

Summary of key points

- Critically endangered
- Same threat classification as Kākāpō
- Highly mobile (Home ranges can be 50 km +)
- Numerous threats e.g., predators, water quality, water depths, lack of food, disturbance, weeds,
- Collisions with turbines are potentially an additional threat
- Kaiwaikawe Wind Farm is a significant site for matuku (4-5 booming males, 11 birds total as a minimum)
- Movements seen elsewhere suggest site could be in centre of a wetland complex (Supported by the habitat map in Mr Fuller's supplementary evidence)



Summary of key points



- Height profiles of GPS tagged birds indicate birds are likely to frequently fly within RSA (89 %, 22.6% and 4% of time – 3 GPS tagged birds)
- Movements of VHF tagged birds show matuku move between wetland pockets – sometimes as much as twice a day
- Matuku fly and are likely to be at risk of collisions throughout the FULL 12 months
- Often fly at night when blades are less visible (59% of observations; Range 30 % - 81 %, N = 3, Mr Fuller's supplementary evidence, Table 10, pg 108)
- The proposed turbine locations cover a range of hill top and ridgeline topography
 - These types of terrain are frequently traversed by matuku

Matuku fly over a mix of landforms

Mr Fuller's supplementary evidence; Figure 11, Page 104 (electronically)/ Page 42 (labelled number)



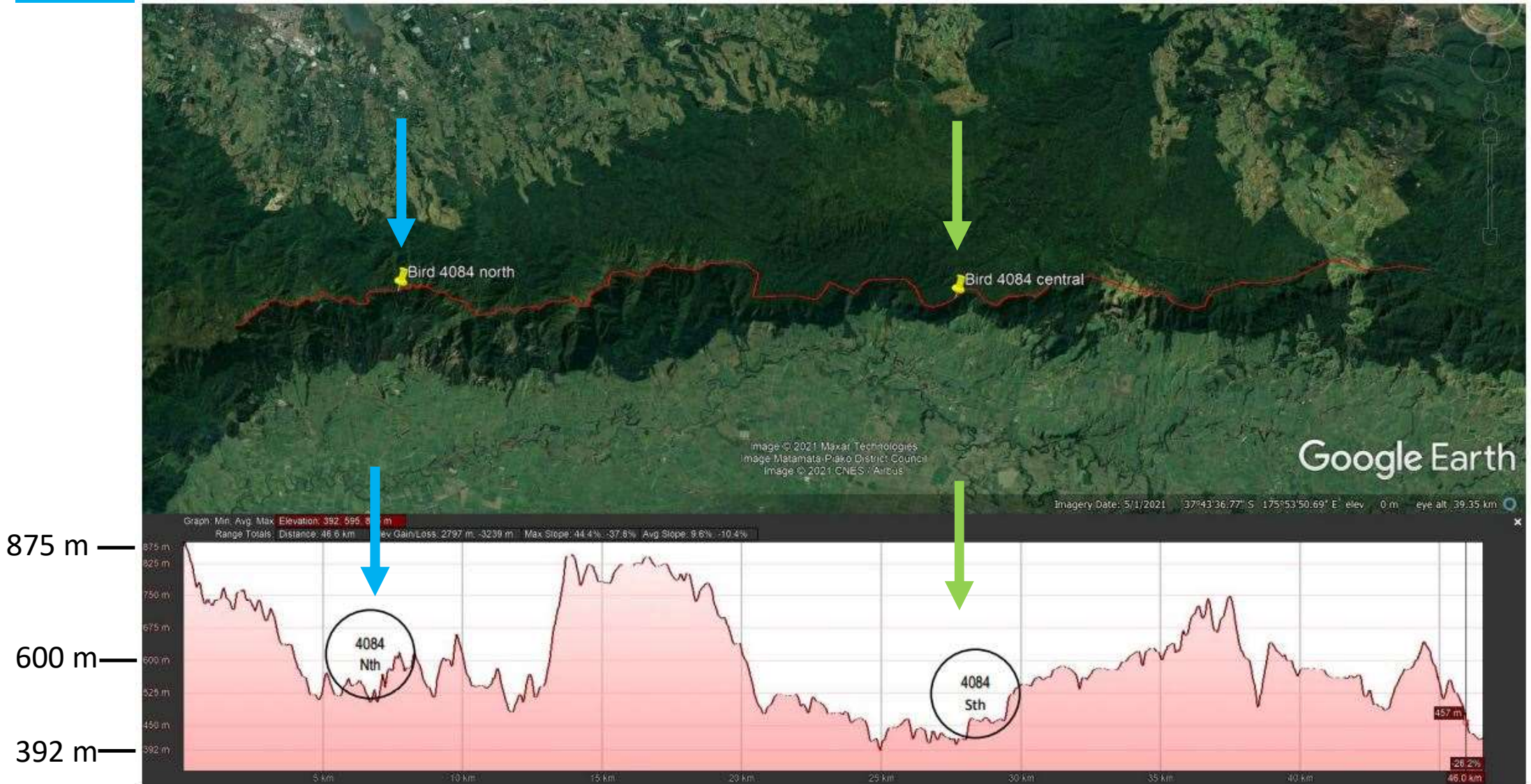
Matuku fly over a mix of landforms

Mr Fuller's supplementary evidence; Figure 13, Page 106 (electronically)/ Page 44 (labelled)

