

SH/SP/RH/HCRO  
Summary of section 42A Officer's Reports

Section 42A – Simons Hill Station Limited CRC062842 – Report 33A	
Para	Key Issues
	<b>Effects on ecosystem values</b>
46	The applicant has not provided details of fish screen design.
47	Water storage is proposed as part of the delivery system, which, in combination with improved pasture, may attract an increase in Canada Geese numbers.
48	Didymo was detected in the Tekapo-Pukaki Canal in June 2009, approximately 9 kilometres from the proposed intake. This could challenge the performance of the intake and fish screen if it does reach Lake Pukaki. The potential irrigation canal and water race system may provide a vehicle for further spread.
49	Pukaki river, Tekapo river, Maryburn and Irishman Creek are currently free of didymo. Discharge from the canal and race system is specified to occur at the Pukaki river and to non-irrigated land in unspecified locations. This risk posed to presently uninfected waterbodies is currently unclear.
50	The applicant has not supplied any evidence that in the proposed irrigation command area the tussock has been replaced by hieracium, weed species and bare ground.
51	The applicant will need to provide an assessment of the varieties of vegetation within the command area and consider avoiding, remedying or mitigating effects on threatened native species present.
53	The applicant has not provided an assessment of effects on threatened invertebrate and bird species likely to be present on the Pukaki flats or proposed mitigation to protect such species.
54	The location and number of buffer storage ponds as part of the canal/race system has not been identified. Ecosystem values at the particular sites should be assessed to determine appropriateness of location.
	<b>Adverse effects on people, communities and amenity values</b>
59	The proposed activity is likely to disturb the Rabbit Fence that runs through the command area, as well as the Bullock Trail. Both are archaeological sites under the Historic Places Act. The applicant has not provided an archaeological assessment or considered the effects of the proposed activity on these sites.
	<b>Effects on natural character and landscape</b>
64	The applicant has not discussed the introduction of water bodies to the arid landscape of the flats which will be an additional visual change.
65	An assessment of the change of state of naturalness on the flats does not entirely capture the extent of change of colour, character and texture that will result from the introduction of green pasture blocks, water bodies, irrigation infrastructure and heavily populated paddocks.
66	Landscape changes on the flats will be visible, at a distance, from the DOC access track, from the scenic viewing platform on state highway 8 and from neighbouring properties.
Response	
Evidence of Ian McIndoe para 71; Grey Ryder para 16.18; Peter Glasson para 53	
Evidence of Peter Glasson para 52; Draft Canada geese agreement with Fish and Game	
Evidence of Ian McIndoe paras 317-319	
Evidence of Greg Ryder para 14.15; Titus Smith	
Evidence of Peter Espie; Evidence of Denis Fastier para 53-55; Evidence of Dr Michael Steven para 38	
Evidence of Peter Espie para 6.4(e), Section 3, Appendix 1; Evidence of Peter Glasson	
Evidence of Peter Espie para 6.4; Ian McIndoe; Greg Ryder	
Evidence of Peter Espie para 6.4(h); Titus Smith para 33; Ian McIndoe para 89	
Evidence of John Kyle para 3.43	
Evidence of Dr Michael Steven paras 35, 69 – 72	
Evidence of Dr Michael Steven	
Evidence of Peter Glasson; Dr Michael Steven para 64	

