Notice is hereby given that a Meeting of the Te Anau Community Board will be held on:

Date:	**Wednesday, 24 October 2018**
Time:	**2.00pm**
Meeting Room:	**Distinction Hotel & Villas**
Venue:	**64 Lakefront Drive**
	Te Anau

Te Anau Community Board Agenda
OPEN

MEMBERSHIP

Chairperson	Rachel Cockburn
Deputy Chairperson	Sarah Greaney
Members	Shaun Cantwell
	Mary Chartres
	Kara Matheson
	Tony O'Loughlin
	Councillor Ebel Kremer

IN ATTENDANCE

Committee Advisor	Jenny Labruyere
Community Partnership Leader	Simon Moran

Contact Telephone: 0800 732 732
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Full agendas are available on Council's Website
www.southlanddc.govt.nz

Note: The reports contained within this agenda are for consideration and should not be construed as Council policy unless and until adopted. Should Members require further information relating to any reports, please contact the relevant manager, Chairperson or Deputy Chairperson.

Terms of Reference – Community Boards

Community Boards are bodies established by statute. Their responsibilities and powers are as delegated by the Southland District Council which are to:

- Represent and act as an advocate for the interest of its community.
- Consider and report on all matters referred to it by the Southland District Council, or any matter of interest or concern to the Community Board.
- Maintain an overview of services provided by the Southland District Council within the community.
- Consider annual estimates for expenditure within the community and recommend these to Council.
- Communicate with community organisations and special interest groups within the community.
- Undertake any other responsibilities that are delegated to it by the Southland District Council.

In addition to these activities, Community Boards will consider how best to provide for their communities, and the people who live there, into the future.

Community Board members will provide leadership by:

- Positively representing their community and the Southland District
- Identifying key issues that will affect their community's future and work with Council staff and other local representatives to facilitate multi-agency collaborative opportunities.
- Promote a shared vision for the wider community of interest area and develop ways to work with others to achieve positive outcomes

- Community Boards will adopt a strategic focus that will enable members to:
- Provide local representation and guidance on wider community issues, initiatives and projects.
- Contribute to the development and promotion of community cohesion, by developing and supporting relationships across a range of stakeholders at a local, regional and national level.
- Take part in local community forums, meetings and workshops.
- Inform local residents and ratepayers on issues that affect them.

Community Boards shall have the following delegated powers and be accountable to Council for the exercising of these powers

Engagement and representation by:

- Facilitating the Council's consultation with local residents and community groups on local issues and local aspects of district wide issues including input into the Long-term Plan, Annual Plan, and policies that impact on the Board's area.
- Engaging with council officers on local issues and levels of service, including infrastructural, recreational, community services and parks, reserves and cemetery matters.
- Representing the interests of the community at Council, Committee or Subcommittee meetings when a motion under debate relates to a matter that the Board considers to be of particular interest to the residents within its community.
- Monitoring and keeping the Council informed of community aspirations and the level of satisfaction with services provided.

Financial by:

- Approving expenditure within the limits of annual estimates.
- Approving unbudgeted expenditure for locally funded activities up to the value of $10,000.

Rentals and leases

- In relation to all leases of land and buildings within their own area, on behalf of Council;
  - Accepting the highest tenders for rentals of $10,000; or less per annum.
  - Approving the preferential allocation of leases where the rental is $10,000 or less per annum.

Local assets and facilities by

- Overseeing the management of local halls and community centres which are owned by Council and where no management committee exists. This will occur by way of relationship with officers of Southland District Council.
- Appoint a local liaison person responsible for community housing.

Some Community Boards have specific delegations in addition to the broad delegations above:

Stewart Island/Rakiura Community Board

- Contributing to the development of policy relating to the governance of the Stewart Island Electrical Supply Authority (SIESA).
- Overseeing the management of SIESA by way of relationship with officers of Southland District Council.

Te Anau Community Board

- Overseeing the management of the Te Anau/Manapouri Airport by way of relationship with officers of Southland District Council.

The Community Boards can make recommendations to Council on:

Assets and Facilities

- Annually providing feedback on any asset management plans or community services strategies applicable to the community for which the Community Board is responsible.

Rentals and leases

- In relation to all leases of land and buildings within their own area, on behalf of Council;
  - Recommending rentals in excess of $10,000 per annum to the Group Manager Services and Assets
  - Recommending the preferential allocation of leases where the rental is in excess of $10,000 per annum to the Group Manager Services and Assets.

Contracts/Tenders

- Recommending tenders less than $200,000 to the Group Manager Services and Assets.
- Recommending tenders in excess of $200,000 to the Services and Assets Committee.
- Recommending tenders to the Services and Assets Committee where preference is not for acceptance of the highest tenderer,

Financial

- Recommending annual estimates to Council.
- Recommending unbudgeted expenditure in excess of $10,000 to the Services and Assets Committee.

Local Policy

- Considering matters referred to it by officers, the Council, its committees or subcommittees, including reports and policy and bylaw proposals relating to the provision of council services within the Board's area; and
- Making submissions or recommendations in response to those matters as appropriate.

The Chairperson of each Community Board is delegated with the following additional responsibilities:

- Approval of leases, rental agreements and the rollover of existing contracts under $1,000;
- Engaging with Community Board members to make submissions to the Council on behalf of the Community Board where a submission period is outside of the Community Board meeting cycle. Where a Chairperson is unable to base a submission on a consensus among Community Board members, a Community Board meeting must be held.

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PROCEDURAL

REPORTS

COMMITTEE REPORTS

8.1 Chairperson's Report

The Chairperson, Member Cockburn to report on matters with which she has been involved since the Board's last meeting.

COUNCILLOR'S REPORT

9.1 Councillor's Report

Councillor Kremer to report on matters from the District Council table.

1 Apologies

At the close of the agenda no apologies had been received.

2 Leave of absence

At the close of the agenda no requests for leave of absence had been received.

3 Conflict of Interest

Committee Members are reminded of the need to be vigilant to stand aside from decision-making when a conflict arises between their role as a member and any private or other external interest they might have.

4 Public Forum

Notification to speak is required by 5pm at least two days before the meeting. Further information is available on www.southlanddc.govt.nz or phoning 0800 732 732.

5 Extraordinary/Urgent Items

To consider, and if thought fit, to pass a resolution to permit the committee to consider any further items which do not appear on the Agenda of this meeting and/or the meeting to be held with the public excluded.

Such resolution is required to be made pursuant to Section 46A(7) of the Local Government Official Information and Meetings Act 1987, and the Chairperson must advise:

(i) the reason why the item was not on the Agenda, and

(ii) the reason why the discussion of this item cannot be delayed until a subsequent meeting.

Section 46A(7A) of the Local Government Official Information and Meetings Act 1987 (as amended) states:

"Where an item is not on the agenda for a meeting,-

(a) that item may be discussed at that meeting if-

(i) that item is a minor matter relating to the general business of the local authority; and

(ii) the presiding member explains at the beginning of the meeting, at a time when it is open to the public, that the item will be discussed at the meeting; but

(b) no resolution, decision or recommendation may be made in respect of that item except to refer that item to a subsequent meeting of the local authority for further discussion."

6 Confirmation of Minutes

6.1 Meeting minutes of Te Anau Community Board, 29 August 2018

Te Anau Community Board

OPEN MINUTES

Minutes of a meeting of Te Anau Community Board held in the Distinction Hotel & Villas, 64 Lakefront Drive, Te Anau on Wednesday, 29 August 2018 at 2.00pm.

PRESENT

That

Chairperson	Rachel Cockburn
Deputy Chairperson	Sarah Greaney
Members	Shaun Cantwell
	Tony O'Loughlin
	Councillor Ebel Kremer

IN ATTENDANCE

Committee Advisor	Jenny Labruyere
Community Partnership Leader	Simon Moran
Group Manager Services and Assets	Matt Russell
Strategic Manager Property	Kevin McNaught
Communications Manager	Louise Pagan

PUBLIC GALLERY

John Greaney, Richard Wason, Mark Fletcher

1 Apologies

Apologies for non-attendance were lodged by Members Chartres and Matheson.

Moved Cr Kremer, seconded Deputy Chairperson Greaney and **resolved:**

That the Te Anau Community Board accept the apologies for non-attendance by Members M Chartres and K Matheson.

2 Leave of absence

There were no requests for leave of absence.

3 Conflict of Interest

There were no conflicts of interest declared.

4 Public Forum

J Greaney – on behalf of the Fiordland Trails Trust

Mr Greaney addresses the Board on behalf of the Trails Trust in support of the Trust's submission to the Councils Long Term Plan 2018-2028.

Mr Greaney outlined issues the Trust believes the Board could assist with when considering future community development planning within the Long Term Plan.

Richard Wason

Mr Wason highlighted a recent article in the Advocate South, raising the issues the town had during last years' hot dry summer when water restrictions and hosing bans were put in place, and requested the Board and Council be prepared to avoid the same happening for the coming summer.

Mr Russell responded that he will investigate the situation further, and in the mean-time will have the Communications Team respond to the letter in the advocate and prepare an advisory notice for the public prior to the busy summer period.

5 Extraordinary/Urgent Items

There were no Extraordinary/Urgent items.

6 Confirmation of Minutes

Resolution

Moved Member Cantwell, seconded Member O'Loughlin **and resolved:**

That the minutes of Te Anau Community Board meeting, held on 27 June 2018 be confirmed as a true and correct record.

Reports

7.1 Council Report

Record No: R/18/8/19672

Simon Moran (Community Partnership Leader) and Councillor Kremer presented the report.

Mr Moran advised the purpose of the report is to provide an overview of key issues across the Southland District, as well as high level local issues from various Council units.

Both Mr Moran and Councillor Kremer highlighted the various issues of interest including;

- Three Waters issues
- Local Government funding, Climate Change and Localism Projects are all Government driven projects
- Council Strategic Workshop
- Milford Opportunities - increase in the level of communications and engagement with the public and stakeholders to assist with the establishment of guiding principles for the project
- Te Anau Airport Manapouri - Te Anau Community Board are considering to engage an expert in running airports to provide a clear indication for the future of the airport
- Te Anau Wastewater Discharge project is awaiting a report from Mr Riddell on a conceptual subsurface drip irrigation design and costings, once completed this business case is to be presented to Council and subsequently to the Wastewater Committee, Services and Assets Committee and the Finance and Audit Committee for decision.

Mr Moran advised the finances shown are an interim end of year report income is likely to increase as the final allocation of interest is included for the final report.

Members sought the timing for a report to be provided to the Board in regard to better recycling and the levels of service with a focus on the environment and sustainability as a target to the minimisation of waste for the township, and the potential for the district as a whole.

Resolution

Moved Deputy Chairperson Greaney, seconded Member Cantwell **and resolved:**

That the Te Anau Community Board:

a) Receives the report titled "Council Report" dated 20 August 2018.

7.2 Consideration of a request to rename the Fergus Square Reserve as Frana Cardno Reserve

Record No: R/18/8/18855

Kevin McNaught (Strategic Manager Property) presented the report.

Mr McNaught advised that a request has been received from Irene Barnes to name the reserve in Fergus Square as the Frana Cardno Reserve.

Mr McNaught added that no record can be found of the so-called reserve ever having been given an official name therefore the Te Anau Community Board can resolve that the reserve be known as the Frana Cardno Reserve should it so desire.

In discussing the report Members agreed to option three to the renaming of Fergus Square to Frana Cardno Reserve which will formally recognise Mrs Cardno's standing in the community.

Member's also agreed for Council to provide an information sign along-side the Reserve name sign outlining some history of Mrs Cardno's status and achievements to compliment the name change.

Resolution

Moved Cr Kremer, seconded Member Cantwell **recommendations a to d and a new e (as indicated) and resolved:**

That the Te Anau Community Board:

a) Receives the report titled "Consideration of a request to name the Fergus Square Reserve as Frana Cardno Reserve" dated 22 August 2018.

b) Determines that this matter or decision be recognised as not significant in terms of Section 76 of the Local Government Act 2002.

c) Determines that it has complied with the decision-making provisions of the Local Government Act 2002 to the extent necessary in relation to this decision; and in accordance with Section 79 of the Act determines that it does not require further information, further assessment of options or further analysis of costs and benefits or advantages and disadvantages prior to making a decision on this matter.

d) Resolves that the Recreation Reserve in Fergus Square being section 125 Block 1 Manapouri Survey District shall hereafter be known as Frana Cardno Reserve.

e) Requests Council to provide some history type signage relating to Mrs Cardno to compliment the change of name for the reserve.

7.3 Consideration of a Request from the Department of Conservation to have Land by the Te Anau Golf Club Vested in Council

Record No: R/18/8/18878

Kevin McNaught (Strategic Manager Property) presented the report.

Mr McNaught advised of a request from the Department of Conservation to have land at the western end of the Te Anau Golf Course vested in Council so it can be added into the lease of the Golf Club.

Mr McNaught outlined that the Te Anau Golf Club has for many years held a lease for most of the golf course from Council, however a small portion at the western end of the course has been developed onto DOC land and held by a concession from them.

Mr McNaught added that recently DOC have written to Council, offering not only the area at the western end of the course currently occupied by the golf club but also additional land covering an area through to Golf Course Road. The Te Anau Golf Club have advised Council that they are agreeable to have this land added into their lease from Council.

In addition Mr McNaught advised that given the potential liabilities, primarily around keeping the land neat and tidy, an approach was made to the Golf Club as to whether they wanted all the land offered or just the area they currently occupy. The club have advised that they are agreeable to have all the land added into their lease from Council and will undertake maintain the land.

Resolution

Moved Deputy Chairperson Greaney, seconded Member Cantwell **and resolved:**

That the Te Anau Community Board:

a) Receives the report titled "Consideration of a Request from the Department of Conservation to have Land by the Te Anau Golf Club Vested in Council" dated 20 August 2018.

b) Determines that this matter or decision be recognised as not significant in terms of Section 76 of the Local Government Act 2002.

c) Determines that it has complied with the decision-making provisions of the Local Government Act 2002 to the extent necessary in relation to this decision; and in accordance with Section 79 of the Act determines that it does not require further information, further assessment of options or further analysis of costs and benefits or advantages and disadvantages prior to making a decision on this matter.

d) Resolves to recommend to Council to accept the offer from the Department of Conservation to have vested in Council as Recreation Reserve all that land west of Section 1 SO 7608 through to Golf Course Road and the land when vested to be added to the lease held by the Te Anau Golf Club.

7.4 Request to Council to make Council owned land from the Marakura Yacht Club to Blue gum Point as a prohibited area in term of Council's Use of Unmanned Aerial Vehicle Policy 2017

Record No: R/18/8/18798

Kevin McNaught (Strategic Manager Property) presented the report.

Mr McNaught outlined the request from the Board to Council to alter the Use of Unmanned Aerial Vehicles Policy 2017 (the Policy) by making the Council land between the Marakura Yacht Club to Bluegum Point a prohibited area.

Mr McNaught added that when the Policy was prepared and adopted in 2017 there were no prohibited areas identified at that stage.

However Mr Naught advised that since this time safety issues have arisen in regard to the interaction between drones and aircraft operating along the lakefront in Te Anau. The Te Anau Community Board (the Board) now wish to make this area a prohibited area in terms of the policy adding that to do this the Board can resolve to request Council to amend the Policy.

In discussing this issue Members believed improved communication with Moteliers' and camp grounds in the area may assist in advising potential users of restrictions placed on the lakefront area.

Resolution

Moved Cr Kremer, seconded Deputy Chairperson Greaney **recommendations a to d and a new e (as indicated) and resolved:**

That the Te Anau Community Board:

a) Receives the report titled "Request to Council to make Council owned land from the Marakura Yacht Club to Blue Gum Point as a prohibited area in term of Council's Use of Unmanned Aerial Vehicle Policy 2017" dated 20 August 2018.

b) Determines that this matter or decision be recognised as not significant in terms of Section 76 of the Local Government Act 2002.

c) Determines that it has complied with the decision-making provisions of the Local Government Act 2002 to the extent necessary in relation to this decision; and in accordance with Section 79 of the Act determines that it does not require further information, further assessment of options or further analysis of costs and benefits or advantages and disadvantages prior to making a decision on this matter.

d) Request Council to amend the Use of Unmanned Aerial Vehicle Policy 2017 by including as a prohibited zone the following area: All that area of Council owned and administered land from the Marakura Yacht Club to Bluegum Point

for a distance of up to 60 m right angles from the physical edge of Lake Te Anau.

e) Request a communication be submitted to moteliers and camp ground owners in the area advising of restrictions along the lakefront area.

7.5 Requests and suggestions from submissions to the Long Term Plan 2018-2028

Record No: R/18/8/19285

Simon Moran (Community partnership Leader) presented this report.

Mr Moran advised that the report details the issues and suggestions raised by submitters to the Long Term Plan 2018-2028 that were specifically related to the Te Anau area.

Mr Moran added that Council has requested that the Board consider the feedback received related to Te Anau as part of the decision making process.

The Board noted that Stephen Hoskin has also requested to be informed of the Board's consideration of the matters raised in his submissions.

During consideration of the report the Board commented that the matters raised by Mr Hoskin will be addressed with in the Board's community development planning project that is currently being developed, and that Mr Hoskin will be advised of this.

Resolution

Moved Cr Kremer, seconded Member O'Loughlin **recommendation a and a new b (as indicated) and resolved:**

That the Te Anau Community Board:

a) Receives the report titled "Requests and suggestions from submissions to the Long Term Plan 2018-2028" dated 22 August 2018.

b) Request staff respond to Mr Hoskin advising that the Board will take his comments into account while progressing it's Community Development Plan.

7.6 Te Anau Airport Manapouri Manager's Report - July 2018

Record No: R/18/7/18126

Matt Russell (Group Manager Services and Assets) presented this report.

Mr Russell updated the Board on the general operations of the airport over the quieter winter months and preparations for the coming summer season.

In discussing the issues around MGJV's lease expiration Mr Russell recognised the limitations at present and is investigating options to improve the long term development of the airport such as;

- Layout,, concepts, designations, to be fit for purpose
- Valuation information
- Lease negotiations
- Feedback, options and discussions

Resolution

Moved Member O'Loughlin, seconded Deputy Chairperson Greaney **and resolved:**

That the Te Anau Community Board:

a) Receives the report titled "Te Anau Airport Manapouri Manager's Report - July 2018" dated 30 July 2018.

b) Determines that this matter or decision be recognised as not significant in terms of Section 76 of the Local Government Act 2002.

c) Determines that it has complied with the decision-making provisions of the Local Government Act 2002 to the extent necessary in relation to this decision; and in accordance with Section 79 of the Act determines that it does not require further information, further assessment of options or further analysis of costs and benefits or advantages and disadvantages prior to making a decision on this matter.

Committee Reports

8.1 Chairperson's Report

Record No: R/18/8/19702

The Chairperson, Member Cockburn reported on matters with which she has been involved since the Board's previous meeting, these included;

- Lumsden Maternity Hospital Trust to have a meeting with the Minister in regard to down grading of the Lumsden Maternity Centre
- Meeting with Dale Wairua and Richard Murray on the potential for a gateway entrance concept for the town. The current position being awaited for further information and costings from that group prior to any further consideration
- Community Housing – an expression of interest has been shown in regard to a lack of emergency housing, lower cost housing and seasonal housing requirements for the area. An approach to Venture Southland has been suggested however this would be a community initiative rather than an Council one
- Milford Crescent plantings and removal of car park at the school area by the pedestrian crossing to be followed-up along with the removal of road marking issues on Milford Crescent to be re-visited
- Green Waste area at the Transfer Station repair works to be monitored with improvement to drainage and the hard stand area to take place in the spring/summer
- Te Anau Sports Domain signage being progressed with the Communication Team and Community Engineer

- Dog Bylaw Review – Board have agreed for community feedback through the Community face book page and the "Advocate South" to gauge an indication as to the communities appetite for the potential to allow dogs in the town centre
- Investigation required to ascertain if a Bylaw change is required to allow disabled parking in the town centre

Community Updates

- Tourism – Destination Fiordland Manager Sharon Salmons resignation received
- Fiordland Retirement Village – Infrastructure installations and first concrete due for pouring, 14 units under contract out of a total of 23 units to be sold.
- Fiordland Community Events Centre – roof replacement, general repairs and maintenance , Health and Safety polices and criteria audit
- Fiordland College – Opening of new administration block

Councillor's Report

9.1 Councillor's Report

Record No: R/18/8/19703

Councillor Kremer reported on matters with which he has been involved since the Board's previous meeting, these included;

Councillor Kremer advised Council is currently developing a full bridge analysis to determine and priorities replacement/repairs of Council owned bridges in the district.

The meeting concluded at 4.45pm

CONFIRMED AS A TRUE AND CORRECT RECORD AT A MEETING OF THE TE ANAU COMMUNITY BOARD HELD ON 29 AUGUST 2018.

DATE:.....

CHAIRPERSON:.....

Council Report

Record No: R/18/9/22399
Author: Simon Moran, Community Partnership Leader
Approved by: Rex Capil, Group Manager Community and Futures

☐ Decision ☐ Recommendation ☒ Information

Chief Executive

Water Issues

1. Work is continuing with the Central Government Three Waters Review As noted previously, the work is divided into the following four major work streams:

   1) Oversight of the sector, the regulatory settings within which it works and the institutional arrangements in place for management of the water sector.

   2) Funding and financing mechanisms, including consideration of a range of options for future funding of three waters infrastructure.

   3) Capacity and capability of suppliers and regulatory agencies.

   4) The information used for providing transparency of the sectors performance, its accountability and decision-making processes.

2. Central Government has been clear about the extent of the review process and the range of options that are being considered. Some of the key messages/points made to date include:

Regulation

- An independent drinking water regulator is being considered.
- Some form of economic regulation of infrastructure assets is also under consideration and there is a question about whether the current environmental regulation system needs to be strengthened.
- Changes to the regulatory framework, whether they involve enhanced reporting, oversight, compliance or raised standards are likely to have significant funding implications for local government.
- Affordability is not an acceptable reason for failing to meet drinking water standards.

Service Delivery Options

- Service delivery arrangements should be reviewed and the Government is considering the merits of aggregation of water providers. There are a number of ways in which this aggregation could occur including at the regional or super regional level
- A 'system-wide' joined up solution may be required. The solutions needed cannot necessarily be separated out by different territorial local authorities
- Continued public ownership is seen as a 'bottom line'. This could include ownership by either central or local government

- The broader role and functions of local government will need to be reviewed if the responsibilities for the delivery of water services is aggregated into larger service delivery entities.

3. The Minister of Local Government has indicated her strong support for the development of aggregated water supply entities. In this regard she made the following comments in a recent speech to the Infrastructure NZ conference (https://www.beehive.govt.nz/speech/water-infrastructure-speech)

   Given the interconnected nature of our water systems it is difficult to see how we can meet future regulatory requirements and consumer expectations without also making changes to service delivery arrangements, including infrastructure provision.

   So while fixing the regulatory arrangements for water is a priority we also need to look at how we consider water service delivery to be able to fund infrastructure.

4. In her speech the Minister also commented on the lessons she has drawn from her recent visit to the United Kingdom. Her comments on the lessons learnt included:

   In general, as many of you may know, in the United Kingdom and Ireland they have:

   - *much stronger regulation and more capable and better funded services;*
   - *independent drinking water and environmental regulation leading to safer drinking water and better environmental performance;*
   - *economic regulation that provides a level of assurance that the right level of investment is being undertaken in the three waters; and*
   - *economic regulation that drives a focus on customers and efficiencies.*

   It is particularly instructive to note that Scottish Water has achieved 40 per cent savings and Ofwat, in England, achieved a 30 per cent savings on their consumers' water bills.

   Reflecting on their water reform experience my view is that a strong coordinated regulatory regime will not be enough on its own to deliver all the outcomes we are seeking here. The costs of upgrading the system to meet expected standards will fall on already heavily burdened ratepayers, and will take a very long time to accomplish.

   This is something we will need to consider as we contemplate alternative options for service delivery in New Zealand, as is the need for professional skilled directors in any new options.

5. It will also be important for the work being progressed via the Government Three Waters project to be integrated with the Local Government Funding Inquiry work being undertaken by the Productivity Commission and the Localism work that is now also underway. The way in which this integration is to be managed between the different government agencies involved is still to be clarified.

6. Officers are continuing to monitor the progress being made with the Three Waters review and will keep Council updated as work progresses.

Council Strategic Workshop

7. Council held a strategic workshop on 6th and 7th August.

8. The workshop provided an opportunity to have a 'stocktake' of the organisation's progress and strategic direction following completion of the 2018 Long Term Plan and adoption of a new strategic framework.

