

Comments on DRAFT Report on land exchange: Tukituki Water Security Project – Land Exchange Application (FTAA-2603- Loo3).

To: The Director-General of Conservation
Attention: DOC fast track approvals team

Submitter information:

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9(2)(a)



1. Introduction and background

Thank you for inviting me to make a comment on the Draft Report on the land exchange: Tukituki Water Security Project – Land exchange Application (FTAA-2603- Loo3)'. In this submission I will make comments on survey gaps and effort given, the subjectivity of assessment criteria and weighting, and corrections to vegetation assessment and threatened flora and fauna assumptions made.

2. Clarification:

The connotation in the DOC report is that I am representing Te Taiao Environmental Forum. To clarify, my comments were provided on behalf of Te Taiao Environmental Forum but were provided in my capacity as an expert giving evidence on behalf of Te Taiao Environmental Forum. Te Taiao Environmental Forum adopt my expert opinion as representing their position. *Can this please be clarified in the final doc report.*

3. General comments

The Department of Conservation's draft report comments on Biodiversity (terrestrial) and Freshwater values. While in places, the draft report gives a robust analysis e.g. stream and fish habitat (Appendix 4A), the report has, for these sections, relied heavily on the applicant's surveys, reports, and assumptions and is based on incomplete surveys.

4. Survey gaps and effort

Visits and associated survey effort for vegetation diversity, threatened plants and some wetlands within the Doc land parcels, especially for **Area A** (the land adjacent to the Makaroro river) and **Area F** (the bluff and alluvial vegetation 'island', at the confluence of the Makaroro and Dutch creek) is inadequate. I note that Kessels Terrestrial Ecology Report (2013) has widely be 'reused' in the TWSL report and when describing Doc land parcels. No new surveys of Doc Area A or F have been completed by the applicants or Wildlands (on behalf of Doc – Appendix 4A).

Table 1 (pages 2-5) clearly demonstrates that while 'all Doc land parcels' have been 'superficially' surveyed, they were not adequate surveys for threatened plants and or to identify bluff, seepage or wetland plant communities within land parcels A and F. This has major effects when assessing the 'value' of the Doc- give vs Doc get land.

Table 1: A summary of surveys conducted on Department of Conservation land parcels to date.

Reports	Land parcels	Type of survey / effort	Comments
Kessels 2013	All doc land parcels	Aerial photography	“Mapping of vegetation types was undertaken for the maximum flooded area and the footprint of the dam structure using recent aerial photographs ...The mapping process resulted in the classification of 17 broad distinctive vegetation communities... The proposed reservoir foot print was then visually rechecked and assessed from high vantage points and up to date aerial photography” Kessels 2013, pg 16 Note: Aerial photography will not give detail information on understory or presence of threatened plants or wetlands ecosystems with canopy vegetation. The swamp and other wetland areas in the Makaroro river block (land parcel A) were overlooked.
Kessels 2013	Land parcel F	'20 × 20m' plot in forest type	“More detailed surveys were taken using ...20 × 20m RECCE plots” Kessels 2013, pg 16 Note: “It is not clear why vegetation plots were measured, ...no use of the plot data for either determining vegetation types or for assessing potential effects [has been made]. Time spent doing vegetation plots could have been better spent doing a more thorough vegetation survey” Lloyd 2013, BOI evidence, pg 18 The 20 × 20m' plot in forest type would not provide information about non-forest threatened plants, bluff vegetation or alluvial 'toe slope vegetation' found within Land Parcel F
Kessels 2013	All doc land parcels	Field surveys	“Field surveys were conducted in September, October, November and December 2011... within all vegetation types within the reservoir. Attention was also given to margins of the proposed lake edge and tributary streams to assess the potential for wetland habitat to be recreated around the new lake edge” Kessels 2013, pg 16 Note: “In my brief site visit, I recorded an additional 30 indigenous plants species, primarily herbs, orchids, sedges and rushes of wetland and open riparian habitats that are not listed in Exhibit GK1 of Mr Kessels evidence. These omissions are significant, and remarkable