67	It is not clear what the cumulative effects of the applications by Simons Hill, Simons Pass, Pukaki Irrigation and Glentanner Station Ltd will be.	Evidence of Melissa Robson; Dr Michael Steven
	<b>Adverse effects of inefficient take and use</b>	
71	In addition to metering at the location of the intake metering of the use of water on Simons Hill will be required to ensure that the maximum rate of take is not exceeded.	Evidence of Ian McIndoe paras 284
73	Given the rate of take of the application and the open canal system, the applicant is unlikely to be able to irrigate the full 2,400 hectares proposed, or may not be able to irrigate for 120 days as proposed.	Evidence of Ian McIndoe para 39
75	Losses in the canal/race system are unlikely to represent an efficient use of water.	Evidence of Ian McIndoe paras 324 - 325
76	The applicant has not provided an assessment of reasonable annual volume requirements, as required by policy 16 of the WCWARP	Evidence of Ian McIndoe Appendix E, para 30
80	The applicant has not identified how the stock water will be delivered to its property under this proposal.	Evidence of Ian McIndoe para 64
	<b>Adverse effects on water quality</b>	
84	The applicant has not proposed buffer zones to neighbouring water bodies, particularly the Mary Burn, associated wetlands, tributaries and flood channels and the Tekapo river. No amendment of the irrigation command area has been made to reflect a proposal that irrigation would be avoided on the lower terraces adjacent to the Tekapo river.	Evidence of Peter Glasson para 22 & 27; Melissa Robson 202; Ian McIndoe para 110; Proposed Irrigation Plan; FEMPs
87	The applicant has not provided an assessment of the sampling of N levels in May 2009 or attempted to explain why the levels of N were double the guideline value in a spring fed tributary of the Mary Burn downstream of the existing irrigation area.	Gregory Ryder and Ian McIndoe
91	The applicant has assessed the potential for N to leach through to the Pukaki river from groundwater but has not assessed the potential for leaching into the Mary Burn or Tekapo rivers.	Evidence of Melissa Robson para 209; Valerie Snow
92	I do not consider that the applicant's assessment of effects on the Pukaki River, or groundwater in the vicinity of the river, is adequate. I note that the Pukaki River and the Tekapo River are not regularly flowing, and therefore dilution cannot be relied upon.	Ian McIndoe
94	The applicant has possibly underestimated the amount of N that could potentially leave the property, given the stocking rate.	Evidence of Melissa Robson; Valerie Snow

Section 42A – Simons Hill Station Limited CRC062843 – Report 33B		
Para	Key Issues	Response
	<b>Adverse effects on flood carrying and erosion</b>	
29	Mitigation proposed in this area is appropriate but no design plans have been provided to enable a full assessment of the erosion protection works.	Evidence of Ian McIndoe para 329; Titus Smith para 17
	<b>Effects on water quality and ecological values</b>	
33	The applicant has not specifically stated that stock access to the race system will be restricted. Some deterioration of water quality can be expected.	Evidence of Melissa Robson para 204; FEMPs supplied to CRC
35	Change in water quality in Lake Benmore as a result of cumulative effects. The applicant has not yet provided a FEMP to show mitigation intentions.	Evidence of Melissa Robson para 205; FEMPs supplied to CRC
36	Soils on neighbouring sites may become saturated as a result of the discharge of surplus irrigation water.	Evidence of Ian McIndoe para 331
37	Sites of indigenous flora and fauna may also be adversely affected by saturation of their habitat.	Evidence of Ian McIndoe paras 85-93
38	The location and capacity of buffer storage has not yet been identified	Evidence of Ian McIndoe para 89; Peter Espie para 6.4(f); Titus Smith para 33