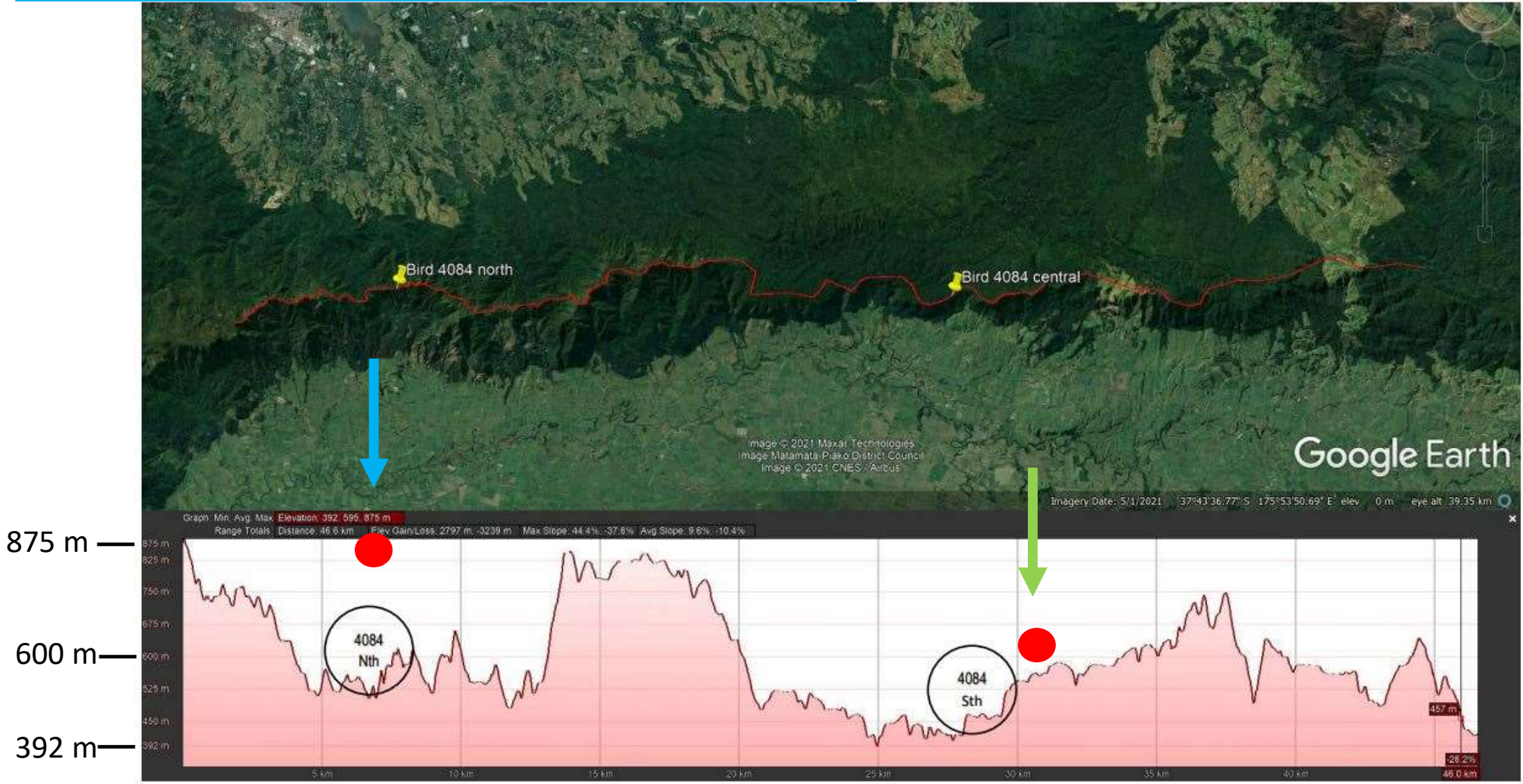


Matuku fly over a mix of landforms

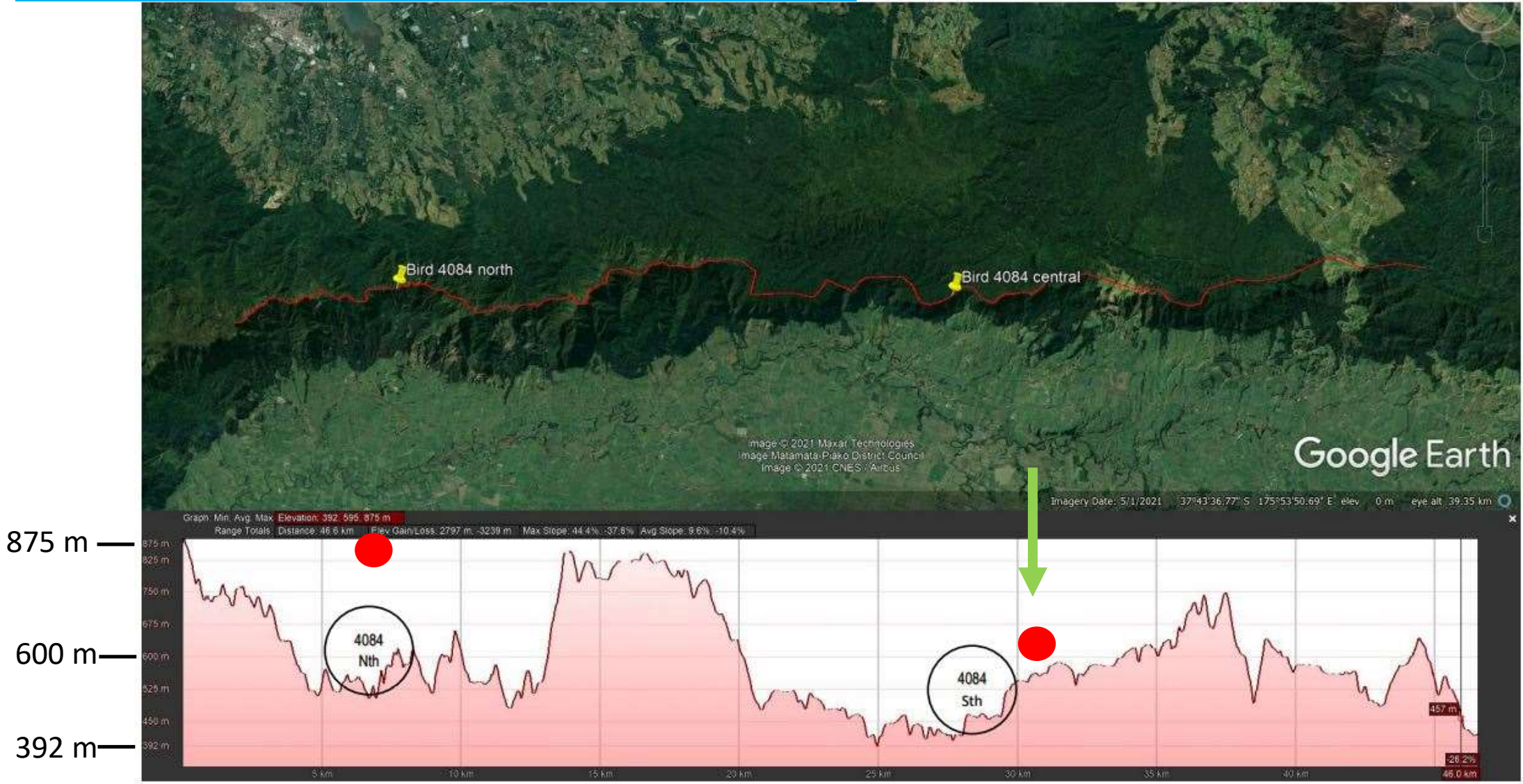
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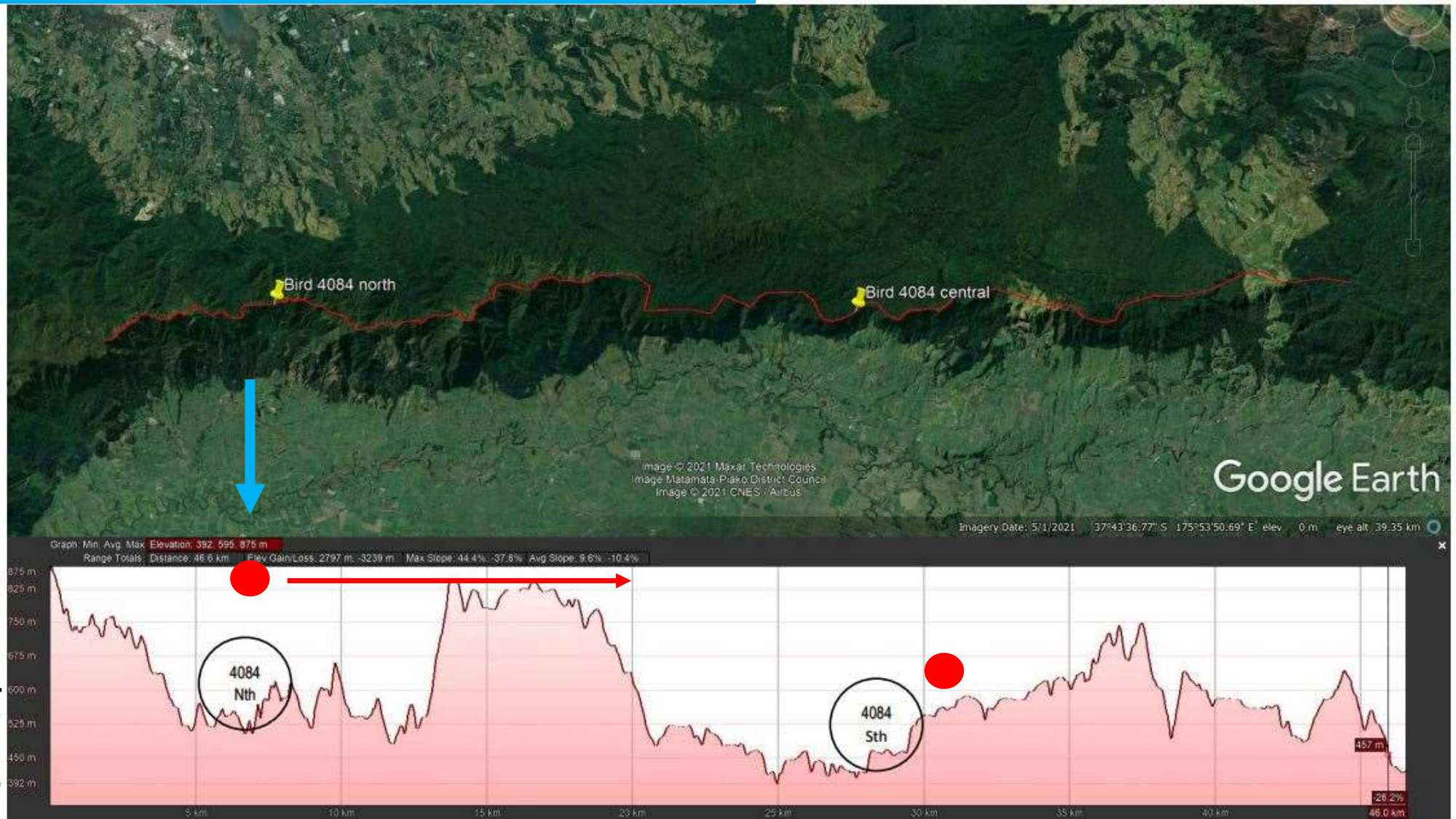
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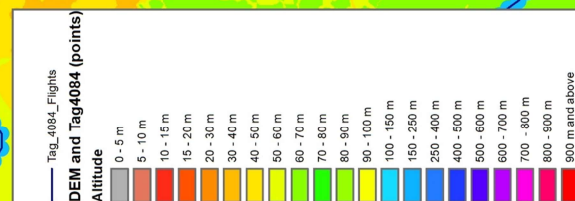
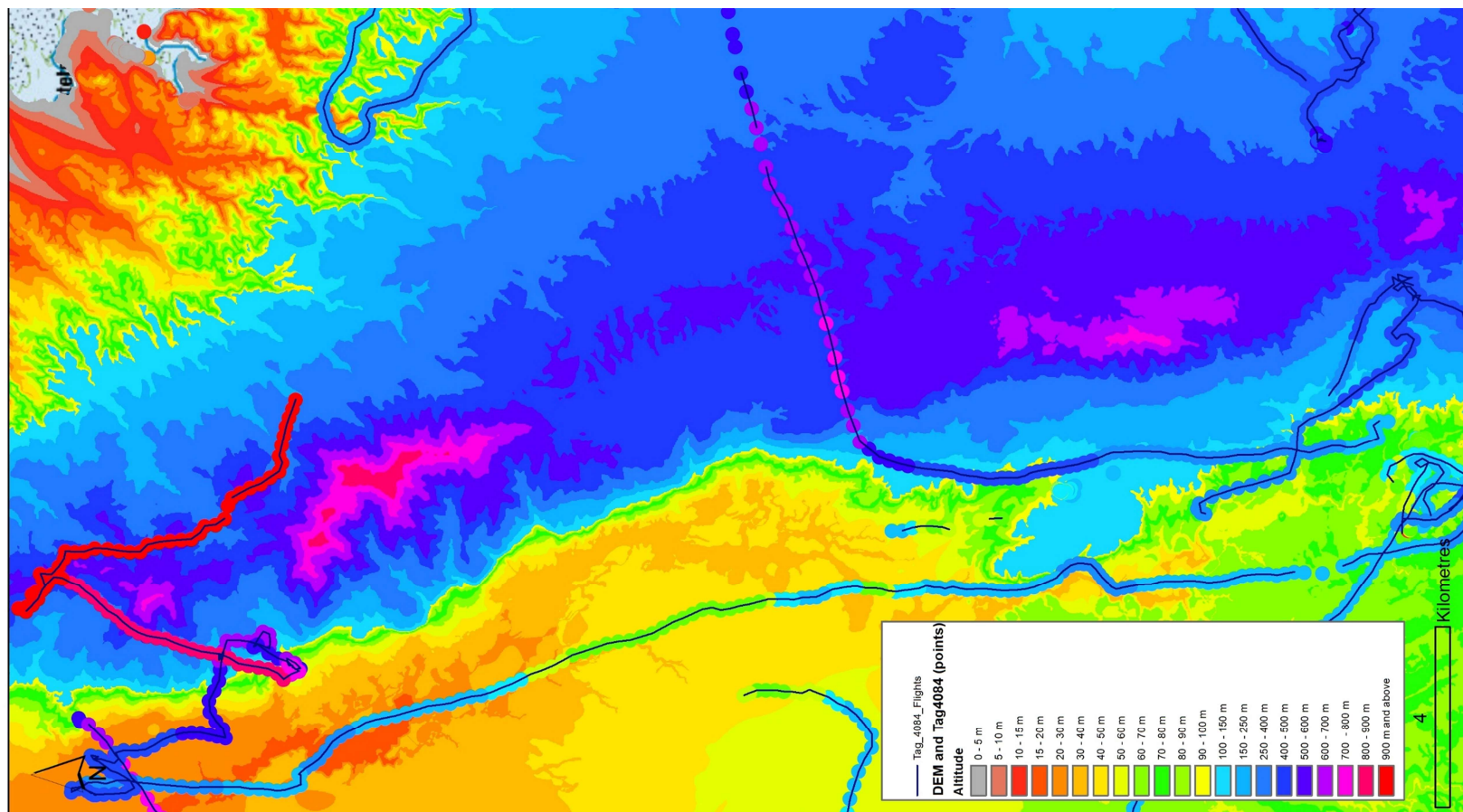
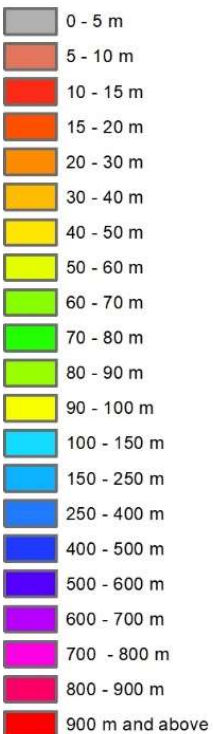
Matuku fly over a mix of landforms



Tag_4084_Flights

DEM and Tag4084 (points)

Altitude



875 m

675 m

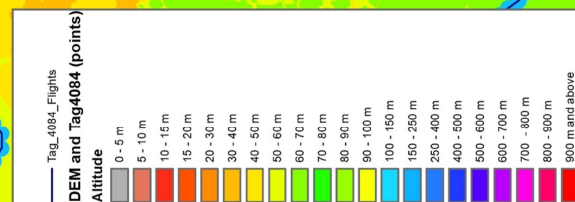
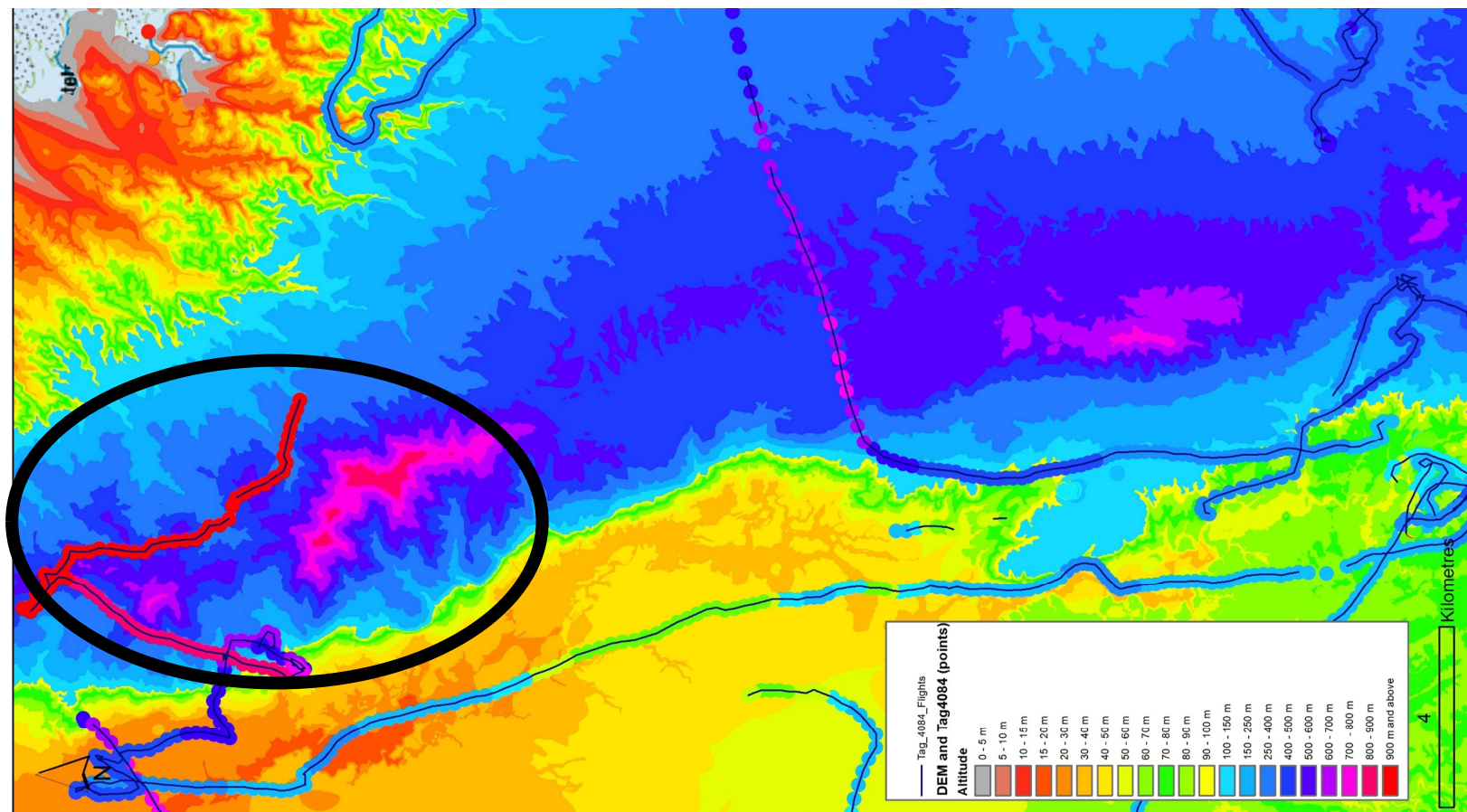
525 m

392 m



Tag_4084_Flights
DEM and Tag4084 (points)

