

**TABLED AT HEARING**

Date ..27/11/09.....

Summary of section 42A Officer's Reports

Section 42A – Lonestar Farms Limited – CRC031175 – Report 25A	
Para	Key Issues
	<b>Effects on Ecosystem values</b>
47	There is no requirement for a minimum flow in Rule 2, Table 3 of the WCWARP. The rule specifies an environmental flow and level regime for high natural character water bodies, which states that there be no flow sharing regime. The proposed activity does not comply with this rule, and seeks to institute a minimum flow, and stepped reduction in abstraction, for the purposes of mitigation.
48	Policy 32 is the guiding policy with respect to protection of ecological values in high natural character waterbodies. The policy requires that abstraction have no more than a minor adverse effect on natural flow variability, mauri and ecosystems of indigenous species, habitats of birds and fish, spawning sites of salmonids and existing water quality.
51	In his ecology report, Dean Olsen of Cawthron Institute (on behalf of the applicant) discusses a 1:1 flow sharing regime as appropriate to avoid flat-lining, with the attendant risk of increased nuisance periphyton growth and reduced water quality. Dave Stewart of Raineffects (on behalf of CRC) recommends an environmental flow regime that involves reducing abstraction in four equal steps, which is less than a 1:1 regime, but would improve variability in periods of low flow.
52	There is a risk of low flows of 2 weeks or more (the whole month in some years) in February and March, 1 in every four years, and risk of extended low flows in one of the above months, potentially for the whole month, 1 in every 2 years, although, as noted, the risk is lower in the shoulders of the season. While a bare analysis of the naturalised and normalised hydrological data lacks the sophistication of irrigation demand modelling, it does illustrate the potential risk and the potential need for the applicant to mitigate against effects of flat-lining.
54	At present, there is no means of metering the rate of diversion from Mistake River, although there is a flow level recorder at the proposed minimum flow site. A combination of accurate metering at the abstraction point, and recording at the minimum flow site, will be required for monitoring of any proposed flow regime to protect instream values.
58	Policy 32 requires that abstraction have no more than a minor adverse effect on natural flow variability, mauri and ecosystems of indigenous species, habitats of birds and fish, spawning sites of salmonids and existing water quality. Natural flow variability is unlikely to be maintained under the applicant's proposed flow regime. While Mr. Olsen has convincingly argued that salmonids will not be adversely affected, the question of effects on native species is left unanswered. Mr. Olsen has identified that existing water quality is likely to be affected by heavy stocking and fertilisation of areas adjacent to the Mistake River, in combination with the proposed reduction in flow, and the proposed activity is therefore expected to impact on existing ecological values.
59	If the applicant proceeds with a submerged gallery intake, designed to fish exclusion standards, effects on fish species present would be likely to be minor. Under the existing system, I cannot be certain that is the case. I note, however, that an entirely piped scheme will reduce flow to the DOC administered wetland of Micks Lagoon.
60	Fencing stock from adjacent waterways would reduce potential adverse effects on ecological values. Without detail of the proposed farm management plan, I cannot determine whether the applicant intends to address these effects.
	<b>Effects on people, communities and amenity values</b>
64	I note that a change in water quality has the potential to affect amenity values for recreational anglers.
	Response
	Evidence of Ian McIndoe para 175; Dean Olsen para 11, & 12
	Evidence of Ian McIndoe para 124 to 126, 159; Dean Olsen
	Evidence of Dean Olsen para 57 to 58; Ian McIndoe paras 111-112, 177, Table 10
	Evidence of Ian McIndoe paras 100 to 112; Evidence of Rob Glover para 19 and 20; Evidence of Dean Olson
	Evidence of Ian McIndoe paras 162 & 182; Evidence of Rob Glover para 18
	Evidence of Dean Olsen paras 37 to 43, 47 to 49, 59 to 62
	Evidence of Ian McIndoe paras 48 to 55, 141-142 and 163; Rob Glover paras 29 to 30
	Evidence of Melissa Robson para 55 – FEMP; Evidence of Rob Glover para 55
	Evidence of Ian McIndoe para 132; Evidence of Dean