<b>Section 42A – Simons Hill Station Limited CRC082304 – Report 33C</b>		
<b>Para</b>	<b>Key Issues</b>	<b>Response</b>
	<b>Adverse effects on ecological systems</b>	
41	The applicant has not provided details of fish screen design.	Evidence of Ian McIndoe para 71; Greg Ryder para 16.18; Peter Glasson para 53
42	Improved pasture may lead to an increase in the Canada Geese population.	Evidence of Peter Glasson para 52; Draft agreement with Fish and Game
43	Didymo was detected in the Tekapo-Pukaki Canal in June 2009, approximately three kilometres from the location of the intake for this application. This could challenge the intake and fish screens.	Evidence of Ian McIndoe paras 317 to 319; Evidence of Greg Ryder
44	The applicant has identified that tussock was once present on the Pukaki flats but has been replaced by hieracium, weed species and bare ground. No evidence has yet been given about how irrigation will improve ground cover and prevent soil erosion.	Evidence of Peter Espie; Denis Fastier paras 53-55; Michael Stevens para 38; Evidence of David Painter
45	The applicant will need to provide an assessment of the varieties of vegetation within the command area and consider avoiding, remedying or mitigating effects on threatened native species present.	Evidence of Peter Espie Section 3, Appendix 1; Evidence of Peter Glasson
47	The applicant has not provided an assessment of effects on threatened invertebrate and bird species likely to be present on the Pukaki flats or proposed mitigation to protect such species.	Evidence of Peter Espie para 6.4; Ian McIndoe; Greg Ryder
48	The location and number of buffer storage ponds as part of the canal/race system has not been identified. Ecosystem values at the particular sites should be assessed to determine appropriateness of location.	Titus Smith para 33; Ian McIndoe para 89; Peter Espie para 6.4(h)
	<b>Adverse effects on other water users</b>	
51	Accurate metering and monitoring of the entire combined abstraction from the Tekapo Stilling Basin will be necessary to ensure the combined rate does not exceed the rate Meridian energy have agreed to supply.	Evidence of Melissa Robson; Ian McIndoe
52	Further abstraction in the Tekapo Stilling Basin has the ability to reduce reliability of supply for existing abstractors.	Evidence of Ian McIndoe paras 69-71
	<b>Adverse effects on people, communities and amenity values</b>	
55	The proposed activity is likely to disturb the Rabbit Fence that runs through the command area, as well as the Bullock Trail. Both are archaeological sites under the Historic Places Act. The applicant has not provided an archaeological assessment or considered the effects of the proposed activity on these sites.	Evidence of John Kyle para 3.43
	<b>Adverse effects on natural character and landscape</b>	
59	An assessment of the change on state of naturalness on the flats does not entirely capture the extent of change of colour, character and texture that will result from the introduction of green pasture blocks, water bodies, irrigation infrastructure and heavily populated paddocks.	Evidence of Dr Michael Steven
60	Landscape changes on the flats will be visible, at a distance, from the DOC access track, from the scenic viewing platform on state highway 8 and from neighbouring properties.	Evidence of Murray Valentine paras 14 – 15; Dr Michael Steven para 64
61	It is not clear what the cumulative effects of the applications by Simons Hill, Simons Pass, Pukaki Irrigations and Glentanner Station Ltd will be.	Evidence of Melissa Robson; Michael Steven
	<b>Adverse effects of inefficient take and use of water</b>	
64	In addition to metering at the location of the intake metering of the use of water on Simons Hill will be required to ensure that	Evidence of Ian McIndoe paras 284, 294 & 307

	the maximum rate of take is not exceeded.	
66	The applicant has not provided an assessment of reasonable annual volume requirements, as required by policy 16 of the WCWARP.	Evidence of Ian McIndoe Appendix E & para 30
	<b>Adverse effects on water quality</b>	
74	The applicant has not proposed buffer zones to neighbouring water bodies, particularly the Mary Burn, associated wetlands, tributaries and flood channels and the Tekapo river. No amendment of the irrigation command area has been made to reflect a proposal that irrigation would be avoided on the lower terraces adjacent to the Tekapo river.	Evidence of Peter Glasson para 22; 27; Melissa Robson 202; Ian McIndoe para 110
77	The applicant has not provided an assessment of the sampling of N levels in May 2009 or attempted to explain why the levels of N were double the guideline value in a spring fed tributary of the Mary Burn downstream of the existing irrigation area.	Evidence of Gregory Ryder; Ian McIndoe
78	Shallow ground water may be present within the Pukaki flats, although no investigation has been undertaken within the command area to confirm this.	Evidence of Melissa Robson para 209; Valerie Snow; Evidence of Ian McIndoe
81	The applicant has assessed the potential for N to leach through to the Pukaki river from groundwater but has not assessed the potential for leaching into the Mary Burn or Tekapo rivers.	Evidence of Melissa Robson para 209; Ian McIndoe para 120
82	The Applicant's assessment of effects in the Pukaki river, or the groundwater in the vicinity of the river is inadequate.	Evidence of Ian McIndoe page 74; Gregory Ryder
84	The Applicant has possibly underestimated the amount of N that could potentially leave the property, given the stocking rate.	Evidence of Melissa Robson; Valerie Snow