Altitude



875 m

675 m

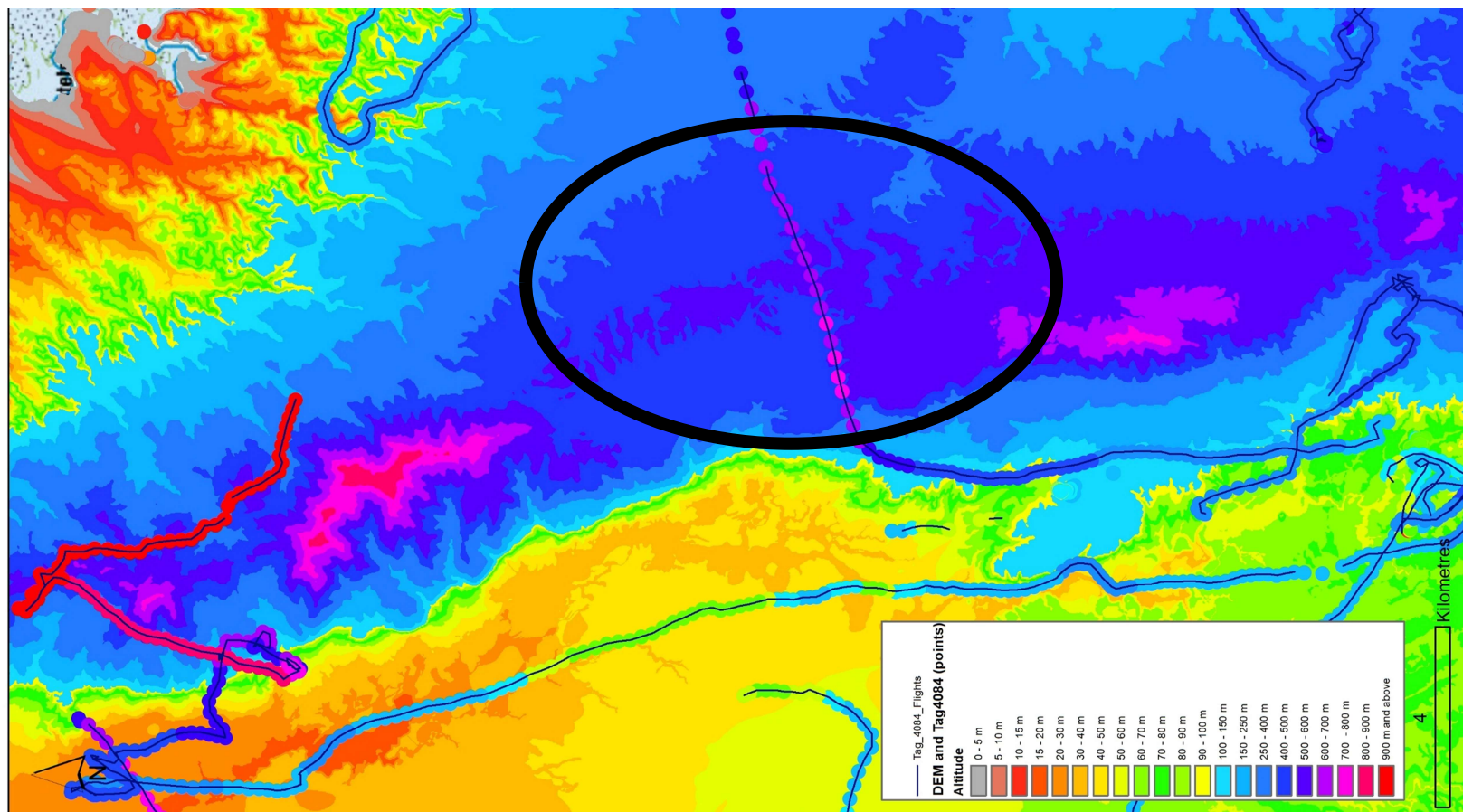
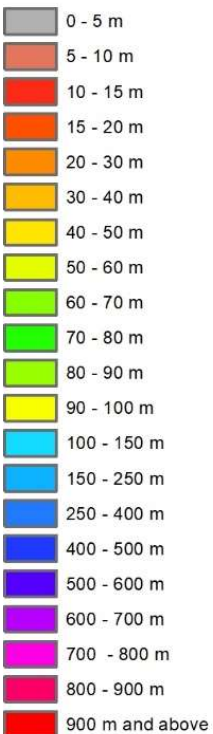
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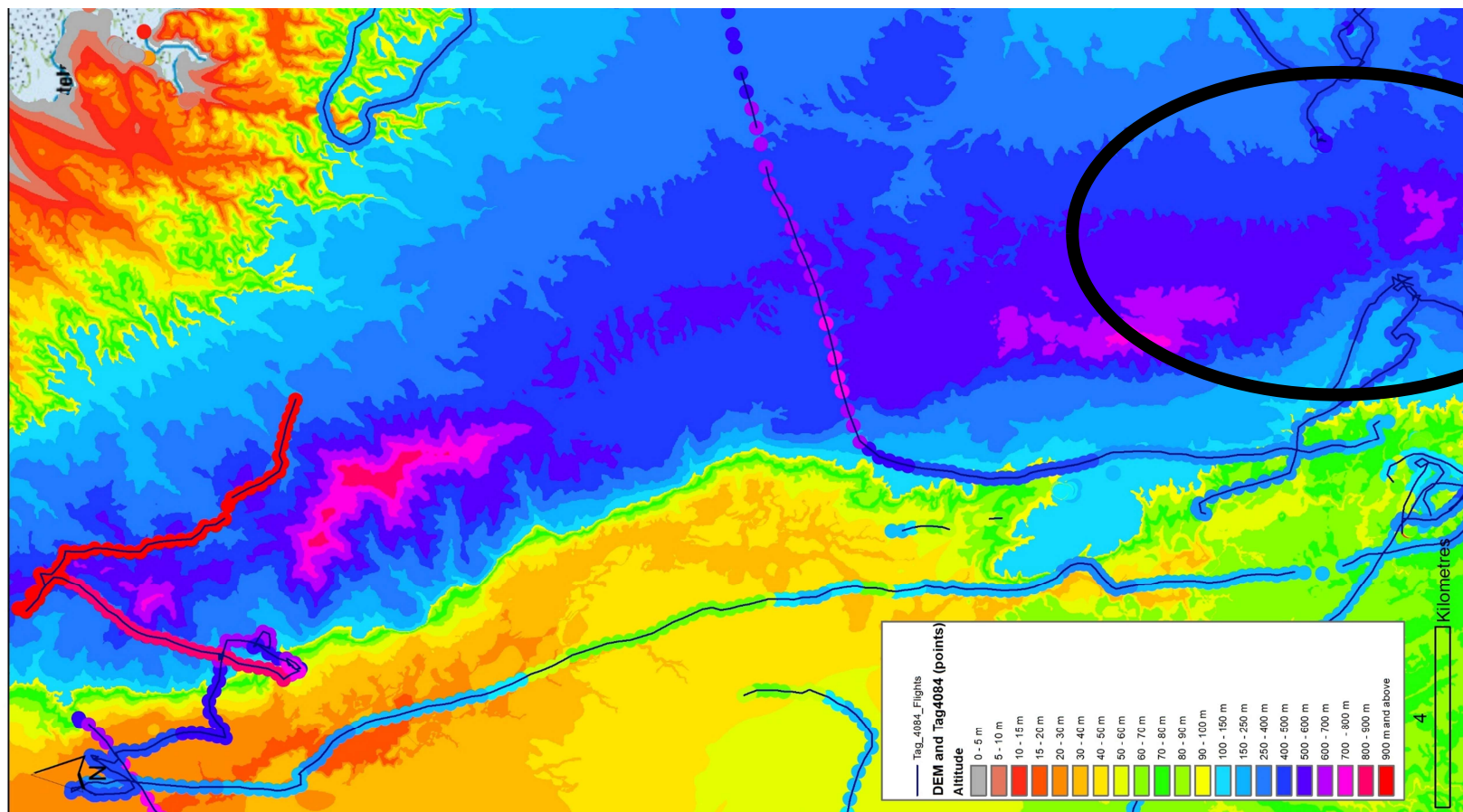
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392 m



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DEM and Tag4084 (points)

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675 m

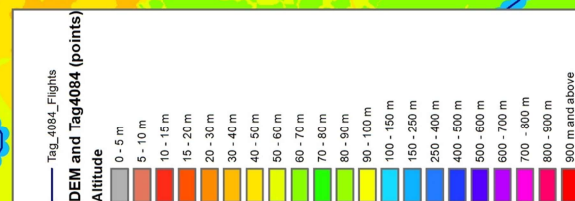
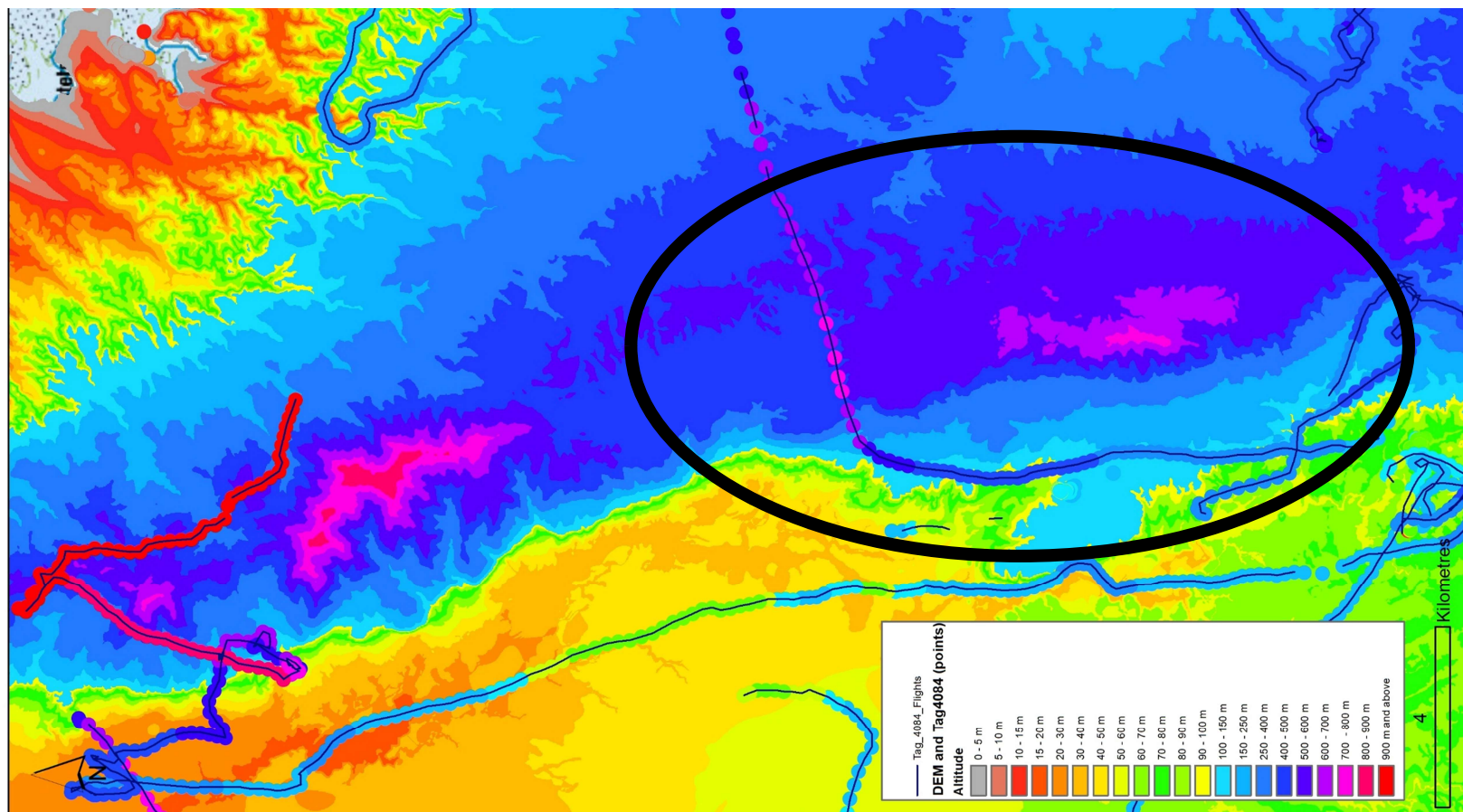
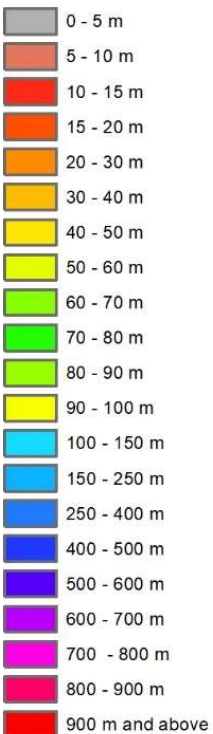
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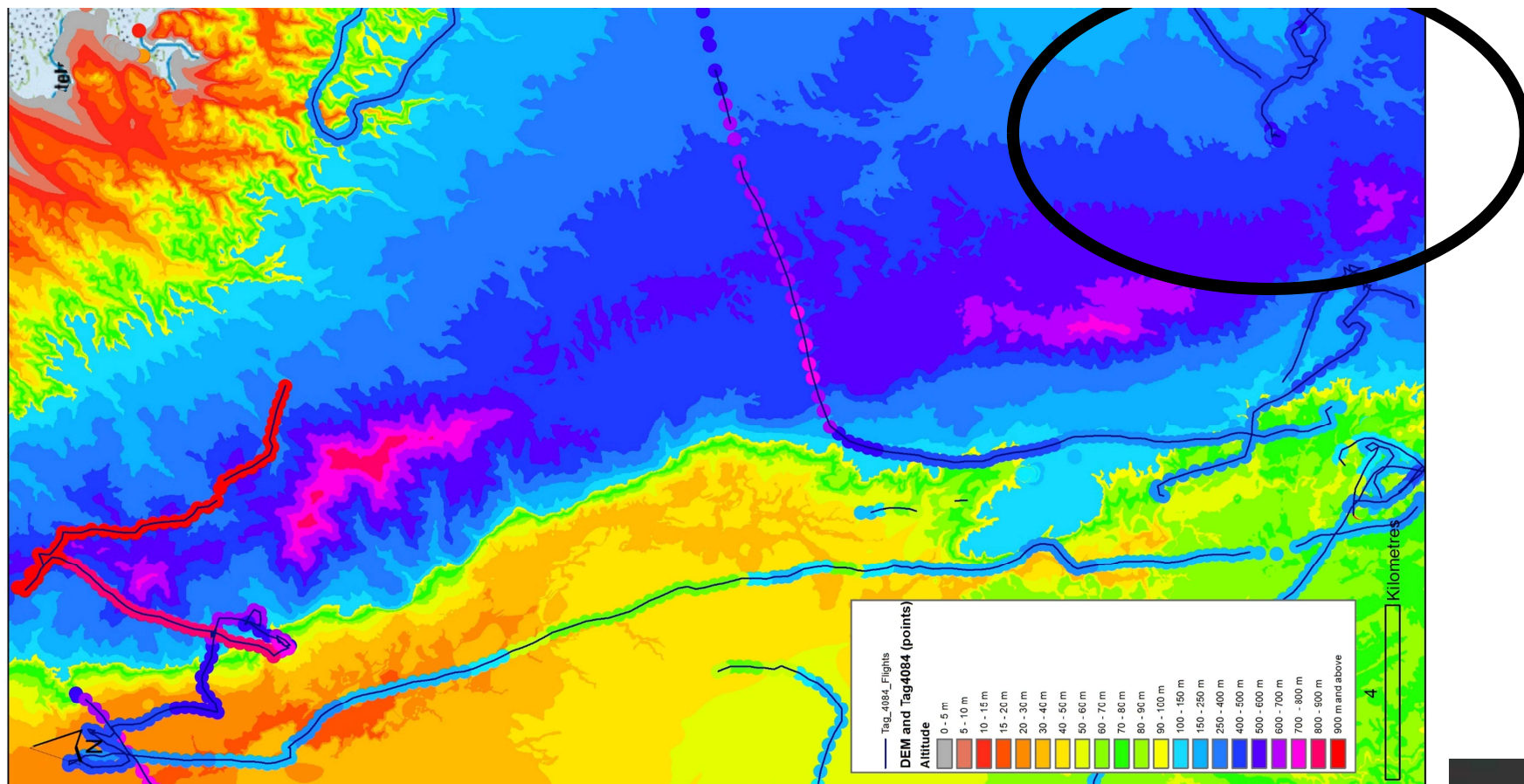
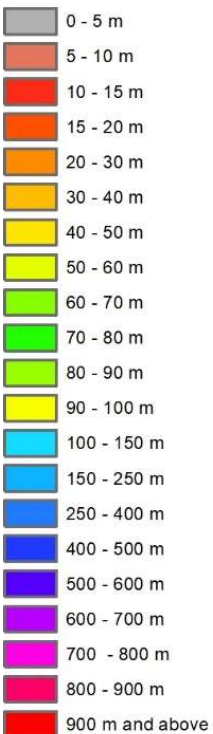
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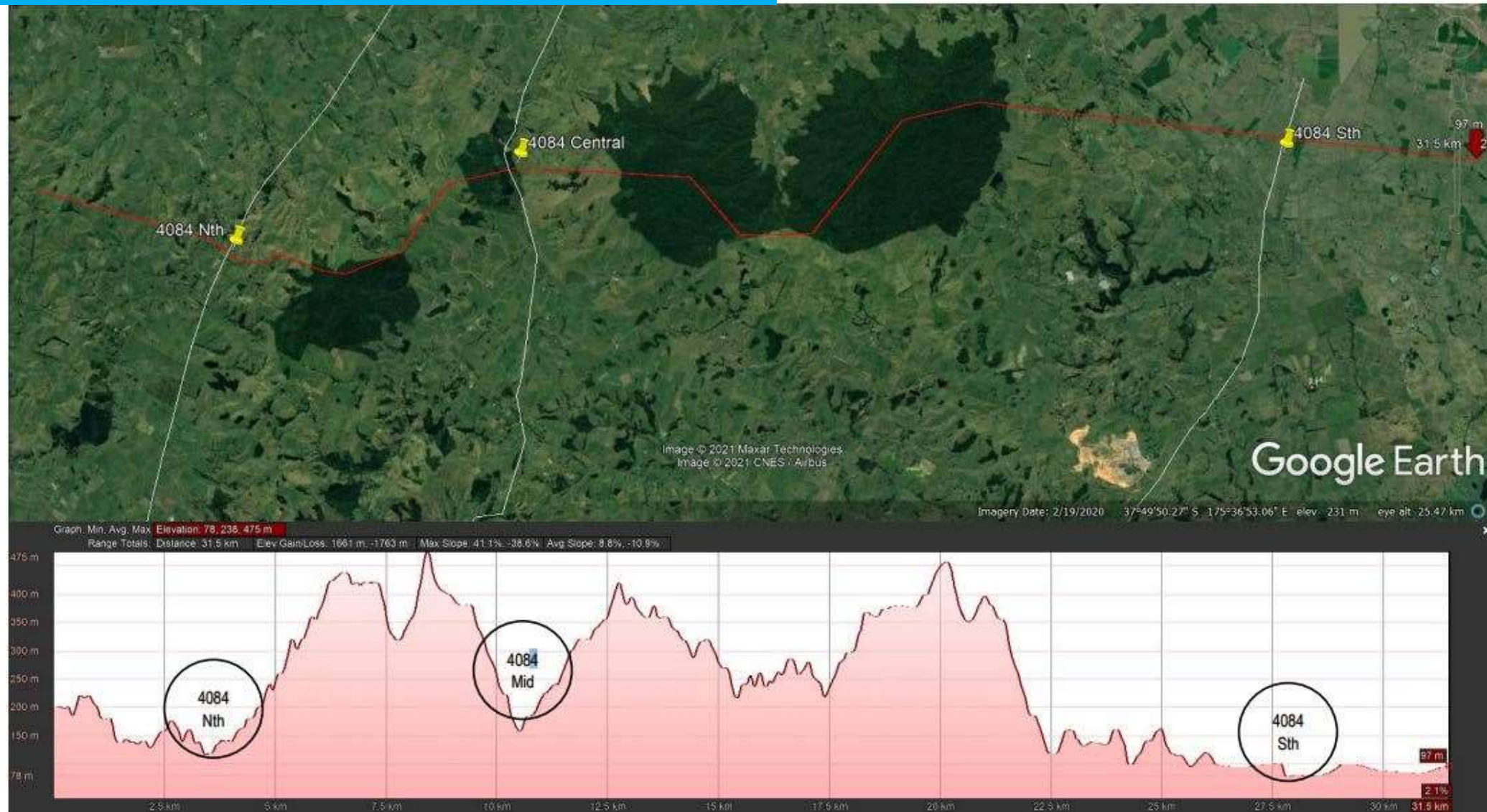
525 m