9. It is also clear that the local government sector as a whole is operating in a period of considerable change, the speed of which is likely to increase further in the short – medium term. Some of the major issues driving these changes include the three waters review, climate change, housing, regional development, funding and social equity issues. It is clear that in all of these areas retention of the status quo is not an option. The challenge is for Council to ensure that it has a position on and can influence the change processes as they occur.

10. The outputs from the workshop will be used to inform the organisational work programme including that leading into the 2021 LTP. In this regard Council is being asked, as part of a separate agenda item, to confirm the continued use of the current strategic framework for the development of the 2021 LTP.

Infrastructure Commission

11. In August central Government announced the establishment of a new Infrastructure Commission that will be tasked with developing a consolidated national view on the state of infrastructure development across NZ.

12. The creation of the Commission is a response to concerns about whether NZ is developing the infrastructure it needs to progress economically and the extent of the infrastructure deficits that exist in some parts of NZ. Infrastructure is a critical enabler for economic growth and development over time. The funding of infrastructure is a critical issue under Government's urban growth agenda work programme. Hence, it has been allocated a level of priority for further work.

13. Treasury is to lead development of the policy work needed to support formation of the new entity which will presumably replace the National Infrastructure Unit.

Southland Regional Development Agency

14. Work is proceeding with the creation of the new Southland Regional Development Agency (SRDA).

15. Consultation with the proposed community shareholders is well advanced and a final draft Memorandum of Understanding is close to being finalised with the four Murihiku Runanga. The MOU will need to be taken to each of the Councils for formal consideration/approval.

16. A meeting of all of the proposed shareholders was held in August and there is a good level of agreement as to the proposed shareholding and other constitutional arrangements. These are to be formalised through a formal Shareholders Agreement which is currently being drafted and will be brought back to Council for formal approval in the near future.

17. Work is also well advanced with the development of proposed new 'contracting' arrangements. In looking at what it is that this Council wants to purchase from the new Agency it is important to recognise that we need to change the focus of the organisation from what it was that Venture Southland has delivered in the past. There is a need for the Agency to be focussed on priorities

that will make a difference to the development of the Southland region as a whole as well as the overall goals, particularly the attracting 10,000 more people goal that was set through SORDS.

18. The move to having a stronger regional focus does mean that the SRDA will do a number of different things, and in a different way, to which they may have been addressed in the past.

Public Housing Plan

19. Central Government have recently released their Public Housing Plan 2018 – 2022, which outlines how the Government aims to deliver around 6,400 more public housing places by June 2022 – approximately 1,600 places per year on average across Housing New Zealand (HNZ) and Community Housing Providers (CHPs). This includes some 100 new units in the Southern region which covers both Otago and Southland.

20. Financial support is now available nationally to HNZ and CHPs to enable and incentivise the additional supply being sought. The operating supplement will be extended so it is available to both HNZ and CHPs nationwide for net new (new build and turn-key) and net additional buy-in public housing supply. Upfront funding, on the other hand, will only be available in very limited circumstances.

Emergency Management Review

21. Central Government have recently released their decisions on changes to be made to the Emergency Management systems in NZ following completion of the Technical Advisory Group review that was completed in 2017. A copy of the decisions report is available on the Department of Prime Minister and Cabinet website (www.dpmc.govt.nz).

22. The Government's response addresses the Technical Advisory Group's recommendations and details which aspects of the recommendations have been accepted. It then goes on to set out a multi-year work programme to progress the implementation of those recommendations that have been accepted. The work to be progressed will deliver improvements in the following five areas:

- Putting the safety and wellbeing of people at the heart of the emergency response system
- Strengthening the national leadership of the emergency management system
- Making it clear who is responsible for what, nationally and regionally
- Building the capability and capability of the emergency management workforce
- Improving the information and intelligence system that supports decision making in emergencies"

23. Central Government officials are now charged with progressing the work programme needed to implement the improvements identified in these areas.

Long Term Plan Consultation Documents

24. The Office of the Auditor-General have recently released a report (www.oag.govt.nz/2018/ltp-consultation-documents/docs/ltp-consultation-documents.pdf) that provides an overview of their findings from the auditing of the 2018 LTP consultation documents.

25. While noting that all 2018-28 consultation documents were considered to be fit for purpose it identifies that there are a number of opportunities for improvement, including some identified in

their 2015 report which have not been realised. These include the content and layout of the document and well as giving considering to engaging with communities on critical issues well ahead of the formal consultation document process.

Environmental Services

Group Managers Update

26. Consent workloads across the team have continued to be relatively strong, although a slight slowdown in building consent numbers lodged has occurred in the last 2-3 weeks.

27. Collaborative cross-council discussions have been held with regard to evaluating and progressing on-line lodgement and processing. It is desirable to seek to work towards common platforms across the Southland Councils, consistent with the SoRDS Ease of Doing Business work streams.

28. The IANZ Project team continues to work towards the positioning of the Building Solutions Team for the March 2019 reaccreditation audit. A strong focus has been on learnings from other recent audits of other councils and the issues that have been flagged through those.

29. Work continues on the action plan from the Environmental Services Service Delivery Review action plan, with an update presented to the Regulatory and Consents Committee meeting on 6th September 2018.

30. The Council will be participating in a combined programme coordinated through Emergency Management Southland to improve Business Continuity Planning. A consistent approach to this will be coordinated by Ian Cryer, Recovery Manager for Emergency Management Southland with this programme having been endorsed by the Coordinating Executive Group (CEG).

Environmental Health

Prosecutions

31. Council successfully prosecuted a person for littering in a public place. While being driven by a companion, the person threw greenwaste while standing in a large trailer onto long stretches of road, including Kennington-Waimatua Road and Motu Rimu Road.

32. This person pleaded guilty and was dealt with by Judge Brandts-Giesen. The Judge fined him $150; court costs of $130 and made an order that $240.35 clean-up costs be paid to the Council.

33. At the time of writing, prosecution proceedings have commenced against the two owners of the Rottweilers that attacked a member of the public in Winton on 10 June 2018. The charge is under the Dog Control Act 1996, Section 58 Dogs causing serious injury.

Freedom Camping

34. In Te Anau Council is managing the shared service this season, and this will be organised shortly.

35. In the Catlins area, the Department of Conservation (DoC) is managing the service this season. Council will be requesting that the Officer is also appointed as a Dog Ranger, to provide educational services in Curio Bay whilst there for freedom camping. Senior DoC staff have endorsed this proposal.

36. In Lumsden, it is proposed to advertise for Enforcement Officers shortly.

Dog Control

37. An education drive is proposed to ensure that dog owners have their dogs on a leash on Riverton's beaches. Along with media releases, Dog Control Officers will be issuing infringement fines, and new signage will be investigated.

38. An educational drive is also proposed to encourage dog owners to pick up dog droppings on Stewart Island, which has been reported to be worsening. This will include the limited distribution of some free dog waste bags.

Resource Management

39. A report has been prepared for the Regulatory and Consents Committee recommending that Council resolves to initiate a Plan Change to establish some stronger lighting controls on Stewart Island/Rakiura to support the Dark Skies Sanctuary application by Stewart Island Promotions that is currently being processed by the Dark Skies Association.

40. One of the key requirements of achieving "sanctuary status" is having a level of lighting controls within the sanctuary area. If endorsed by Council, work will commence immediately with a view to notifying a plan change in early to mid-2019.

41. Council has prepared a joint submission with Environment Southland, Invercargill City Council and Gore District Council on the draft National Planning Standards which seek to standardise District and Regional plans prepared under the Resource Management Act. The draft standards at this stage seek to establish a consistent layout of plans, standardise definitions and measurements along with outlining a timeframe for delivering the plans in an interactive electronic format.

42. The number of resource consents being lodged with Council remains steady. There are currently 51 consents in the system (on hold and processing).

Building Solutions

43. The department has commenced forwarding some building consents for processing to an external contractor, this is intended to maintain customer service and ease pressures on processing staff, relieve pressure points with processing and free up consent processors to assist with inspections when needed. This process is not expected to have any negative impact on the applicant as the current fee structure is based on an hourly rate fee.

44. The district continues to see somewhat of a two speed economy, with Mararoa Waimea, Winton Wallacetown and Waiau Aparima wards accounting for more than 80% of the consents.

45. The department have recently relocated a BCO to Te Anau and this is relieving some of the workload pressure in the area and creating greater efficiency with reduced staff travel.

46. The Department issued 112 consents and received 87 new applications for the month. This is the same number of consent applications as received for August 2017 however it is down on the previous 3 year average. The value of consents issue this month is less than for the 94 issued in August 2017 this is associated with a higher number of heating unit consents for the month.

47. The number of live consents continue to drop as the number of CCCs issued and refused CCCs exceeds the number of consents issued.

Customer Support

Libraries

48. We currently have 5340 active library users in the District as at 1 September 2018 (this is defined as having used their library card in library or online in the last 12 months).

49. The table below shows the number of individuals checking out items from a branch library each month.

Library Name	July	August
Book Bus	326	451
Lumsden	94	89
Otautau	94	108
Riverton	215	192
Stewart Island	47	45
Te Anau	431	375
Winton	642	603
Wyndham	71	69

Community and Futures

Governance

Representation Review

50. Appeals and objections on the Council's representation review closed on 22 August 2018. Eight were received and these and other documentation regarding the process the Council undertook were sent to the Local Government Commission. The next stage and timeframe is for the Commission to determine.

51. When Council adopted the Final Proposal, one of the resolutions it passed was to recommend to the incoming Council, following the elections in October 2019, that reserves held by community boards and community development area subcommittees be ring-fenced for a period of up to three years when the Revenue and Financing Policy is reviewed. This is usually done as part of the Long Term Plan.

Community Governance Elected Representative Working Group

52. At the Community and Policy Committee meeting on 5 September 2018, the Committee agreed to endorse the continuation of the Community Governance Elected Representative Working Group to progress the implementation of the Representation Review.

53. The membership will remain the same, but it can decide to invite other members to discuss particular matters. The role of the working group in this next phase will be to focus, comment on and support the processes identified in the Community Governance Reference Document.

This document (a copy of which was sent to all elected members) set out a new way of working for community boards, following the representation review.

54. Matters the group will consider include the introduction of new standing orders, role of members, code of conduct, induction and training for members, reporting to the community, reporting to Council and the relationship with Council and protocols relating to local groups operating in the their local community.

Strategy and Policy

Corporate Performance Framework

55. The Corporate Performance Framework aligns Council's high level direction to its activities and outcomes, and its purpose is to streamline Council planning and reporting functions.

56. As part of the Corporate Performance Framework, Council will deliver on its legislative requirements – including the Long Term Plan, Annual Plan, Annual Report and Activity Management Plans.

57. Council will produce an Interim Performance Report, undertaken three times a year – for the four month periods of July-October, November-February and March-June, with the third being produced to inform the Annual Report. The new framework will require Council activity managers to report by exception and provide meaningful explanation of the level of performance compared to what was planned. The Interim Performance Report will utilise Council's new CAMMS reporting tool for the first report presented in November/December 2018.

58. Council staff have developed Team Business Plans and Individual Performance Plans. These are an operational level tool to provide staff and elected members with the linkages between Councils overall vision, and align that to the programmes of work, projects and operational requirements to effectively deliver what is promised in the Long Term Plan and Annual Plans. Alongside the Interim Performance Reports, the Team Business Plans will utilise CAMMS and look to be incorporated into this reporting tool within the next twelve months.

Risk Management Framework

59. Council continues to identify the need to invest in and develop its risk management processes and approach. In developing the framework the objective is to effectively understand, plan for, and mitigate risk across all levels and activities within the organisation.

60. A Risk Management Framework project meeting was held on 16 August 2018, to agree the objectives, thresholds and management approaches for the overall framework. Coming up in October is a two day workshop for all Councillor Chairs and Finance and Audit Committee members, the Executive Leadership Team, and all senior managers that will look at developing a profile of significant organisational risks. This will include education around how Council approaches risk, identifying risk, how it will prioritise these and agree on where responsibility rests for managing the highest priority risks to Council and community. A draft framework will be developed for consideration following this workshop.

BERL Stage 3 – Working towards positive Southland community futures

61. Business and Economic Research Limited (BERL) was commissioned by Southland District Council to undertake research to assist with the development of the District's 2021-2031 Long Term Plan.

62. The research is based on the idea that the District can passively accept the future that fate will provide for its communities, or work strategically to shape the future it wants to achieve.

63. The research is in three stages, each of which is designed to answer a specific question:

- Stage 1 asked "where we are now?" This involved collecting and analysing data to show the state of wellbeing in the District as a whole and in seven defined Communities. This stage has been completed.
- Stage 2 asked "where we are heading?" This involved some forecasting to examine how the population and the level of employment in the District and each of the Communities would change, if past trends were left to continue. This stage has also been completed.
- The current stage, stage 3, is about asking the question "where we actually want to be?" Its aim is to define a set of actions that will help to shape positive futures for each of the main Communities in the District.

What Stages 1 and 2 Found

64. In summary, stage 1 of the research found that, compared to New Zealand as a whole, wellbeing in Southland District was high. Southland District was better particularly in terms of: employment and unemployment rates; incomes; home ownership; and community connectedness. But it was worse in terms of the qualifications of the workforce and economic diversity. It also found that, in the recent past, incomes in Southland District had grown more rapidly than nationally. However, the District had attracted relatively few migrants, and home ownership in the District had fallen more rapidly than nationally.

65. Looking ahead, stage 2 indicated that the District's working age population is likely to increase slightly over the next ten years, but that it is likely to decrease fractionally during the following decade. Meanwhile, if the District's economy continues to grow at the same rate, relative to the national economy, as it has in the recent past, the demand for labour will grow. This means that, because the District's unemployment rate is already low, there is a real possibility of large and growing labour shortages. The likelihood is that, unless the District can attract more migrants, incentivise its young people to stay, and encourage older workers to stay in the labour force, economic growth could be stifled.

Next Steps Stage 3

66. The specific purpose of stage 3 (the final stage) is to engage with individuals, organisations, and businesses in the District to pinpoint what needs to be done to ensure that the District and its communities maintain and increase their levels of wellbeing. Ultimately, stage 3 will help to inform the District Council about what it can do itself to increase wellbeing, and how communities, as they strive for overall community wellbeing, can best work with other agencies and Council to achieve the same goal. This next stage will focus on what needs to be done to ensure that Southland District maintains and builds on its current position as a place where

wellbeing is at a high level – a place in which it is good to live and work. BERL will be speaking directly with many people within the district over the next few months to discuss any matters that affect wellbeing in Southland District. This will include all activities and services where the Council has a role, either by itself or in partnership and support with other Councils, government agencies and communities.

67. These conversations will involve discussions on:

- Do you agree that the summary above provides a reasonable picture of wellbeing in Southland District?
- If not, what's wrong/missing?
- Looking at the District, what problems/issues need to be fixed/focused on to improve general wellbeing?
- Similarly, what do you see as the opportunities to promote wellbeing?
- Thinking about the problems/issues you have described, which do you think should have the highest priority, and who/which organisation do you think should take the lead in addressing them?
- And thinking about the opportunities you have described, which do you think would contribute most to wellbeing, and who/which organisation do you think should take the lead in pursuing them?

68. Stage 3 will be completed by December 2018.

Community Futures Research and Analysis Work Programme

69. Council is undertaking research and analysis work to support its decision making and transitioning from 2018 to 2021 in preparation for the Long Term Plan 2021-2031. This work will assist in leading the development of Council's overall approach to the management of change and preparation for what the future might hold for the district and its communities. The purpose of this work is to develop project plans based on identified work streams that will help identify what is required to deliver priority projects within the district.

70. The topics for further research and analysis include:

- Socio-demographic projects (where are we now, where are we heading, and where do we want to be)
- Climate change and implications for Southland District (risks and impacts on the district)
- Service Delivery Framework – District vs Local service provision and levels of service (an assessment and evaluation of council services and determine the most appropriate level of service to meet community needs in the future)
- Rating affordability planning and implications (to understand income levels in our communities and affordable measures for delivery of activates and services – and implications of decisions on rating affordability for the district)
- Future infrastructure and asset renewal (what and how will council replace significant infrastructure when due for replacement)

- Land and Water Plan Implications (to understand the implications of compliance standards on the future provision of services to local communities)
- Community Facility Provision Framework (how, what and when are facilities used and needed)
- Community Partnerships Assistance and Funding Alignment Approach (multi-agency community partnership opportunities, and council's funding and grant schemes to support community organisations)
- Technological change impacts on communities and implications for Council

71. This work will assist Council in delivering on the Long Term Plan 2018-2028 and identify priorities for investing in community future planning.

72. High level project plans have now been developed for each of the topics above and a report presented to the Community & Policy Committee was received at their 5 September 2018 meeting. From here, the Project Team will establish prioritisation for the works scheduled, and identify any additional resources that may be required to undertake priority projects. Regular updates will be presented to the Community and Policy Committee throughout the next 9 months.

Policy and Bylaw Updates

73. There are a number of Council bylaws and policies currently being reviewed and updated, and a large number of bylaws due for review in the next 12-24 months.

74. The Strategy and Policy team have undertaken a high level stocktake of all policies and bylaws currently held by Council and their timeframes and requirements for review. This work will include analysis of determining the appropriate categories for our policies into Governance and Management, and also discussing those which may be better served as procedures and guidelines. The Strategy and Policy team will be developing a Policy Manual to further define the scope of future policy and guideline provision for Council to operate efficiently and effectively in the future.

Community Partnership Leaders

The Milford Opportunities Project

75. A further meeting of the Governance Group took place on 18 September 2018 where those in attendance considered the phase 1 research and analysis that was completed and the recommendations for further work. The next steps will be to:

- Undertake public engagement, starting 17 September 2018 in Te Anau; and
- Seek further funding to undertake the further work for Phases 2 and 3.

Tourism Infrastructure Fund (TIF)

76. Council has been advised that the applications that were lodged to the last round of the TIF have been approved. These applications were for;

a. A $5million contribution towards the cost of upgrading the Te Anau Wastewater scheme

b. $411,000 for the upgrading of toilets on the Southern Scenic Route at Waikawa, Clifden Bridge, Monkey Island and Te Anau

c. $300,000 for upgrading of the parking area at the Lake Manapouri Visitor Centre at Pearl Harbour.

Responsible Camping

77. The Queenstown Lakes District Council are working to a very tight timeframe to develop a Responsible Camping Strategy that will also be used to assist with managing 'freedom camping' this summer. They are aware that there may be implications for other councils and organisations and have invited representatives from DOC, LINZ, NZTA, Southland District Council and Central Otago District Council to be part of their project control group.

Southland Museum Consultation - Our Tale Project

78. Staff have been involved in a volunteer working group which undertook community consultation across Southland asking residents for their views on the future Southland Museum so that those views would have a voice in the future development plan.

79. The community consultation took place throughout the month of July 2018. The volunteer working group was formed to advise and assist with the consultation process. The group provided specialist expertise in heritage and marketing including social media and additional reach within different communities. Members of the group also assisted at the workshops and with analysing the very large volume of input received. The completion of the report in August will ensure that the information is able to be fully considered within the larger redevelopment project.

80. The public were able to give their views by either completing an online or hard copy survey or by attending a workshop. Many participants expressed a sense of loss and concern at the closure of the museum, but also hope and excitement for what the future museum could be. They also hoped, quite strongly at times, that the redevelopment could be progressed rapidly.

81. A copy of the report is available from Council's area offices.

Venture Southland

82. Following the resignation of Destination Fiordland manager, Sharon Salmons, Venture Southland is providing increased support to Destination Fiordland until a new manager is appointed.

83. Venture Southland is facilitating the development of the 2019-2029 Southland Murihiku Destination Strategy which will establish a framework for destination development, destination management and provide a pathway for achieving the goal of $1 billion in tourism revenue, in Southland by 2025. A Southland Destination Strategy (SDS) Strategic Advisory group has been established to drive the development of the strategy and ensure the process is inclusive.

84. The group includes representatives from the Southland tourism sector, MBIE, Department of Conservation, Tourism NZ, Air NZ, Iwi and Council. The strategy will align with local, national and sector initiatives including the regional events strategy, Welcoming Communities pilot programme and the development of the Southland Story.

85. An independent consultant will be employed to carry out wider consultation and advance the strategy. Requests for proposals from consultants are currently being sought. The development and implementation of the strategy will help position Southland as a preferred destination for both domestic and international markets and will set the strategic direction for the region.

86. The development of a Southland Story was identified as an immediate priority in the Southland Regional Development Strategy Action Plan. The project, which aims to identify and develop a consistent Southland story that articulates a unified message of past, present and future, is now being facilitated by Venture Southland.

87. This project is supported by the Ministry of Business, Innovation and Employment, aligns with the Southland Murihiku Destination Strategy and will play a fundamental role in achieving the goal of 10,000 more people to Southland by 2025. As part of the project a digital platform will be developed for community groups and sectors to discover, share and celebrate the essence of Southland and what the region offers to those who choose to live, visit, invest, work and study here.

88. An Advisory Board has been established to ensure the project process is inclusive and representative of Southland, act as project champions, assist with selection of consultants and ensure alignment with councils and the wider community. It is anticipated that the project will be completed by the end of 2018 or early 2019

Services and Assets Group

Group Manager's Update

89. As we move further into the financial year, the group is looking to stabilise its activities and focus on programming, resourcing and delivering the necessary works identified through the 2018-2028 Long Term Plan. In conjunction with this, there is also a focus on finalising the 2019-2020 Annual Plan.

90. We continue our search for a Community Facilities Team Leader. There are a number of critical business improvement works streams that need to be delivered within this activity; the lack resource is hampering our ability to deliver on these commitments.

91. The Programme/Project Management Platform is in the process of finalising the design and workflow. Internal training programmes and change management processes are also being established, to ensure the system is able to be integrated into the organisation, with minimal impact but maximum outcomes.

92. The Pyramid Bridge project is progressing with Gore District Council. Southland District Council staff and Council representation form part of the project governance team; contact and updates are regular. An updated design estimate has been provided and an external Quantity Surveyor will be reviewing this prior to the two councils having an opportunity to decide which of the two options to pursue (single or double-lane).

93. Another key activity underway, is the assessment of the two solid waste contracts that are up for renewal in 2019. Both of these contracts have been subject to review and will now move into extension negotiations, in line with the contract renewal processes stipulated in each of the contracts.

94. Work is ongoing to provide further clarity and prioritisation of expenditure in association with infrastructure deficits, activities, sub-activities and services. This work is necessary to adequately inform levels of service discussions and consultation in the lead up to the 2021 Long Term Plan.

95. Asset information is also an area of focus currently, particularly within the Community Facilities and 3-Waters Activities. For 3-Waters this involves establishing a Master Data Specification determining what asset information is required, across the hierarchy of assets within each of the three reticulated services activities. Once established, it will be necessary to work with our contractors to ensure at the point of install or intervention, the appropriate information is captured in a way that is then easily migrated into IPS, our Asset Management software.

96. For Community Facilities this has involved identifying some priority activities (playgrounds, buildings and toilets) and tapping into support from the New Zealand Recreation Association (NZRA) as the national support body to establish asset information templates for each. These are currently in draft and being finalised. Once finalised we will progress to gathering the relevant asset information for these activities. Concurrently, it will be necessary to review the Asset Management System to support its function.

97. It is anticipated that this Asset information work will be ongoing for a number of years and will impact all of the activities and services that Council delivers. This work will be rationalised alongside the Core Systems Project.

98. The programme/project management software platform approved in July 2018, is in the process of being rolled out and has been established in a testing platform. We are refining the workflow and business rules/integration associated with the software and will be rolling out and bedding in the change processes necessary to support this new system over the coming months.

Te Anau Airport Manapouri

99. Flights for the larger aircraft over the summer season will commence on Saturday, 25 August 2018. There is a slight increase in larger aircraft movements predicted for this up and coming season, due to Tauck Tours scheduling more tours, to accommodate the increase in demand.

100. Alliance Airlines are still currently operating the flights for Tauck Tours, with their Fokker 50. Awaiting confirmation as to whether Alliance will continue with the contract to supply services to Tauck. If there is a change then a jet might be utilised on the tour requiring the implementation of a Part 139 Aerodrome Operating Certificate. The aerodrome has been operating to the standards of Part 139 and will be an easy transition back to that level of certification.

101. There has been an increase in small aircraft landings recently, due to training pilots from both the Dunedin and Invercargill flight schools.