Section 42A – Simons Pass Station Limited CRC082311 – Report 34C		
Para	Key Issues	Response
	<b>Adverse effects on people, communities and amenity values</b>	
41	The applicant has not provided details of the fish screen design.	Evidence of Ian McIndoe para 71; Greg Ryder para 16.18; Peter Glasson para 53
42	Improved pasture may lead to an increase in the Canada Geese population.	Evidence of Peter Glasson para 52
43	Didymo was detected in the Tekapo-Pukaki Canal in June 2009, approximately three kilometres from the location of the intake for this application. This could challenge the intake and fish screens.	Evidence of Ian McIndoe paras 317 to 319
44	Dr Espie, in a report provided by the applicant, identified one of the recommended covenant sites as an area requiring protection due to the presence of the rare NZ mouse-tail. The applicant has not yet proposed to exclude this area from the proposed command area.	Evidence of Peter Espie para 6.2 and Section 3; Denis Fastier paras 47 to 57; Evidence of Peter Glasson
50	Further assessment by the applicant is required of effects on specific habitats and species present within the irrigation command area.	Evidence of Peter Espie Section 6
	<b>Adverse effects on other water users</b>	
52	Accurate metering and monitoring of the entire combined abstraction from the Tekapo Stilling Basin will be necessary to ensure the combined rate does not exceed the rate Meridian energy have agreed to supply.	Evidence of Melissa Robson; Ian McIndoe
53	Further abstraction in the Tekapo Stilling Basin has the ability to reduce reliability of supply for existing abstractors.	Evidence of Ian McIndoe para 69-71
	<b>Adverse effects on people, communities and amenity values</b>	
56	The proposed activity is likely to disturb the Rabbit Fence that runs through the command area, as well as the Bullock Trail. Both are archaeological sites under the Historic Places Act. The applicant has not provided an archaeological assessment or considered the effects of the proposed activity on these sites.	Evidence of John Kyle para 3.43
	<b>Effects on natural character and landscape</b>	
58	An assessment of the change on state of naturalness on the flats does not entirely capture the extent of change of colour, character and texture that will result from the introduction of green pasture blocks, irrigation infrastructure and heavily populated paddocks.	Evidence of Dr Michael Steven
61	Landscape changes on the flats will be visible, at a distance, from the DOC access track, from the scenic viewing platform on state highway 8 and from Bullock Trail running through the property.	Evidence of Murray Valentine paras 14 – 15; Dr Michael Steven para 64
	The impact of the proposal could be minimised by confining development within the area described as Farm Block.	Not feasible, evidence of Murray Valentine
63	It is not clear what the cumulative effects of the applications by Simons Hill, Simons Pass, Pukaki Irrigations and Glentanner Station Ltd will be.	Evidence of Melissa Robson; Dr Michael Steven
	<b>Effects of inefficient take and use of the water</b>	
66	In addition to metering at the location of the intake metering of the use of water on Simons Pass will be required to ensure that the maximum rate of take is not exceeded.	Evidence of Ian McIndoe paras 284, 294 & 307
68	The applicant has not provided an assessment of reasonable annual volume requirements, as required by policy 16 of the WCWARP.	Evidence of Ian McIndoe Appendix E & para 30

70	On assessment the reporting officer submitted that daily requirement of 600mm per hectare was too high and in fact more likely to be 570mm per hectare.	Evidence of Ian McIndoe
	<b>Adverse effects on water quality</b>	
76	The applicant has not proposed buffer zones for water bodies in the vicinity of the command area or considered the effects of the proposed activity on them.	Evidence of Peter Glasson para 22 & 27; Melissa Robson 202; Ian McIndoe para 110
79	The applicant has not assessed the potential for leachate to enter the Mary Burn via ground water.	Evidence of Ian McIndoe para 120; Melissa Robson para 209; FEMPs supplied to CRC
80	Existing groundwater and surface water quality is generally high, with the exception of the Mary Burn which has periodic spikes in the presence of E Coli and has variable nitrate-N and P levels. Additional nutrient leaching and run-off could exacerbate existing variability and increase the concentration of undesirable contaminants.	Evidence of Greg Ryder
	The applicant has possibly underestimated the amount of N that could potentially leave the property, given the stocking rate.	Evidence of Melissa Robson; Valerie Snow