392 m

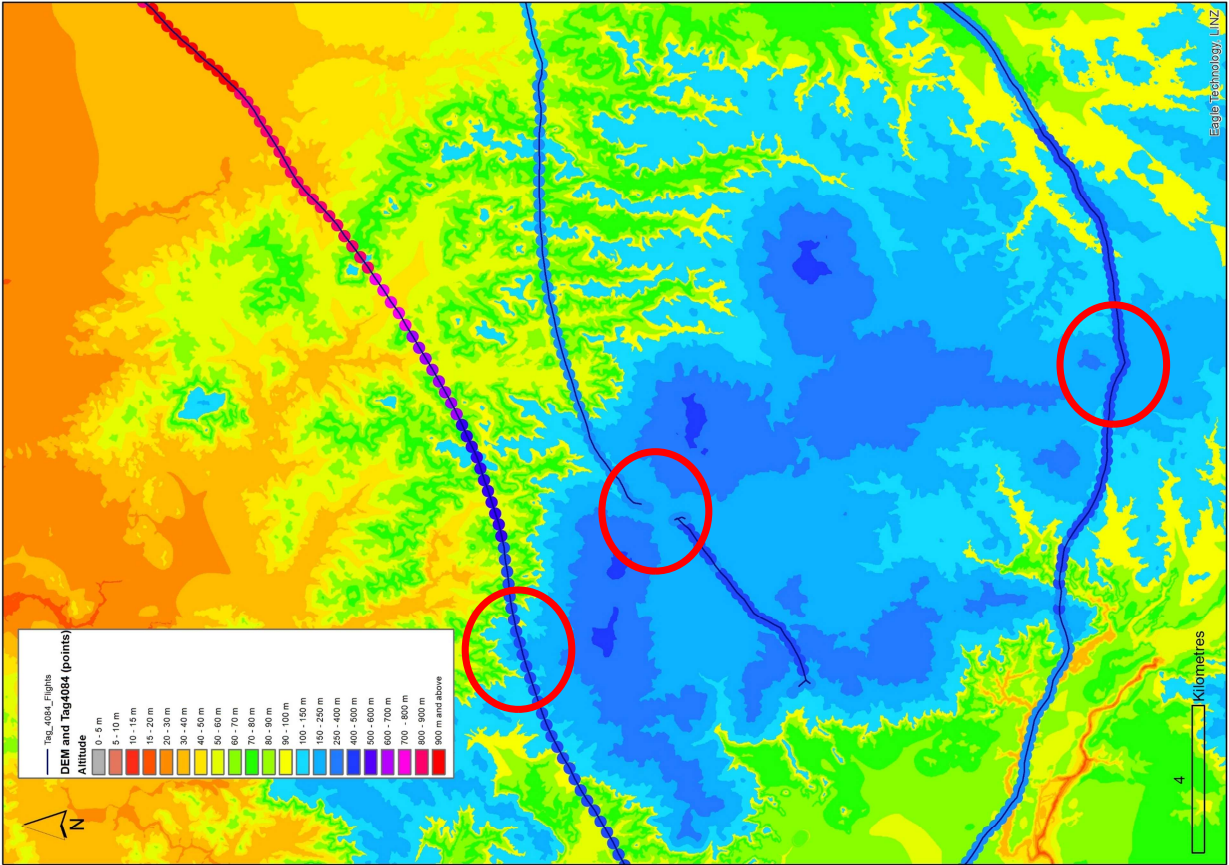


Matuku fly over a mix of landforms

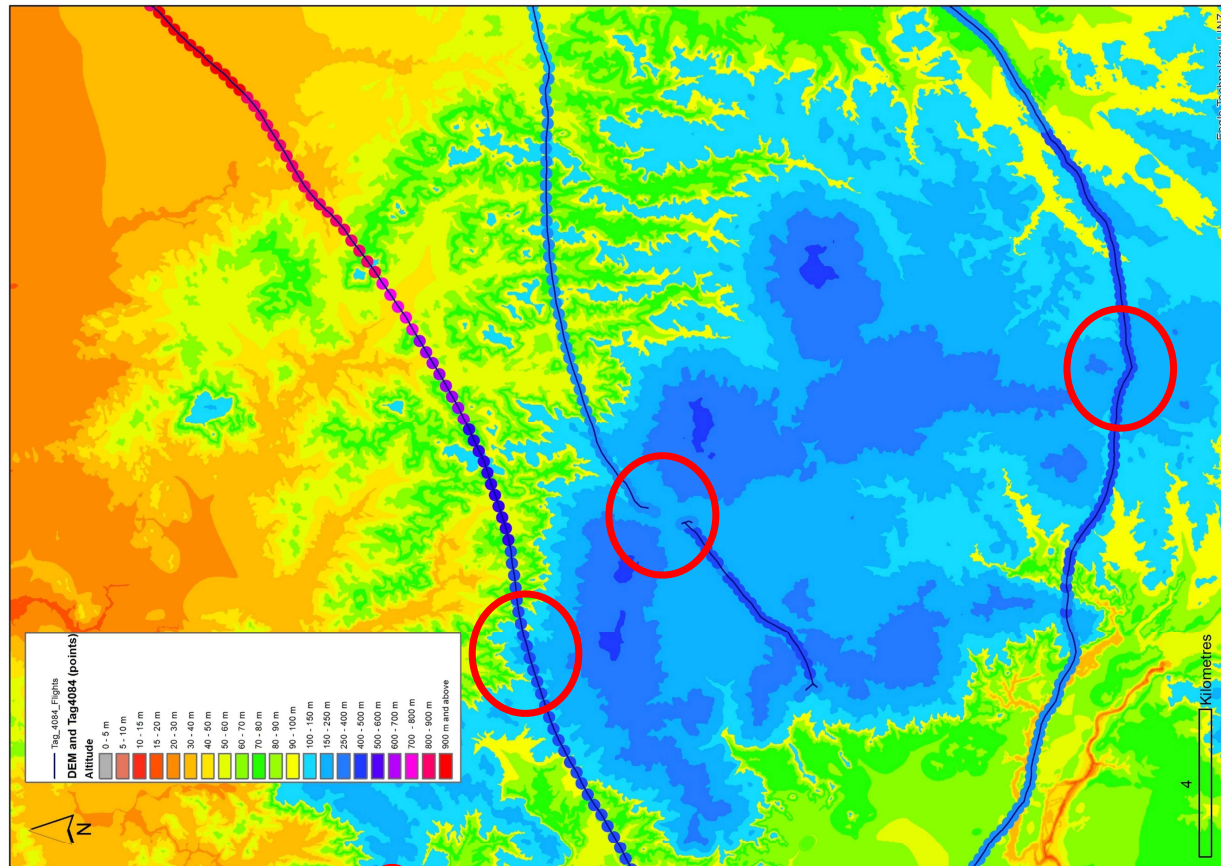
Mr Fuller's supplementary evidence; Figure 13, Page 106 (electronically)/ Page 44 (as labelled)