102. Annual maintenance checks have currently been completed on all equipment at the Airport. This is to ensure all equipment is fully functional and ready for the summer season. An inventory of all equipment and furnishings has been completed and has currently been updated to show a correct record of items at Te Anau Airport. The security cameras are under review for replacement or upgrade as some have intermittently failed over the last six months.

103. Further work is also ongoing around the land-side leasable area and associated development opportunities. Options for further marketing and development of the air-side activities at the airport is also a focus.

Forestry (IFS)

104. Harvesting of the 2018-19 harvest program has commenced in the Waikaia forest with the previous year's program now completed. This has meant nil re-establishment costs of the logging crew, a saving to the Southland District Council.

105. Production for July was 9,600 tonnes, of the budgeted 26,000 ton annual program. The crew will be completed at Waikaia in September.

Strategic Water and Waste

Te Anau Wastewater Discharge Project

106. The business case in support of the preferred Kepler option was presented to Council in December 2016, and while they resolved to progress with detailed design on the pipeline route to Kepler, they also requested that staff undertake further work around a sub-surface disposal option (option 3). Council staff and consultants are currently developing this work, in conjunction with an external peer reviewer, Ben Stratford.

107. The roles of the Te Anau Wastewater Discharge Project Committee, Fiordland Sewage Options Group and their representative Peter Riddell have also been reviewed, with Mr Riddell engaged to provide commentary on a conceptual subsurface drip irrigation design and costings. Once this work is completed and finalised, an updated business case will be provided to Council for decision following submission and review by the Te Anau Wastewater Discharge Project Committee, Services and Assets Committee and the Finance and Audit Committee. It is anticipated that this work will be completed by early September, after which the updated business case will be presented to the various Committees and Council for consideration. These meetings have been scheduled for mid-October with a Council meeting planned for 23 October 2018.

108. In addition to the above, a finalised basis of design for the pipeline to Kepler has been delivered to Council. Council staff are also working through options around resourcing for the delivery of the various stages of the overall project.

Land and Water Plan Implementation

109. Under the National Policy Statement for Freshwater Management water quality and quantity are to be maintained and improved, with any over allocation to be phased out over time. Environment Southland is required to set environmental limits by 2025, with all 'communities' required to meet those limits in due course. They are progressing this work via their proposed Water and Land Plan.

110. To assist with addressing the impacts of these changes on local authority infrastructure, Environment Southland have formed a Three Waters Officer Working Group. The objectives of the group are to work through the implications of the new freshwater standards, develop an agreed approach to the re-consenting of local authority infrastructure and ensure that the organisational objectives are aligned.

111. In total 25 appeals were received by Environment Southland of which Council has identified 10 which it will join as a Section 274 party. Council has also lodged an appeal to the decision. The basis of Council's appeal is largely around the 'non-complying' activity status on wastewater discharges to water.

112. The latest direction issued from the Environment Court outlines a proposed path, where appeals to objectives will be heard ahead of mediation, by grouped topic on policies and rules. A pre-hearing conference is scheduled for 12 September.

Review of Solid Waste Contract Arrangements

113. The WasteNet Southland Waste Management Group recently notified contractors Bond Contracts and Southland Disability Enterprises Limited of its intention to begin negotiations, around rolling both contracts over. Both contracts are currently in year six of an initial eight year duration, with ability to roll over for a further eight years.

114. Further information has been requested by the Waste Management Group which should allow a recommendation to be made to the Waste Advisory Group as to whether to roll the contracts over, or to go back to the market. The Waste Advisory Group made a number of decisions around each contract at their meeting on 27 June 2018. At the meeting it was recommended that Contract 550 be rolled over for a further eight year term. This recommendation was endorsed by both Invercargill City and Gore District Councils in July. The recommendation was presented to Finance and Audit Committee on 30 August 2018 and Services and Assets Committee on 5 September 2018, with a final report planned to be presented to Council on 19 September 2018. Further decisions around Contract 650 are expected by late October 2018.

Strategic Roading

Alternative Coastal Route Seal Extension Project

115. Work is progressing well to complete the main route with the final preparation work at the Curio Bay end of the route (last 1.1km) nearing completion in anticipation for sealing. Based on geotechnical assessment and testing the road was realigned away from the slip area and appears to be performing well.

116. Progress along the Waipapa Route has been progressing well with approximately 90% of the basecourse complete. This will be held until weather is suitable for sealing. The legal survey for land purchases is continuing.

117. It is still expected that the project will be finalised around October / November 2018 when weather condition should be more favourable for the sealing works prior to the peak of the visitor season.

LED Street Light Conversion

118. Work is well on track to be completed by the end of the calendar year. Work is currently being undertaken in around the South Eastern area. The only larger townships remaining to be completed are Riverton, Orepuki and Tuatapere.

Strategic Property

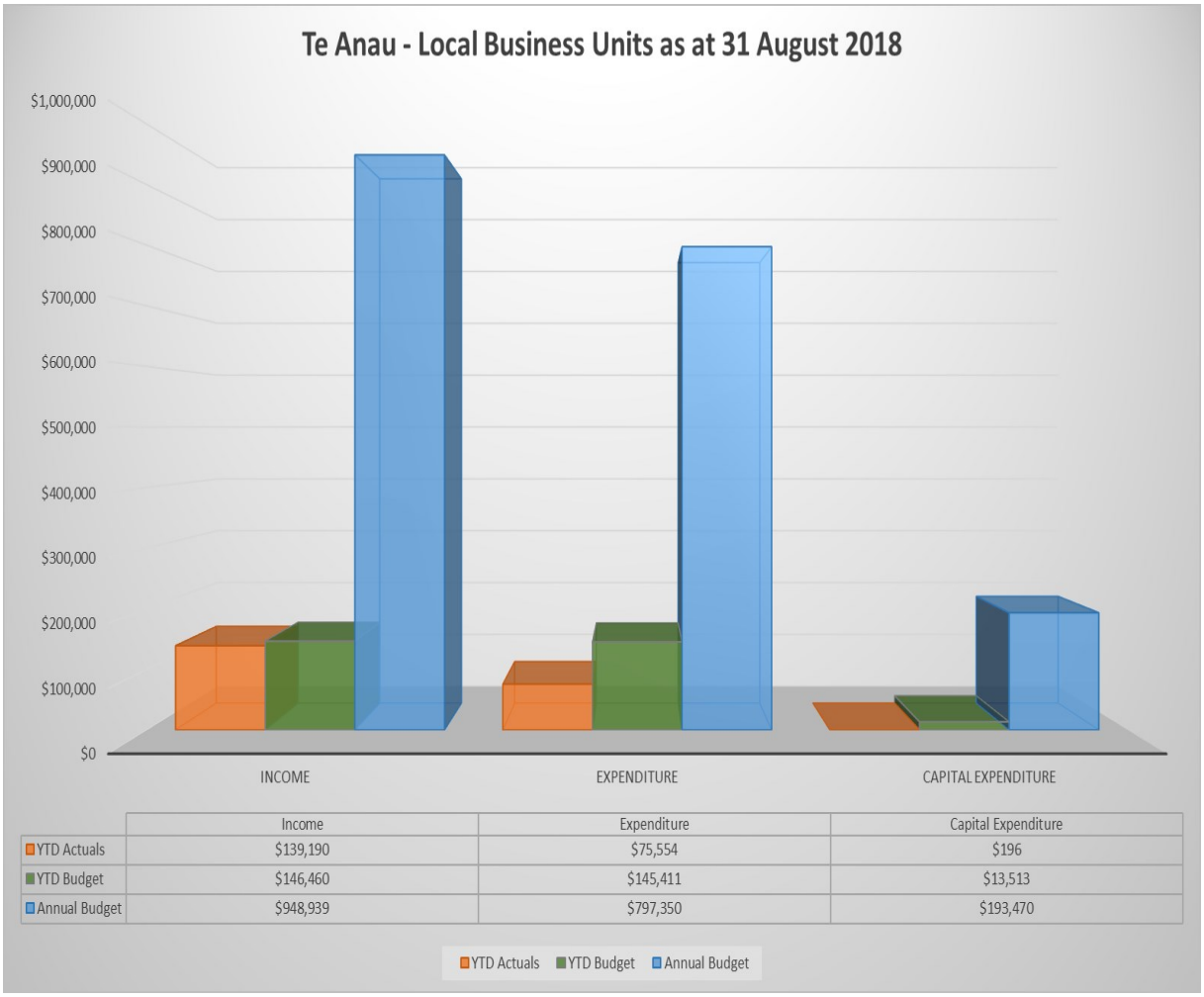
119. Work has commenced on the 2018/19 projects to be completed this financial year. Primarily at this phase of the project, is seeking the relevant quotes to complete the work and consider these against budget.

120. Those under budget will commence once signed off. However, those over budget will either be subject to a scope change or the commencement of the unbudgeted expenditure approval process.

121. Work has also commenced to identify, plan to commence and complete those improvement processes, as identified in each of the seven activity plans used as the basis of the recently approved Long Term Plan. In relation to open spaces, toilets and buildings this is creation of spreadsheets to determine components to be identified and assessed. For community centres this will also be the collection of data regarding each facilities utilisation.

Finance

122. The income is under budget because the parks and reserves capital project is to be part funded by development contributions and that funding has been equally split over the 12 months of the financial year. Expenses are under budget as expected at this time of the year.



	Income	Expenditure	Capital Expenditure
YTD Actuals	$139,190	$75,554	$196
YTD Budget	$146,460	$145,411	$13,513
Annual Budget	$948,939	$797,350	$193,470

Te Anau - Business Units as at 31 August 2018

		Income			Expenses			Capital		
BU Code	Business Unit	Actual YTD	Budget YTD	Budget Full Year	Expenses YTD	Budget YTD	Budget Full Year	Actual YTD	Budget YTD	Budget Full Year
26800	Administration - Te Anau	$13,670	$13,686	$100,131	$8,109	$14,853	$82,119			
26801	Library - Te Anau	$32,759	$32,703	$196,216	$20,620	$28,830	$180,225	$196	$3,846	$23,078
26802	Operating Costs - Te Anau	$23,652	$20,232	$122,190	$5,806	$13,271	$67,635			$6,400
26807	Street Works - Te Anau	$13,562	$13,578	$81,466	$4,281	$12,351	$74,104			$40,000
26810	Refuse Collection - Te Anau	$9,738	$9,750	$58,500	$4,688	$9,750	$58,500			
26813	Stormwater Drainage - Te Anau	$6,330	$6,247	$52,500	$6,866	$12,973	$37,482			
26825	Cemetery - Te Anau	$1,025	$2,526	$15,207	$1,179	$2,733	$16,395			
26828	Beautification - Te Anau	$5,547	$5,553	$33,319	$3,671	$7,364	$44,181			$40,992
26833	Sportsground/Boating - Te Anau	$3,207	$3,758	$22,550	$1,447	$5,411	$22,643			
26835	Lakefront	$4,307	$4,312	$25,870	$2,288	$4,850	$29,102		$1,667	$10,000
26846	Parks & Reserves General	$25,381	$33,269	$199,616	$14,735	$30,302	$181,811		$8,000	$73,000
26849	Information Kiosk	$12	$12	$74		$12	$74			
26886	Luxmore Subdivision		$833	$41,300	$1,865	$2,712	$3,079			
	Total	**$139,190**	**$146,460**	**$948,939**	**$75,554**	**$145,411**	**$797,350**	**$196**	**$13,513**	**$193,470**

Reserve Balances

Te Anau	Opening Balance	Current Budget	Forecast Budget	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029
Local													
Operating													
Sandy Brown Loan - OP	(9,153)	(7,646)	(7,646)	1,046	1,046	1,046	1,046	1,046	1,046	1,046	1,046	1,046	1,046
Total Local Operating	(9,153)	(7,646)	(7,646)	1,046	1,046	1,046	1,046	1,046	1,046	1,046	1,046	1,046	1,046
Reserve													
Te Anau Carpark Reserve	23,979	24,777	24,777	25,601	26,452	27,331	28,239	29,177	30,146	31,147	32,181	33,249	33,249
Te Anau Cemetery Improvements	1,588	1,641	1,641	63	63	63	63	63	63	63	63	63	63
Te Anau General - OPR	687,263	660,316	660,316	491,401	520,002	493,131	537,713	537,713	574,979	511,657	548,066	548,067	548,067
Te Anau Luxmore Subdivision -	1,040,590	1,078,811	1,078,811	1,118,332	1,159,197	1,201,451	1,245,143	1,290,325	1,337,047	1,385,365	1,435,333	1,487,008	1,489,388
Total Local Reserve	1,753,420	1,765,545	1,765,545	1,635,397	1,705,714	1,721,976	1,811,158	1,857,278	1,942,235	1,928,232	2,015,643	2,068,387	2,070,767
Total Local Balance	1,744,267	1,757,899	1,757,899	1,636,443	1,706,760	1,723,022	1,812,204	1,858,324	1,943,281	1,929,278	2,016,689	2,069,433	2,071,813
Stormwater													
Reserve													
Te Anau Stormwater - RES	479,308	494,326	494,326	509,838	525,860	542,409	559,503	577,159	595,396	434,934	448,492	462,496	462,496
Total Stormwater Reserve	479,308	494,326	494,326	509,838	525,860	542,409	559,503	577,159	595,396	434,934	448,492	462,496	462,496
Total Stormwater Balance	479,308	494,326	494,326	509,838	525,860	542,409	559,503	577,159	595,396	434,934	448,492	462,496	462,496
Total Te Anau Reserve Balance	2,223,575	2,252,225	2,252,225	2,146,281	2,232,620	2,265,431	2,371,707	2,435,483	2,538,677	2,364,212	2,465,181	2,531,929	2,534,309

Recommendation

That the Te Anau Community Board:

a) Receives the report titled "Council Report" dated 10 October 2018.

Attachments

There are no attachments for this report.

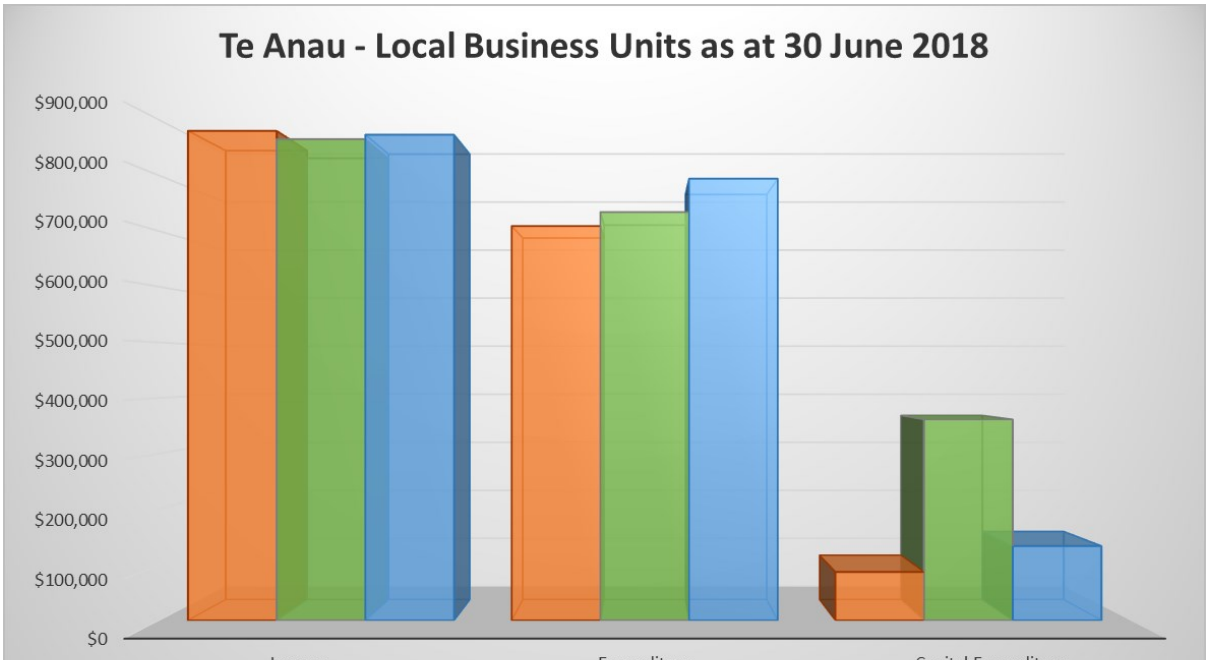
Financial Report for the year ended 30 June 2018

Record No: R/18/7/17589
Author: Nick Lewis, Community Engineer
Approved by: Matt Russell, Group Manager Services and Assets

☐ Decision ☐ Recommendation ☒ Information

1 These financial results are subject to review by Audit NZ in September, and therefore may change.

Community financial performance for the year



	Income	Expenditure	Capital Expenditure
Actuals	$880,318	$709,163	$87,059
Original Annual Budget	$865,431	$734,349	$361,462
Reforecast Annual Budget	$873,431	$794,349	$133,728

2 The graph above shows what actually happened (Actuals), what the original budget was (Original annual budget) and then what was expected to occur by year end (Reforecast annual budget) for each of the Income, Expenditure, and Capital Expenditure categories.

3 The 'Reforecast' totals show the effect of unbudgeted expenditure, projects that have been put on hold or are to be completed in 2018/2019 and/or expected changes to income and operating expenditure over the year.

4 Monthly reports provided to you by the Community Engineers compared the actual YTD against reforecast YTD totals.

5 Any significant variances between the 'Actual' and 'Original budget' totals are explained below. The details are provided in the attached Annual Report figures.

Significant Variances to the Annual Budget

Income

6 Overall Income has come in over budget, most Cost Centres are approximately on target with the minor variances detailed below.

7 Administration - Income is significantly higher than budgeted due to internal interest on reserve allocated of $18,278 against a budget of $3,300. This results from the 30th June 2018 reserve balance was higher than budgeted due to reserve funded capital projects not being undertaken.

8 Cemetery - Income is slightly over budget due to Interments.

9 Parks & Reserves - Income has come in under budget, this is due to budgeted Parks Contribution ($30,000) that were to fund the Water Park project, this funding was not required as the project was not complete. This was offset slightly by a grant that was received from the Te Anau Lions Club (approx. $7,000), 89% of the income budget was received.

10 Luxmore Subdivision – Income was less than budgeted due to less internal interest on reserves allocated. This is mainly caused by the actual interest rate applied being 3% against a budgeted rate of 4.19%.

Expenditure

11 Expenditure has come in under budget overall, with significant variances detailed below.

12 Library - Expenditure come in 12% higher than budgeted, mainly through additional resources being required resulting in increased ordinary time (wages) costs and electricity costs (the electricity budget was increased for future years).

13 Operating Costs - Under budget as only 76% of budgeted expenditure was spent. Also, the $10,000 grant for cycle branding was not utilised and the majority of the general projects budgeted for not required.

14 Stormwater Drainage - 74% of the expenditure budget was spent. Total variance due to no operating and extra monitoring costs incurred. The higher resource consent costs were offset by the lower general maintenance costs.

15 Cemetery - Expenditure came in slightly higher due to the removal of several trees and the H&S risk they held which was not anticipated in the budget, cost of around $2,000.

16 Beautification - Expenditure has come in under budget, as only 81% of the budget was spent. The main component being the hanging baskets not being maintained for the season.

17 Sportsground/Boating - Less mowing and maintenance required and lower insurance costs resulted in only 85% of the expenditure budget being spent.

18 Parks & Reserves – Less mowing and maintenance required resulting in 81% of the expenditure budget being spent.

19 Luxmore Subdivision - Expenditure was significantly higher due to the $40,000 grant paid to the Fiordland Retirement Housing Trust. This grant was approved by Council on June 15th 2017 as unbudgeted expenditure.

Capital Expenditure

20 Capital expenditure has come in significantly under budget overall, significant variances are as follows:

21 Administration - The replacement of the swimming pontoon was budgeted as general projects work ($19,000), this was moved to be a capital cost ($17,480).

22 Streetworks - The $41,500 streetlight renewal project was deferred due to contractor availability with the district wide LED project. The Wong Way streetlight budget ($20,000) was not spent and is still in the discussion phase with the overall Wong Way concept not being finalised.

23 Stormwater Drainage – The full budget of the Condition Assessment project was not spent due to an issue in the industrial area of Caswell Rd.

24 Beautification - The entrance feature/sign and events sign projects are still in the planning phase, discussions are being held between the Board and Community Partnership Leader, the budget was therefore unspent.

25 Lakefront - This business unit held the public wharf/pontoon structure project, budgeted for $204,800, which was subsequently deleted to be reconsidered during future lakefront development planning.

26 Parks & Reserves – Under budget due to the water park project budgeted at $30,000 not being undertaken and the skate park pump track project being completed under budget.

Schedule of Loan Balances

	Balance June 2017	Uplifted Loan	Principal Repayments	Balance June 2018	Years Remaining
Sandy Brown Road	$28,623	-	$13,945	$14,678	1

Project List

27 Community projects that were budgeted to be undertaken in the 2017/2018 year are in the table below.

Activity	Project Name	Financial Year	AP Budget	Actual cost	Status	Officer's Comment
Community Facilities	Te Anau Library	2017/2018	33,587	-	Deferred	Deferred - Pending Future operations
Parks & Reserves	New Pontoon	2016/2017	204,800	-	Deleted	Deleted
Parks & Reserves	Renewal of Playground equipment	2017/2018	20,000	22,400	Completed	Refurbishment works were completed and equipment re installed in November 2017.
Parks & Reserves	Town Entrance Signs	Multi-year 2016/2017	20,992	-	Not started	This is for an electronic sign most likely in front of the events centre.

Activity	Project Name	Financial Year	AP Budget	Actual cost	Status	Officer's Comment
Roads & Footpaths	Footpath Renewals	2016/2017	4,100	-	Deleted	Not utilised, to be deleted
Roads & Footpaths	K&C renewals	Multi-year 2016/2017	7,175	-	Deleted	Not utilised, to be deleted
Roads & Footpaths	Street Lighting	Multi-year 16/17	41,533	1,227	Deferred	To be deferred as contractor unable to undertake works until August 2018
Roads & Footpaths	Streetlights on Wong Way	2017/2018	20,000	-	In progress - Investigation	Project stalled between CB and private, options still to be investigated and agreed by CB and private.
Roads & Footpaths	Skate Park upgrade	2015/2016	-	7,326	Completed	Fountain installed, project complete
Roads & Footpaths	Water Park - New Track	2015/2016	-	-	Not started	Awaiting MOU for access over DOC land
Stormwater	Condition Assessment	2017/2018	19,784	6,950	In progress - Construction	Investigation continues

Financial Considerations

Development and Financial Contributions

28 Contributions are collected to fund community growth projects. The use of these funds are considered by Council staff when projects are in the planning stage. Certain policy and legislative requirements must be met before these contributions can be applied to projects.

29 The total balance of Development and Financial contributions for your community as at 30 June 2018 is in the table below.

Parks	Roading	Total
81,300	201,049	282,349

Reserves

30 Interest has been allocated to the reserve accounts. Interest is calculated on the average balance of the reserves for the year at an interest rate of 3%. The budgeted interest rate was 4.19%.

Te Anau

Schedule of Reserve Balance

		Actual June - 017	Transfers To/(From)	Actual June -018
Local				
Operating Account				
Sandy Brown Loan - OP	87931	(12,059.33)	2,906.72	(9,152.61)
		(12,059.33)	**2,906.72**	**(9,152.61)**
Reserve Account				
Te Anau Car park Reserve	89161	23,280.76	698.42	23,979.18
Te Anau Cemetery Improvements	87903	1,541.64	46.25	1,587.89
Te Anau General - OPR	87901	549,541.04	137,721.87	687,262.91
Te Anau Luxmore Subdivision -	87947	1,054,022.99	(13,432.93)	1,040,590.06
		1,628,386.43	**125,033.61**	**1,753,420.04**
Local Total		**1,616,327.10**	**127,940.33**	**1,744,267.43**
Stormwater				
Reserve Account				
Te Anau Stormwater - RES	87929	460,839.06	18,468.61	479,307.67
		460,839.06	**18,468.61**	**479,307.67**
Stormwater Total		**460,839.06**	**18,468.61**	**479,307.67**
Total Te Anau Reserves		**2,077,166.16**	**146,408.94**	**2,223,575.10**

Recommendation

That the Te Anau Community Board:

a) Receives the report titled "Financial Report for the year ended 30 June 2018" dated 4 September 2018.