<b>Section 42A – Simons Pass Station Limited CRC062869 – Report 34B</b>		
<b>Para</b>	<b>Key Issues</b>	<b>Response</b>
	<b>Adverse effects on flood carrying and erosion</b>	
26	Mitigation proposed in this area is appropriate but no design plans have been provided to enable a full assessment of the erosion protection works.	Evidence of Ian McIndoe para 329; Titus Smith para 17
	<b>Effects on water quality and ecological values</b>	
33	The applicant has not specifically stated that stock access to the race system will be restricted. Some deterioration of water quality can be expected.	Evidence of Melissa Robson para 204; FEMPs
35	Change in water quality in Lake Benmore as a result of cumulative effects. The applicant has not yet provided a FEMP to show mitigation intentions.	Evidence of Melissa Robson para 205; FEMPs supplied to CRC
36	Soils on neighbouring sites may become saturated as a result of the discharge of surplus irrigation water.	Evidence of Ian McIndoe para 331
37	Sites of indigenous flora and fauna may also be adversely affected by saturation of their habitat.	Evidence of Ian McIndoe paras 85-93; Evidence of Peter Espie
38	The location and capacity of buffer storage has not yet been identified	Evidence of Ian McIndoe para 89; titus Smith para 33; Peter Espie 6.4(f)

Section 42A – Simons Pass Station Limited CRC062867 – Report 34A		
Para	Key Issues	Response
	<b>Effects on ecological systems</b>	
45	The applicant has not provided details of the fish screen design.	Evidence of Ian McIndoe para 71; Greg Ryder para 16.18; Peter Glasson para 53
46	Water storage is proposed as part of the delivery system, which, in combination with improved pasture, may attract an increase in Canada Geese numbers.	Evidence of Peter Glasson para 52
47	Didymo was detected in the Tekapo-Pukaki Canal in June 2009, approximately 9 kilometres from the proposed intake. This could challenge the performance of the intake and fish screen if it does reach Lake Pukaki. The potential irrigation canal and water race system may provide a vehicle for further spread.	Evidence of Ian McIndoe paras 317-319
48	Pukaki river, Tekapo river, Maryburn and Irishman Creek are currently free of didymo. Discharge from the canal and race system is specified to occur at the Pukaki river and to non-irrigated land in unspecified locations. This risk posed to presently uninfected waterbodies is currently unclear.	Evidence of Greg Ryder para 14.15; Titus Smith
49	Dr Espie, in a report provided by the applicant, identified one of the recommended covenant sites as an area requiring protection due to the presence of the rare NZ mouse-tail. The applicant has not yet proposed to exclude this area from the proposed command area	Evidence of Dr Espie 6.2 & Section 3; Denis Fastier para 47-57; Evidence of Peter Glasson
55	The location or number of buffer storage ponds has not been identified by the applicant. Care will need to be taken to avoid locations such as ephemeral wetlands within natural closed depressions, which are identified as being of significant conservation interest in the DOC report. Ecosystem values at particular sites should be assessed to determine the appropriateness of each location, with the aim of selecting sites that will have least impact on threatened endemic habitats and species.	Evidence of Ian McIndoe para 89; Titus Smith para 33; Peter Espie para 6.4(w)
	<b>Adverse effects on people, communities and amenity values</b>	
61	The proposed activity is likely to disturb the rabbit fence, that runs through the irrigation command area, as well as the Bullock Trail. Both are archaeological sites under the Historic Places Act. The Applicant has not provided an archaeological assessment or considered effects of the proposed activity.	Evidence of John Kyle para 3.43
	<b>Effects on natural landscape</b>	
63	The Applicant has not discussed the introduction of waterbodies to the arid landscape southwest of the Amuri Range, which will be an additional visual change.	Evidence of Dr Michael Steven
64	An assessment of the change in state of naturalness does not entirely capture the extent of change to colour, character and texture that will result from the introduction of green pasture blocks, permanently flowing and standing waterways, irrigation infrastructure and heavily populated paddocks in an area that is characterised by a generally dry, barren, expansive, uniform, uncluttered and unpopulated appearance.	Evidence of Dr Michael Steven
67	Landscape changes across the property will be visible from the DOC administered public access track and access tracks through the property.	Evidence of Murray Valentine paras 14 – 15; Dr Michael Steven para 64
68	The impact of the proposal could be minimised by confining development within the area described as farm block.	Evidence of Ian McIndoe; Evidence of Murray Valentine
69	It is not clear what the cumulative effects of the applications by Simons Hill, Simons Pass, Pukaki Irrigations and Gientanner Station Ltd will be.	Evidence of Michael Steven; Melissa Robson
	<b>Effects of inefficient take and use of water</b>	