			given the apparent intensive botanical surveys from 2011-2013 that are described in paragraph 3.5 of Mr Kessel's evidence. The significance of these omissions are that: a. The people who undertook the surveys did not have sufficient plant identification skills to properly carry out the work. b. Riparian herb and wetland communities are not likely to have been adequately described. c. Threatened and At Risk plant species present in the project area are not likely to be recorded, especially if they are species of non-forested habitats. I note the peer reviewer of the draft TER also had concerns about the survey coverage of Threatened or At Risk plant species. d. It is certain that potential adverse effects on indigenous vegetation and plant species have been underestimated and this under-estimation may be significant." Lloyd 2013, BOI evidence pgs 15-16 Kessels surveys was not focused on locating threatened plants or plant diversity within the Doc land parcels. The swamp and other wetland areas in the Makaroro river block (land parcel A) were overlooked. Note Land parcel F was not considered a Doc land parcel at the time of surveys.
La Cock et al. 2015	Doc, SEB and Panpac forestry by air Makaroro river block- Land parcel A	View from the air And on foot parcel (survey effort given?)	"On 8 April the team assessed the two sites [Doc and SEB] as well as their surrounding from the air, and visited the Ruahine Forest Park Makaroro River site block in foot" La Cock pg 8. Note: Aerial viewing would not be adequate survey for threatened plants or specific plant communities. It is not clear how much time was spent on foot in the Makaroro river block compared to aerial survey on one day. The swamp area in the Makaroro river block was over looked. Bluff and seepage areas of Land parcel F was not considered a Doc land parcel at the time of survey, therefore would not have been a focus for Doc staff.

La Cock et al. 2015	Land parcel A (from ridge top) Land parcel B	View from across river and ridge On foot (Dutch creek)	“On 13th April G La Cock, G Rogers and J Scrimgeour attempted to access the Makaroro Bloc by approaching from the south and crossing the Makaroro River. Heavy rain in the Ruahines meant that the Makaroro River was swollen and too dangerous to cross. This trip, however, allowed us to gain an overview of the district to the south of Ruahine Forest Park revocation land and Smedley Exchange block” La Cock pg 9. “On 14th April the full team visited the PanPac wetland and the two parcels on the Ruahine Forest Park revocation land (Makaroro River and Dutch Creek). For the Makaroro River parcel we viewed the entire site from the top of the ridge above the central part of the site and Visited the eastern end near the old house site” La Cock pg 9. “For the Dutch Creek parcel we viewed the site from above the oxbow wetland, and walked up Dutch Creek. Three of us assessed the wetlandc, and two of us (G Rogers and J Scrimgeour) continued to the main block of black forest. Steep seepage areas next to the stream were searched for anything unusual botanically” La Cock pg 9. Note: Viewing from across the river or a ridge line would not be an adequate survey for threatened plants or specific plant communities. The swamp area in the Makaroro river block was over looked from ridge line and the new wetland in Dutch creek noted in Wildlands report 2026 was overlooked. The Oxbow wetland in Dutch creek would have been adequately assessed.
Budd et al. 2026 (Wildlands on behalf of DOC)	Doc land parcels Land parcel B	Relying on Applicant (Kessel 2013, TWSL 2026) and La Cock et al, 2015 reports for Doc land parcels surveys On foot (Dutch creek)	“In preparing this advice we have reviewed the following documents provided as part of the land exchange application: i. Land Exchange Assessment: Tukituki Water Security – Fast Track. Prepared by SLR consultants.... ii. Integrated Migitation and Offset Approach (IMOA)... iii. Land exchange documents associated with the Ruataniwha application (2013 to 2015) iv. Exchange of land overview report. Prepared by Mitchell Daysh...