Attachments

A Te Anau Annual Report figures for the year ended 30 June 2018 ⇩

Te Anau - Financial Report

For the Period Ended June 2018 **2017/2018 Financial Year**

26800 Administration - Te Anau

Annual Budget	Department		Year to Date Actuals	Year to Date Budget	%Variance
	Income				
(80,080.00)	26800.11171	Rates - Collected	(80,826.37)	(80,080.00)	100.93%
(3,298.00)	26800.19151	Internal - Interest on Reserve	(18,277.89)	(3,298.00)	554.21%
(155.00)	26800.19171	Internal Rates Income	(201.35)	(155.00)	129.90%
155.00	26800.19175	Internal Rates offset	0.00	155.00	0.00%
(83,378.00)			**(99,305.61)**	**(83,378.00)**	**119.10%**
	Expenditure				
36,147.02	26800.21416	Board Members - Salary	35,919.45	36,147.02	99.37%
0.00	26800.21417	Councillors - Travel	225.00	0.00	0.00%
458.00	26800.21811	Donations	434.78	458.00	94.93%
14,000.00	26800.21836	Miscellaneous Grant	34,000.04	14,000.00	242.86%
0.00	26800.23113	Ordinary Time	(98.56)	0.00	0.00%
1,000.00	26800.31311	Rentals - General	713.07	1,000.00	71.31%
600.00	26800.31515	Catering Expenses	513.98	600.00	85.66%
19,000.00	26800.31542	General Projects	296.57	19,000.00	1.56%
0.00	26800.41118	Depn - Improvement	145.67	0.00	0.00%
8,875.00	26800.43115	Contrib - Other	8,875.44	8,875.00	100.00%
80,080.02			**81,025.44**	**80,080.02**	**101.18%**
(3,297.98)	**Net Operating (Surplus)/Deficit**		**(18,280.17)**	**(3,297.98)**	
	Capital Movements				
0.00	26800.65172	Improvements - Acquis Demand	17,480.00	0.00	0.00%
3,298.00	26800.87900	To-TeAN General - OP	18,277.89	3,298.00	554.21%
0.00	26800.87901	Ex-TeAN General - OP	(17,332.05)	0.00	0.00%
0.00	26800.99511	Add Back Non Cash Depn	(145.67)	0.00	0.00%
3,298.00			**18,280.17**	**3,298.00**	**554.28%**
0.02			**0.00**	**0.02**	

26801 Library - Te Anau

Annual Budget	Department		Year to Date Actuals	Year to Date Budget	%Variance
	Income				
0.00	26801.11113	Hire - General	(347.91)	0.00	0.00%
(90,149.40)	26801.11171	Rates - Collected	(90,989.65)	(90,149.40)	100.93%
(27,864.36)	26801.19113	Contribution - District	(27,864.36)	(27,864.36)	100.00%
(8,195.40)	26801.19114	Contribution - Township	(8,195.40)	(8,195.40)	100.00%
(37,698.84)	26801.19115	Contribution - Ward	(37,698.84)	(37,698.84)	100.00%
(323.00)	26801.19171	Internal Rates Income	(226.67)	(323.00)	70.18%
323.00	26801.19175	Internal Rates offset	0.00	323.00	0.00%
(10,313.00)	26801.19185	Internal - Wages Oncharged	(10,313.04)	(10,313.00)	100.00%
(174,221.00)			**(175,635.87)**	**(174,221.00)**	**100.81%**
	Expenditure				
4.00	26801.21118	Telephone - Calls	0.00	4.00	0.00%
1,522.00	26801.21120	Telephone - Rentals	0.00	1,522.00	0.00%
530.00	26801.21219	Eftpos Charges	639.96	530.00	120.75%
148.00	26801.21611	Postage	0.00	148.00	0.00%
631.00	26801.21652	Office Consumables	420.49	631.00	66.64%
21.00	26801.21654	Photocopying - Other	0.00	21.00	0.00%

26801 Library - Te Anau

Annual Budget	Department		Year to Date Actuals	Year to Date Budget	%Variance
	Expenditure				
737.00	26801.21657	Stationery	220.57	737.00	29.93%
2,433.00	26801.21711	Subscript Newspaper etc	2,828.08	2,433.00	116.24%
98,394.02	26801.23113	Ordinary Time	111,937.34	98,394.02	113.76%
2,630.00	26801.23216	Allowance - Taxable	3,932.52	2,630.00	149.53%
573.00	26801.23411	Accident Compensation	378.62	573.00	66.08%
6,228.00	26801.31211	Electricity	8,765.31	6,228.00	140.74%
137.00	26801.31412	Hardware	0.00	137.00	0.00%
101.00	26801.31416	Toilet Supplies	667.98	101.00	661.37%
106.00	26801.31420	Minor Tools	173.90	106.00	164.06%
11,568.00	26801.31517	Cleaning	11,026.09	11,568.00	95.32%
89.00	26801.35112	Maint - Internal	285.46	89.00	320.74%
210.00	26801.35230	Maint - Assets under $500	0.00	210.00	0.00%
0.00	26801.41112	Depn - Buildings	79.59	0.00	0.00%
1,081.00	26801.41117	Depn - Furniture and Fittings	2,925.83	1,081.00	270.66%
3,071.00	26801.41118	Depn - Improvement	4,081.73	3,071.00	132.91%
25,081.00	26801.43311	Internal - Building Rent	25,080.96	25,081.00	100.00%
0.00	26801.43342	Internal-Tfr Stn Refuse fees	16.00	0.00	0.00%
155,295.02			**173,460.43**	**155,295.02**	**111.70%**
(18,925.98)	**Net Operating (Surplus)/Deficit**		**(2,175.44)**	**(18,925.98)**	
	Capital Movements				
1,460.00	26801.65161	Furniture/Fitting - Acq LOS	4,790.10	1,460.00	328.09%
21,618.00	26801.65191	Library Book - Acquisition LOS	19,484.33	21,618.00	90.13%
0.00	26801.87901	Ex-TeAN General - OP	(15,011.84)	0.00	0.00%
(4,152.00)	26801.99511	Add Back Non Cash Depn	(7,087.15)	(4,152.00)	170.69%
18,926.00			**2,175.44**	**18,926.00**	**11.49%**
0.02			**0.00**	**0.02**	

26802 Operating Costs - Te Anau

Annual Budget	Department		Year to Date Actuals	Year to Date Budget	%Variance
	Income				
(33,001.00)	26802.11111	Rentals	(32,800.00)	(33,001.00)	99.39%
(36,902.00)	26802.11171	Rates - Collected	(37,246.06)	(36,902.00)	100.93%
(973.00)	26802.19151	Internal - Interest on Reserve	(698.42)	(973.00)	71.78%
(240.00)	26802.19171	Internal Rates Income	(92.78)	(240.00)	38.66%
240.00	26802.19175	Internal Rates offset	0.00	240.00	0.00%
(70,876.00)			**(70,837.26)**	**(70,876.00)**	**99.95%**
	Expenditure				
1,500.00	26802.21122	Broadcasting	1,391.30	1,500.00	92.75%
261.00	26802.21311	Material Damage Insurance	360.93	261.00	138.29%
20,000.00	26802.21836	Miscellaneous Grant	10,250.00	20,000.00	51.25%
1,200.00	26802.31211	Electricity	2,373.77	1,200.00	197.81%
10,517.00	26802.31519	Festive Decorations and Events	10,518.14	10,517.00	100.01%
1,000.00	26802.31529	Pest Control	330.08	1,000.00	33.01%
6,149.00	26802.31542	General Projects	260.19	6,149.00	4.23%
0.00	26802.31543	Valuation Expenses	900.00	0.00	0.00%
0.00	26802.41118	Depn - Improvement	2,322.70	0.00	0.00%
336.00	26802.43366	Internal Rates expense	392.75	336.00	116.89%
8,940.00	26802.43368	Internal Freedom Camping	8,940.00	8,940.00	100.00%
49,903.00			**38,039.86**	**49,903.00**	**76.23%**
(20,973.00)	**Net Operating (Surplus)/Deficit**		**(32,797.40)**	**(20,973.00)**	
	Capital Movements				

26802 Operating Costs - Te Anau

Annual Budget	Department		Year to Date Actuals	Year to Date Budget	%Variance
	Capital Movements				
10,000.00	26802.87900	To-TeAN General - OP	34,421.68	10,000.00	344.22%
10,000.00	26802.87901	Ex-TeAN General - OP	0.00	10,000.00	0.00%
973.00	26802.89160	To - Te Anau Car Park Reserve	698.42	973.00	71.78%
0.00	26802.99511	Add Back Non Cash Depn	(2,322.70)	0.00	0.00%
20,973.00			**32,797.40**	**20,973.00**	**156.38%**
0.00			**0.00**	**0.00**	

26807 Street Works - Te Anau

Annual Budget	Department		Year to Date Actuals	Year to Date Budget	%Variance
	Income				
(91,466.00)	26807.11171	Rates - Collected	(92,318.58)	(91,466.00)	100.93%
(338.00)	26807.19171	Internal Rates Income	(229.98)	(338.00)	68.04%
338.00	26807.19175	Internal Rates offset	0.00	338.00	0.00%
(91,466.00)			**(92,548.56)**	**(91,466.00)**	**101.18%**
	Expenditure				
29,399.00	26807.35214	Maint - General	27,512.67	29,399.00	93.58%
12,713.00	26807.41118	Depn - Improvements	12,713.13	12,713.00	100.00%
42,112.00			**40,225.80**	**42,112.00**	**95.52%**
(49,354.00)	**Net Operating (Surplus)/Deficit**		**(52,322.76)**	**(49,354.00)**	
	Capital Movements				
4,100.00	26807.65523	Footpaths - Renewal	0.00	4,100.00	0.00%
20,000.00	26807.67371	Street Lighting - Acquis LOS	0.00	20,000.00	0.00%
44,647.00	26807.67373	Street Lighting - Renewal	1,226.79	44,647.00	2.75%
21,034.00	26807.87900	To-TeAN General - OP	63,809.10	21,034.00	303.36%
(27,714.00)	26807.87901	Ex-TeAN General - OP	0.00	(27,714.00)	0.00%
(12,713.00)	26807.99511	Add Back Non Cash Depn	(12,713.13)	(12,713.00)	100.00%
49,354.00			**52,322.76**	**49,354.00**	**106.02%**
0.00			**0.00**	**0.00**	

26810 Refuse Collection - Te Anau

Annual Budget	Department		Year to Date Actuals	Year to Date Budget	%Variance
	Income				
(58,500.00)	26810.11171	Rates - Collected	(59,045.31)	(58,500.00)	100.93%
(139.00)	26810.19171	Internal Rates Income	(147.09)	(139.00)	105.82%
139.00	26810.19175	Internal Rates offset	0.00	139.00	0.00%
(58,500.00)			**(59,192.40)**	**(58,500.00)**	**101.18%**
	Expenditure				
58,500.00	26810.31538	Street Litter Bins	56,381.51	58,500.00	96.38%
58,500.00			**56,381.51**	**58,500.00**	**96.38%**
0.00	**Net Operating (Surplus)/Deficit**		**(2,810.89)**	**0.00**	
	Capital Movements				
0.00	26810.87900	To-TeAN General - OP	2,810.89	0.00	0.00%
0.00			**2,810.89**	**0.00**	**0.00%**
0.00			**0.00**	**0.00**	

26813 Stormwater Drainage - Te Anau

Budget			Actuals	Budget	
	Income				
(37,247.00)	26813.11171	Rates - Collected	(37,594.27)	(37,247.00)	100.93%
0.00	26813.11377	Connection Fee - Stormwater	(1,446.08)	0.00	0.00%
(15,409.00)	26813.19151	Internal - Interest on Reserve	(13,893.79)	(15,409.00)	90.17%
(75.00)	26813.19171	Internal Rates Income	(93.65)	(75.00)	124.87%
75.00	26813.19175	Internal Rates offset	0.00	75.00	0.00%
(52,656.00)			**(53,027.79)**	**(52,656.00)**	**100.71%**
	Expenditure				
0.00	26813.31528	Rates	995.27	0.00	0.00%
526.00	26813.31531	Resource Consents	1,091.85	526.00	207.58%
5,568.00	26813.31552	Operating Costs	0.00	5,568.00	0.00%
4,207.00	26813.31553	Monitoring (Extra)	0.00	4,207.00	0.00%
3,365.00	26813.35214	Maint - General	1,597.98	3,365.00	47.49%
13,013.00	26813.43344	Internal - WWS Management Fee	13,013.16	13,013.00	100.00%
2,842.00	26813.43366	Internal Rates expense	3,184.45	2,842.00	112.05%
7,727.00	26813.43374	Internal WWS Stormwater Invest	7,726.80	7,727.00	100.00%
37,248.00			**27,609.51**	**37,248.00**	**74.12%**
(15,408.00)	**Net Operating (Surplus)/Deficit**		**(25,418.28)**	**(15,408.00)**	
	Capital Movements				
19,784.00	26813.67331	Stormwater - Acquisition LOS	6,949.67	19,784.00	35.13%
15,409.00	26813.87928	To-TeAN Stormwater - RE	18,468.61	15,409.00	119.86%
(19,785.00)	26813.87929	Ex-TeAN Stormwater - RE	0.00	(19,785.00)	0.00%
15,408.00			**25,418.28**	**15,408.00**	**164.97%**
0.00			**0.00**	**0.00**	

26825 Cemetery - Te Anau

Annual Budget	Department		Year to Date Actuals	Year to Date Budget	%Variance
	Income				
(2,461.60)	26825.11171	Rates - Collected	(2,484.53)	(2,461.60)	100.93%
(5,258.00)	26825.11313	Cemetery Interment Fees	(6,100.00)	(5,258.00)	116.01%
(923.10)	26825.19114	Contribution - Township	(922.90)	(923.10)	99.98%
(2,769.30)	26825.19115	Contribution - Ward	(2,769.36)	(2,769.30)	100.00%
(64.00)	26825.19151	Internal - Interest on Reserve	(46.25)	(64.00)	72.27%
(6.00)	26825.19171	Internal Rates Income	(6.19)	(6.00)	103.17%
6.00	26825.19175	Internal Rates offset	0.00	6.00	0.00%
(11,476.00)			**(12,329.23)**	**(11,476.00)**	**107.43%**
	Expenditure				
5,518.00	26825.31527	Mowing	5,433.96	5,518.00	98.48%
636.00	26825.35214	Maint - General	842.59	636.00	132.48%
0.00	26825.35222	Maint - Tree and Hedge	2,353.10	0.00	0.00%
5,258.00	26825.35713	Interments	5,291.84	5,258.00	100.64%
2,028.00	26825.41118	Depn - Improvement	1,240.76	2,028.00	61.18%
13,440.00			**15,162.25**	**13,440.00**	**112.81%**
1,964.00	**Net Operating (Surplus)/Deficit**		**2,833.02**	**1,964.00**	
	Capital Movements				
0.00	26825.87901	Ex-TeAN General - OP	(1,638.51)	0.00	0.00%
64.00	26825.87902	To-TeAN Cemetery Impvts - OP	46.25	64.00	72.27%
(2,028.00)	26825.99511	Add Back Non Cash Depn	(1,240.76)	(2,028.00)	61.18%
(1,964.00)			**(2,833.02)**	**(1,964.00)**	**144.25%**
0.00			**0.00**	**0.00**	

26828 Beautification - Te Anau

26828 Beautification - Te Anau

Annual Budget	Department		Year to Date Actuals	Year to Date Budget	%Variance
	Income				
(54,311.00)	26828.11171	Rates - Collected	(54,817.32)	(54,311.00)	100.93%
(103.00)	26828.19171	Internal Rates Income	(136.56)	(103.00)	132.58%
103.00	26828.19175	Internal Rates offset	0.00	103.00	0.00%
(54,311.00)			**(54,953.88)**	**(54,311.00)**	**101.18%**
	Expenditure				
2,484.00	26828.31527	Mowing	3,117.04	2,484.00	125.48%
20,567.00	26828.35213	Maint - Gardening	20,145.63	20,567.00	97.95%
5,018.00	26828.35214	Maint - General	3,229.20	5,018.00	64.35%
5,250.00	26828.35215	Maint - Hanging Baskets	0.00	5,250.00	0.00%
8,825.00	26828.41118	Depn - Improvement	7,763.28	8,825.00	87.97%
42,144.00			**34,255.15**	**42,144.00**	**81.28%**
(12,167.00)	**Net Operating (Surplus)/Deficit**		**(20,698.73)**	**(12,167.00)**	
	Capital Movements				
40,992.00	26828.65171	Improvements - Acq LOS	0.00	40,992.00	0.00%
0.00	26828.87900	To-TeAN General - OP	28,462.01	0.00	0.00%
(20,000.00)	26828.87901	Ex-TeAN General - OP	0.00	(20,000.00)	0.00%
(8,825.00)	26828.99511	Add Back Non Cash Depn	(7,763.28)	(8,825.00)	87.97%
12,167.00			**20,698.73**	**12,167.00**	**170.12%**
0.00			**0.00**	**0.00**	

26833 Sportsground/Boating - Te Anau

Annual Budget	Department		Year to Date Actuals	Year to Date Budget	%Variance
	Income				
(3,456.00)	26833.11111	Rentals	(3,287.78)	(3,456.00)	95.13%
(17,325.55)	26833.11171	Rates - Collected	(17,487.12)	(17,325.55)	100.93%
(1,019.15)	26833.19114	Contribution - Township	(1,019.16)	(1,019.15)	100.00%
(2,038.30)	26833.19115	Contribution - Ward	(2,038.32)	(2,038.30)	100.00%
(40.00)	26833.19171	Internal Rates Income	(43.56)	(40.00)	108.90%
40.00	26833.19175	Internal Rates offset	0.00	40.00	0.00%
(23,839.00)			**(23,875.94)**	**(23,839.00)**	**100.15%**
	Expenditure				
3,254.00	26833.21311	Material Damage Insurance	2,132.09	3,254.00	65.52%
16,921.00	26833.31527	Mowing	15,396.36	16,921.00	90.99%
0.00	26833.35112	Maint - Internal	294.00	0.00	0.00%
2,412.00	26833.35212	Maint - Equipment	2,306.74	2,412.00	95.64%
1,252.00	26833.35214	Maint - General	0.00	1,252.00	0.00%
93.00	26833.41118	Depn - Improvement	93.00	93.00	100.00%
23,932.00			**20,222.19**	**23,932.00**	**84.50%**
93.00	**Net Operating (Surplus)/Deficit**		**(3,653.75)**	**93.00**	
	Capital Movements				
0.00	26833.87900	To-TeAN General - OP	3,746.75	0.00	0.00%
(93.00)	26833.99511	Add Back Non Cash Depn	(93.00)	(93.00)	100.00%
(93.00)			**3,653.75**	**(93.00)**	**-3,928.76%**
0.00			**0.00**	**0.00**	

26835 Lakefront

Annual Budget	Department		Year to Date Actuals	Year to Date Budget	%Variance
	Income				

26835 Lakefront

Annual Budget	Department		Year to Date Actuals	Year to Date Budget	%Variance
	Income				
(24,870.00)	26835.11171	Rates - Collected	(25,101.83)	(24,870.00)	100.93%
(62.00)	26835.19171	Internal Rates Income	(62.53)	(62.00)	100.85%
62.00	26835.19175	Internal Rates offset	0.00	62.00	0.00%
(24,870.00)			**(25,164.36)**	**(24,870.00)**	**101.18%**
	Expenditure				
2,667.00	26835.31517	Cleaning	3,276.00	2,667.00	122.83%
13,630.00	26835.31527	Mowing	12,679.32	13,630.00	93.03%
8,012.00	26835.35213	Maint - Gardening	6,335.89	8,012.00	79.08%
561.00	26835.35214	Maint - General	1,671.91	561.00	298.02%
23,272.00	26835.41118	Depn - Improvement	3,582.13	23,272.00	15.39%
48,142.00			**27,545.25**	**48,142.00**	**57.22%**
23,272.00	**Net Operating (Surplus)/Deficit**		**2,380.89**	**23,272.00**	
	Capital Movements				
196,901.00	26835.65171	Improvements - Acq LOS	0.00	196,901.00	0.00%
0.00	26835.87900	To-TeAN General - OP	1,201.24	0.00	0.00%
(196,901.00)	26835.87901	Ex-TeAN General - OP	0.00	(196,901.00)	0.00%
(23,272.00)	26835.99511	Add Back Non Cash Depn	(3,582.13)	(23,272.00)	15.39%
(23,272.00)			**(2,380.89)**	**(23,272.00)**	**10.23%**
0.00			**0.00**	**0.00**	

26846 Parks & Reserves General

Annual Budget	Department		Year to Date Actuals	Year to Date Budget	%Variance
	Income				
(210.00)	26846.11111	Rentals	(170.00)	(210.00)	80.95%
0.00	26846.11162	Grants General (Capital)	(6,956.53)	0.00	0.00%
(168,251.00)	26846.11171	Rates - Collected	(169,819.40)	(168,251.00)	100.93%
(30,000.00)	26846.11464	Parks Contributions	0.00	(30,000.00)	0.00%
(401.00)	26846.19171	Internal Rates Income	(423.04)	(401.00)	105.50%
401.00	26846.19175	Internal Rates offset	0.00	401.00	0.00%
(198,461.00)			**(177,368.97)**	**(198,461.00)**	**89.37%**
	Expenditure				
1,800.00	26846.31211	Electricity	1,738.24	1,800.00	96.57%
0.00	26846.31523	Legal Costs	200.00	0.00	0.00%
63,518.00	26846.31527	Mowing	56,967.72	63,518.00	89.69%
7,631.00	26846.35212	Maint - Equipment	6,386.84	7,631.00	83.70%
56,931.00	26846.35213	Maint - Gardening	43,764.12	56,931.00	76.87%
18,581.00	26846.35214	Maint - General	12,404.55	18,581.00	66.76%
31,309.00	26846.41118	Depn - Improvement	23,569.92	31,309.00	75.28%
768.00	26846.41122	Depn - Other Equipment	768.02	768.00	100.00%
180,538.00			**145,799.41**	**180,538.00**	**80.76%**
(17,923.00)	**Net Operating (Surplus)/Deficit**		**(31,569.56)**	**(17,923.00)**	
	Capital Movements				
12,643.00	26846.65171	Improvements - Acq LOS	78,678.05	12,643.00	622.31%
30,000.00	26846.65172	Improvements - Acquis Demand	0.00	30,000.00	0.00%
20,000.00	26846.65173	Improvements - Renewals	24,855.00	20,000.00	124.28%
0.00	26846.67512	WIP - Improvememts	(66,404.86)	0.00	0.00%
0.00	26846.87900	To-TeAN General - OP	18,779.31	0.00	0.00%
(12,643.00)	26846.87901	Ex-TeAN General - OP	0.00	(12,643.00)	0.00%
(32,077.00)	26846.99511	Add Back Non Cash Depn	(24,337.94)	(32,077.00)	75.87%
17,923.00			**31,569.56**	**17,923.00**	**176.14%**

0.00			0.00	0.00	

26849 Information Kiosk

Annual Budget	Department		Year to Date Actuals	Year to Date Budget	%Variance
	Income				
(74.00)	26849.11171	Rates - Collected	(74.69)	(74.00)	100.93%
0.00	26849.19171	Internal Rates Income	(0.19)	0.00	0.00%
(74.00)			**(74.88)**	**(74.00)**	**101.19%**
	Expenditure				
74.00	26849.35214	Maint - General	0.00	74.00	0.00%
74.00			**0.00**	**74.00**	**0.00%**
0.00	**Net Operating (Surplus)/Deficit**		**(74.88)**	**0.00**	
	Capital Movements				
0.00	26849.87900	To-TeAN General - OP	74.88	0.00	0.00%
0.00			**74.88**	**0.00**	**0.00%**
0.00			**0.00**	**0.00**	

26879 Sandy Brown Utilities Loan

Annual Budget	Department		Year to Date Actuals	Year to Date Budget	%Variance
	Income				
(17,418.00)	26879.11171	Rates - Collected	(18,373.20)	(17,418.00)	105.48%
446.00	26879.19151	Internal - Interest on Reserve	313.48	446.00	70.29%
(16,972.00)			**(18,059.72)**	**(16,972.00)**	**106.41%**
	Expenditure				
1,204.00	26879.43317	Internal -Interest	1,207.68	1,204.00	100.31%
1,204.00			**1,207.68**	**1,204.00**	**100.31%**
(15,768.00)	**Net Operating (Surplus)/Deficit**		**(16,852.04)**	**(15,768.00)**	
	Capital Movements				
13,908.00	26879.71533	Internal Loans - Repaid	13,945.32	13,908.00	100.27%
1,860.00	26879.87930	To-TeAN Sandy Brown Loan - OP	2,906.72	1,860.00	156.28%
15,768.00			**16,852.04**	**15,768.00**	**106.87%**
0.00			**0.00**	**0.00**	

26886 Luxmore Subdivision

Annual Budget	Department		Year to Date Actuals	Year to Date Budget	%Variance
	Income				
(5,258.00)	26886.11111	Rentals	(5,048.00)	(5,258.00)	96.01%
(46,045.00)	26886.19151	Internal - Interest on Reserve	(30,954.87)	(46,045.00)	67.23%
(51,303.00)			**(36,002.87)**	**(51,303.00)**	**70.18%**
	Expenditure				
0.00	26886.21836	Miscellaneous Grant	40,000.00	0.00	0.00%
0.00	26886.31523	Legal Costs	6,450.00	0.00	0.00%
468.00	26886.31528	Rates	435.70	468.00	93.10%
2,473.00	26886.43366	Internal Rates expense	2,550.10	2,473.00	103.12%
2,941.00			**49,435.80**	**2,941.00**	**1,680.92%**
(48,362.00)	**Net Operating (Surplus)/Deficit**		**13,432.93**	**(48,362.00)**	

26886 Luxmore Subdivision

Annual Budget	Department		Year to Date Actuals	Year to Date Budget	%Variance
	Capital Movements				
48,362.00	26886.87946	To-TeAN Luxmore Sub - RE	30,954.87	48,362.00	64.01%
0.00	26886.87947	Ex-TeAN Luxmore Sub - RE	(44,387.80)	0.00	0.00%
48,362.00			**(13,432.93)**	**48,362.00**	**-27.78%**
0.00			**0.00**	**0.00**	

Use of Unmanned Aerial Vehicle Policy

Record No: R/18/9/22948
Author: Jane Edwards, Policy Analyst
Approved by: Rex Capil, Group Manager Community and Futures

☐ Decision ☒ Recommendation ☐ Information

Purpose

1 This report is in response to the request to Council from the Te Anau Community Board (the Board), dated 12 September, to amend the Use of Unmanned Aerial Vehicle (UAV) Policy (the policy).

