Ivan Stanisich & Ian Fulton Partnership
Submission on AAWUG Consent Applications

We fully support the new horticultural developments on the Aupouri Peninsula. The change in landuse to high value horticulture should hold the region in good stead.

Our concerns are:

- The volume of water being applied for by applicants
- Two applicants have existing Consents that have not been identified in their applications
- Potential impact on our Consent

Volume of water being applied for by applicants

Two components that determine volume of water being applied for by applicants:

- Canopy area; and
- Water required by crop (mainly avocados)

Canopy Area

- Unlike kiwifruit industry, there is no industry standard to calculate canopy area for avocados
- Most applicants using all land suitable for orcharding as canopy area
- However, some applicants are using area trees occupy as canopy area

Figure 1

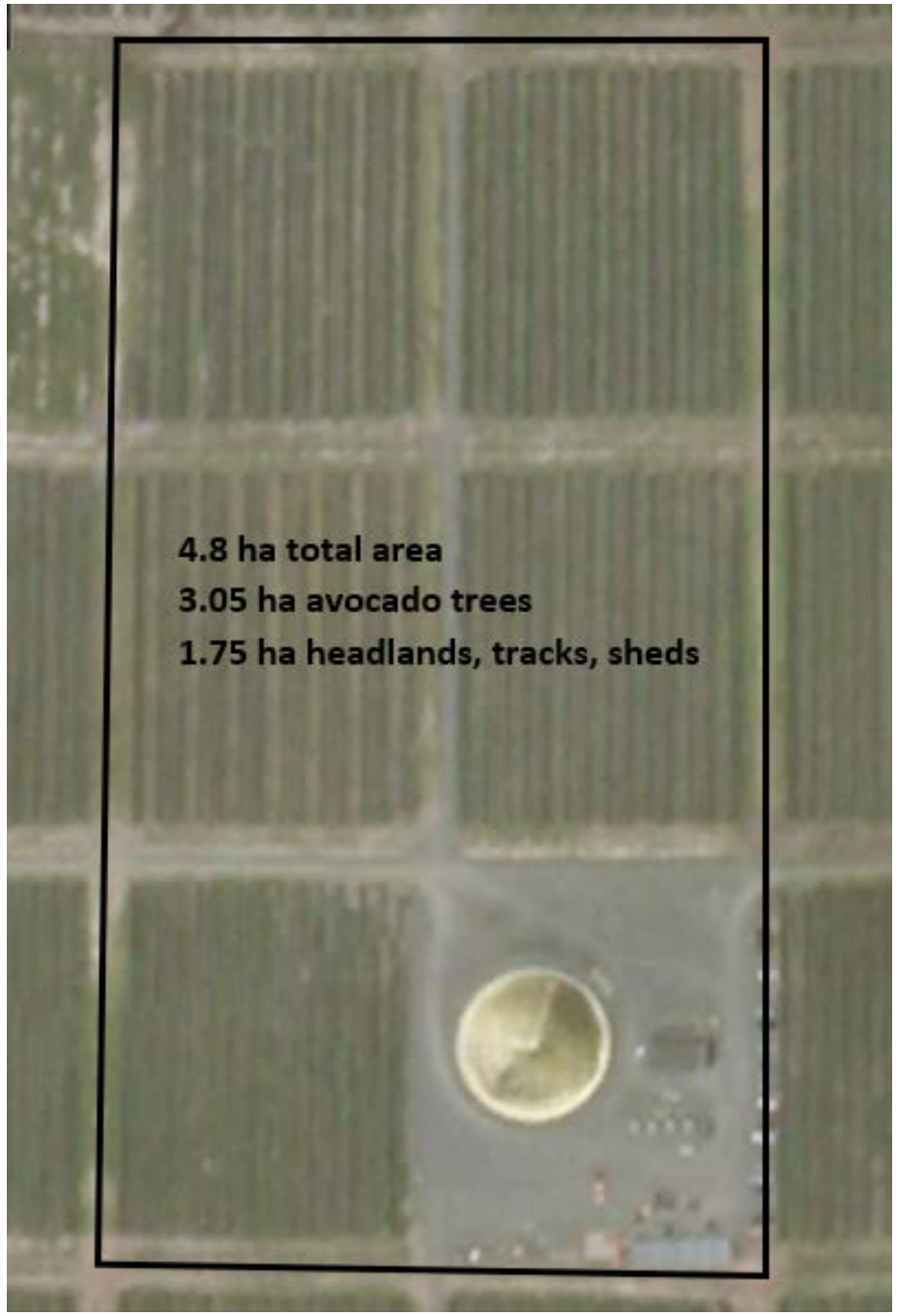
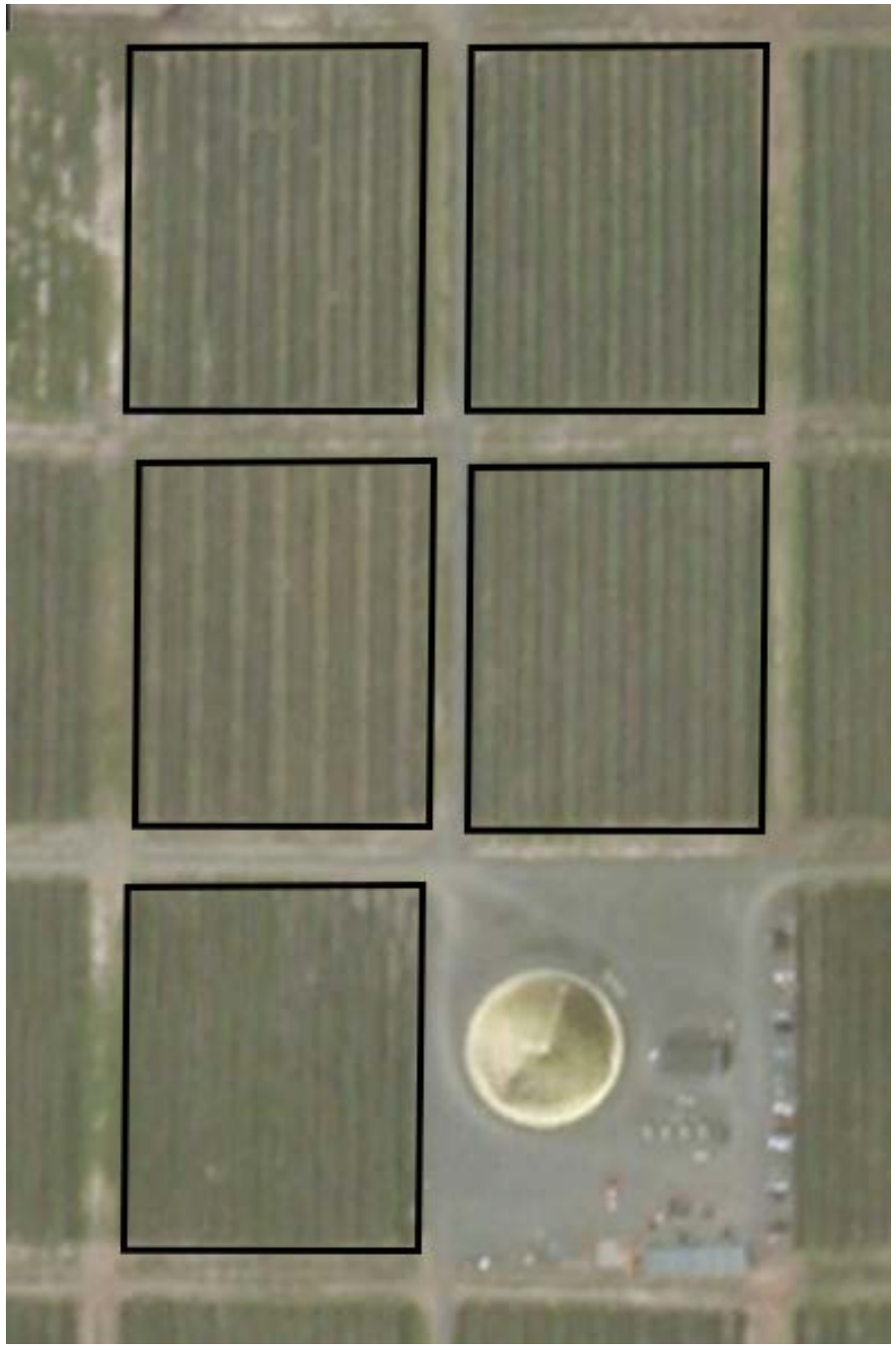


Figure 2



Water Requirements for Avocados

- Water use models – about 4,000 m^3 / canopy ha per annum
- MWWUG decision – 3,920 m^3 /canopy ha per annum

Benchmarked fully developed productive orchards actual water use in 2019/2020 vs modeled and MWWUG decision

- Production ranged from 14 to 26 tonnes per canopy ha
- Two orchards NZ Avocado award for highest most consistent production