Example 2



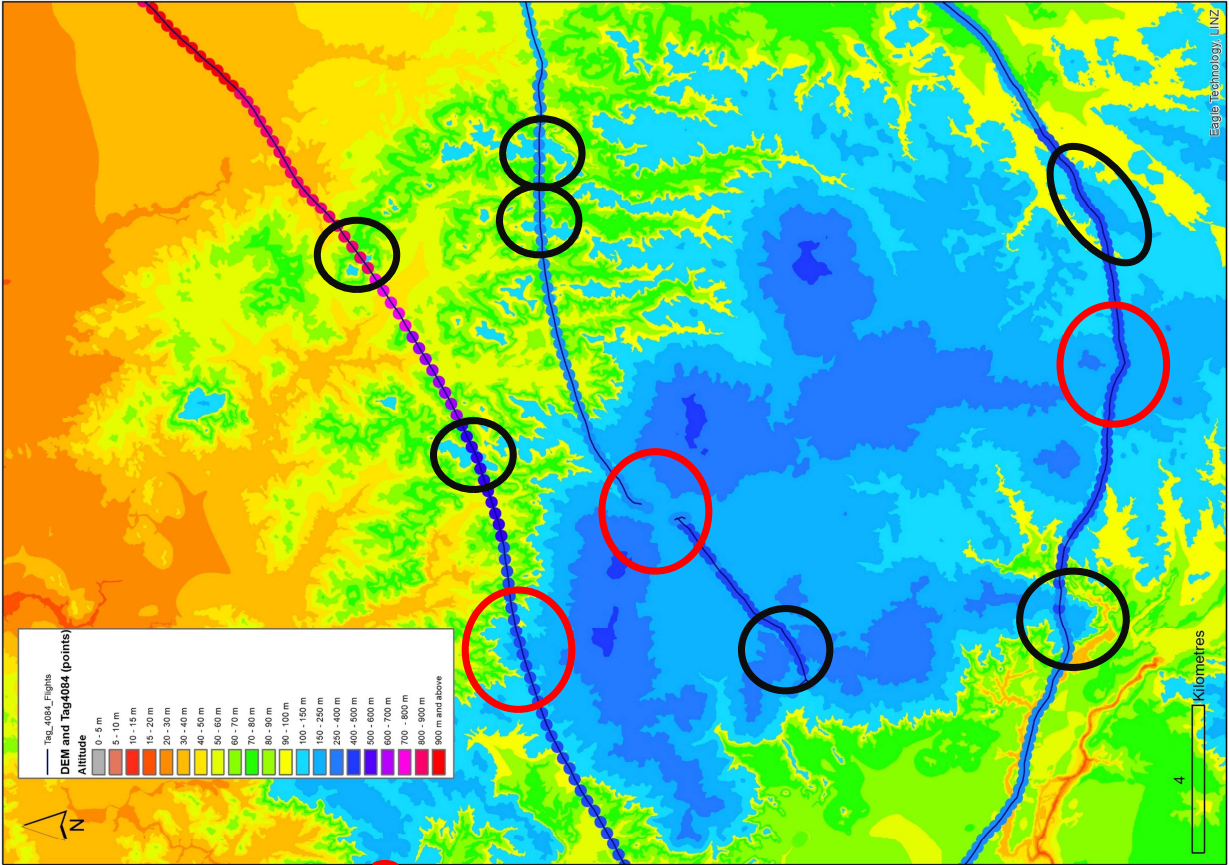
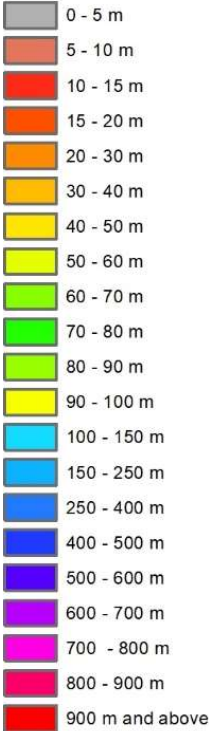
Example 2



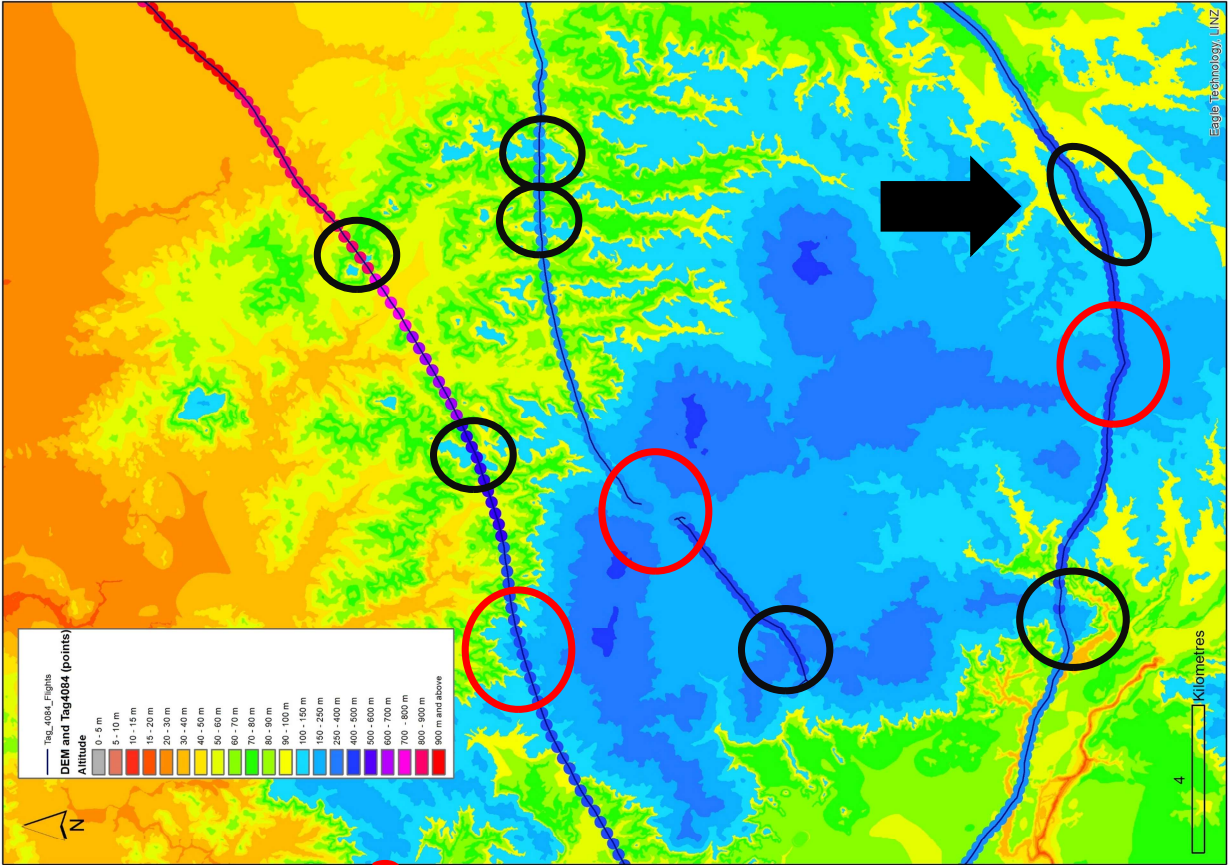
- Kaiwaikawe ranges < 200m in height
- (See Figure 14, Mr Fuller' Supplementary Evidence, Electronic page 107)
- Comparable to Green and Light blue areas



Example 2

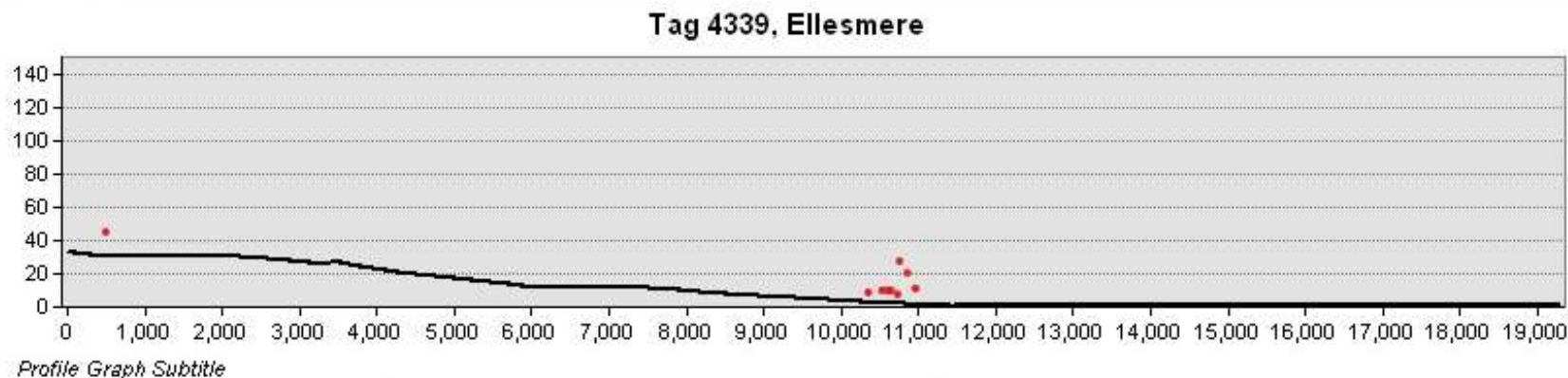


Example 2



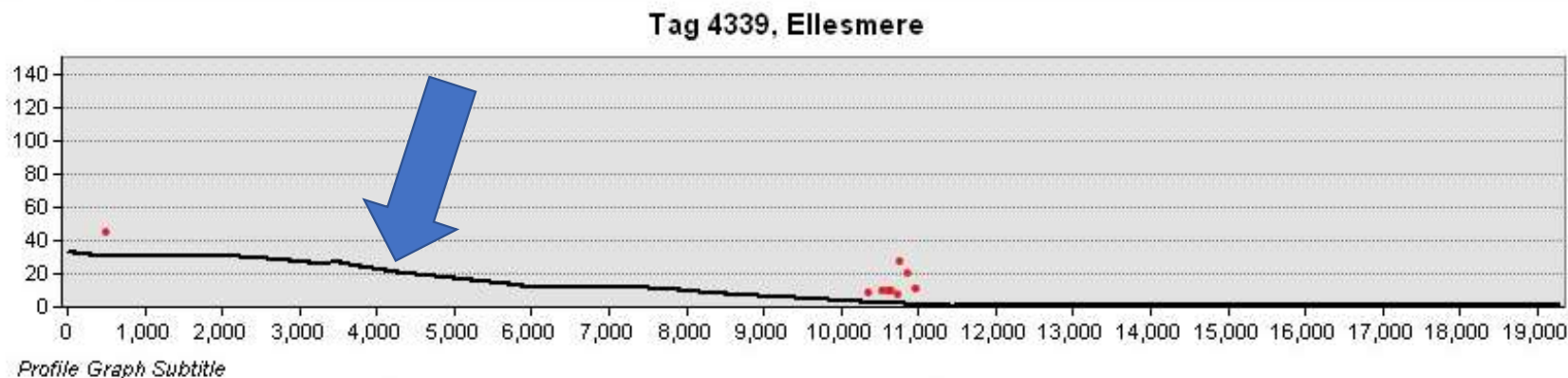
I disagree with Mr Fuller that Birds 4114 and 4339 are more representative of KWF than 4084

Bird 4339
Lake Ellesmere



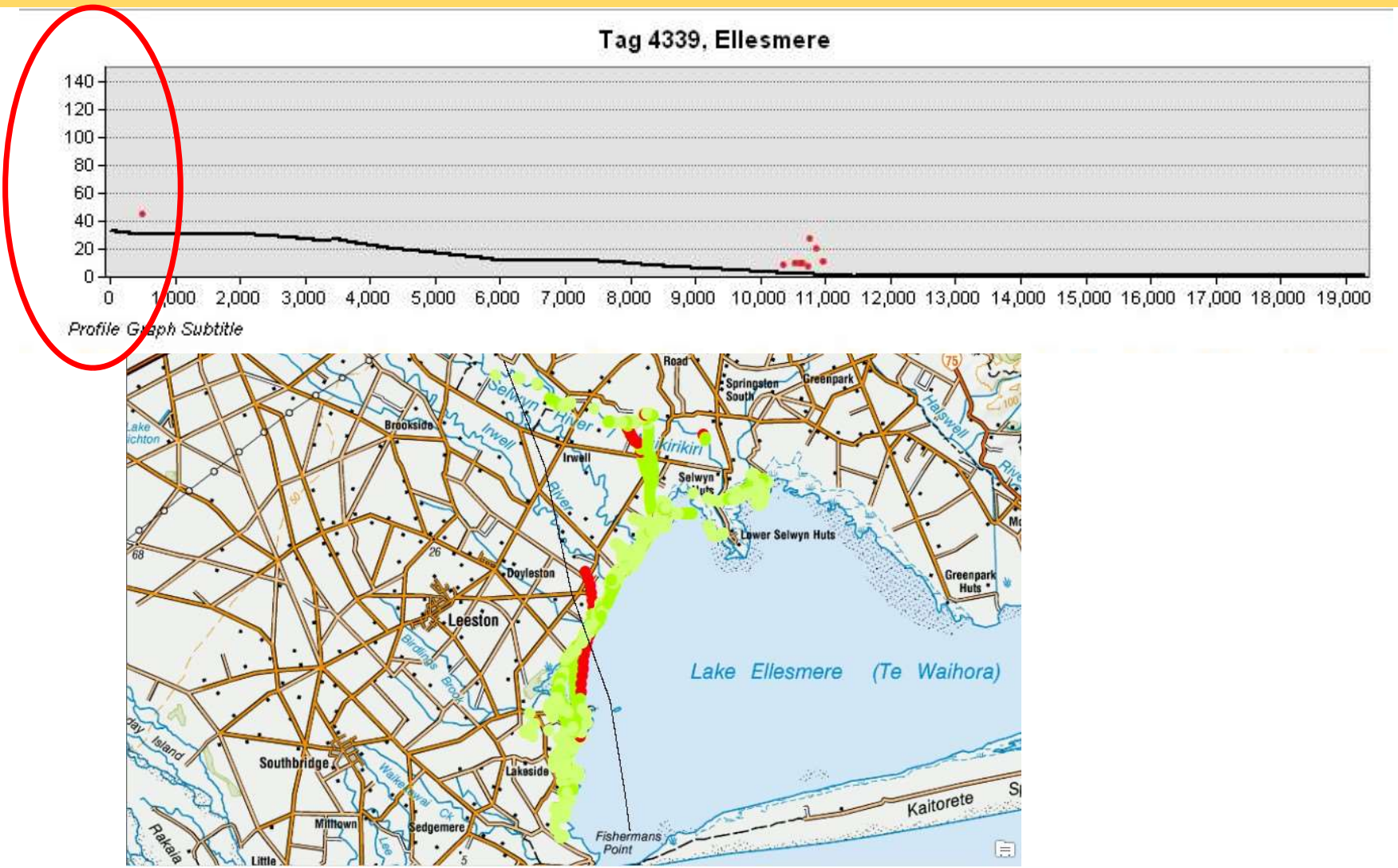
I disagree with Mr Fuller that Birds 4114 and 4339 are more representative of KWF than 4084