2 This amendment is requested to include Council owned land, from Marakura Yacht Club to Blue Gum Point, as a prohibited zone.

3 The policy is attached as Attachment A.

Executive Summary

4 The Use of Unmanned Aerial Vehicle Policy is an enabling policy that generally allows UAVs (such as drones) to be flown on or above Council owned or controlled land.

5 The policy sets out that where there are situations where flying UAVs is restricted, or where the use of UAVs is prohibited, Council approval is required.

6 The policy currently contains no prohibited areas.

7 Te Anau Community Board, at its meeting on 29 August, requested that Council make Council owned land from the Marakura Yacht Club to Blue Gum Point, a prohibited area in the policy.

8 Staff wish to advise that internal discussions have resulted in a suggestion to propose to Council an amendment to the confusing wording within the current policy. At present, Restrictions and Prohibited Areas, are stated with similar limitations. In each, UAV usage can be permitted with Council approval.

9 In the amendment proposed by staff, Restrictions will continue to have the option of UAV usage with Council approval, while Prohibited Areas will state that UAV usage is forbidden under any circumstances.

10 Therefore it is requested that the Board consider the future level of control they would like for the Te Anau lakefront as this will impact on where it is placed within the policy.

Recommendation

That the Te Anau Community Board:

a) **Receives the report titled "Use of Unmanned Aerial Vehicle Policy" dated 15 October 2018.**

b) **Determines that this matter or decision be recognised as not significant in terms of Section 76 of the Local Government Act 2002.**

c) **Determines that it has complied with the decision-making provisions of the Local Government Act 2002 to the extent necessary in relation to this decision; and in accordance with Section 79 of the Act determines that it does not require further information, further assessment of options or further analysis of costs and benefits or advantages and disadvantages prior to making a decision on this matter.**

d) **Considers the report and determines the level of control they would consider appropriate for the Council owned and administered land from the Marakura Yacht Club to Blue Gum Point for a distance of up to 60m right angles from the physical edge of Lake Te Anau.**

e) **Recommend Council amend the policy to include the Te Anau lakefront within the Restrictions with subsequent community education/engagement.**

f) **Note that in recommending to Council the policy be amended to include the Te Anau lakefront within the Restrictions, Council may give written approval for UAV usage in appropriate circumstances.**

Background

11 The policy was adopted by Council on 19 July 2017 with no prohibited areas specified in it.

12 The area over Lake Te Anau is in the Fiordland National Park and under the control of DOC. While flight operations are not in a controlled air space, Council land along the lakefront is one of the areas where the operators are located when flying UAVs.

13 Since the policy's adoption, safety issues have arisen in regard to the interaction between drones and aircraft operating along the lakefront. To address this Council staff, in conjunction with operators and DOC, have installed signage in appropriate locations along the lakefront. This signage advises that it is a restricted area and that no drones may be flown without council approval.

14 The Board have requested that Council also amend the policy to make the lakefront in Te Anau a prohibited area with an aim to formalise the restriction and give it more authority.

15 At present, there are no methods in place to enforce either restrictions or prohibitions.

Issues

16 The policy, in its current form, describes Prohibited Areas as follows:

"There are some areas where the use of UAVs is prohibited unless written approval has been granted by Council"

17 It is the opinion of staff that this language is confusing and does not clearly define the difference between a prohibited area and an area with restrictions.

18 Consequently it has been recommended that the language of the policy be amended to define prohibited as being formally forbidden and restricted as being put under control or limits. A risk to note is that the policy amendment to tighten control on Prohibited Areas (which will be recommended to Council) may not allow recourse to Council for written approval for the use of UAVs.

19 In order that Council is able to continue giving written approval to fly UAVs in specific circumstances, it is recommended that the Te Anau lakefront area, with detailed geographical limits, is included within the Restrictions.

20 It is requested that the Board consider what level of UAV usage they consider appropriate and therefore the future level of control they would like for the Te Anau lakefront.

Factors to Consider

Legal and Statutory Requirements

21 All the statutory requirements are set out in the policy, and establishes criteria for UAV usage over Council owned and controlled land within the District.

22 Given the varying width of the Council owned property from the Marakura Yacht Club to Blue Gum Point, that maximum distance that has been determined from the edge of Lake Te Anau to the property boundaries on the opposite side of Lakefront Drive and Te Anau Terrace is 60m.

23 For that reason the width of the requested prohibited area on the Council land has been set at up to 60m right angles to the physical edge of Te Anau which is the boundary of the Fiordland National Park.

Community Views

24 No community consultation has been undertaken, however the Board's request has been made following feedback from aircraft operators on the Te Anau lakefront.

25 If the Board recommend that the lakefront is added to the Restrictions, it is recommended that community education engagement is undertaken in order to publicise the limits contained in the policy to the Te Anau community and visitors.

26 If the Board recommend that the lakefront is added to the Prohibited Areas, it is recommended that consultation is undertaken in order to capture the wider community views.

Costs and Funding

27 There will be staff time and advertising costs associated with both an engagement or consultation process with the Te Anau community.

Policy Implications

28 If the current policy is amended to include the Te Anau lakefront (with clearly defined geographical boundaries) within the Restrictions, this will give the Board specific detail to reference back to when communicating with UAV users. It is not able to be enforced currently and is still only publically communicated by the existing signage. It does, however, enable permission for UAV usage to be given by Council in appropriate circumstances.

29 If the current policy is amended to include the Te Anau lakefront (with clearly defined geographical boundaries) within the Prohibited Areas, similar level of control is given to the Board as neither restricted nor prohibited is currently able to be enforced. However, amending signage to reflect that the lakefront is a prohibited area may help to deter UAV users. As with Restrictions, permission for UAV usage can be given by Council in appropriate circumstances within the current policy.

Analysis

Options Considered

30 The options are as follows:

- recommend policy is amended to include Te Anau lakefront area within the Restrictions, with subsequent engagement to inform Te Anau community
- recommend policy is amended to include Te Anau lakefront within the Prohibited Areas, with subsequent consultation with the Te Anau Community
- not amend the current policy at this time

Analysis of Options

Option 1 – Recommend policy is amended to include Te Anau lakefront area within the Restrictions, with subsequent engagement to inform Te Anau community

Advantages	*Disadvantages*
• The policy will clearly state the geographical boundaries of restricted UAV usage • May help to reduce UAV usage in the area and the risk of a collision between a UAV and existing aircraft operations • Allows Council to consider requests for UAV usage and give written approval in specific instances • An education/engagement process can target lakefront motels and premises in order to publicise restrictions to potential UAV users	• The use of 'restricted' may not have the authority that the Board requested and may not deter UAV users. • There is currently no ability to enforce the restrictions • Restrictions still reliant on signage to alert UAV users. • Signage has proved inadequate so far. • An education/engagement process might potentially still miss the tourist base who are the most likely to be UAV users.

Option 2 – Recommend policy is amended to include Te Anau lakefront within the Prohibited Areas, with subsequent consultation with the Te Anau Community

Advantages	*Disadvantages*
• This will clearly state the geographical boundaries of prohibited UAV usage within the policy • May help reduce UAV usage in the area and remove the risk of collision between UAV and existing aircraft operations • Currently allows Council to consider requests for UAV usage and give written approval in specific instances • Use of 'prohibited' may deter most UAV users • Consulting on this issue will allow the Te Anau community to present their views.	• Prohibition still reliant on signage, that has so far proved inadequate, to alert UAV users. • There is currently no ability to enforce the prohibited area. • Prohibited is still reliant on signage to alert UAV users. • Signage has proved inadequate so far • With the potential for a change to the meaning of prohibited in the current policy, Council will not be able to approve any UAV usage in lakefront area.

Option 3 – Make no amendments to the current policy

Advantages	*Disadvantages*
• The current policy does restrict UAV usage over the lakefront	• Language used in current policy mean that restricted and prohibited have the same requirements and limitations

• Signage currently alerts people that they need permission to fly UAVs over the lakefront • Permission is able to be given by Council in appropriate circumstances	• UAV usage on the Te Anau lakefront still reliant on signage to alert users of restrictions • The current policy is not successfully mitigating the risk of UAV and aircraft interaction

Assessment of Significance

31 The amendment to the policy is not considered significant.

Recommended Option

32 Staff recommend Option 1, to amend the policy to include the Te Anau lakefront within the Restrictions with subsequent community education/engagement. This will clarify and tighten the restriction on the lakefront area while still allowing Council to give written approval for UAV usage in appropriate circumstances.

Next Steps

33 Report Board's recommendation to Council prior to policy been amended to include the Te Anau lakefront.

34 Council staff will present the Policy to the Community and Policy Committee to propose an amendment to the wording that will clarify the distinction between Restrictions and Prohibited Areas. If the proposed amendment is approved by Council, prohibited areas will mean Council will not be able to approve any UAV usage.

Attachments

A Use of Unmanned Aerial Vehicle Policy 2017 ⇩

SOUTHLAND DISTRICT COUNCIL

USE OF UNMANNED AERIAL VEHICLES POLICY

This policy applies to: **Members of the public using UAVs over Council land**
(excluding UAVs being used by the Southland District Council)

DOCUMENT CONTROL

Administered by: Strategic Manager (Property)	TRIM reference number: r/15/12/22465	Effective date: 19 July 2017
Approved by: Council	Date approved: 19 July 2017	Next review date: 2023

CONTENTS

USE OF UNMANNED AERIAL VEHICLES POLICY

1. PURPOSE

This policy sets out the conditions for use of Unmanned Aerial Vehicles (UAVs) on Council owned or controlled land.

2. DEFINITIONS AND ABBREVIATIONS

Term	Meaning
Unmanned Aerial Vehicle (UAV)	The term UAV covers all electric powered remote controlled model aircraft, including the type commonly referred to as "drones" that are capable of vertical take-off and landing and small hand-launched gliders less than 1.5 metre wing span. UAVs are also known as drones, Remotely Piloted Aircraft Systems and Unmanned Aerial Systems. The term UAV does not include the following: • Fixed wing electric-powered model aircraft greater than 1 metre wing span. • All fixed - winged model aircraft that are internal combustion engine (petrol) powered. • Gliders greater than 1.5 metre wing span and bungee-launched gliders. • Single rotor helicopters that are electric powered or internal combustion engine (petrol) powered. • Jet powered models.
Civil Aviation Authority Rules / CAA rules	Civil Aviation Rules are set by the Minister of Transport. The rules are divided into parts. The two parts relevant to UAVs are: • Part 101: *Gyrogliders and Parasails, Unmanned Aircraft (including Balloons), Kites, and Rockets - Operating Rules*, and • Part 102: *Unmanned Aircraft Operator Certification*.

3 BACKGROUND

Under rules introduced by the Civil Aviation Authority (CAA) on 1 August 2015, Council can grant or decline consent for the use of UAVs on property that it owns or controls. This policy establishes criteria for UAV use over Council owned and controlled land in the Southland District.

4 . POLICY DETAILS

4.1 General Criteria

In addition to the CAA rules, the following criteria apply to the use of UAVs over land or property owned or controlled by Southland District Council. They do not apply to the use of UAVs by Southland District Council.

Operators of UAVs must:

- Comply with the Office of the Privacy Commissioner guidance on preserving peoples' personal privacy by not flying over other people or adjoining private property without their consent.
- Be courteous of other park users, who often are there for the quiet enjoyment of Council's parks, reserves and open spaces.
- Wear a high visibility vest.

4.2 Restrictions

Operators do not need approval to use UAVs over land or property owned or controlled by the Southland District Council except in the following situations:

- Over a sports field if in use by others, or within 50 metres of any organised activity taking place in a reserve or Council controlled open space.
- Over or above Council owned or controlled cemeteries, commercial forestry or formed roads.
- Over or within 50 metres of other users of open spaces. If another open space user moves within this range, the UAV user must immediately land their UAV.
- Over or within 50 metres of any building on Council land or any playground equipment or swimming pool.
- Within 50 metres of livestock, wildlife or sensitive wildlife habitats. If livestock or wildlife move within this range, the UAV user must immediately land their UAV.
- Within 50 metres of a reserve boundary where residential housing or stock farming adjoins.
- Within 100 metres of another UAV user.

Written Council approval must also be obtained for any organised event involving the use of UAVs.

If requested to cease operations by Council officers operators must land their UAV immediately.

If the Council owned land or property is held under a lease or licence from Council, or there is an organised event taking place, the applicant must obtain written approval

from the lessee, licensee or the event organiser, prior to seeking approval from Council. Operators of UAVs must comply with any additional conditions imposed by the lessee, licensee or event organiser.

Council's approval can be sought by making a written request to Council's property department. Council will notify the applicant about whether or not approval has been granted. If a request to fly a UAV in a restricted situation is declined, Council will outline the reasons why.

4.3 Prohibited Areas

There are some areas where the use of UAVs is prohibited unless written approval has been granted by Council. These areas are:

- There are no prohibited areas.

4.4 Reporting incidents and near misses

UAV users must report all incidents and near misses of a significant nature (such as those involving people and property (including animals, buildings and power lines)) to Southland District Council. This obligation also extends to other reserve users involved in any incident or near miss relating to UAV use.

4.5 Enforcement

Any breach of the above conditions could result in termination of your permission to fly unmanned aircraft over Council land.

Council will report breaches to the Civil Aviation Authority, which may result in infringements or prosecution.

5. ASSOCIATED DOCUMENTS

- Civil Aviation Authority Rules and Guidelines: http://www.caa.govt.nz/rpas/
- Southland District Council District Reserves Management Policy

6. REVISION RECORD

Date	Version	Revision Description
19 July 2017	1	Policy first adopted
«Type Date»	«Version»	«Revision»
«Type Date»	«Version»	«Revision»

Bird Strike Risk Assessment - Te Anau Airport

Record No: R/18/6/13584
Author: Ian Marshall, Senior Projects Manager
Approved by: Matt Russell, Group Manager Services and Assets

☐ Decision ☐ Recommendation ☒ Information

Purpose

1 The purpose of this report is to inform the Te Anau Community Board of the outcome of an assessment of bird strike risk at the Te Anau Airport Manapouri. The work was commissioned to assess the risk in relation to the present situation and the possible future scenarios of wastewater effluent irrigation on the adjacent land. Both irrigation options of centre pivot irrigation and sub-surface irrigation are contemplated in the report.

Executive Summary

2 Avisure carried out bird activity surveys on the airport property and on the adjacent land known as the Kepler Block which is the site for wastewater effluent irrigation.

3 The irrigation site is already highly attractive to birds under the current farming practice of allowing grass regrowth and then grazing to very short grass along with shelter belts and water ponding around the bog area. If mitigation is not applied, this attraction could be exacerbated by the introduction of nutrient rich treated wastewater, which will flush invertebrates to the surface for food.

4 Avisure's assessment indicates that the centre pivot irrigation system is likely to be slightly more attractive to birds than sub-surface irrigation which would be less likely to saturate the soil. The production of silage would also be a potential bird attraction, particularly during cutting, which exposes insects and other prey items to birds and encourages fresh grass shoots that species such as Canada Geese can graze on.

5 The airport currently operates a Bird Management Strategy to mitigate the risk of bird strike and has done so for many years. The current Bird Management Strategy must be enhanced and a comprehensive management plan developed that details the mitigation required to manage the risk and is backed by regular monitoring and evaluation.

6 Mitigation at the site should include adopting a long grass policy, eliminating standing water, infilling existing depressions and dispersing roosting birds. If applied well, mitigation could significantly reduce the risk currently created by the site. Such reduction in risk makes it feasible to adopt a centre pivot irrigation system rather than a sub-surface option. It is critical that risks are regularly monitored and reviewed and, if necessary, corrective actions taken to ensure the risk is maintained to acceptable levels.

Recommendation

That the Te Anau Community Board:

a) Receives the report titled "Bird Strike Risk Assessment - Te Anau Airport" dated 15 October 2018.

b) Determines that this matter or decision be recognised not significant in terms of Section 76 of the Local Government Act 2002.

c) Determines that it has complied with the decision-making provisions of the Local Government Act 2002 to the extent necessary in relation to this decision; and in accordance with Section 79 of the Act determines that it does not require further information, further assessment of options or further analysis of costs and benefits or advantages and disadvantages prior to making a decision on this matter.

d) Request Council commence a seasonal bird monitoring programme to better understand bird populations in and around the TEU airspace and provide guidance on wild life management to mitigate the risk to the airport users.

Background

7 There have been many claims made, by submitters and members of the general public, over the past number of years about the increased risk of bird strike that will be created if Council implements a waste water irrigation process on the Kepler Block land. The issue was addressed in a report by MWH (now Stantec) dated March 2013. This report was part of the supporting information for the resource consent application.

8 As the result of these claims, management felt it was important from an airport operation risk perspective that a second opinion be obtained. Also since the March 2013 report was produced, the concept of subsurface drip irrigation has been mooted. It was considered important to understand the comparative risks of each of the options.

Why Avisure?

9 We chose Avisure to do the work as they are a company that specialises in managing aviation hazards by applying a safety management system approach. They have worked with civil and military operations around the world since 1996 to provide strategies and services that manage aviation risk.

10 Their expert team has worked with Sydney International Airport and Vancouver International Airport, as well as various airlines, aviation regulators, pilots, airport safety teams, aviation legislators, policy developers, and numerous national and international wildlife management committees.

11 Phil Shaw carried out the work at Manapouri. Phil is the Managing Director of two Australian consulting firms, Ecosure Pty Ltd and Avisure Pty Ltd and President of a Vancouver-based Canadian company, Avisure Services Limited (a wholly owned subsidiary of Avisure Pty Ltd). Phil is a Principal Biologist with a Bachelor of Science and Diploma of Education. He is a member of the Environment Institute of Australia and New Zealand and has more than 20 years consulting experience, with specialist knowledge and application in the field of aircraft/wildlife collision risk mitigation. In this field he has advised the operators of more than 70 airports and defence-force bases across the globe including in Australia, Canada, New Zealand, Fiji, and the Middle East.

Findings and Comparisons

Avisure Report Findings

12 Spur-winged Plover were by far the most populous species on the Airport, with 80 observed during the afternoon survey. Australian Magpie and Paradise Shelduck were the only other significant observations with peak counts in the morning of 11 and three birds respectively.

13 Surveys at the proposed irrigation site indicate a very high attraction to large flocking birds that could be a serious hazard to aircraft. Maximum counts of the following species were recorded at the site: Paradise Shelduck, 87; Black-backed Gulls, 48; Canada Goose, 14; Grey Duck, 6; Australian Magpie, 14; Spur-winged Plover, 6; Common Starling, 300; and Chaffinch, 150.

14 Many of the other off-airport sites had few or no birds present, and some sites were moderately attractive to waterbirds, although not to the extent of the proposed irrigation site.

15 The irrigation site is already highly attractive to birds under the current practice of allowing grass regrowth and then grazing to very short grass along with shelter belts and water ponding around the bog area.

16 If mitigation is not applied, this attraction could be exacerbated by the introduction of nutrient rich treated wastewater, which will flush invertebrates to the surface for food.

17 Avisure's assessment indicates that the pivot irrigation system is likely to be slightly more attractive to birds than sub-surface irrigation which would be less likely to saturate the soil.

18 The production of silage would also be a potential bird attraction, particularly during cutting, which exposes insects and other prey items to birds and encourages fresh grass shoots that species such as Canada Geese can graze on.

19 The removal of shelter belts and the installation of denser shelter belts could inflate populations of birds such as Chaffinches and Starling which already use these habitats for roosting.

20 Avisure recommendation is that the proposal to irrigate wastewater and produce silage only proceeds in this location if a comprehensive management plan is developed that details the mitigation required to manage the risk and is backed by regular monitoring and evaluation.

21 Mitigation at the site should include adopting a long grass policy, eliminating standing water, infilling existing depressions and dispersing roosting birds. If applied well, mitigation could significantly reduce the risk currently created by the site.

22 Such reduction in risk makes it feasible to adopt a centre pivot irrigation system rather than a sub-surface option. It is critical that risks are regularly monitored and reviewed and, if necessary, corrective actions taken to ensure the risk is maintained to acceptable levels.

MWH Report recommendations: March 2013.

23 It is relevant to compare the findings of the MWH report dated March 2013 and the much more recent Avisure report. The MWH report had the following recommendations:

- Employment of passive control measures in and around the irrigation area during the initial development stage and first season/year of irrigation. The degree of control will be governed by field observations;
- Removal of ground depressions and underlying pans that impede drainage and could potentially act as ponding areas during the development stage of the project;
- Management of the grass sward to a minimum height of 100 mm within the area beneath the centre pivots as part of the cropping rotation;
- Maintenance of a short sward beyond the centre pivots to prevent grass seed head development;
- Maintaining a rate of discharge that avoids the potential for ponding;
- Absence of strobe lights on the centre pivots;

- The removal of shelter belts within the irrigated area to reduce the extent of nesting and roosting habitat for magpies.

24 Many of these recommendations are consistent with the Avisure report recommendations.

Issues

25 Council has been granted a consent (Discharge Permit) to discharge treated wastewater as below:

Details of Permit

26 Purpose for which permit is granted: To discharge treated wastewater onto land from the Te Anau Wastewater Treatment Plant

27

Location - site locality	1701 Manapouri -Te Anau Highway, Te Anau
- map reference	NZTM2000 E1182670 N4944369
- groundwater zone	Te Anau
- catchment	Waiau
Legal description of land at the site:	Lot 2 DP 410687
Expiry date:	**22 January 2040**

28 The consent contains many conditions that Council is required to meet. Many of these conditions relate to the environmental effects of the discharge. There are also consent conditions that relate to the issues raised in the two wildlife risk reports.

29 The consent that has been granted to discharge treated effluent at the Kepler site, via pivot irrigator, includes several conditions. It is insightful to compare these conditions alongside the recommendations from the Avisure report and the MWH report.

Consent Condition	Avisure	MWH (Stantec)
10. Prior to commencement of the wastewater discharge on the North Block, the consent holder shall plant and maintain a shelter belt along the northern, western and eastern boundaries of the North Block. The consent holder shall maintain the shelter belt for the term of the consent. The shelter belts shall comprise three staggered rows of Radiata pine and / or Douglas fir.	Dispersing roosting birds.	Reduce the extent of nesting and roosting habitat.

Consent Condition	Avisure	MWH (Stantec)
6. (a) There shall be no surface run-off, prolonged ponding, or contamination of surface water, resulting from the application of treated wastewater onto the irrigated area. For the purpose of this consent, prolonged ponding is deemed to occur if wastewater remains on an area for more than three consecutive hours.	Infilling existing depressions.	Removal of ground depressions.
	Eliminating standing water.	Maintaining a rate of discharge that avoids the potential for ponding.
7. (a) The consent holder shall operate a cut and carry operation in accordance with the application.	Adopting a long grass policy.	Management of the grass sward to a minimum height of 100 mm.