			Site visits were undertaken to the SEB on 16 June 2026 and to Dutch Creek on 1 September 2026 as part of this review.” Note: Budd et al has relied heavily on TWSL report (which in turn is a ‘reused’ of Kessels 2013 report) and La Cock et al 2015 report for plant communities, threatened plants and flora and fauna assessment. Budd et al 2026 critiques some past vegetation assessment within Doc land parcels and SEB, the limitations of the survey in places, and discusses a new wetland within Dutch Creek. However, there is an overreliance on Kessel 2013, TWSL 2026 and La Cock et al 2015 reports when referring to vegetation, ecosystem types and the status of threatened flora within the Doc land parcels. <u>The only survey was conducted with in Dutch creek.</u> The Oxbow wetland in Dutch creek would have been adequately assessed and new wetland identified. <u>Doc land parcels A and F were not surveyed.</u> Therefore, other wetlands and potential threatened plants have been overlooked in the latest survey.
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A complete and adequate assessment of vegetation and ecosystems for land parcels A and F are required before any fair assessment of Doc – Give and Doc – Get land can be made. This necessary requirement before a Final report should be submitted for the ‘Expert Consenting Panel’.

Areas that I believe need reassessing are:

- 1) River terraces, Swamp and wetland areas in Parcel A – See drone footage of areas of interest below.



Figure1: Drone footage of Doc land parcel A, showing river terrace, a swamp and other ‘wetland’ areas.

2) Bluff vegetation, alluvial and toes slopes forest in land parcel F – See drone footage of areas of interest below.



Figure 2: Drone footage of Doc land parcel F 'island', showing bluff and seepage vegetation communities and alluvial 'toe slope' with emergent and juvenile Kahikatea adjacent to the Makaroro river

5. Rating and weighting of terrestrial and freshwater ecology criteria

The justification of rating of 'High', 'Medium' or 'Low' seem to be subjectively determined for terrestrial and freshwater values of: 'Representativeness', 'Diversity and pattern', 'Rarity and distinctiveness' and 'Ecological context'.

Specific attributes used in the ratings are not clearly weighted and / or given equal weighting (pt 39, Draft report). Clearer justification ratings are certainly required and equal weighting does not seem reasonable strategy in places. For example, diversity and pattern could be assessed on 'underlying geology and altitudinal range', 'diversity of habitats', 'diversity of plants', 'diversity of fauna', 'number of wetlands' or 'quality of wetlands', it is hard to understand what of the attributes has been or should have a high or lower weighting. Again, 'Rarity and distinctiveness' could be assessed on what flora and fauna is observed and 'actually present' vs 'potentially present' – what has a higher weighting? I have made further points on the issue of 'actual and potential presence in point 6 below.

Furthermore, all land parcels should be included in the rank assessment. That is, Doc Land parcels A and F have not been recently surveyed and hence, for example the values of terrestrial 'Diversity and pattern' and 'Rarity and distinctiveness' are likely to be under-estimated for Doc- Give land. The seepage, bluff, river terrace and wetland habitats in Doc land parcels A & F have not have been included in 'Diversity and pattern' or 'Rarity and distinctiveness' criteria.

An objective and transparent method for ranking values is required. I question whether it is the role of 'Expert consenting panel' to come up with a weighting criterion for ecological values (pt 39, draft report) or whether this is a role for suitable experts within Department of Conservation.

6. Actual vs potential presence of threatened species

The observed and actual presence of threatened species on land parcels should carry a higher weighting than potential presence of threatened species. Potential presence or habitat of threatened species still holds some value but not as high a what has 'actually been observed'. Weighting of the attributes and the ranking of the value, as a whole, should reflect this position.

Table 2A & B clarifies where threatened species are 'actually present' based on Kessel 2013, La Cock et al 2015 and Budd et al 2026 surveys. It is obvious from this table that Doc-give (the land parcels that have been surveyed) has far more threatened species present in comparison to the Doc-get land which is based mainly on assumptions and some searches. Budd et al (2026) does discuss this point but does not reflect this when applying rank scores. Therefore, a reassessment of the ranks given to all values and specifically to 'Diversity and pattern' and 'Rarity and distinctiveness' values is required based on the finding in Table 2A & 2B.

Table 2 A: Threatened fauna observed and actually present contrasted with potentially present within Doc -give and Doc -get land parcels.