73	Metering in addition to that at the intake location will be required to ensure that the Applicant does not exceed the maximum rate of take and use of water authorised by CRC062867. This should involve metering at a point that captures all water supplied to Simons Pass Station and is likely to be located at the boundary of the property.	Evidence of Ian McIndoe paras 284, 294 & 307
75	The Applicant is unlikely to be able to irrigate the full 2400 hectares proposed, or may not be able to irrigate for 120 days as proposed.	Evidence of Ian McIndoe para 39
77	Losses in the Canal/Race system are unlikely to represent an efficient use of water.	Evidence of Ian McIndoe paras 324 - 325
78	The Applicant has not provided an assessment of reasonable annual volume requirements, as required by policy 16 of the WCWARP.	Evidence of Ian McIndoe Appendix E, para 30
82	The Applicant has not identified how stock water will be delivered to the property under this proposal.	Evidence of Ian McIndoe para 64
	<b>Effects of water use on water quality</b>	
86	The Applicant has not proposed buffer zones to the ephemeral streams and wetlands within the proposed irrigation command area and an ephemeral tributary of the Maryburn shown within the block east of the Mary Range. The Applicant has not assessed the proposed activity on these waterbodies.	Evidence of Melissa Robson para 202; Peter Glasson paras 22 & 27; Ian McIndoe para 110
89	The Applicant has considered the potential for N to leach through groundwater to the Pukaki River, but did not identify shallow groundwater in the vicinity has not assessed the potential for leachate to enter the Maryburn.	Evidence of Ian McIndoe para 120; Melissa Robson para 209
90	Additional nutrient leaching and runoff could exacerbate existing variability and increase the concentration of undesirable contaminants in the Maryburn.	Evidence of Greg Ryder; Melissa Robson
91	In terms of cumulative effects, the Applicant has identified an increase in N leaching to groundwater can be expected as a result of the proposed activity. Allowing for a stocking rate of up to 18 stock units per hectare in assessing drinking water requirements, the Applicant may have underestimated N leaving the property.	Evidence of Melissa Robson & Val Snow

<b>Section 42A – High Country Rosehip Orchards Limited CRC072232 – Report 19A</b>		
<b>Para</b>	<b>Key Issues</b>	<b>Response</b>
	<b>Adverse effects on people, communities and amenity values</b>	
33	Mr Chris Glasson concludes that while the area has been modified to some degree by the presence of the hydroscheme, the proposal could result in significant adverse effects on landscape values for the following reasons: (a) The applicant is not proposing a buffer between the irrigation areas and the Twizel and Ohau Rivers; and (b) The applicant has not identified, assessed the impacts or proposed measures to mitigate the impacts of the proposal on an existing walkway through the site.	Evidence of Dr Michael Steven para 183 – 187
34	Significant landscape effects could also arise if irrigation is undertaken in a "spotty" and discontinuous manner. It is recommended that a buffer zone between the irrigation area and sensitive areas such as SH8 and the Twizel and Ohau Rivers be included in the proposal and that the walkway be retained.	Evidence of Dr Michael Steven paras 183 - 187 & 189
35	The applicant has not assessed the cumulative impacts of the activity on the on natural character and amenity values of the catchment resulting from increased irrigation within the Mackenzie Basin.	Evidence of Dr Michael Steven para 187
39	Transpower structures and electrical conductor lines that dissect the irrigation area in a west to east direction. The applicant has not assessed the impacts of irrigation on this infrastructure. It should be noted that Transpower did not submit on the application when it was notified.	Evidence of Ian McIndoe paras 343 to 345;
	<b>Adverse effects of inefficient use on other users</b>	
47	As the applicant is not proposing to adopt a minimum lake level, the proposed abstraction could have an impact on Meridian Energy's reliability of supply for hydro-electric generation. Derogation approval had not been obtained at the time the report was written.	Evidence of Ian McIndoe para 340-342
	<b>Adverse effects on water quality</b>	
64	Distances have not been provided for the buffer zones between the irrigation area and the rivers.	Evidence of Ian McIndoe para 261
62	No data or information has been provided by the applicant to confirm that the studies referred to in the application (with regards to groundwater quality information currently collected and provided to ecan) are accurate or transferable to the applicant's proposal	Evidence of Ian McIndoe
	Steps to mitigate the cumulative effects have been offered however, at the time of the report the applicant had not provided information to confirm that this mitigation is consistent with the findings and recommendations of the MWRL study and sufficient to mitigate the impacts on water quality.	Evidence of Melissa Robson
	<b>Adverse effects of inefficient use</b>	
54	Following a calculation using the method outlined in Policy 16 of the WCWARP the total combined annual volume for the proposed irrigation areas would equate to 2,982,500 m3, which is slightly lower than the amount applied for by the applicant.	Evidence of Ian McIndoe para 191-196
	<b>Adverse effects on Tangata Whenua values</b>	
72	The applicant did not include an assessment of the proposed activity on cultural values.	Evidence of Peter Glasson para 64
74	Te Runanga O Ngai Tahu have raised concerns relating to mixing of waters between catchments, deterioration of water quality, dewatering and residual flows, changes to sediment flow and deposition and impacts on sites of cultural significance.	Evidence of Peter Glasson paras 64-74