Water use for 2019/2020

- Orchard area ha - ranged from 844 to 2,522 m^3 per ha
- Canopy area ha – ranged from 1,160 to 3,142 m^3 per ha

Consent No.	Orchard Area (ha)	Canopy Area (ha)	Canopy % Orchard Area	Type of Orchard	Canopy % young trees	Consent Volume (m^3 year)	Volume Used 2019/2020 (m^3 year)		
							Total	Orchard Area per ha	Canopy Area per ha
AUT.017559.02.01 **AUT.029171.01.01**	20.9	15.8	75%	High density	5%	105,000 24,000	44,249 0	2,117	2,801
AUT.015147.01.03	22.0	16.5	75%	Conventional	15%	98,000	36,340	1,652	2,202
AUT.008340.01.04	35.0	26.8	77%	Conventional	20%	158,520	68,078	1,945	2,540
AUT.029109.01.02	6.6	4.5	68%	Conventional	0%	20,000	6,130	929	1,362
AUT.023557.01.02	17.6	12.8	73%	Conventional	10%	46,000	14,849	844	1,160
AUT.017045.01.02	135.0	110.0	81%	High density	0%	558,000	345,574	2,522	3,142
AUT.007108.01.02	6.9	5.2	75%	Conventional	10%	16,740	7,739	1,122	1,488
AUT.003968.01.03	11.5	8.5	73%	Conventional	0%	25,000	11,310	983	1,331

Discussion

No orchard came close to the 3,920 m^3/ha/yr recommended allocation. This indicates the MWWUG recommendations and various water use models results are setting allocations too high.

Avocado crop coefficient for NZ summer (irrigation season):

- Mature trees – 0.45 to 0.60 (9yr old conventional spacing)
- Young trees – 0.25 to 0.30 (3yr old conventional spacing)

Mature high density plantings will have crop coefficient on the lower end of the range of mature trees.

Orchards benchmarked – orchard area 256ha, canopy area 200ha plus 20 to 25ha undeveloped – 2019/2020 drought only used 53% of water allocation

Conclusion

Definition of canopy area needs to be clearly defined

For a 1 in 10-year drought, water allocation should be no more than:

- Orchard area – 2,500 m^3 per ha per year
- Canopy area (irrigated area) – 3,200 m^3 per ha per year

Nearly all existing consents have water allocations that are far too high. Council needs a mechanism or review process to reduce consent allocations if they are not being utilized, thereby freeing up water resources for further development in the Far North.

Legal Opinion To Strike Out Part Of Our Submission

s41D(1)(b) - … “fall within the ambit of a land use consent application”

Submission was related to proposed ISP consent requirement

- Pointing out after develop soils are highly disturbed and some cases become an anthropic (man made) soil
- Rooting depth between rows that are not pan broken can be shallow
- Soil texture varies from sand through to peaty loam

An ISP should include proper soil physical characterisation. Has little impact on annual water allocation, but does effect irrigation scheduling and application volume / rate.

Valic NZ Ltd (King Avocado) - APP.040362.01.01

Property area – 159.9 ha
Orchard area – approx. 135 ha
Canopy area – approx. 110 ha
Undeveloped area – approx. 15 ha

Existing consent – 558,000 m^3/yr
Water used 2019/2020 – 345,574 m^3
Consent application – 173,700 m^3/yr

Question:

Where is the justification for this consent application - Valic have an existing consent for 558,000 m^3/yr and only used 345,574 m^3 over the 2019-2020 drought. Only about 15 ha of land is undeveloped on the property, so there is ample water available in their existing consent.

Current

Proposed

Wataview Orchards – APP.040363.01.01

Property area – 22.1 ha
Orchard area – approx. 14.8 ha
Canopy area – approx. 12.0 ha
Protected vegetation – 3.4 ha
Steep sidings – approx. 3.9 ha

Existing consent - 50,000 m^3/yr

Consent application - 33,750 m^3/yr

Question:

Where is the justification for this consent application and why has the existing consent not been identified.

Potential impact on our Consent

Property area – 37 ha
Orchard area – 32 ha
Canopy area – 24 ha

Consent - 60,000 m^3/yr

- 1,875 m^3 per orchard area ha
- 2,500 m^3 per canopy area ha

In a year like 2019/2020 severe drought we expect to use all our consent allocation.

Our major concern is if the Aupouri aquifer becomes over allocated, the Northland Regional Council will simply just cut every consent by a given percentage amount. Should this occur our orchard would be severely compromised, while over allocated orchards would not be impacted.