Species	Doc land parcels (Doc-give)		Smedley Exchange Block (Doc -get)		Comments
	Actually present	Potentially present	Actually present	Potentially present	
Long-tailed bat <i>Chalinolobus tuberculatus</i>	×	-	-	×	Long -tailed bat is Threatened – Nationally Critical. The bats were detected in high numbers shortly after dusk, specifically at stations 3, 6, 10 & 12. The timing of bat detection after dusk suggests that these sites could be roosting areas. Stations 3 & 6 are on Doc land parcel F and Dutch creek and 10 and 12 are within the dam footprint, adjacent to Smedley Exchange Block. Roosting or feeding habitat should have a higher weighting than areas where it is likely bats are just passing through, see comment below from Kessels 2013. “There were clear peaks in activity in the first three hours after dusk, and then again shortly before dawn. This pattern is most obvious for monitoring stations 3, 6, 10 and 12. Of particular interest is the activity within the first hour at stations 10 and 12, which began only 20 minutes after official sunset. This indicates the bat roost may be in the immediate vicinity of these monitoring stations. In contrast, activity outside the reservoir area rarely began within the first hour after sunset, and when it did, only a small number of calls were detected...” Kessels (2013), pg 47
Whio / Blue Duck <i>Hymenolaimus malacorhynchos</i>	×	×	-	-	Whio / Blue Duck is Threatened – Nationally vulnerable. A pair of Whio has been sighted and photographed by Peter McGregor in December 2022, adjacent (less than 10m) away from Doc land parcel A. Whio could also potentially use Dutch creek as feeding and resting and nesting habitat. Comments from Budd et al. 2026 also suggest that there is no suitable habitat on SEB for Whio. The presence of Whio, a threatened – Nationally vulnerable species in Doc give land should warrant a higher weighting and ranking for rarity values. There is no habitat with SEB suitable for Whio.

New Zealand falcon <i>Falco novaeseelandiae</i>	×	-	-	×	NZ Falcon is Threatened – At Risk. NZ Falcon are present within Doc Land parcel F, using the high bluffs as most likely as a nesting site in 2013 and still potentially using this site for nesting - I have sighted NZ Falcon in the same are on numerous occasions in 2025 and 2026. Falcon were not seen on SEB but could be potentially using this landscape for feeding. Actual sightings and nesting habitat warrant a higher ranking than potentially using habitat. “...NZ bush Falcon was most likely nesting in the site during spring...In addition to the falcon observation on 23/09/2011, birds were observed on several other occasions in the vicinity of the steep forested area shown in Photo 9. It is likely they were the same pair...” Kessels (2013), pg 32-33
New Zealand Fernbird <i>Poodytes punctatus</i>	×	-	-	×	New Zealand Fernbird is Threatened- At Risk Declining. Fernbird are noted as present in the Dutch Creek Oxbow wetland in 2013, 2015 and 2026. In contrast, Fernbird were not found in the SEB block in 2013 and 2015. Actual presence warrants a higher ranking than potential habitat available. Note: NZ Fernbird were searched for in SEB on at least two separate occasions. “At least 3 individual birds were heard on the margins of Dutch Creek throughout the survey period. A pair was consistently detected in the shrubland/wetland about five-minute count station B4 [Oxbow wetland].” Kessels 2013, pg 34 “However, two fernbirds were heard at the Panpac wetland and we heard two fernbirds at the oxbow site.” La Cock et al 2015, pg 11 “Fernbird (At Risk – Declining) were heard calling from vegetation on the true left side of Dutch Creek during the site visit undertaken by Wildlands on 1 September 2026. The location is slightly upstream of the oxbow wetland.” Budd et al 2026 pg 13. “Specific eliciting calls for fernbird within potentially suitable habitat were nevertheless performed.” “North Island fernbird (<i>Bowdleria punctate vealeae</i>), was not found to be present in the SEB...” Kessels 2013 SEB report, pg 3 & 14 “We didn’t record North Island fernbirds on the Smedley Exchange Block” La Cock <i>et al.</i> 2015 pg 17