Bird 4339
Lake Ellesmere



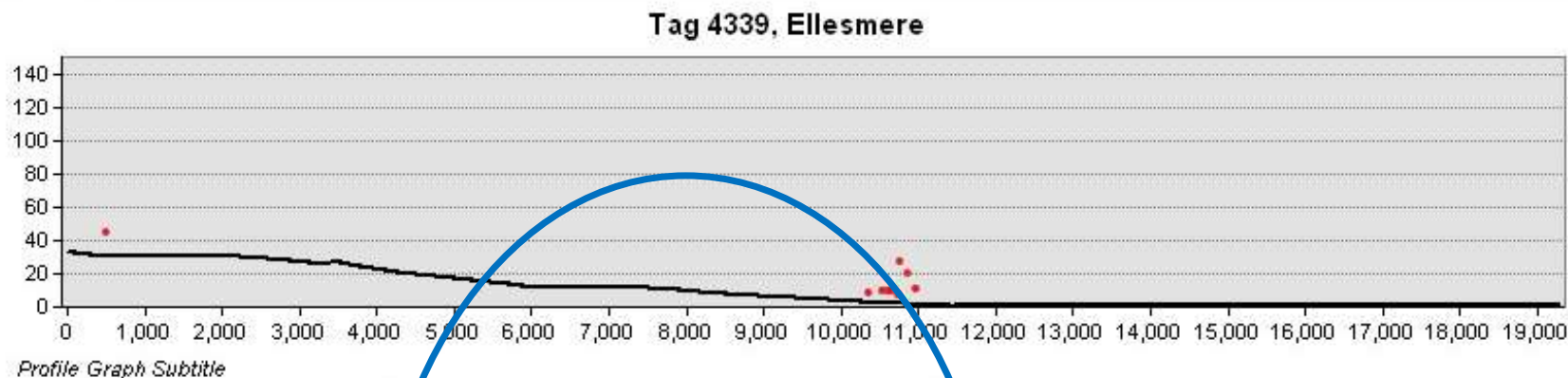
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Bird 4339
Lake Ellesmere



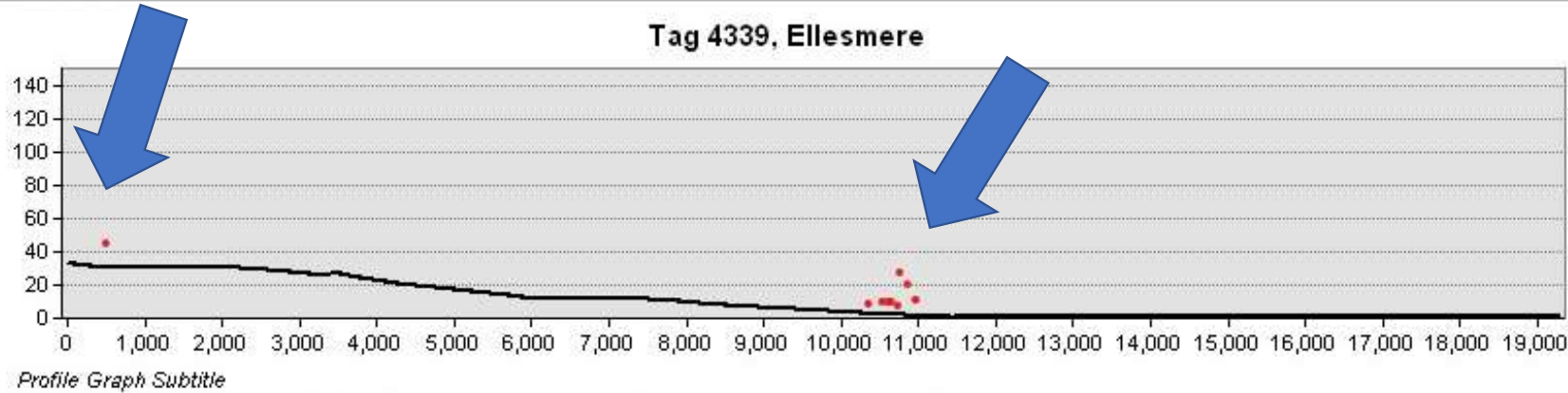
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Lake Ellesmere



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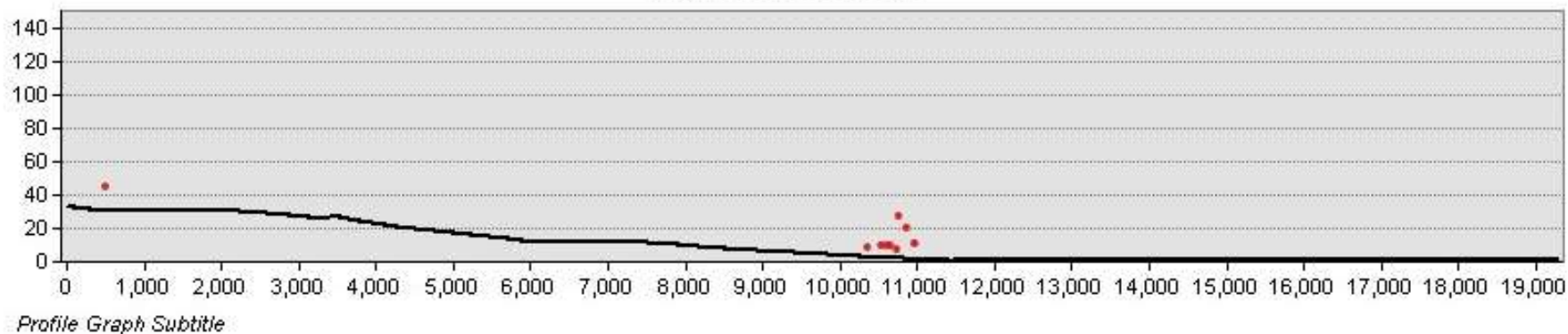
Bird 4339
Lake Ellesmere



Topography traversed by Bird 4339 is NOT representative of KWF

Tag 4339, Ellesmere

100 m



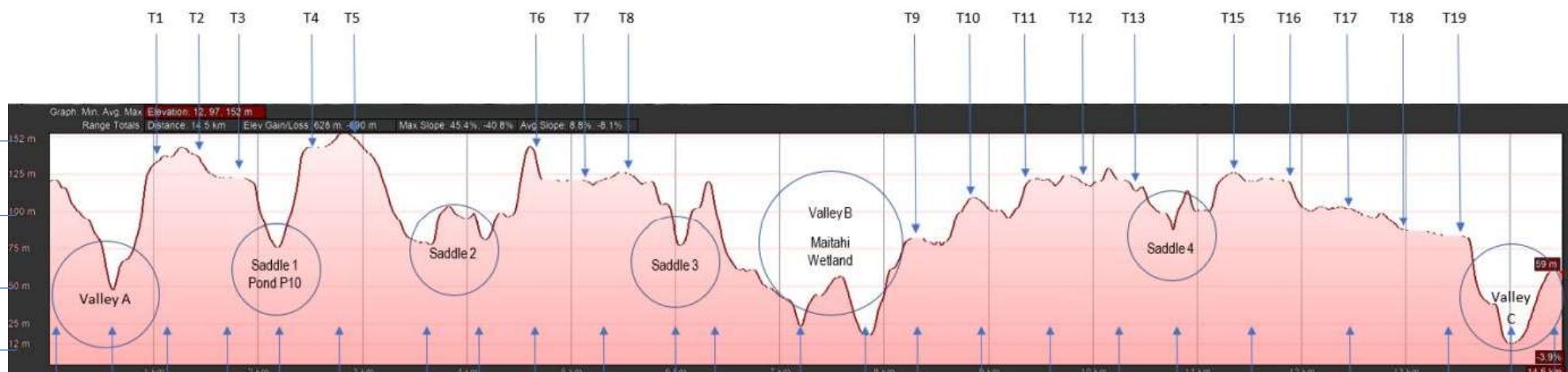
Turbine Locations

152 m

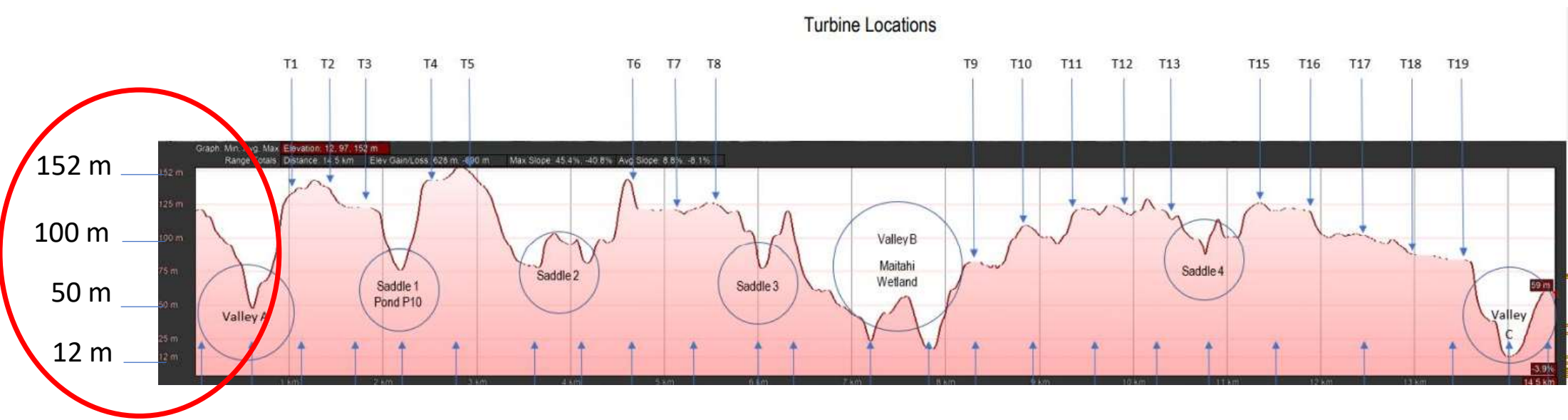
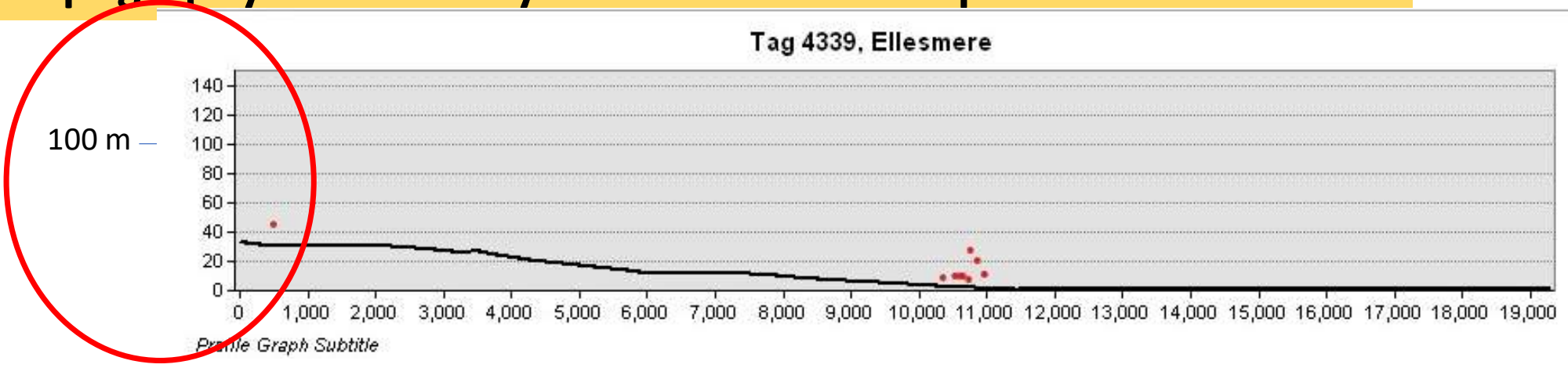
100 m