Section 42A – High Country Rosehip Orchards Limited CRC072233 – Report 19B		
Para	Key Issues	Response
	<b>Flood-carrying capacity &amp; erosion</b>	
22	It is unclear whether effects could occur if the release of water by Meridian into the Lower Ohau River via the labyrinth Weir coincided with works to install the pipeline. <b>Adverse effects on bank stability</b>	Evidence of Ian McIndoe para 365 & Appendix C
22	The applicant has not assessed the impacts of the works on bank stability. <b>Adverse effects on riparian plants and animals</b>	Evidence of Ian McIndoe para 368
22	Any works are likely to require some disturbance of vegetation on the banks of the Lower Ohau River. The degree of this disturbance or the significance of this effect is uncertain.	Evidence of Ian McIndoe para 372
22	Consent may be required to divert water released from the Ruitaniwha Wetlands as a result of the proposed pipeline installation. <b>Adverse effects on Tangata Whenua values</b>	Evidence of Ian McIndoe para 369 - 371
22	The applicant did not include an assessment of the proposed activity on cultural values	Evidence of Peter Glasson para 64

Section 42A – Rosehip Orchards New Zealand Limited CRC072118 – Report 32A		
Para	Key Issues	Response
	<b>Adverse effects on people, communities and amenity values</b>	
38	The absence of a buffer between the irrigation area and the Twizel, Tekapo and Pukaki rivers could result in significant landscape effects	Evidence of Ian McIndoe para 256, Melissa Robson para 202; Evidence of Michael Steven
38	Irrigation within the proposed area in a "spotty" or discontinuous manner will create significant effects.	Evidence of Michael Steven para 183-187 & 189
41	The cumulative impacts of irrigation could result in adverse landscape effects that are most noticeable from SH8 and from an aerial view.	Evidence of Michael Steven para 187
44	Transpower structures and electrical conductor lines dissect the irrigation area in a north to south direction. The applicant has not assessed the impacts of irrigation on this infrastructure. It should be noted that Transpower did not submit on the application when it was notified.	Evidence of Ian McIndoe paras 343-345
	<b>Adverse effects on other users</b>	
52	As the applicant is not proposing to adopt a minimum lake level, the proposed abstraction could have an impact on Meridian Energy's reliability of supply for hydro-electric generation. Derogation approval had not been obtained at the time the report was written.	Evidence of Ian McIndoe paras 340-342
	<b>Adverse effects on water quality</b>	
61	No data or information has been provided by the applicant to confirm that the studies referred to in the application (with regards to groundwater quality information currently collected and provided to ecan) are accurate or transferable to the applicant's proposal.	Evidence of Ian McIndoe
67	Steps to mitigate the cumulative effects have been offered however, at the time of the report the applicant had not provided information to confirm that this mitigation is consistent with the findings and recommendations of the MWRL study and sufficient to mitigate the impacts on water quality.	Evidence of Melissa Robson; FEMPs
	<b>Adverse effects on Tangata Whenua values</b>	
71	The applicant did not include an assessment of the proposed activity on cultural values.	Evidence of Peter Glasson para 64
73	Te Rumanga O Ngai Tahu have raised concerns relating to mixing of waters between catchments, deterioration of water quality, dewatering and residual flows, changes to sediment flow and deposition and impacts on sites of cultural significance.	Evidence of Peter Glasson paras 64-74