NZ pipit <i>Anthus novaeseelandiae</i>	-	×	-	×	NZ pipit is Threatened – At Risk (declining). While this bird has not been observed on either Doc land parcels or SEB. The bird was found within the braided river habitat within the dam footprint. Kessels et al 2013 pg 33. It is possible the NZ pipit could be found within either of the land parcels (Doc-Give and Doc-get).
Hawke's Bay tree weta <i>Hemideina trewicki</i>	?	×	-	×	Hawke's Bay Tree weta is Threatened -At Risk (Relic). The weta could be potentially found at both sites but strong likely-hood of being found at Doc land parcel F, as many weta were observed at S2 but not fully identified. "The 14 casual observations of invertebrates (Table IX, Appendix IX) also included three tree weta (<i>Hemideina</i> sp., all at S2 [Doc land parcel F]) that could potentially represent the "At Risk" species <i>Hemideina trewicki</i> or Hawke's Bay tree weta (Hitchmugh et al 2007)" Kessels 2013, pg 63.
Long fin eel <i>Anguilla dieffenbachia</i>	×	-	-	×	Young et al. 2013 surveyed fish within Dutch creek and at the confluence of Makaroro river and Dutch creek, all fished noted here were found within the Doc land parcel areas. Budd et al 2026 noted that most SEB streams are not suitable for fish which are present in Doc land parcels (Pt 60,pg 24) . This has been somewhat considered for the freshwater /wetlands values but not for the 'Rarity and distinctiveness' value (e.g. both Doc give and Doc get land are given a M rank?).
Koaro <i>Galaxias brevipinnis</i>	×	-	-	-	
Dwarf Galaxias <i>Galaxias divergens</i>	×	-	-	-	
Torrent fish <i>Cheimarrichthys fosteri</i>	×	-	-	-	
Bluegill bully <i>Gobiomorphus hubbsi</i>	×	-	-	-	
Red Finned bully <i>Gobiomorphus huttoni</i>	×	-	-	-	

Table 2 B: Threatened flora observed and actually present contrasted with potentially present within Doc -give and Doc -get land parcels.

Species	Doc land parcels (Doc-give)		Smedley Exchange Block (Doc -get)		Comments
	Actually present	Potentially present	Actually present	Potentially present	
Red Mistletoe <i>Peraxilla tetrapetala</i>	×	-	-	- (searched for/ host tree present)	Red Mistletoe is Threatened – At Risk (Declining). Red Mistletoe was found within Doc land parcel B and not found within the Smedley Exchange Block. Actual presence warrants a higher ranking than potential habitat available. Note: Red Mistletoe were searched for in SEB by Doc staff during 2015 survey. Also, Kessels 2013 noted that in can be difficult to transplant mistletoe even if host beech trees are available. “Although one red mistletoe was found on Ruahine Forest Park revocation land in Dutch Creek, none have been observed on Smedley Exchange Block” La Cock et al 2015. “However, growing mistletoe from seed is difficult and generally has only a low success rate. Nevertheless, suitable beech forest habitat is present within the SEB block for this to occur.” Kessels 2013, SEB report pg 21.
<i>Anaphalioides subrigida</i>	?	×	-	-	<i>Anaphalioides subrigida</i> is Threatened – At Risk (Naturally uncommon). This plant is found in mudstone seepage approximately 15 meters away from Doc land parcel F. Search of mudstone / bluff areas on Doc land parcel F is required to confirm any presence. However, <i>Anaphalioides subrigida</i> highly likely to be present at this Doc Land parcel F. No mudstone, seepage, bluff habitat is found within the SEB.
Kohepiro <i>Scandia rosifolia</i>	-	×	-	-	Kohepiro is a Threatened - Nationally Vulnerable plant. This plant was found within the dam footprint on bluff / cliff habitat. Kohepiro is potentially present at this Doc Land parcel F. No cliff / bluff habitat is found within the SEB. “As I noted in my evidence chief, Threatened and At Risk plant species present in the project area were not likely to have been recorded due to insufficient survey. During my walk along the top of the cliffs on 16th October 2013 I saw several plants of <i>Scandia rosifolia</i> (At Risk – Declining) [Now Nationally Vulnerable] in rocky cliff top habitat (plate 4), and it is very likely that a substantial population of this species is present on the cliffs below. Lloyd 2013, BOI supplementary evidence pg 6.