		Olson paras 32-36
	<b>Effects on natural character and landscape</b>	
66	I note that the area is extensively cultivated, as the applicant states, however the introduction of irrigation infrastructure will further alter the landscape in an area valued for its high scenic and natural appeal. An increase in stocking rates as a result of irrigation will also increase the visual impact of development in this location.	Evidence of Dr Michael Steven paras 28 to 37, 47; Rob Glover paras 52 and 53
67	I note that no change is required to the existing intake structure in order to facilitate the additional proposed abstraction, although the applicant is considering conversion to a submerged gallery intake, which would reduce visual impact.	Evidence of Dr Michael Steven para 40 to 42 and 44.4
68	The applicant has not proposed buffer distances to waterways, or mitigation to protect the natural character of river and lake margins. Regarding shelterbelts, consideration should be given to suitable indigenous species, including shrub species, which have the potential to contribute to natural character on the river and lake margins.	Evidence of Dr Michael Steven paras 38-39, 43.3; Evidence of Rob Glover paras 54-55
	<b>Effects of inefficient take and use of water</b>	
71	The irrigation system will be entirely piped from the holding pond to reduce losses, however the race system leading from the point of diversion in Mistake River to the holding pond is likely to be subject to losses, which have not been quantified, but have been acknowledged by the applicant. While the existing diversion and intake system remains, I am not satisfied that the diverting of water will be efficient, unless attention is given to sealing the water race from potential losses.	Evidence of Ian McIndoe paras 41, 56 and 181; Rob Glover para 29
72	If the existing intake system is to be used, then the applicant will be required to meter and record the rate of diversion	Evidence of Rob Glover para 29; Evidence of Ian McIndoe paras 181-182
73	I note also that the applicant has not explained why 29L/s is required over and above the requirement for irrigation. It may be as a result of race losses on the way to the holding pond, it may be to provide fish passage to and from the holding pond, it may be to maintain levels in the pond, or it may be to maintain flows in the race system downstream of the pond, which contributes to the stockwater system and feeds Micks Lagoon.	Evidence of Ian McIndoe paras 74-86
74	The applicant has indicated an intention to convert to a submerged gallery intake, with entirely piped supply, which would reduce potential losses, enable more reliable recording of the rate taken from the Mistake River, and negate the need for additional diversion, improving overall efficiency of the system. I recommend a timeframe for conversion of the intake and distribution system, of no more than 5 years, to ensure efficiency gains are realised.	Evidence of Ian McIndoe; Evidence of Rob Glover para 15
75	The applicant is not seeking a consent for stockwater, which, according to the applicant, is taken in accordance with section 14 (3)(b) of the RMA. The applicant has stated that an unconsented rate of diversion of 50L/s from Mistake River has been occurring for a number of years and is delivered by an existing race system on the property, leading from the holding pond. Such a diversion requires consent, and derogation approval from Meridian Energy Limited, as Section 14(3)(b) does not make allowances for delivery systems requiring higher rates of flow. Conversion of the intake and distribution system, as recommended in paragraph 74, would improve management of stockwater on the property.	Evidence of Ian McIndoe paras 14 and 15
76	I note that improvement in the efficiency of the intake and distribution system irrigation and stockwater delivery system on Godley Peaks Station is likely to have an adverse effect on an important wetland area. Mitigation could include allowing DOC to use the existing water race to facilitate a consented diversion.	Evidence of Ian McIndoe para 41; Rob Glover para 29-30 and 56-57; Draft agreement between Lonestar farms Ltd and DOC
79	The difficulty for the applicant is that soils are highly variable on the property, meaning that hard hose guns will need to be placed with caution to ensure that water is not lost through the soil profile as a result of overwatering on lighter soils. Further investigation of soils on the property is recommended, and use of soil moisture probes would be appropriate. Details of the farm management plan, yet to be provided, may address these matters.	Evidence of Melissa Robson, FEMP; Evidence of Ian McIndoe paras 27-29 and 87-91

