation

Accept

Submission 100.

Amendment Required

None required.

Map AQL 24 ## 03-251 01 00

73	C. Weston	Redraw Map AQL24 to exclude residences at Taylors Mistake - from and including number 67 down to 245. Or grant an exemption under the CNRRP.
100	T. A. Sundstrum	Retain the outer boundary of Zone 2 as shown on map AQL24.

ConsiderationSubmission 73

Submitter 73 sought that Map AQL24 is amended by excluding residences on the ocean side (odd numbers) fronting Taylors Mistake Road from number 67 to number 245 inclusive, incorporating Smugglers Cove. The submitter is seeking a redefinition of the Clean Air Zone 1 boundary, which will have the effect of applying the Clean Air Zone 2 rules to the properties. It is understood that 67 Taylors Mistake Road is located opposite Scarborough Fare and that 245 Taylors Mistake Road is located in just above Taylors Mistake Bay on the west side.

In this circumstance, the implications of changing from Clean Air Zone 1 to Clean Air Zone 2 are that:

- discharges from existing open fires will not be prohibited from 1 January 2006, or the operative date of the rule, whichever is later (Rule AQL7)
- discharges from small scale fuel burning devices will not be prohibited from new dwellings, and existing dwellings without small scale fuel burning devices (Rule AQL9)

Given the size, location and aspect of this area, the Commissioners accept that it seems extremely unlikely that discharges of PM₁₀ from these sites contribute to Christchurch's PM₁₀ problem. Any discharges are likely to move downhill to the east and out into Taylors Mistake Bay. This was accepted by the reporting officers. Accordingly, there is no appropriate justification for retaining the properties identified by the submitter in Clean Air Zone 1. It is recommended that the submission be accepted.

Submission 100

Submitter 100 sought that the outer boundary of Christchurch Clean Air zone 2 shown on Map 24 should be retained in its current location.

No recommendation is being made to change this boundary. Accordingly, it is recommended that this submission is accepted.

Recommendation**Accept**

Submissions 73, 100.

Amendment Required

Amend Chapter 3, Map AQL24 by relocating the Christchurch Clean Air Zone 1 boundary to exclude properties on the ocean side of Taylor's Mistake Road (odd nos. 67-245 inclusive) and properties in Smugglers' Cove (even nos. 10-20 inclusive) from Christchurch Clean Air Zone 1, and including these properties in Christchurch Clean Air Zone 2.