7. Corrections to the draft report, to be amended:

- **Point 51 “No survey for red mistletoe has been carried out on the DOC – Get land.”** This is incorrect as La Cock et al. (2015) states: “Although one red mistletoe was found on Ruahine Forest Park revocation land in Dutch Creek, none have been observed on Smedley Exchange Block” This implies that Doc staff in 2015 had searched for Red mistletoe on the Doc-Get land.
- **Point 52 “Wildlands highlights the possibility of other threatened species present in cliff seepages on the Doc land. This was explored in 2013 when the site was surveyed by DOC staff and no additional threatened plant species were discovered at the time”.**

This statement is incorrect. La Cock et al. surveyed in 2015 and the survey time and locations checked physically by La Cock et al were not appropriate to identify threatened plant species on cliff seepages (see Table 1). Furthermore, the recent addition of Doc land parcel F means an important section of bluff and cliff seepage was not covered in the La Cock et al’s survey nor has this be covered by the Applicant survey or Wildland’s recent survey.

It is important to acknowledge that if threatened plants are not seen during brief surveys, it does not mean they are not present. It is highly likely that there will be threatened plants present, indeed I observed the Threatened - At Risk plant *Anaphalioides subrigida* on seepage cliffs every close to the Doc Land parcel F (see Figure 3). It is reasonable to include this At Risk species and others as a ‘potentially’ present within Doc land parcel F / Doc-give land (see Table 2B).





Figure 3: Large plants of *Anaphalioides subrigida* present on mudstone seepages, location: Lat -39.743943, Long. 176.266099.

- **Page 27, Appendix 4A, the table noting Threatened and At Risk species to justify Rarity and distinctiveness values is misleading and incorrect.**

Rarity & Distinctiveness	M – Red mistletoe (Declining), North Island fernbird (Declining), and potentially long-tailed bat (Threatened - Nationally Critical), and whio (Threatened - Nationally Vulnerable). Indigenous vegetation on land environments with <20% indigenous cover left (22 ha).	Agree with overall rating.	M – Potentially long-tailed bat (Threatened - Nationally Critical) and several other Threatened or At Risk species such as bush falcon (Threatened - Nationally Increasing), North Island fernbird (At Risk – Declining), New Zealand pipit (At Risk – Declining), red mistletoe (At Risk – Declining), Hawke's Bay tree wētā (Relict), Ngahere gecko (At Risk -	<u>Scenario 1</u> It is likely this criterion will remain at M or decrease to L in the absence of management (particularly the control of predators and possums), noting that in the absence of more robust surveys of the SEB, there is still some degree of uncertainty
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SRL report wrongly states for the Doc land “Potentially long tailed bat and Whio present”. Both Long tailed bat and Whio are present within Doc land parcels and also NZ Falcon has been omitted. This bird has been observed recently in Doc land parcel F and assumed nesting at this location in 2012 (Kessels 2013, pg 35). Threatened fish species in SLR report - Koaro (*Galaxias brevipinnis*) has been omitted from the list of fish species in the Doc land parcel.

Furthermore, SLR report may overstate the threatened fauna ‘potentially’ found in the SEB block. Many of these species were found adjacent to SEB (Kessels 2013) and therefore could equally be within the Doc land parcels. This should be corrected in the table to reflect this, along with an adjusted ranking appropriately weighted. See point 6 of my comments above for clarification.

The Issues below must be address before the final report is submitted to the 'Expert consenting panel':

- 1. Re survey of Doc land parcels, A and F. Independent of the applicant's assessment.**
- 2. Systematic survey for threatened plants in the appropriate sites.**
- 3. Reassessment of rankings of Doc-give and Doc get based on logical and transparent weightings. E.g. higher weighting given to Threatened species actually present.**
- 4. Corrections within the Doc draft report made (see point 7 above).**