## Section 42A – Rosehip Orchards New Zealand Limited CRC072117 – Report 32B

Para	Key Issues	Response
	<b>Flood-carrying capacity and erosion</b>	
27	It is unclear whether effects could occur if the release of water by Meridian into the Lower Ohau River via the labyrinth Weir coincided with works to install the pipeline.	Evidence of Ian McIndoe para 349 & Appendix C
	<b>Adverse effects on man made structures</b>	
27	The applicant has not identified any downstream man-made structures or any other structures that could be affected by the works.	Evidence of Ian McIndoe paras 350-352
	<b>Adverse effects on bank stability</b>	
27	The applicant has not assessed the impacts of the works on bank stability.	Evidence of Ian McIndoe para 352
	<b>Adverse effects on riparian plants and animals</b>	
27	Any works are likely to require some disturbance of vegetation on the banks of the Lower Ohau River. The degree of this disturbance or the significance of this effect is uncertain.	Evidence of Ian McIndoe para 356
27	Consent may be required to divert water released from the Ruitaniwha Wetlands as a result of the proposed pipeline installation.	Evidence of Ian McIndoe paras 353-355

<b>Section 42A – Rosehip Orchards New Zealand Limited CRC021749 – Report 32C</b>		
<b>Para</b>	<b>Key Issues</b>	<b>Response</b>
	<b>Adverse effects on people, communities and amenity values</b>	
36	The absence of a buffer between the irrigation area and the Twizel, Tekapo and Pukaki rivers could result in significant landscape effects	Evidence of Ian McIndoe para 256; Melissa Robson para 202
36	Irrigation within the proposed area in a "spotty" or discontinuous manner will create significant effects.	Evidence of Dr Michael Steven para 183-187 & 189
38	The applicant has not assessed the cumulative impacts of the activity on the on natural character and amenity values of the catchment resulting from increased irrigation within the Mackenzie Basin.	Evidence of Dr Michael Steven
44	Transpower structures and electrical conductor lines dissect the irrigation area in a north to south direction. The applicant has not assessed the impacts of irrigation on this infrastructure. It should be noted that Transpower did not submit on the application when it was notified.	Evidence of Ian McIndoe paras 343-345
	<b>Adverse effects on other users</b>	
50	The applicant has not provided details of any other users that may be abstracting water within this reach or assessed the impacts of their abstraction on these users given the requirements of the WCWARP.	Evidence of Ian McIndoe
	<b>Adverse effects on water quality</b>	
61	At the time of writing this report, the applicant has not provided a farm management plan or details of mitigation measures that will be implemented to ensure that the impacts on water quality will be adequately mitigated.	Evidence of Melissa Robson
	<b>Adverse effects on ecosystems</b>	
63	The applicant has not proposed a minimum flow and while it is stated in the application that the intake will be fitted with a fish screen, details have not been provided to confirm that the screen will be designed in accordance with recommended guidelines.	Evidence of Ian McIndoe paras 340-342
	<b>Adverse effects on Tangata Whenua values</b>	
66	The applicant did not include an assessment of the proposed activity on cultural values.	Evidence of Peter Glasson para 64
68	Te Runanga O Ngai Tahu have raised concerns relating to mixing of waters between catchments, deterioration of water quality, dewatering and residual flows, changes to sediment flow and deposition and impacts on sites of cultural significance.	Evidence of Peter Glasson paras 64-74

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Para	Key Issues	Response
	<b>Adverse effects on riparian plants and animals</b>	
21	I note that the works are likely to require some disturbance of vegetation on the banks of Twizel River. The applicant has not assessed this effect.	Evidence of Ian McIndoe para 368
	<b>Adverse effects on water quality</b>	
21	As the proposed works involve the excavation of bed material within flowing water, contaminants associated with the works, such as sediment, and those associated with machinery and construction vehicles could affect water quality.	Evidence of Ian McIndoe para 368
	<b>Adverse effects on Tangata Whenua values</b>	
21	The applicant did not include an assessment of the proposed activity on cultural values	Evidence of Peter Glasson para 64