50 m

12 m



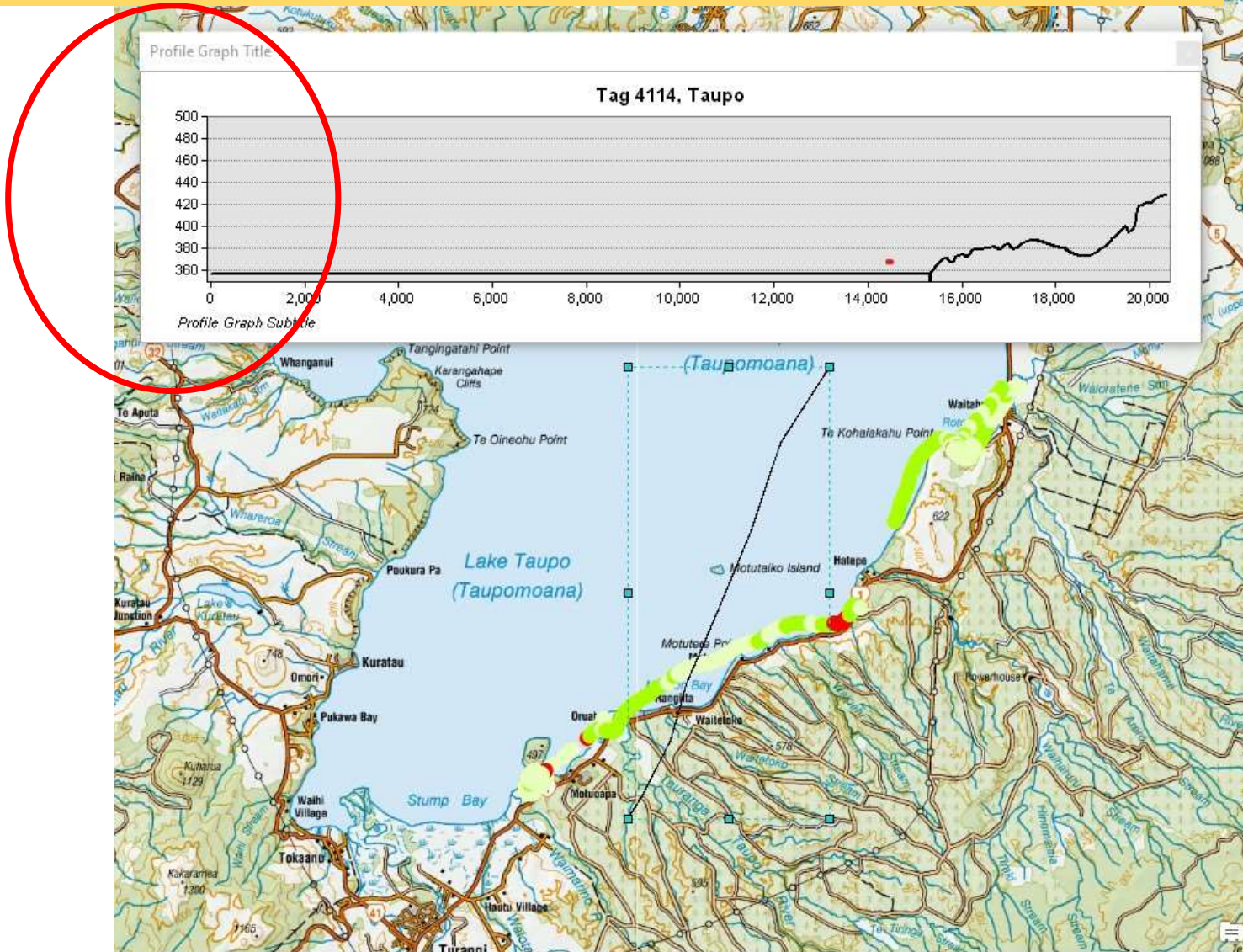
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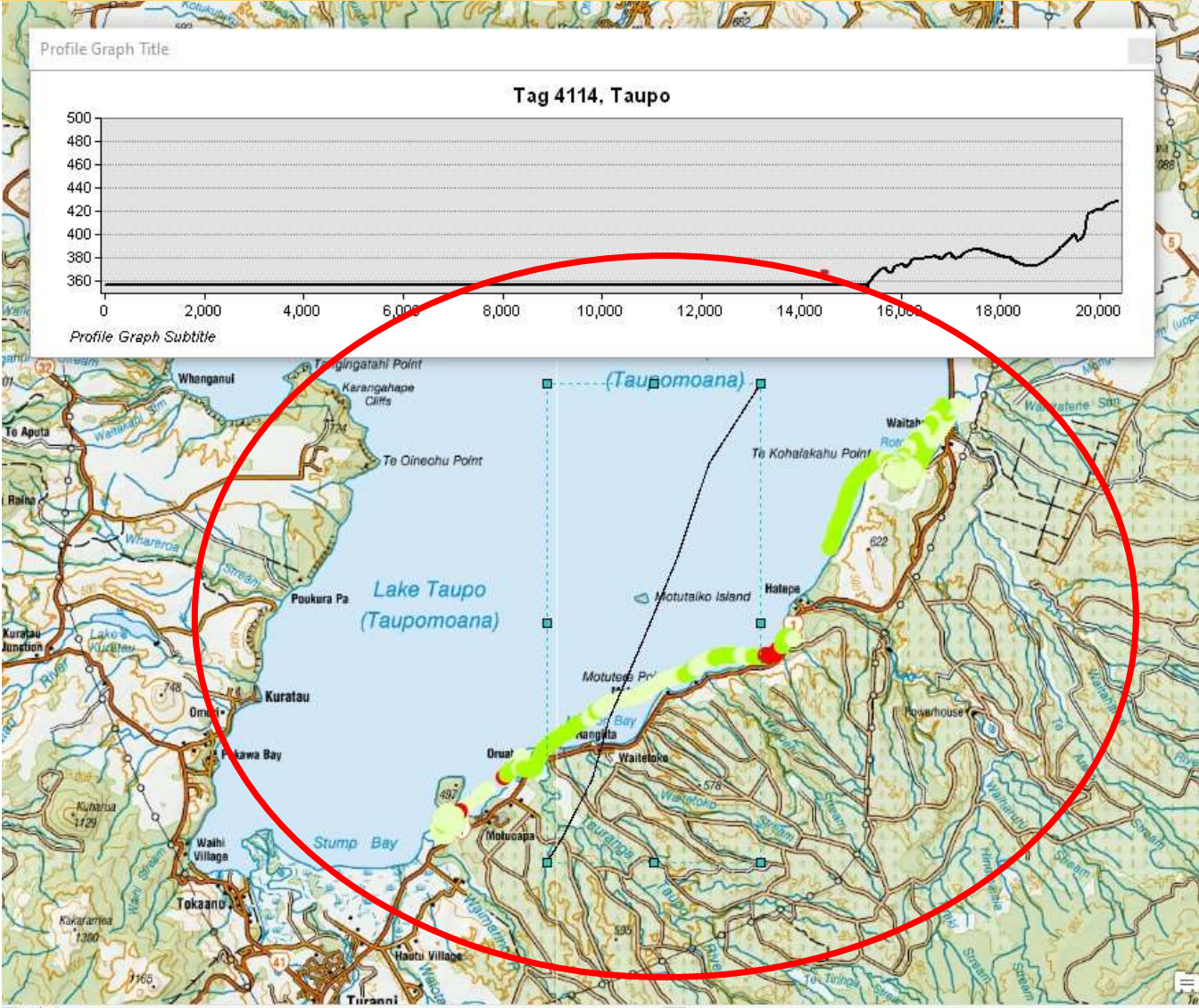
Topography traversed by Bird 4114 - Taupo



Topography traversed by Bird 4114 - Taupo



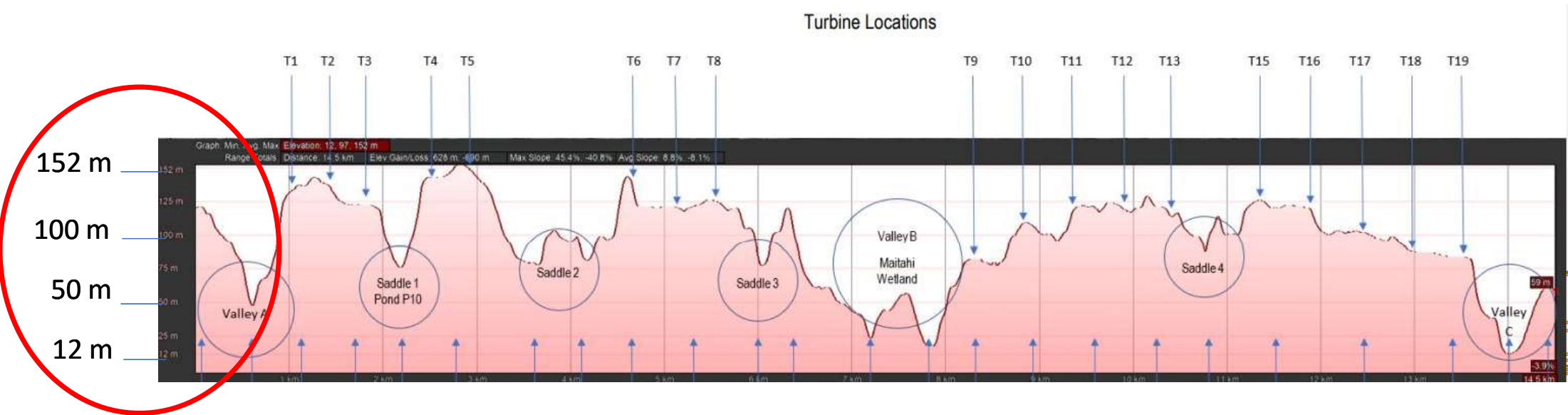
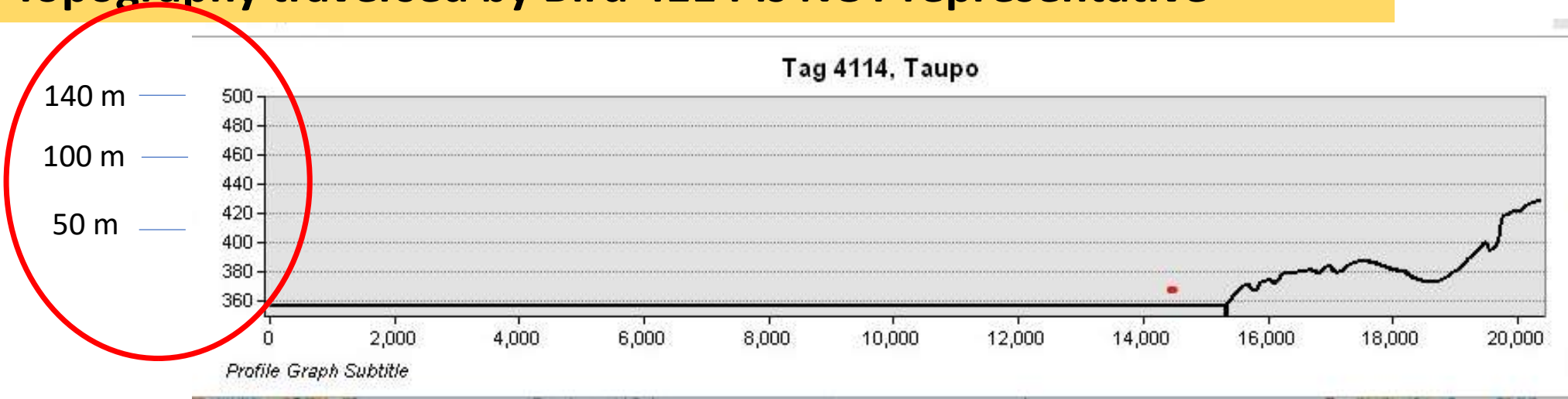
Topography traversed by Bird 4114 - Taupo



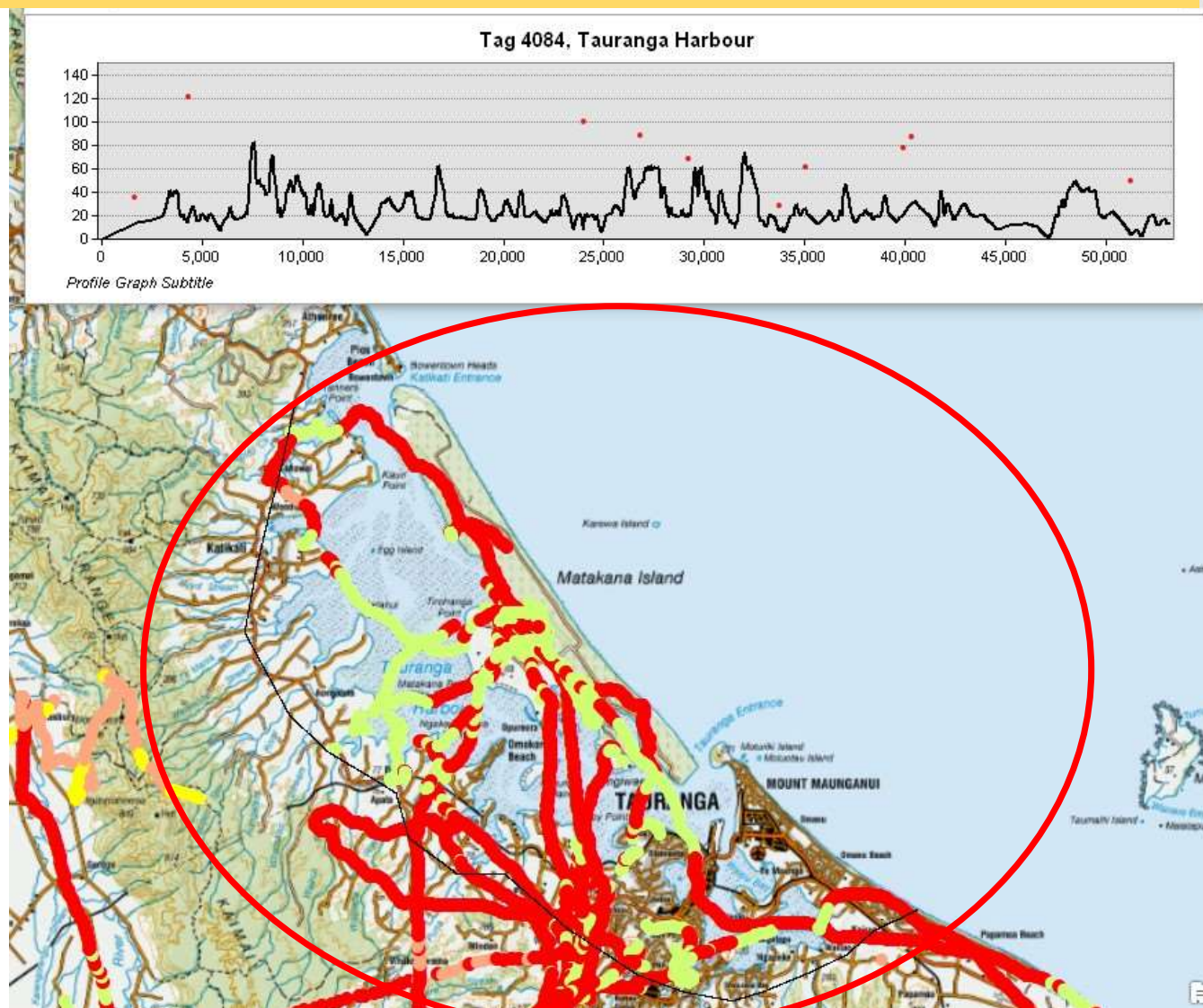
Topography traversed by Bird 4114 - Taupo