30 There is commonality across all three documents. The two reports both recommend similar outcomes as being desirable whereas it is mandatory for Council to comply with the consent conditions. So what is desirable on the one hand coincidentally is a requirement in the consent conditions.

31 In terms of bird strike risk the following table compares the risk factors across the two potential irrigation methods.

32 Comparison of Centre Pivot Irrigation to Subsurface Drip Irrigation.

Centre Pivot Irrigation	Subsurface Drip Irrigation
The irrigation process could attract birds through saturation of the soils and flushing of bird prey items to the surface. The application of nutrient rich treated wastewater would provide an ideal environment for insects and other invertebrates to proliferate. The irrigators themselves could become perches for birds.	Less likely to occur.

Centre Pivot Irrigation	Subsurface Drip Irrigation
The highly productive grass sward would frequently create new grass shoots, potentially attractive to species such a Canada Geese. It would also require regular cutting which, when cut at heights lower than 100 mm will expose insects and other bird prey items. Cutting would be most frequent in spring summer and autumn when aircraft movements are at their greatest. Short grass is preferred by most of the species of concern (Black-backed Gulls, Paradise Shelduck, Spur-winged Plover) and the grass will be thicker and taller under the irrigated grassland than what is already present.	Same as for Centre Pivot Irrigation.
The retention of the water channel flowing into the peat bog will continue to be attractive to birds. It is possible with the generally taller grass that fewer birds will be attracted to this area.	Same as for Centre Pivot Irrigation.

Factors to Consider

Legal and Statutory Requirements

33 The airport is required to comply with the relevant CAA regulations. Appendix B of the attached Avisure report contains Table 3 (reproduced below):

34 Sections of NZ CAA Part 139 and AC relevant to the proposed wastewater irrigation facility.

Document	Requirement
NZ CAA Part 139, CAA Consolidation, Aerodromes - Certification, Operation and Use, March 2017.	Subpart B, Section 139.71 states: "An applicant for the grant of an aerodrome operator certificate must, if any wildlife presents a hazard to aircraft operations at the aerodrome, establish an environmental management programme for minimising or eliminating the wildlife hazard." TEU has a documented Wildlife Management Programme (Appendix C of the attached Avisure report.).

Document	Requirement
NZ CAA Guidance material for land use at or near aerodromes, June 2008	The document states: "It is important that land use changes are monitored and reviewed by the aerodrome operator in areas outside their immediate control to ensure that these land use changes do not increase wildlife hazards for the aerodrome. Garbage disposal dumps and other sources that may attract wildlife activity on, or in the vicinity of, an aerodrome, need to be assessed as a potential source of wildlife hazard. It is an International Civil Aviation Organisation requirement that such activities are closely managed by the controlling authority. If necessary, an aeronautical study may need to be undertaken to assess the potential wildlife activity hazard. Examples of wildlife attractants include: ……. Agricultural - cultivation of land…."
NZ CAA Advisory Circular AC139-16, Wildlife Management at Aerodromes, Revision 0, October 2011.	This advisory circular (AC) is applicable for certificated and non-certificated aerodromes. It lists agriculture, including crops such as grass to be harvested, as a potentially hazardous land use practice. The AC discusses the advantages of short and long grass management techniques. Grass length and its effect on birds is discussed in latter sections of this report.

47 It is important to note that the Te Anau Airport does not operate under a Part 139 certificate, at this time it is not required to. However the airport management operates all systems and procedures that would be required to operate under a Part 139 certificate. This includes a wildlife management regime.

48 The wildlife management regime will be modified as necessary to mitigate the change in risk created by changes in wildlife behaviour. This is a premise of the management regime regardless of why the change in risk may have occurred.

Community Views

49 Community views on this issue have been expressed through the consent application process. The MWH report was one of the supporting documents to that application.

Costs and Funding

50 The costs of risk mitigation factors such as increased wildlife management have not been calculated. The cost impact will be as a result of adding more mitigation activities to the current bird risk management activities. These additional costs will be met by the operational budget of the wastewater scheme. The cost attributable to the wastewater project will be the marginal cost increase of the revised bird management programme. This is not expected to be a significant cost in terms of the operational cost of the treatment and disposal system.

51 The potential effects including practicality and costs of operating a long grass strategy need to be considered by the wastewater project team and in conjunction with the airport management agree on the best methodologies to adopt.

52 For comparison purposes there is considered to be no significant difference in the cost of mitigating the risk posed by pivot irrigation application as opposed to sub-surface irrigation.

Policy Implications

53 There are no policy implications.

Analysis

Options Considered

54 This report is not so much about presenting options. It is primarily about informing those that mange the airport about the potential change in bird strike risk that will occur when Council implement an irrigation scheme on the property known as the Kepler site.

55 The Avisure report does compare a centre pivot irrigation system with a Subsurface Drip Irrigation system and concludes that the centre pivot irrigation system is likely to be slightly more attractive to birds than sub-surface irrigation.

56 The report also mitigation measures and notes if applied well, mitigation could significantly reduce the risk currently created by the site. Such reduction in risk makes it feasible to adopt a centre pivot irrigation system rather than a subsurface option.

Assessment of Significance

57 In terms of Council's Significance Policy this matter is not significant.

Recommended Option

58 That the report be received.

59 Request Council commence a seasonal bird monitoring programme to better understand bird populations in and around the TEU airspace and provide guidance on wild life management to mitigate the risk to the airport users.

Next Steps

60 The airport wildlife management regime will be modified in response to the change in wildlife behaviour.

61 Commence a seasonal bird monitoring programme to establish a baseline bird activity.

Attachments

A Irrigation Te Anau Bird Strike Assessment. Avisure- FINAL ⇩

Initial Bird Strike Risk Assessment for the Proposed Irrigation System near Te Anau Airport

FINAL – Rev02

July 2018

Southland District Council

AVISURE
safety | aviation | wildlife

Executive Summary

Engagement

Southland District Council proposes to develop a wastewater irrigation facility on the northern boundary of Te Anau Airport, Manapouri. The area will also be used to harvest silage. Both irrigation and silage production can be attractive to birds; accordingly, Council engaged Avisure to conduct an initial bird strike risk assessment of the proposed development.

Method of assessing risk

To assess the risk potential of the proposed facility, Avisure assessed the current strike risk by completing wildlife surveys in February 2018 during the morning, middle of the day, afternoon and night at the airport and at the proposed irrigation site. Off-airport surveys were also done at other waterbodies and habitats with the potential to attract birds in order to approximate regional populations of various bird species. The bird strike history was assessed, with consideration to how the facility could change that risk. A similar wastewater irrigation facility was visited in Rolleston, Christchurch to evaluate the land use's potential bird attraction. Options to mitigate the risk were considered and a determination made on whether the residual risk posed by the facility was acceptable.

Results from surveys

Spur-winged Plover were by far the most populous species on the airport, with 80 observed during the afternoon survey. Australian Magpie and Paradise Shelduck were the only other significant observations with peak counts in the morning of 11 and three birds respectively. Surveys at the proposed irrigation site indicate a very high attraction to large flocking birds that could be a serious hazard to aircraft. Maximum counts of the following species were recorded at the site: Paradise Shelduck, 87; Black-backed Gulls, 48; Canada Goose, 14; Grey Duck, 6; Australian Magpie, 14; Spur-winged Plover, 6; Common Starling, 300; and Chaffinch, 150. Many of the other off-airport sites had few or no birds present, and some sites were moderately attractive to waterbirds, although not to the extent of the proposed irrigation site.

Interpretation and risk finding

Based on the low number of aircraft movements and the type of aircraft operating at Te Anau Airport; the bird strike risk is relatively low. The New Zealand Civil Aviation Authority report only two bird strikes since the 3rd quarter 2007; and, apart from Spur-winged Plover, surveys[1] recorded low numbers of birds

[1] It is acknowledged that surveys under different weather conditions and/or at other times of the year may have revealed different results. Inferences derived from these surveys require confirmation from further surveys.

in February 2018. Irrespective of this and given the potential for the airport to develop over the next 20 to 30 years to include more aircraft movements with aircraft types that are more susceptible to bird strike, any new development in the vicinity of the airport should not add to the risk. For the wastewater irrigation facility to proceed and meet the requirements of good risk management practice, Southland District Council would need to ensure that hazardous birds are not attracted to the site and there are no increased bird movements across aircraft flight paths, causing a greater risk to air traffic.

Conclusion

The irrigation site is already highly attractive to birds under the current practice of allowing grass regrowth and then grazing to very short grass along with shelter belts and water ponding around the bog area. If mitigation is not applied, this attraction could be exacerbated by the introduction of nutrient rich treated wastewater, which will flush invertebrates to the surface for food. Our assessment indicates that the pivot irrigation system is likely to be slightly more attractive to birds than sub-surface irrigation which would be less likely to saturate the soil. The production of silage would also be a potential bird attraction, particularly during cutting, which exposes insects and other prey items to birds and encourages fresh grass shoots that species such as Canada Geese can graze on. The removal of shelter belts and the installation of denser shelter belts could inflate populations of birds such as Chaffinches and Starling which already use these habitats for roosting. In attracting more birds to the site, and because of its proximity to the airport, conflict with aircraft is likely during take-off, landing and in circuits. Of particular concern are flocking birds and/or large birds. The consequences of a significant strike resulting in a forced landing or crash are also increased due to the absence of Aircraft Rescue and Firefighting services at the airport.

Recommendation

It is our recommendation that the proposal to irrigate wastewater and produce silage only proceeds in this location if a comprehensive management plan is developed that details the mitigation required to manage the risk and is backed by regular monitoring and evaluation. Mitigation at the site should include adopting a long grass policy, eliminating standing water, infilling existing depressions and dispersing roosting birds. If applied well, mitigation could significantly reduce the risk currently created by the site. Such reduction in risk makes it feasible to adopt either a centre pivot irrigation system or a sub-surface option. It is critical that risks are regularly monitored and reviewed and, if necessary, corrective actions taken to ensure the risk is maintained to acceptable levels.

Table of Contents

Abbreviations

AC	Advisory Circular
ASRI	Airport Survey Risk Index
BMP	Bird Management Plan
DOC	Department of Conservation
FAA	Federal Aviation Administration
IBSC	International Bird Strike Committee
ICAO	International Civil Aviation Organization
LEPA	Low Energy Pressure Application
LESA	Low Elevation Spray Application
NZCAA	New Zealand Civil Aviation Authority
SDC	Southerland District Council
SRI	Species Risk Index
TEU	Te Anau Airport, Manapouri
WBA	World Birdstrike Association

1. Introduction

1.1. Background

Southland District Council (SDC) proposes to develop a wastewater irrigation facility on the northern boundary of Te Anau Airport, Manapouri (TEU). The area will also be used to harvest silage. Both irrigation and silage production can be attractive to birds; accordingly, Council engaged Avisure to conduct an initial bird strike risk assessment of the proposed development.

1.2. Te Anau Airport, Manapouri

TEU is owned by SDC and leases the helicopter landing area, aircraft maintenance hangar and other private hangars. TEU is not 139 Aerodrome Certificated by the New Zealand Civil Aviation Authority (NZ CAA), although it once was and SDC maintains the relevant checks and documentation to satisfy such requirements (pers comm. Airport Manager). It is a non-towered airport with a 1,594m long sealed runway (08/26) and a 969m grass strip (14/32). A helicopter landing area is positioned in the south of the airport property, separate from the fenced airside section (Figure 3).

Aircraft movements are very low with 384 recorded in 2017 (Figure 1). Small aircraft (including helicopters) are the main users of the aerodrome. Rotary winged aircraft (helicopters) are the most frequent traffic, primarily operating between September and April (Figure 2). Passenger aircraft movements are infrequent, with an Alliance Air, Fokker 50 sporadically operating up to three flights per week in peak season and no flights in winter. An Air Chathams Convair 580 occasionally operates charter flights into TEU.

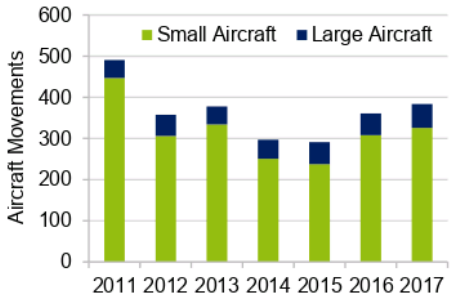


Figure 1. Aircraft movements per year, 2011 to 2017.

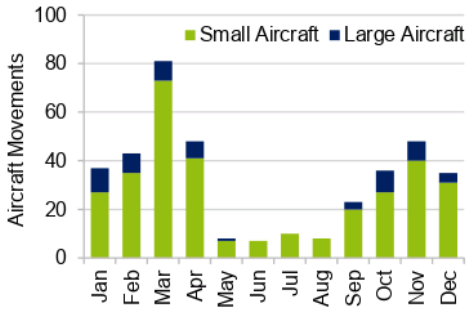


Figure 2. Aircraft movements per month, 2017.

There is potential for the airport to develop over the next 20 to 30 years to include more aircraft movements with aircraft types that are larger, faster and more susceptible to bird strike.

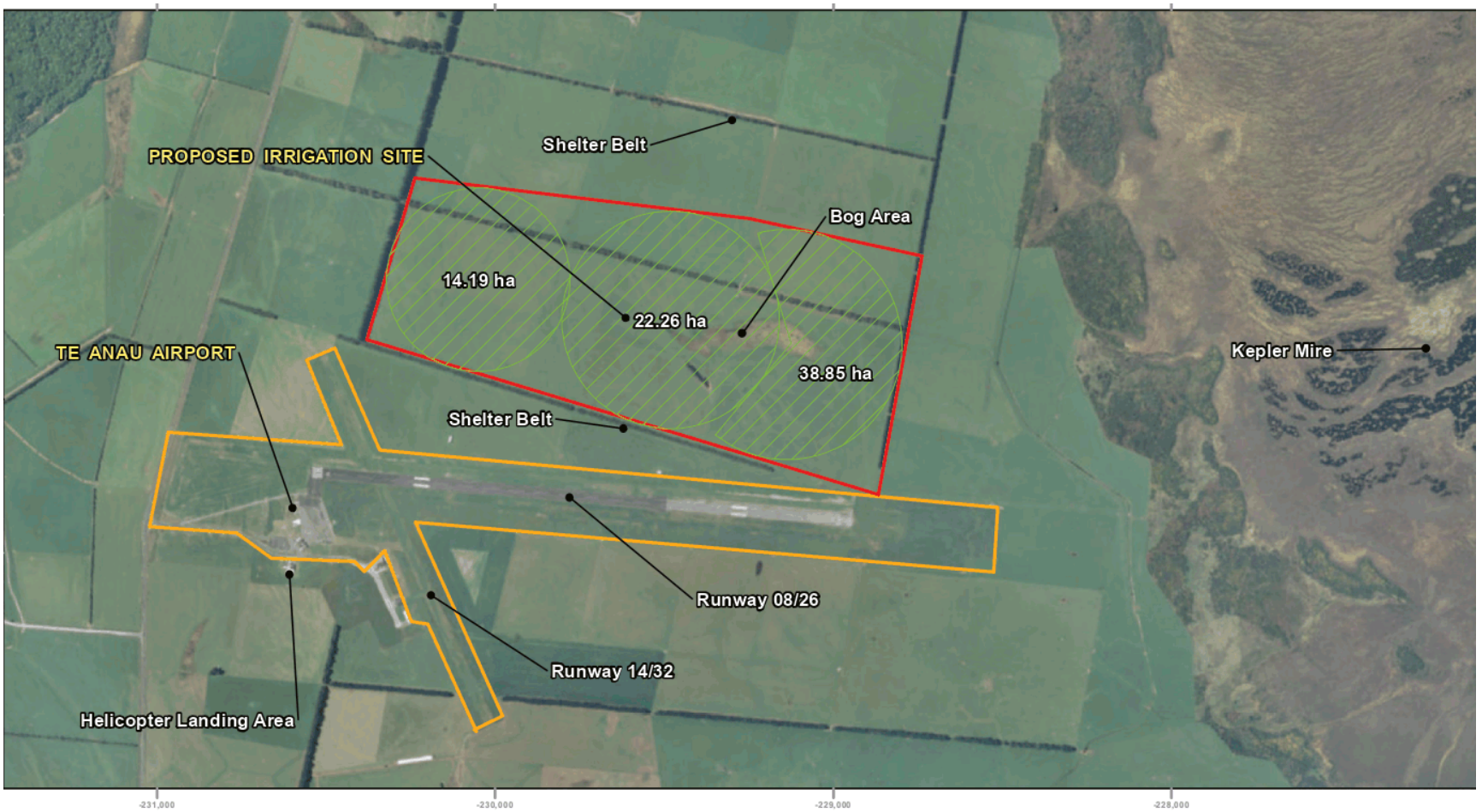


Figure 3: Te Anau Airport, the proposed irrigation site and surrounding features

Southland Distrcit Council

Initial birdstrike risk assessment

Airport Boundary

Proposed Irrigation Site Boundary

Clearing

AVISURE safety | aviation | wildlife

Job number: PR3333
Revision: 0
Author: KF
Date: 22/03/2018

0 125 250 500 Metres

NZGD 2000 UTM Zone 60S
Projection: Transverse Mercator
Datum: NZGD 2000
Units: Meter

1.3. The Proposed Irrigation Facility[2]

The wastewater collected from Te Anau and surrounds is currently treated and discharged into the Upukeroa River which then flows into Lake Te Anau. This is considered to be an outdated practice and accordingly, SDC is looking to an alternative disposal system.

Their preferred option is to discharge the treated wastewater onto grassland at a site adjacent to TEU (Figure 3). This site has been assessed as having suitable soil and groundwater characteristics. There is an area (approximately 4.3ha) of peat bog that the irrigation will, for the most part, need to exclude. Excluding the peat bog reduces the effective area under irrigation to be approximately 111ha. The grassland would be prepared with minimal levelling to minimise soil disturbance and the area reseeded with a perennial grass – a ryegrass or fescue. This could involve treatment with herbicides and then drilling of seed. It is proposed to harvest silage at around 4500 - 5000 kg/ha and before seed head development. It is estimated that at the time of harvest, the grass would be approximately 200 - 230mm tall and the current proposal is to cut approximately 100mm above ground level. Each season, the first harvest is anticipated to be in September and because of the lower quality of the winter growth, this cut would be at around 75mm above ground level to remove thatch and encourage stronger growth. In the best growing seasons, five cuts or more could be expected with the last being in autumn (probably in March). There would be no grazing permitted on wastewater treated areas.

The consented method of distributing the wastewater is through centre pivot irrigation (Figure 4). The latest technology would be adopted using Low Energy Pressure Application (LEPA, Figure 5). The spray nozzles are approximately 300mm above ground level, much lower than conventional centre pivot irrigation. The application rate will be regulated at lower than infiltration rate to minimise the potential for ponding.

Figure 4. Example of a centre pivot irrigation system

[2] This section was prepared with the assistance of Anthony Davoren (Hydro Services)

Figure 5. LEPA (or LESA, Low Elevation Spray Application) Photo: A Davoren.

An alternative to the centre pivot irrigation system is to adopt sub-surface irrigation. Pipes would be laid beneath the soil and wastewater delivered to the soil in zones. This is likely to be more expensive option but could utilise the site more effectively as it could be configured to any shape, rather than restricting it to circles. Sub surface irrigation is less efficient as it only relies on transpiration through the leaf for surface "losses" of water. Spray irrigating is a combination of both evaporation (free water evaporation from the leaf and soil surface and transpiration). Spray irrigation also has the advantage of transforming ice directly to a gaseous state (sublimation) during winter months.

Figure 6. One of the shelter belts on the proposed irrigation site. Photo: A Davoren

The proposed irrigation site currently has tree-lined shelter belts on the site edges and within the site (Figure 6). Generally, they are one to two trees wide and comprise either pines and/or Eucalypts, with pines being predominant. Some of these shelter belts and all the eucalypts will be removed and not replaced; others will be removed, and new ones installed; and others will be added to, in order to thicken the vegetative mass. The desired width of each shelter belt is around 3 metres, trunk to trunk and 3 trees deep. The shelter belts would assist with minimising spray drift, and subsequently odour. Shelter belts could be side and top trimmed, with the top trim at around 8m. Radiata Pine (*Pinus radiata*) is preferred for its rapid growth and density.

Another area adjoining the airport, but to the south, is owned by SDC and was originally considered for the irrigation site. Investigations have identified that only a small area is suitable for irrigation with the balance being on an iron pan which would not support irrigation.

1.4. The Bird Strike Issue

The consequence of bird strikes[3] with aircraft can be very serious. Worldwide, in civil and military aviation, there have been 123 recorded fatal bird strike incidents, resulting in 442 human fatalities and 470 aircraft losses since aviation commenced (Thorpe 2016), most of those within the last 30 years. Bird strikes cost the commercial civil aviation industry an estimated US$1.2 billion per annum and involve more than just the repair of damaged engines and airframes (Allan 2002). Even apparently minor strikes which result in no obvious damage can reduce engine performance, cause concern among aircrew and add to airline operating costs.

The main factors determining the consequences of a strike are the number and size of animal(s) struck, the phase of flight when struck and the part of the aircraft hit. Generally, the larger the animal, the greater the damage. Large animals can destroy engines and windshields and cause significant damage to airframe components and leading-edge devices. Strikes involving more than one animal (multiple strikes) can be serious, even with relatively small animals, potentially disabling engines and/or resulting in major accidents.

Bird populations in the vicinity of an airport can contribute significantly to the strike risk at an airfield. Their movements may intersect aircraft flight paths either over the airfield, in the approaches, or in areas used for low-level circuit operations. In addition, regional and local wildlife populations may fluctuate in response to seasonal, climatic or other environmental variables, resulting in a changing bird strike hazard.

Historically, over 90% of reported strikes have occurred on or in close proximity to airports (ICAO, 1999). Consequently, airports are the focus of management programs with the responsibility resting on airport owners and operators. It is, however, important that the whole airport community (including aircraft operators) and surrounding land managers are aware of wildlife strike as an issue and that all stakeholders become involved in the process of reducing the hazard. Effective management of wildlife-attracting land uses adjacent to airports is imperative.

1.5. Purpose of the Bird Strike Risk Assessment

This Initial Bird Strike Risk Assessment aimed to assess and review potential bird hazards posed to aircraft operations at TEU as a result of the proposed wastewater discharge facility. SDC intends to use the results of the assessment to inform the resource consent process of the likely risks to aircraft operations at TEU.

[3] Wildlife other than birds (mainly mammals) can be an aviation hazard, but the focus of this assessment is on birds as the risk posed by mammals at the proposed irrigation site is easily managed by installing and maintaining suitable perimeter fences.

2. Bird Strike Risk Assessment Method

2.1. Site Assessment

Avisure's Principal Wildlife Biologist, Phil Shaw completed a site visit on the 25th, 26th and 27th of February 2018. The site visit included:

- Meetings and/or phone conversations with Ian Marshall (General Manager – Services and Assets, SDC), Anthony Davoren (Director – Hydro Services), Evan (Airport Manager) and Lee McGillivray (Airport Operations).
- Standardised wildlife surveys at the airport, proposed development site and other key sites within 13km of TEU. This distance is based on international standards (International Civil Aviation Organization and World Birdstrike Association) that recommend identifying, and where necessary managing, potential wildlife attractants within 13 km of runways (see Appendix A for details of survey method).
- Incidental observations were made between or after surveys.
- The arrival of an Alliance Fokker50 was observed, including the pre-flight dispersal of birds by the TEU wildlife staff.

A single set of bird surveys was completed during the morning, middle of the day, afternoon and night at the airport and at the proposed irrigation site. A single survey was completed at other off-airport sites and a brief aerial survey of key sites was done from a Cessna 172 on the morning of 27th of February 2018. Therefore, the prevailing seasonal conditions and current operations were representative only of that survey period. Seasonal aspects such as rainfall, temperature, wind direction, pressure, water availability, breeding season, etc, change over time and influence bird species abundance and movements.

This one-off assessment cannot accurately quantify changes in local wildlife populations, rather it identifies attributes that currently attract hazardous species and the likely hazards presented by those species at the proposed irrigation facility.

Despite this limitation we believe that the assessment is robust as we were able to:

- Conduct site assessments at key identified habitats within the vicinity of TEU to obtain baseline data.
- Analyse the data to identify species which may impact air safety for aircraft operating at TEU.
- Evaluate the likely attraction of the proposed development and its impacts on the TEU strike risk.