80	The applicant has not undertaken an assessment as required by Policy 16 of the WCWARP to determine whether the proposed activity can meet the reasonable use test.	Evidence of Ian McIndoe para 80 to 86
	<b>Effects of water use on Quality</b>	
85	The applicant is yet to clarify mitigation with respect to protection of waterways within the irrigation command area, and has not identified an irrigation plan that will ensure half the water holding capacity of soils is not exceeded.	Evidence of Ian McIndoe paras 27 to 29
86	The presence of shallow groundwater increases the risk of contamination of farm management plan 1 cannot be certain that of irrigation in excess of soil water holding capacity. Without details of the farm management plan 1 cannot be certain that the risk to existing water quality is adequately mitigated.	Evidence of Melissa Robson FEMP; Evidence of Ian McIndoe
87	I acknowledge that the applicant has undertaken baseline sampling, and indicated an intention to undertake ongoing water quality sampling, which is likely to form part of the management plan for the property. Such sampling will be most useful if tied to a condition prescribing actions to be taken, or restricting activities, if deterioration in water quality is detected.	Evidence of Melissa Robson; Ian McIndoe
88	Dean Olsen, in the ecology report prepared for Godley Peaks Station, identifies in his summary of effects of the proposed activity that reduced dilution and increased nutrient concentrations are anticipated if areas adjacent to Mistake River are heavily stocked and fertilised, in combination with the reduction in river flows. I note that the applicant proposes to intensively farm areas either side of the lower reach of Mistake River, and deterioration of existing water quality in Mistake River is therefore likely.	Evidence of Melissa Robson FEMP; Ian McIndoe paras 113 to 114; Evidence of Dean Olson paras 60-62
89	Fencing stock from adjacent waterways would reduce these potential adverse effects on ecological values. Without detail of the proposed farm management plan, I cannot determine whether the applicant intends to address these effects.	Evidence of Melissa Robson Table 4 & FEMP; Rob Glover para 55; Dean Olsen paras 62
91	With regards to cumulative effects, the applicant intends to provide a farm management plan, resulting from the results of the MWRL study, to address cumulative effects on water quality. This matter is addressed in greater detail in Report 4.	Evidence of Melissa Robson FEMP

Summary of section 42A Officer's Reports

<b>Section 42A – Lonestar Farms CRC031176 – Report 25B</b>		
<b>Para</b>	<b>Key Issues</b>	<b>Response</b>
21	<p><b>Effects on erosion and flood carrying capacity</b></p> <p>It is not clear that there will be a direct relationship between the flow diverted from Mistake River and that discharged from the holding pond. A condition regarding metering and monitoring of the discharge is recommended to be included if consent is granted, to ensure that no more than 290 litres per second is discharged.</p> <p><b>Effects on water quality and ecological values</b></p> <p>Exclusion of fish from the race system is required, as it is unclear whether a suitable habitat will be provided with the system, and there may be adverse effects on native and salmonid fish species as a result. A condition regarding fish exclusion is recommended to be included if consent is granted.</p>	<p>Evidence of Ian McIndoe 181; Evidence of Rob Glover para 15</p> <p>Evidence of Ian McIndoe para 178; Rob Glover para 15</p>
	<p><b>Effects on Tangata Whenua values</b></p> <p>No assessment on the effects on Tangata Whenua values has been provided.</p>	<p>Evidence of Ian McIndoe paras 191 – 192; Rob Glover paras 56 - 59</p>

<b>Section 42A – Lonestar Farms Limited – CRC073235 – Report 25C</b>		
<b>Para</b>	<b>Key Issues</b>	<b>Response</b>
31	<p><b>Effects on water quality and ecosystems</b></p> <p>Regarding the proposed pipeline across the Mistake River, the applicant has not identified the method of works, which will necessarily involve diversion of river channels over a one week period, and sediment discharge from excavation can be expected. Mitigation has been proposed with respect to timing of works, to ensure works occur during low flows over the winter period, but it is not clear that this would satisfactorily address effects of sediment discharge on aquatic species.</p>	<p>Evidence of Ian McIndoe paras 119-120 and 185-188</p>
32	<p>Where the works occur, fish spawning periods for salmonids and native species will be avoided, reducing the potential for sediment discharge to adversely affect aquatic species spawning in the stream. The applicant has not discussed effects on nesting birds. Undertaking works outside of bird nesting season is also recommended, and again, February would be appropriate. Hydrological data indicates stream flows in February are likely to be lower than January, which may help to reduce works in flowing water. Works at other times of the year have the potential to have a greater adverse effect on species present in the stream and its margins.</p>	<p>Evidence of Ian McIndoe paras 121-123 and 187 - 188</p>
35	<p><b>Effects on erosion and flood carrying capacity</b></p> <p>With respect to the pipeline within the bed of the Mistake River, provided the pipeline is buried 2 metres below the lowest bed level, effects on flood carrying capacity are expected to be minor. Further assessment will be required regarding the proposed channel diversion to undertake works.</p>	<p>Evidence of Ian McIndoe paras 189 - 190</p>