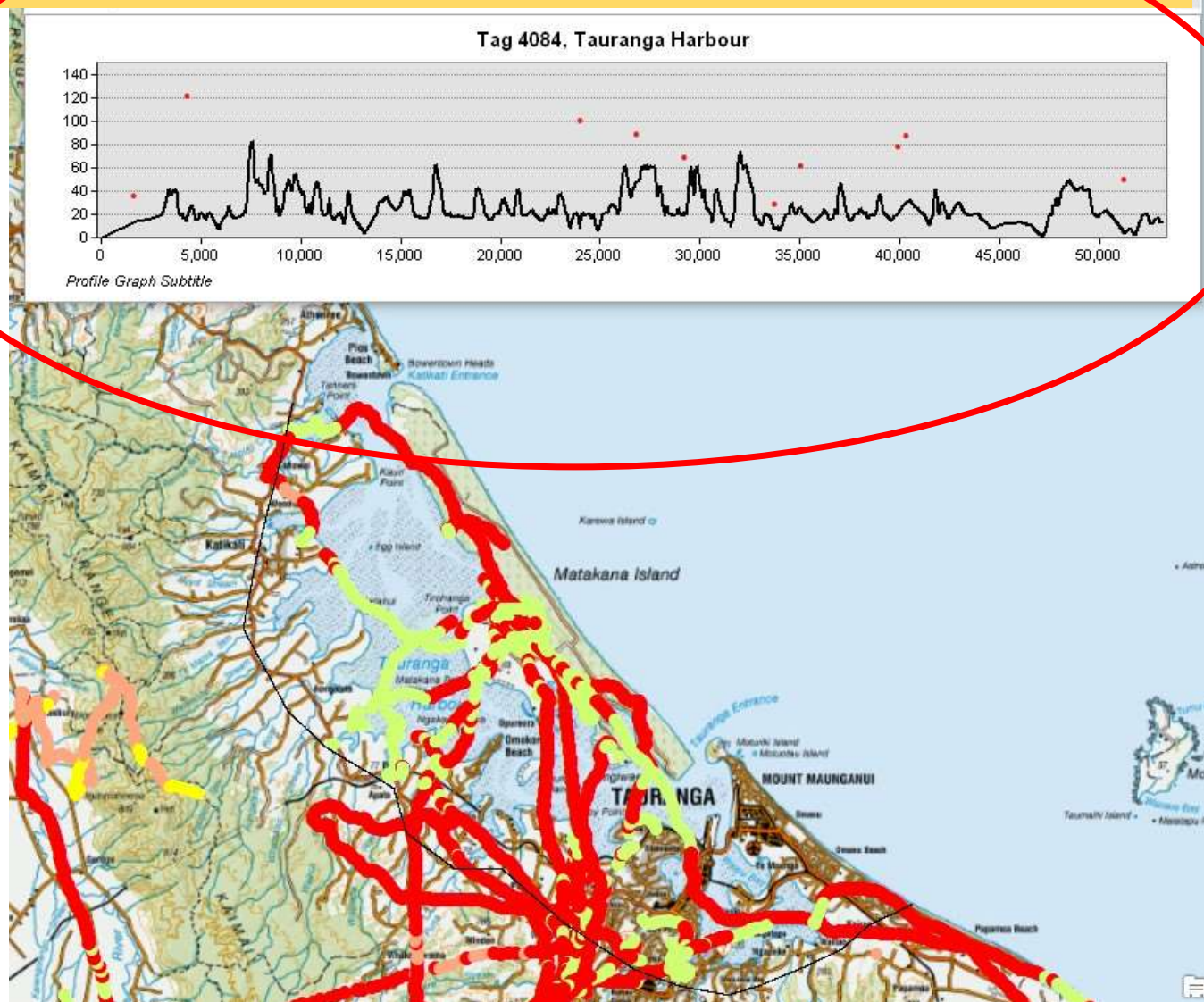
Topography traversed by Bird 4114 is NOT representative



Example of terrain traversed by Bird 4084

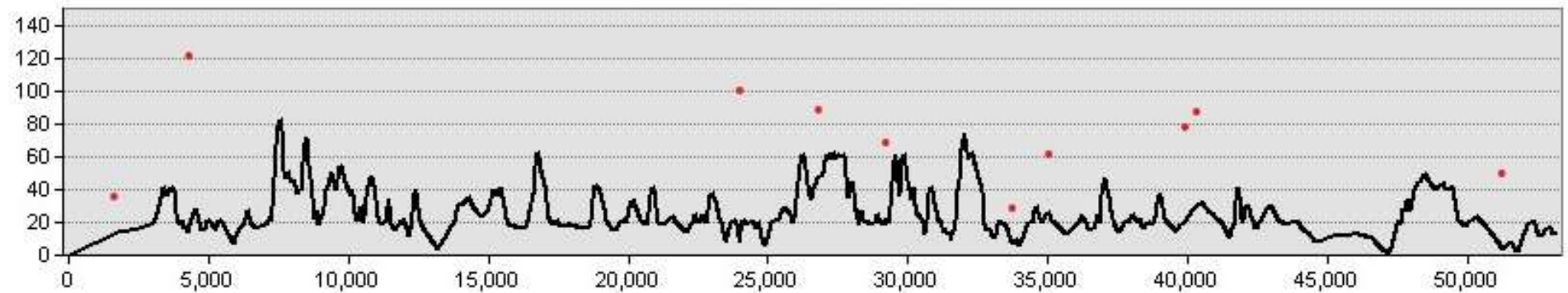


Example of terrain traversed by Bird 4084

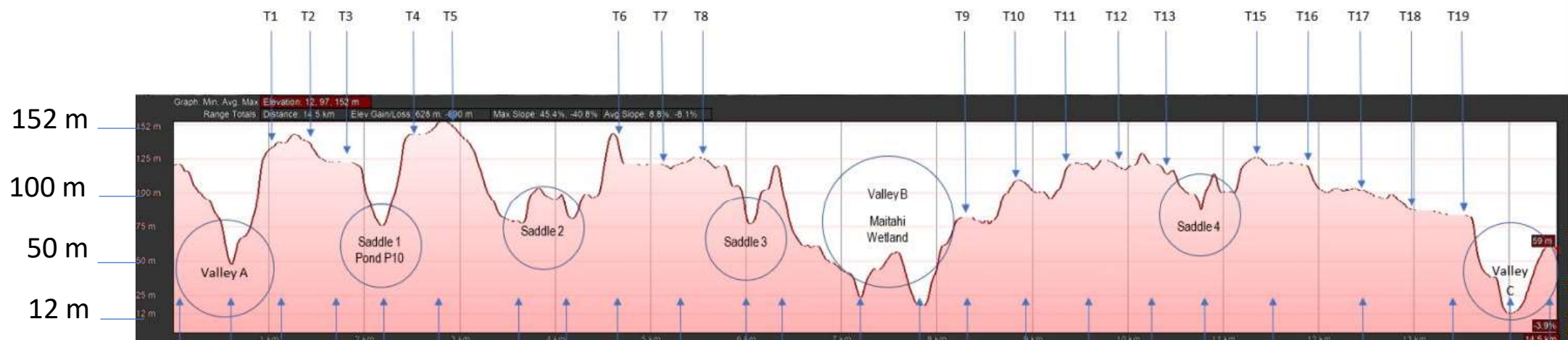


Bird 4084 traversed topography most similar to KWF (but is also not a perfect representation)

Tag 4084, Tauranga Harbour

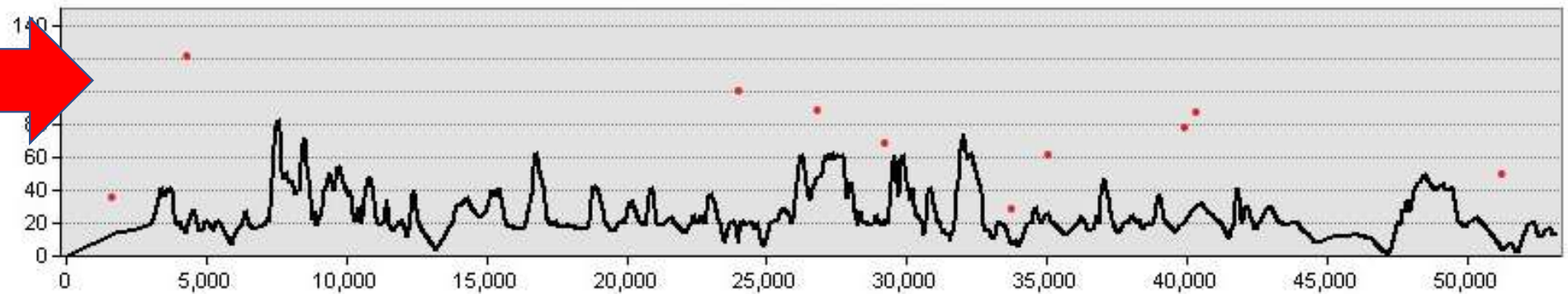


Turbine Locations



Bird 4084 traversed topography most similar to KWF (but is also not a perfect representation)

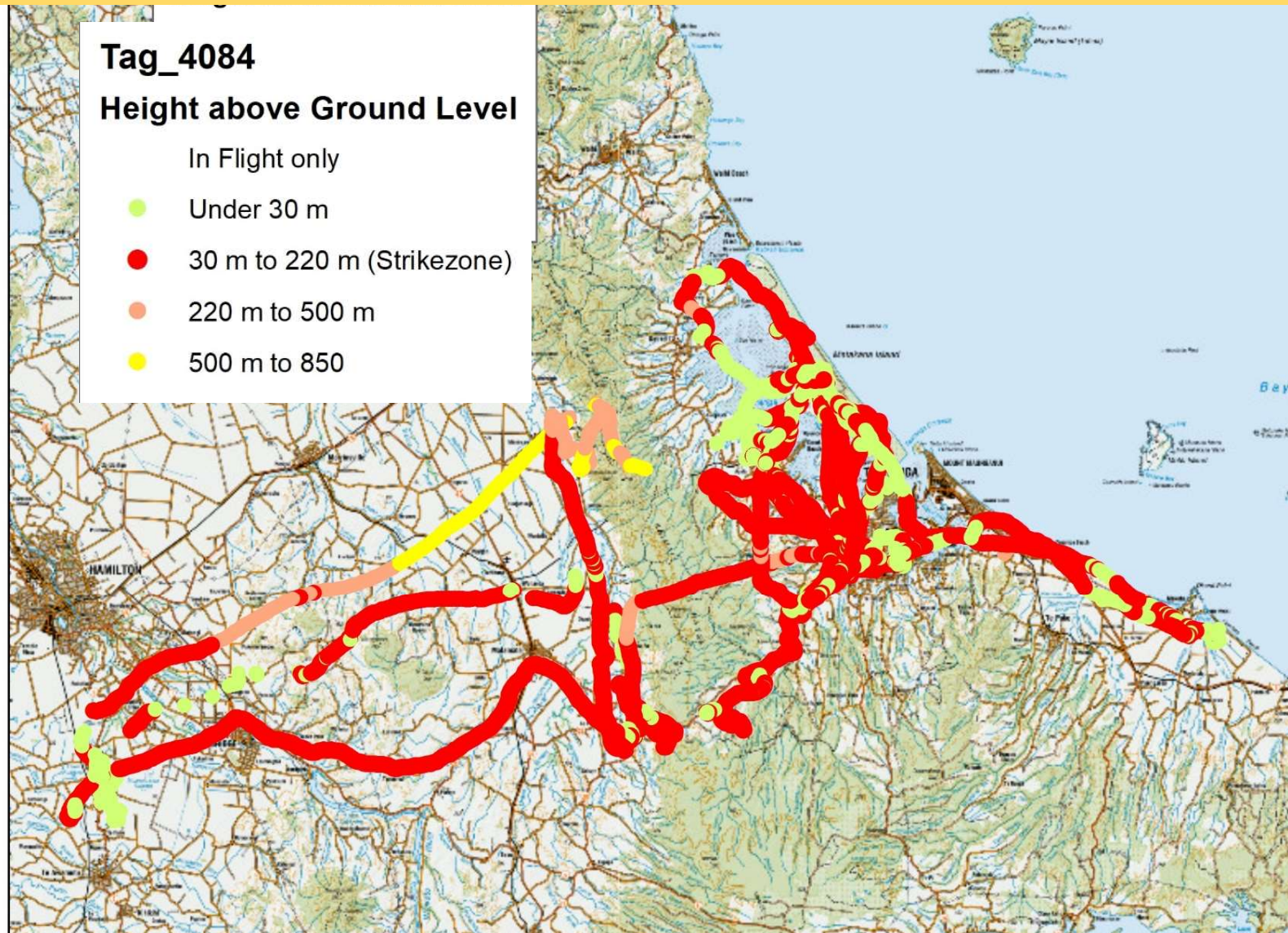
Tag 4084, Tauranga Harbour



Turbine Locations



Mixed terrain Bird 4084 - flew at rotorstrike height for 89 % of observations



Conclusions

- I standby everything I outline in my original Evidence in Chief
- My studies combined lead me to believe there is a high risk of matuku colliding with Turbines
- Based on these observations, I believe it is preferable not to locate a windfarm in the middle of a matuku habitat network
- It is also my belief that Mr Fuller's evidence underestimates the true risk of this Windfarm to matuku
- The examples are just a few of the discrepancies between my Evidence in Chief and Mr Fuller's supplementary evidence.
- I would be happy to address any discrepancies the panel verbally or in full in writing if the panel would afford me the time to do so.

Any Questions?