2.2. Comparative Site Assessment

The Selwyn District Council wastewater irrigation facility at Rolleston, west of Christchurch, was visited on 23rd February to evaluate the attractiveness of such a land use to birds. Bird species observed at two of the centre-pivot irrigation systems were recorded. This information was used to assist in determining how such facilities might attract birds. For the reasons stated above, one visit provides only a snapshot of condition on that day and at that time.

2.3. Literature Review

Avisure reviewed relevant literature and data for TEU and surrounds, including:

- Documents and data provided by SDC including:
  - Permit – authority to kill protected birds
  - Te Anau Airport Manapouri Wildlife Management Program
  - TEU aircraft movement and PAX database.
- NZ CAA Part 139 CAA Consolidation, Aerodromes – Certification, Operation and Use.
- NZ CAA Guidance material for land use at or near aerodromes.
- NZ CAA Advisory Circular AC139-16, Wildlife Management at Aerodromes.
- International Civil Aviation Organization (ICAO) Annex 14.
- ICAO Document 9137 Airport Services Manual: Wildlife Control and Reduction.
- ICAO Document 9184 Airport Planning Manual: Land Use and Environmental Control.
- International Bird Strike Committee (IBSC) Recommended Practices for Aerodrome Bird/Wildlife Control.
- Federal Aviation Administration (FAA) Advisory Circular 150/5200-33B - Hazardous Wildlife Attractants On or Near Airports.

The relevant sections of these regulation and guidance documents are listed at Appendix B.

2.4. Risk Evaluation

Species recorded at each site were assessed based on their abundance and on the probability and consequence of a strike with an aircraft. This data was then reviewed against the wastewater irrigation system to identify species' habitat requirements that may be present at the site and how the development may affect this.

Risk assessments were completed on these data to calculate a baseline risk present at each site. These results guide the review and recommendations of the proposed wastewater treatment system to assess the potential risks to aircraft operating at TEU.

3. Bird Populations at TEU and Surrounds

3.1. Birds at TEU

Spur-winged Plover (*Vanellus miles*) were the most frequently observed species in each of the morning (68), middle of day (10) and afternoon (80) surveys (Figure 7). The only other species observed in significant numbers was Australian Magpie (*Cracticus tibicen*) with 11, 8, and 3 recorded in each of the respective daytime surveys. These are both grassland species attracted to the short grass that remain after harvesting for silage (Figure 8) and/or sealed areas. Other species observed included:

- a flock of three Paradise Shelduck (*Tadorna variegate*) that flew across the airfield at approximately 150 feet; these did not land on the airport and were flying between off-airport sites that could not be determined
- two Eurasian Skylarks (Alauda arvensis) during the middle of the day survey
- one Starling (Sturnus vulgaris) foraging on the grass
- one Black-backed Gull crossing the airfield at around 60 feet.

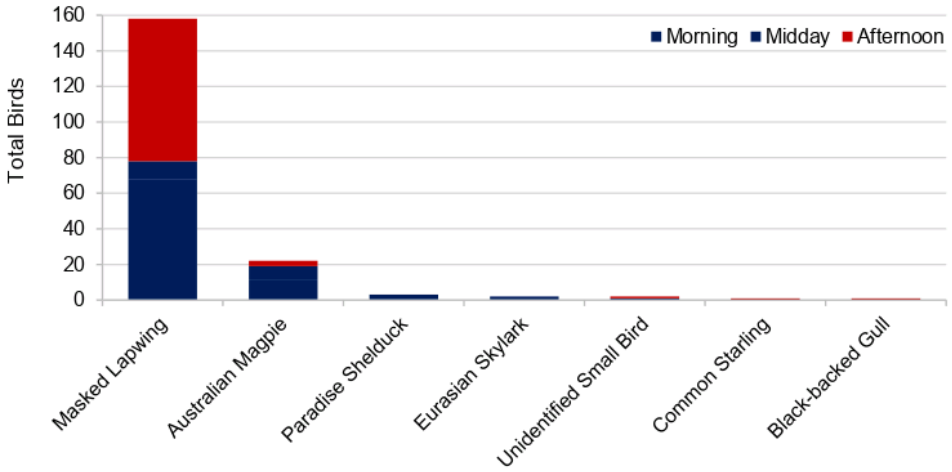


Figure 7. Number of each species observed during diurnal surveys, TEU. February 2018.

Two unidentified small birds and a rabbit were observed airside during the night-time survey.

Incidental observations outside of survey periods included:

- 11 Black Swan (*Cygnus atratus*) flying across the western edge of the airport
- 12 Black-backed Gull crossing the airfield in a westerly direction
- an Australasian Harrier (*Circus approximans*) flew across the airport while hunting for prey
- several House Sparrows (*Passer domesticus*) in the airport carpark.

The helicopter landing area was specifically surveyed after each airside survey and no birds were observed.

Figure 8. Birds attracted to the shorter grass after harvest of grass for silage.

3.2. Birds at the Proposed Irrigation Site

A significant number of birds was observed at the irrigation site (Table 1), including large numbers of species that are of a size and mass and/or fly in flocks such that they could pose a significant aviation risk. The Australian Magpie, Black-billed Gull, Canada Goose (Branta canadensis), Grey Duck (Anas superciliosa), Paradise Shelduck, and Spur-winged Plover were attracted to the pasture or the peat bog and were associated water depressions (Figures 9-12). The Starling and Chaffinch were observed roosting in the pine and Eucalypt shelter-belts respectively.

Table 1. Birds observed at the proposed irrigation site.

	Morning	Middle of day	Afternoon	Evening	Average per Survey
Survey Date	27-Feb-18	26-Feb-18	26-Feb-18	26-Feb-18	
Survey Time	08:15 - 09:00	14:45 - 15:30	20:15 - 21:00	23:00 - 23:30	
Species	**Number**				
Australian Magpie	7	11	14		8
Black-backed Gull	28	48	30		27
Canada Goose			14		4
Chaffinch		150			38
Grey Duck	4		6	2	3
Paradise Shelduck	87	55	82	1	56
Spur-winged Plover	7	4	6	2	5
Starling	12	2	300		79
Total	**145**	**270**	**452**	**5**	**218**

Figure 9. Water filled depression leading into the peat bog attracts a number of birds.

Figure 10. Peat bog in foreground with several Paradise Shelduck (difficult to see) in background.

Figure 11. Tens of Paradise Shelduck on the pasture.

Figure 12. Tens of Black-backed Gulls resting on the pasture.

3.3. Birds at Other Off-airport Sites

A number of waterbodies and lakes were visited (Figure 13). Surveys did not records birds at

- Whitestone River
- Mararoa Rivers
- Mount York Wetland/Heath
- Pamu Farm Ponds 2 & 3
- Unnamed Ponds 2, 3 & 4
- Frasers Beach
- Lake Manapouri
- the Pond off Hillside Manapouri Road.

Other sites had no or limited access and were assessed during the aerial survey:

- Pamu Pond 4 had around 30 unidentified ducks.
- Unnamed Pond 1 had more than 100 unidentified ducks.
- Kepler Mire recorded nil birds, although 20 unidentified ducks were seen to the east of the mire some, and from the air a number of waterbirds could be seen in Shallow Bay, Lake Manapouri.

Shallow Bay was visited on foot in the afternoon of 27th February and scanned from Motorau Hut on the Kepler track – no birds were observed.

Other sites were found to be moderately attractive to birds, although not to the extent of the proposed irrigation site (Table 2, Figures 14-17). The reason for the particular attraction to the proposed irrigation site is likely to include the short grass habitat combined with ponded water adjacent to the bog and the presence of shelter belts. Other sites visited did not have this combination of habitats and were predominantly waterbodies and/or densely vegetated wetlands. Several waterbodies supported waterbird species, whereas the densely vegetated wetlands were largely unattractive to birds.

Figure 13 : Off-airport Locations

Southland District Council

Initial Birdstrike Risk Assessment

Airport Boundary

13km Buffer

8km Buffer

3km Buffer

AVISURE safety | aviation | wildlife

Job number: PR3333
Revision: 3
Author: AS
Date: 23/03/2018

0 1 2 4 Kilometers

NZGD 2000 New Zealand Transverse Mercator
Projection: Transverse Mercator
Datum: NZGD 2000
Units: Meter

AVISURE
safety | aviation | wildlife

Table 2. Birds observed at off-airport locations (only sites where birds were present are listed).

Species	Proposed Irrigation Site*	Lake Moturau	Ponds on 32 approach	Ramparts Wetland	Unnamed Pond 6	Home Creek Site 1	Home Creek Site 2	Pamu Farm Pond 1	Unnamed Pond 5	Waiau River	Grand Total
Australian Magpie	11										11
Black Shag						1				2	3
Black-backed Gull	35		3								38
Black-winged Stilt				2							2
Canada Goose	5	41									46
Chaffinch	50										50
Grey Duck	3				35			33	2		73
Grey Duck Mallard Hybrid				12	10						22
New Zealand Scaup		1									1
Northern Mallard								12			12
Paradise Shelduck	75		3					2			80
Pukeko				1							1
Spur-winged Plover	6			2				6			14
Starling	105										105
Unidentified Bird					2				15		17
Welcome Swallow							3	6	10		19
White-faced Heron								1			1
Grand Total		42	6	17	47	1	3	60	27	2	205

* Average of the three daytime surveys.

Figure 14. Waterbirds on Unnamed Pond 6.

Figure 15. Islands on the Waiau River.

Figure 16. Kepler Mire.

Figure 17. Islands in the Whitestone River.

3.4. Birds at Selwyn District Comparative Site

Two centre pivot irrigator sites were inspected at Selwyn District Council's Rolleston wastewater irrigation system. One site recorded zero birds whilst the other was relatively attractive to birds. Six Spur-winged Plover, four White-faced Heron (*Ardea novaehollandiae*), two Magpie and an Australasian Harrier were observed, clearly attracted to the irrigation system. It appeared that the recently cut grass (Figure 18 & 19), the waterlogged soils (Figure 20 & 21) and the associated food were primarily the attraction, although birds were using the irrigator itself as a perch (Figure 22).

There were flocks of smaller birds such as Finches and Starlings in the vicinity of the site, but it was unclear if they were present because of the irrigation system and silage production.

Figure 18. Harvest occurred 2 days before the site visit. Cutting appeared to be at around 50mm above ground (sunglasses included for scale).

Figure 19. Areas missed during grass cutting show seed heads had formed and grass allowed to grow to around 500mm prior to cut (sunglasses included for scale).

Figure 20. Waterlogged soils were attractive to birds.

Figure 21. Spur-winged Plovers, among other species, were seen foraging under the irrigators.

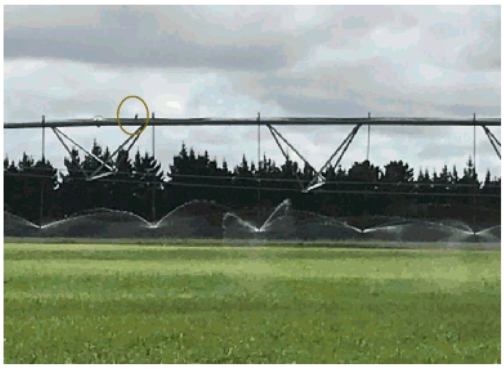


Figure 22. Birds including White-faced Heron were observed perched on the irrigation system.

4. Bird Species Overview

This section aims to provide an outline of the various species which present a risk to air traffic at TEU and consider how they might be affected by the installation of a wastewater irrigation system. Mass of bird species was taken as the mean for the range of values listed in Heather and Robertson (2000).

4.1. Black-backed Gull

The Black-backed Gull is the largest New Zealand Gull at 850 to 1050 grams and forms flocks. It is the only unprotected native bird species in New Zealand. As an opportunistic feeder, their food preference is very broad and will forage at landfills, farms (including piggeries and ploughed fields), playing fields, foreshores and beaches. They are also attracted to areas where people regularly feed birds or where poor waste management practices result in supplemental feed.

At the site of the proposed development Black-backed Gulls are currently attracted to fields in numbers that average around 35. This species is particularly attracted to farms during lambing where the placentas and dead lambs provide food (Heather and Robertson, 2000). It was reported that when the Manuka Beetle larvae have hatched in spring, the activity of Black-backed Gulls increases above the vegetation along the Waiau River. Gulls are attracted to lakes to raft and preen. The flat roofs of buildings can be used for roosting or nesting of some gull species. The Kepler Mire, the braided river beds of the Mararoa and Whitestone Rives and the islands within the Waiau River provide suitable habitat for nesting in the spring and summer.

The attraction of Black-backed Gulls at the irrigation site would be considerable and probably greater than at present, if grass cutting was at a low level (below 100mm).

The Department of Conservation (DOC) completed a population reduction program at nesting sites in the Kepler Mire between 2012 and 2016. This reportedly pushed the local population of this species downward. A regional population control plan is the most effective means of managing gulls. Culling and reducing food supplies is the key to limiting population growth.

4.2. Black-billed and Red-billed Gulls

Red-bill and Black-billed Gulls form flocks and weigh between 250 and 300 grams, with the Black-bill being marginally smaller (Heather and Robertson, 2000). They are protected native species (Heather and Robertson, 2000) with the Black-billed Gull suffering from recent population decline and is considered threatened. The Red-billed Gull forage opportunistically at landfills, beaches and foreshore areas.

TEU report Black-billed Gulls can be present in numbers >100, although none were observed during the site visit. They can nest on rocky banks of lakes and on rocky river islands, making Kepler Mire a potential nest site along with the braided river beds of the Mararoa and Whitestone Rives and the islands within the Waiau River.

The attraction of Black-billed and Red-billed Gulls at the irrigation site would potentially be greater than at present if grass cutting was at a low level (below 100mm). This is because the increased nutrient levels are likely to increase invertebrate productivity and access to invertebrates will be easier as additional water from irrigation will flush them towards the surface.

4.3. Spur-Winged Plover

Spur-winged Plovers weigh approximately 370 grams and are capable of causing damage to aircraft. They congregate in large flocks prior to the breeding season and then form territory in pairs, which they will aggressively defend. This increases their strike hazard, as they will tend to stay very close to frequently disturbed areas such as runways if this is adjacent to their territory. They prefer to feed and nest on sparse or short cut grasslands and they usually do not move more than 5 kilometres from their territory. They feed on invertebrates in the soil.

Spur-winged Plovers were assessed as the highest strike risk during surveys at TEU, with a Species Risk Index (SRI) of 705 (See Appendix A for further information). Although present at the proposed irrigation site during surveys, their peak number was relatively low at 7.

As was observed in the comparative site, Spur-winged Plovers could be attracted to the irrigation system, particularly if the grass is regularly cut short. Allowing the grass to grow long and then be cut short could also encourage this species to move between the irrigation site and the airport.

Management techniques on and immediately adjacent to airports are of greatest importance to managing the risk to aircraft from this species. On-going culling, egg and nest destruction and grass management are important to control numbers.

4.4. Paradise Shelduck

Paradise Shelduck fly in flocks and are a large bird at 1,550 grams, accordingly they represent a high threat to aircraft. They are attracted to water bodies (particularly shallow ones), ponded water and short grasslands. A flock of three birds were observed flying over the runways during surveys resulting in an SRI of 172 which is high risk.

Although not the most numerous at the proposed irrigation site, when multiplying their peak number (87) recorded during the morning, by their mass (1.55kg), they represented the greatest biomass at the site (135kg). Biomass is an important factor when considering the risk, a particular species presents to aircraft – the greater the mass, the greater the impact force and generally the higher the probability of

a strike. During the night survey only one Shelduck was observed at the proposed irrigation site, indicating that they probably move off-site for the evening, potentially across aircraft flight paths.

Paradise Shelduck will continue to be attracted to the site and potentially in greater numbers under an irrigated system, particularly if the water depressions near the bog are retained and if the grass is cut short (i.e. cut such that the residual grass is left at 100mm or shorter).

4.5. Australasian Harrier

Raptors (birds of prey) are a significant bird group that caused damage to aircraft worldwide. Despite their high intelligence, they have a poor avoidance instinct due to their presence at the top of the food chain, lack of predators and their aerial hunting and foraging techniques. They tend not to form flocks, although groups can be occasionally observed. The Australasian Harrier is sizable at 850 grams and is New Zealand's most common raptor. They usually nest on the ground preferring low vegetated areas of tussock, wetlands and farms. Feeding on small mammals and large insects supplemented by carrion, frogs, fish and lizards (Heather and Robertson, 2000), they travel up to 12 km to their evening roosts from their hunting grounds (Harper, 2000).

The proposed irrigation system will probably have little impact on the risk presented by this species, although if a long grass policy is adopted, Harriers could be attracted to rats, mice and large insects that could develop in the grass sward. Such food resource would be particularly attractive during mowing when prey items are more easily available.

The management of raptor populations is usually difficult. Landscapes with a dense canopy tend to restrict harrier access to the ground. Pyrotechnics are of some value in dispersing individual birds situated in a critical location.

4.6. Canada Goose

Canada Geese are around 5000g and fly in flocks. They are a very significant strike threat in certain parts of the world, being responsible for the "Miracle on the Hudson", when flight 1549 crash landed on the Hudson River after colliding with a flock at around 3000 feet AGL.

They feed on grain, grasses (particularly new shoots) and succulent green vegetation, ideally positioned near a water body. They have adapted well to urban areas where they feed in parklands and on grassed areas with nearby water. They are an opportunistic species and populations can grow rapidly in response to a consistent food supply and few predators. In Canada their population doubled between 1955 and 1974 and it continues to grow.

Fourteen Canada Geese were observed in the afternoon survey at the proposed irrigation site. Forty-one were also observed on Lake Moturau and several others were heard but not seen around the Waiau

River (near where photograph in Figure 13 was taken). It is suspected that the local population of Canada Geese is currently relatively small, but with potential to grow.

The proposed irrigation site could produce new grass shoots more often than at present with the addition of nutrient rich treated wastewater and the regular cutting. Canada Geese are equally happy on either long or short grass.

The successful management of this species requires a regional approach. At particular sites removing attractive features such as lawns, gently sloping edges of water bodies and islands, is required. Culling birds as they arrive at a new site is important to avoid habituation to the site.

4.7. Australian Magpie

Australian Magpie is a 350g grassland species attracted to short or sparse vegetation where access to invertebrates is available. They are territorial during breeding seasons when they will nest in tall evergreen trees, which they will aggressively defend. Due to their intelligence they are relatively good at avoiding aircraft, although inexperienced juveniles and sub-adults tend to be the most frequently struck at airports.

Australian Magpie were the second most populous species recorded at the airport but with an SRI of 31 in the morning survey, they are only considered a moderate risk. They were in greater number at the proposed irrigation site, peaking at 14.

Reducing the amount of open grassland by planting dense canopy forests restrict Australian Magpie numbers. Dispersal with pyrotechnics and strategic culls of sub-adults around airports reduces the risk to aircraft. Grass management is also important and will determine how their risk changes if the proposed irrigation facility is to proceed: managing for short grass could potentially increase their population around the airport.

4.8. Starling

Starlings are an abundant species and can flocks in their thousands. They are responsible for the worst civil aviation disaster caused by bird strike when a very large flock struck a Lockheed Electra in 1960 in Boston USA, causing it to crash into the harbour, killing 62 occupants. Because of their dense bone structure and tight flocking patterns, they are referred to as “feathered bullets” and despite their small size of 85 grams, they frequently damage aircraft engines at airports around the world. They are attracted to soil born invertebrates and will readily avail themselves of ripe berries and fruit at orchids. They prefer to roost in isolated clusters of tall trees, and they usually nest in tree hollows or in buildings (Heather and Robertson 2000).

The shelter belts at the proposed irrigation site currently supports a significant Starling roost (around 300 birds) and some were observed feeding on insects in the fields. This population is likely to grow if irrigation proceeds as more insect activity can be expected. This will be attractive regardless of the grass treatment. In addition, the expansion of shelter belts could increase roosting potential.

Management of this species requires reducing food supplies, avoiding landscape designs which include tall isolated groups or strips of trees: a dense canopy forest will deter Starling. On airport, grass management and culling/dispersal programs are important for reducing risk to aircraft.

4.9. Small Birds

Small birds (under 50g) such as Chaffinch, Finch, Skylark and Sparrow tend not to be high strike threats due to their small size. They can however, form very large flocks and will usually roost in trees. They feed on the seeds of grasses and weeds and will eat fruit.

A flock of around 150 Chaffinches was observed in one of the shelter belts at the proposed irrigation site. Like Starling, populations of these species could grow with an operating irrigation site and this will be difficult to counter. Management of these species requires an approach similar to managing Starling (see above).

4.10. Pied Oystercatcher

Pied Oystercatchers (*Haematopus ostralegus*) are attracted to open paddocks and poorer rocky ground. They use their probing bill to feed in paddocks and grasslands. Oystercatchers weigh about 550 grams and have been reported to use the airport environs although none were observed at any location surveyed during the site visit. This species would be more attracted to shorter cut grass, but are unlikely develop into large populations and become a significant strike risk following the installation of the irrigation system.

4.11. Rock Pigeon

Rock Pigeons form large flocks and weight around 400g. Due to their flocking nature it is possible for multi-engine ingestions to occur with this species. They are attracted to ploughed fields, harvested grains and pig farms. They often roost and nest in buildings, particularly where flat roofs or ledges can be found. Reducing access to these areas is important in managing this species.

No Rock Pigeons were observed during surveys at any of the sites. It appears that the Te Anau area does not have an abundant population of this species and it is unlikely that they would significantly increase risk if the irrigation project was to proceed.

4.12. Black Swan

At a weight of up to 6000 grams, the Black Swan is a very severe hazard to aircraft should their flight lines intersect. Their preference is for water bodies which are shallow at least at the margins, so they can up-end to reach the bottom to feed on aquatic vegetation. They will also graze on lakeside pasture grasses and clover (Heather and Robertson, 2000).

Eleven Black Swan were observed flying across the western edge of the airport, but none were recorded at any site surveyed. It is unlikely that the proposed irrigation site, either in its current condition or with irrigation in place would present an attractive habitat for this species.

4.13. New Zealand Scaup

New Zealand Scaup are a diving duck that weigh around 650g and are attracted to deep water lakes and waterbodies. They were observed at some of the off-airport ponds. It is unlikely that the proposed irrigation site, either in its current condition or with irrigation in place would present an attractive habitat for this species.

4.14. Black Shag

Shags are attracted to water bodies with fish. They prefer to nest, roost and perch on trees over water. They fly between roosts and foraging sites at around first light and back again at last light. Removing fish and suitable perches near water reduces Shag populations. It is unlikely that the proposed irrigation site, either in its current condition or with irrigation in place would present an attractive habitat for this species.

4.15. Pukeko

Pukeko are approximately 950g and one was observed at Ramparts Wetland. It is unlikely that the proposed irrigation site, either in its current condition or with irrigation in place would present an attractive habitat for this species.

5. Risk Evaluation

5.1. Principals of assessing Strike Risk from Off-airport Developments

When assessing proposals for changing a land use within the vicinity of an airport, there is a requirement to understand the current and projected risk to air traffic at the airport from wildlife assuming there is no change in land use. This needs to account for the air traffic movement patterns and aircraft types, their utilisation of the airspace and how that varies over time. An assessment of bird populations and how they may change seasonally, and over long periods of time also needs to be considered. For instance, some bird populations that are currently small could erupt, or large populations could decline. It is important to also consider how birds move between habitats and how that may conflict with aircraft movements.

A separate appraisal is then required to determine how a proposed land use change will affect the above. If the risk is likely to increase as a result of the change, then for the development to proceed, the proponent needs to validate how they could mitigate the factors causing the increase and show that the residual risk is no more than is likely under a status quo scenario.

When assessing habitats that have the potential to attract hazardous wildlife it is important to analyse the impacts of potentially conflicting airspace between birds and aircraft. A highly attractive habitat that does not have a complementary habitat on the other side of the aerodrome, may have little or no impact on the strike risk because birds are less likely to transit though critical airspace; just as a relatively low attraction habitat may pose a significant risk due to its close proximity and position, causing birds to transit through critical airspace (Figure 23).

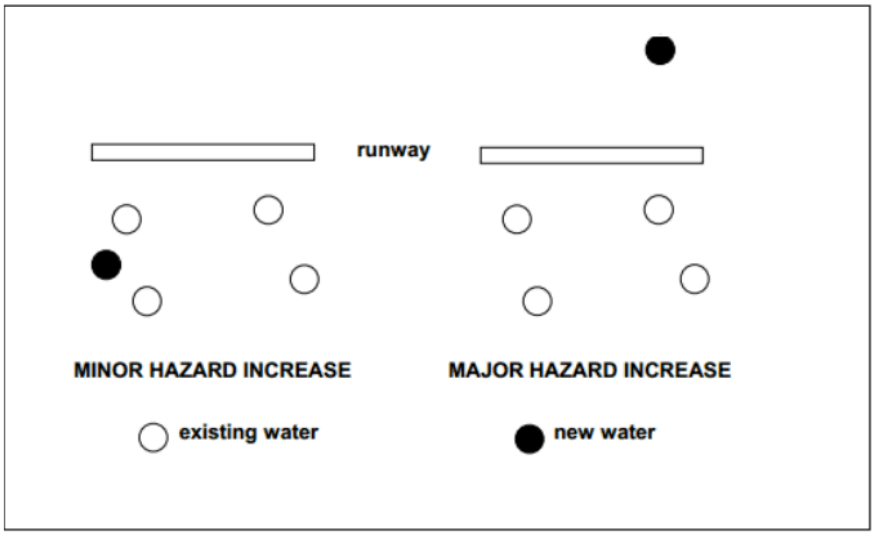


Figure 23. Example of introduction of a new waterbody in relation to a runway, UK, CAA CAP 680.

5.2. Current Strike Risk at TEU

Airport management is only aware of one bird strike reported at TEU in the last five years (pers comm, Airport Manager). The details of that strike, such as aircraft type, time of day, time of year, species involved, number of birds involved, damage caused (if any) were not available. NZ CAA records going back to quarter 3, 2007 indicate two strikes; one in quarter 1, 2015 and another in quarter 3, 2016[4]. This is a low strike frequency and is reflective of the low number of aircraft movements and the types of operations (i.e. predominantly rotary wing and general aviation). It is generally acknowledged that general aviation pilots are far less likely to report strikes than commercial airline pilots, so there is probably an under-reporting of strikes at TEU.

The Airport Survey Risk Index (ASRI) (see Appendix A) was high during the morning (1140) and afternoon (1417) surveys and moderate during the middle of day survey (219) (Figure 24). The Spur-winged Plover and one observation of Paradise Shelduck in the morning dominate the observations and if they were not present, the ASRI would have been low.

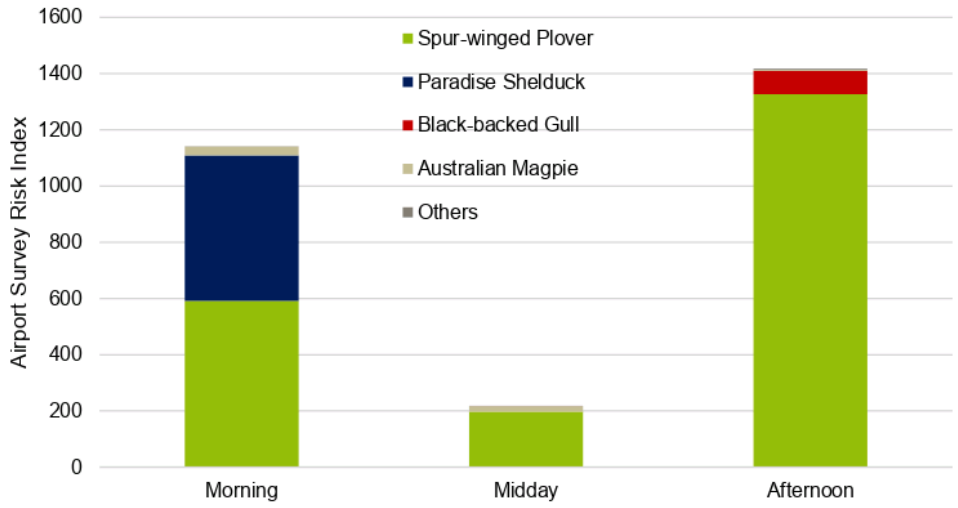


Figure 24. Airport Survey Risk Index showing the contribution by various species.

Irrespective of the low strike rate and given the potential for the airport to develop over the next 20 to 30 years to include more aircraft movements with aircraft types that are more susceptible to bird strike, any new development in the vicinity of the airport should not add to the risk.

[4] http://www.caa.govt.nz/assets/legacy/Safety_Reports/Bird-Incident-Rate-Report-Q4-2017.pdf

5.3. Current Risk Posed by The Proposed Irrigation Site

Of all the off-airport sites visited, the proposed irrigation site presented by far the greatest risk to air traffic. This was because of the number and size of birds (i.e. the biomass) present and because of the likely movements of birds to and from this site, potentially across aircraft flight paths. Whilst no actual bird movements to and from the site were observed, birds (primarily Black-backed Gulls and Paradise Shelduck) were scattered into the air from the site during a dispersal operation at the airport prior to the arrival of a Focker 50. This presented a significant and obvious aviation risk and arose as a result of the presence of birds at the site, but also the technique adopted by wildlife team at the airport.

The site appeared to be primarily attractive because of its short grass and consequent availability of invertebrate food resources and long viewing distance to observe predators and human activity. Additionally, the presence of shelter belts provided protection from winds and in the case of Chaffinches and Starling, roost sites. Another key attractant appeared to be the peat bog and water-filled depression. In lambing season, the area could also be particularly attractive to gulls who feed on placenta.

Changing the land use therefore presents a risk and an opportunity. There is a risk that if the site is made even more attractive to birds, an already hazardous site could be made much worse. Alternatively, if mitigation measures are able to be implemented that overcome the attraction of the irrigation and silage production process, and further measures are adopted to limit the aspect that currently make the site attractive, then the site could be rendered a lower risk to air traffic at TEU.

5.4. Risk Posed by The Proposed Irrigation System

5.4.1. Installation Risk

The project will potentially increase the strike risk during installation. Levelling, vegetation treatment, soil disturbance and seed drilling could present food resources for birds.

5.4.2. Irrigation

The irrigation process could attract birds through saturation of the soils and flushing of bird prey items to the surface. The application of nutrient rich treated wastewater would provide an ideal environment for insects and other invertebrates to proliferate. The irrigators themselves could become perches for birds.

5.4.3. Silage Production

The highly productive grass sward would frequently create new grass shoots, potentially attractive to species such a Canada Geese. It would also require regular cutting which, when cut at heights lower than 100mm. will expose insects and other bird prey items. Cutting would be most frequent in spring summer and autumn when aircraft movements are at their greatest. Short grass is preferred by most of the species of concern (Black-backed Gulls, Paradise Shelduck, Spur-winged Plover) and the grass will be thicker and taller under the irrigated grassland than what is already present.

5.4.4. Shelter Belts

The removal of some shelter belts, the enhancement of others and the creation of new ones is likely to result in a net increase in available roosting habitat for Starlings and various small bird species.

5.4.5. Peat Bog

The peat bog will be enhanced, and the vegetation is likely to grow thicker with the introduction of a more consistent high nutrient water source. Although the intention is not to irrigate over the bog area, additional nutrients and water will enter the bog from runoff from the surrounding landscape. In general, this will be less attractive to the birds likely to be an aviation hazard, as they tend to avoid thick vegetation.

5.4.6. Water-filled Depression

The retention of the water channel flowing into the peat bog will continue to be attractive to birds. It is possible with the generally taller grass that fewer birds will be attracted to this area.

5.5. Centre pivot versus sub-surface

A centre pivot irrigation system is likely to be more attractive to birds than a sub-surface system. This is because the centre pivot system is likely to leave more ponded water and flush more invertebrates to the surface than a sub-surface system. In addition, the centre-pivot system would provide perching opportunities for bird.

5.6. Possible Mitigation

The following mitigation could be implemented:

1. Ensure that soil disturbance is minimised during preparation of the site
2. Avoid saturation of the soil and ponding of water under the irrigation system
3. Place perch inhibitors on the irrigators

4. Adopt a modified long-grass policy (Appendix D[5]). This would involve cutting silage when the sward reaches around 300 to 400mm and leaving a residual stubble of no less than 150mm in height above ground level. Minimising seed production will also be important, but less important than ensuring grass length is always greater than 150mm apart from perhaps once a year when a bottom cut in spring may be required to remove thatch.

5. Levelling of the site by filling depressions, particularly those that are currently water-filled

6. Minimising the use of shelter belts where possible

7. Monitoring and responding to elevated bird numbers with bird dispersal activities that are coordinated with the airport wildlife team. This must be done by appropriately trained and equipped staff.

[5] This document is very comprehensive, but it was prepared by the UK CAA, accordingly aspects of the document do not apply to New Zealand.

6. Conclusion

Based on the low number of aircraft movements and the type of aircraft operating at TEU; only two bird strikes reported by NZCAA since the 3rd quarter 2007; and, apart from Spur-winged Plover, low numbers of birds recorded in the on-airport surveys completed in February 2018, TEU appears to have a relatively low bird strike risk. Irrespective of this and given the potential for the airport to develop over the next 20 to 30 years to include more aircraft movements with aircraft types that are more susceptible to bird strike, any new development in the vicinity of the airport should not add to the risk. For the wastewater irrigation facility to proceed and meet the requirements of good risk management practice, SDC would need to ensure that hazardous birds are not attracted to the site and increase bird movements across aircraft flight paths, causing a greater risk to air traffic.

The irrigation site is already highly attractive to birds and if mitigation is not applied, this could be exacerbated by the introduction of nutrient rich treated wastewater, which will flush invertebrates to the surface for food and provide water for drinking and bathing. Our assessment indicates that the pivot irrigation system is likely to be slightly more attractive to birds than sub-surface irrigation which would be less likely to saturate the soil. The production of silage would also be a potential bird attraction, particularly during cutting, which exposes insects and other prey items to birds and encourages fresh grass shoots that species such as Canada Geese can graze on. The removal of shelter belts and the installation of denser shelter belts could inflate populations of birds such as Chaffinches and Starling which already use these habitats for roosting. In attracting more birds to the site, and because of its proximity to the airport, it would very likely to bring birds and bird flocks into conflict with aircraft during take-off, landing and in circuits. The consequences of a significant strike resulting in a forced landing or crash are also increased due to the absence of Aircraft Rescue and Firefighting services at the airport.

The proposal to irrigate wastewater and produce silage should not proceed in this location unless a comprehensive Bird Management Plan (BMP) is developed that details the mitigation required to manage the risk and is backed by regular monitoring and evaluation. This should be based on the mitigation outlined in Section 5.6. If applied well, mitigation could significantly reduce the risk currently created by the site. Such reduction in risk makes it feasible to adopt either a centre pivot irrigation system or a sub-surface option. It is critical that risks are regularly monitored and reviewed and, if necessary, corrective actions taken to ensure the risk is maintained to acceptable levels.

It is important to note that applying these mitigating actions will come at a significant cost. Altering grass cutting heights in particular may affect silage yields and a recurrent budget should be provided for monitoring, training, bird dispersal equipment and annual risk assessment.

7. Recommendations

If SDC proceed with developing the wastewater irrigation system at this site, the following recommendations should be followed:

1. Develop a comprehensive BMP that details:
    a. objectives
    b. roles and responsibilities
    c. frequency of plan review
    d. monitoring and evaluation (including Risk Review)
    e. detecting and reporting hazards
    f. thresholds for unacceptable bird numbers
    g. consequences of exceeding threshold
    h. liaison with TEU
    i. passive and active management in response to hazards. This will include the mitigation measures outlined in Section 5.6.
2. Commence a seasonal bird monitoring program to better understand bird populations in and around the TEU airspace and provide guidance on the expected attraction of an irrigation system. This should be across a number of seasons prior to installation and allow more refined mitigation to be incorporated in the BMP. Seasonal monitoring should occur at:
    a. the airport
    b. the proposed irrigation site
    c. the Selwyn comparative site.

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Appendix A: Risk Assessment Methods and Results

Airport Survey Risk Assessment (Shaw, 2004)

Avisure has developed a model for determining risk categories using professional bird survey data. The survey area included all airside areas. This area was divided into sectors eight sectors and an observation point was designated to each sector that overlooked as much of the sector as possible. Observation points were visited in sequence by vehicle. All birds within the sector were recorded whilst enroute to and from the observation point and for a further five minutes at the observation point. Airborne birds were recorded if seen either within or outside the current survey sector. As birds in the air are deemed to be a greater risk to aircraft it was necessary to obtain as much data as possible on this aspect of bird behaviour. Observations were made with the aid of 10x binoculars and species observed, number, location (within one-hectare grids), habitat and behaviour were recorded. In addition, birds found within or crossing the runways were deemed to have entered the "critical zone". This is the zone where birds were at greatest risk of collision with aircraft (Figure A1).

The survey data was used to derive probability factors (population size, position on airport, time spent in air and the species ability to avoid) and consequence factors (bird mass and flock size) for all species recorded. The combination of these probability and consequence factors give a numerical risk index, the Species Risk Index (SRI). The SRI of all species is added together to determine an Airport Survey Risk Index (ASRI). This provides a real-time method of risk assessment as it responds to observed changes in airside bird assemblages and movement patterns.

The following tables outline the risk rating for wildlife species according to calculated SRI, and the risk ranking of an airport.

Table A1. Species Risk Index and Airport Survey Risk Index for determining risk categories based on survey data.

SRI ranges used to rate risk for each species		ASRI ranges used to rate risk of an airport	
SRI	Risk rating	ASRI	Risk rating
>1000	Very high	>10000	Very high
100 to 999.9	High	1000 to 9999.9	High
10 to 99.9	Moderate	100 to 999.9	Moderate
1 to 9.9	Low	10 to 99.9	Low
< 1	Very low	< 10	Very low

The process intends to provide a transparent, logical and systematic approach to the identification and treatment of wildlife related risks at airports. The risk assessment identifies high risk species, which allows suitable management practices to be targeted in areas where the maximum reduction in risk may be achieved.

Figure A1. Airside bird survey map

Southland District Council

Initial birdstrike risk assessment

Bird Surveys of the Proposed Irrigation Site

Bird surveys were completed at the proposed irrigation site. These reflected the timing (morning, middle of day, afternoon and night) and the general approach adopted in the airport surveys. The site was traversed by vehicle with all birds observed included species, number, behaviour and habitat recorded. A set path was followed for each survey to ensure consistency (Figure A2).

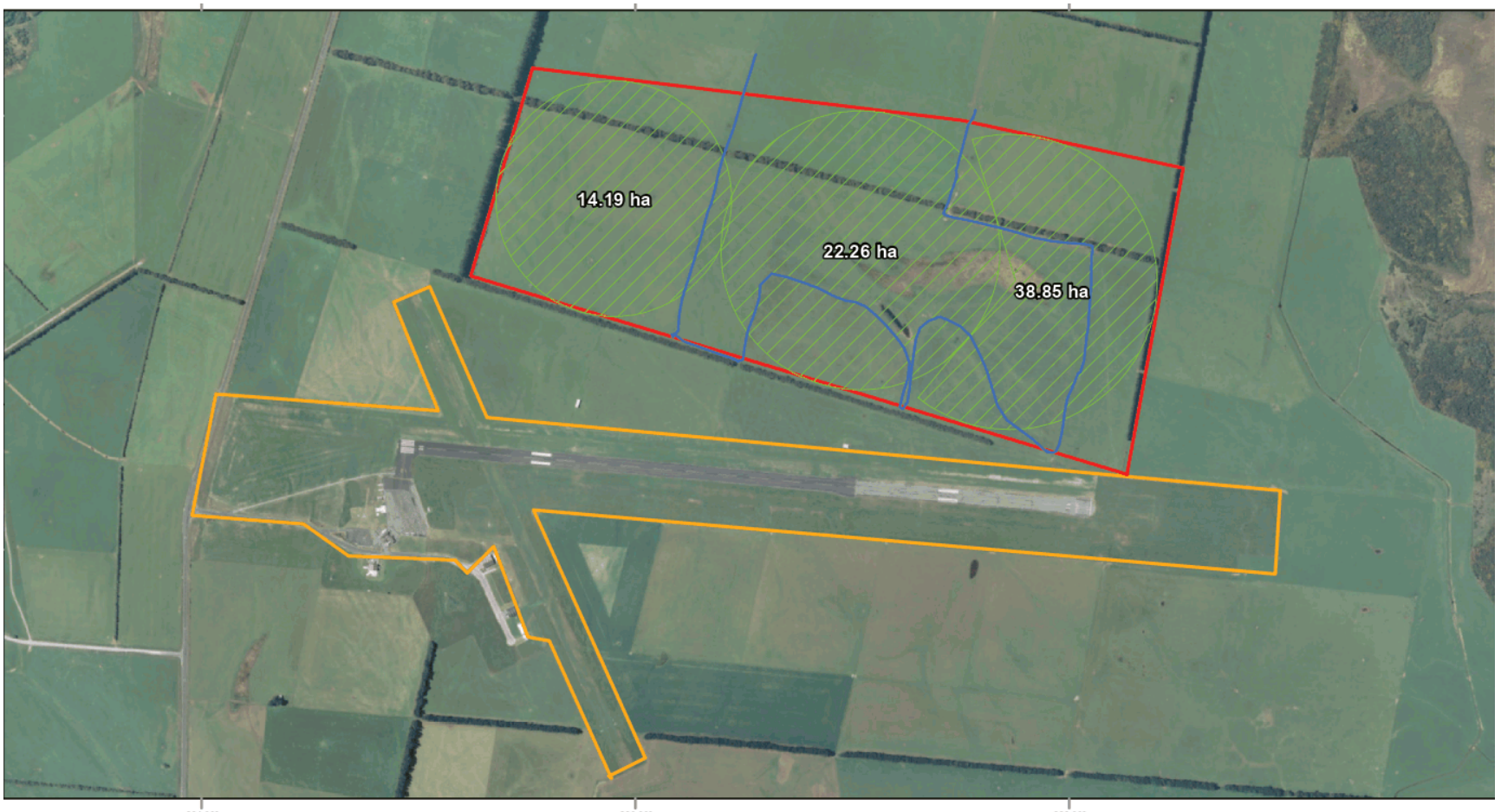


Figure A2. Proposed irrigation site bird survey route

Southland Distrcit Council

Initial birdstrike risk assessment

Bird survey route

Airport Boundary

Proposed Irrigation Site Boundary

Clearing Area

AVISURE safety | aviation | wildlife

Job number: PR3333
Revision: 0
Author: AS
Date: 23/03/2018

0 125 250 500
Metres

NZGD 2000 UTM Zone 60S
Projection: Transverse Mercator
Datum: NZGD 2000
Units: Meter

Appendix B: Regulation and Guidance

There are a number of national and international requirements and guidance documents that indicate land use in the vicinity of an airport can contribute significantly to the wildlife hazard levels and safety of aircraft operations. Relevant documents were reviewed and outlined below.

National Regulations, Standards and Guidance

The following NZCAA documents provide guidance and/or advice primarily for aerodromes that hold a 139-aerodrome operating certificate. As TEU does not hold a 139-aerodrome operating certificate, these do not strictly apply, although the principles are relevant for good risk management. Accordingly, they have been considered in this assessment (Table 3).

Table 3. Sections of NZ CAA Part 139 and AC relevant to the proposed wastewater irrigation facility.

Document	Requirement
NZ CAA Part 139, CAA Consolidation, Aerodromes – Certification, Operation and Use, March 2017	Subpart B, Section 139.71 states: "An applicant for the grant of an aerodrome operator certificate must, if any wildlife presents a hazard to aircraft operations at the aerodrome, establish an environmental management programme for minimising or eliminating the wildlife hazard." TEU has a documented Wildlife Management Program (Appendix C).
NZ CAA Guidance material for land use at or near aerodromes, June 2008	The document states: "It is important that land use changes are monitored and reviewed by the aerodrome operator in areas outside their immediate control to ensure that these land use changes do not increase wildlife hazards for the aerodrome. Garbage disposal dumps and other sources that may attract wildlife activity on, or in the vicinity of, an aerodrome, need to be assessed as a potential source of wildlife hazard. It is an International Civil Aviation Organisation requirement that such activities are closely managed by the controlling authority. If necessary, an aeronautical study may need to be undertaken to assess the potential wildlife activity hazard. Examples of wildlife attractants include: ..... Agricultural - cultivation of land...."
NZ CAA Advisory Circular AC139-16, Wildlife Management at Aerodromes, Revision 0, October 2011.	This advisory circular (AC) is applicable for certificated and non-certificated aerodromes. It lists Agriculture, including crops such as grass to be harvested, as a potentially hazardous land use practice. The AC discusses the advantages of short and long grass management techniques. Grass length and its effect on birds is discussed in latter sections of this report.

International Regulations and Standards

International Civil Aviation Organization

The ICAO defines aerodrome standards for wildlife hazard management at civilian airports. Tables 4 and 5 summarise the standards relevant to the proposed wastewater treatment facility.

Table 4. Sections of ICAO Annex 14 Vol 1. 6th Ed. 2013 relevant to the proposed wastewater irrigation facility.

Section	Requirement
9.4.3	Action shall be taken to decrease the risk to aircraft operations by adopting measures to minimize the likelihood of collisions between wildlife and aircraft.
9.4.4	The appropriate authority shall take action to eliminate or to prevent the establishment of garbage disposal dumps or any other source which may attract wildlife to the aerodrome, or its vicinity, unless an appropriate wildlife assessment indicates that they are unlikely to create conditions conducive to a wildlife hazard problem. Where the elimination of existing sites is not possible, the appropriate authority shall ensure that any risk to aircraft posed by these sites is assessed and reduced to as low as reasonably practicable.
9.4.5	States should give due consideration to aviation safety concerns related to land developments in the vicinity of the aerodrome that may attract wildlife.

Table 5. Sections of ICAO Airport Services Manual Doc 9137 4th Ed. 2012 relevant to the wastewater irrigation facility.

Section	Requirement
4.5.1	Airports should systematically review features on, and in the vicinity of, the airport that attract birds/wildlife. A management plan should be developed to reduce the attractiveness of these features and to decrease the number of hazardous birds/wildlife present or to deny them physical access to these areas.
4.5.2	Airport development should be designed such that it will not be attractive to hazardous birds/wildlife and no attraction will be created during construction. This may include denying resting, roosting and feeding opportunities for hazardous birds/wildlife.
4.5.5	Agricultural crops, where possible, should be discouraged from the airfield environment since agricultural crops and related activities (ploughing, mowing) will provide food for hazardous birds/wildlife.

Section	Requirement
4.7.3	For any new off-airfield developments being proposed that may attract birds or flight lines across the airport, it is important that the airport operator be consulted and involved in the planning process to ensure that its interests are represented.
7.2.2	Wildlife may enter airport lands in order to feed on seeds, vegetation, invertebrates or rodents and other small mammals in grasslands or agricultural crops; on fruits in trees and shrubs; or on exposed food waste from catering services or restaurants. These sources of food are especially attractive to a variety of birds. Agricultural measures like mowing, harvesting and ploughing will attract birds because of the disturbance and exposure of seeds, invertebrates and rodents. Although it is impossible to remove all food sources on airports, the following are suggested measures that can be taken to mitigate the problem: a) Agriculture. Cultivation of airport lands will, no matter what the crop type, attract birds at some part of the life cycle of the crop. Therefore, it is recommended that airport lands not be used for agriculture.
7.3	Surface water is often highly attractive to birds. Exposed water should be eliminated or minimized to the greatest extent possible on airport property as follows: a) *Depressions and water bodies*. Pits or depressions that fill with water after rains should be levelled and drained. Larger water bodies, such as storm-water retention lagoons, can be covered with wires or netting to inhibit birds from landing. Larger water bodies that cannot be eliminated should have a perimeter road so that bird/wildlife-control personnel can quickly access all parts of the water body to disperse birds. Water bodies and ditches should have steep slopes to discourage wading birds from feeding in shallow water.
7.4.1	Much care must be taken when selecting and spacing plants for airport landscaping. Avoid plants that produce fruits and seeds desired by wildlife. (Plant selection is also an important consideration for off-airport location in terms of wildlife attraction).

World Birdstrike Association

Published under the World Birdstrike Association's (WBA) previous name, the International Bird Strike Committee (IBSC), the Best Practice Standards for Airport Bird/Wildlife Control states, "Controlling the attractiveness of an airport to birds and other wildlife is fundamental to good bird control. Indeed, it is probably more important than bird dispersal in terms of controlling the overall risk." (Table 6).

Table 6. Section of the IBSC Best Practice Standards relevant to the proposed wastewater irrigation facility.

Section	Requirement
Standard 9	Airports should conduct an inventory of bird attracting sites within the ICAO defined 13km bird circle, paying particular attention to sites close to the airfield and the approach and departure corridors. A basic risk assessment should be carried out to determine whether the movement patterns of birds/wildlife attracted to these sites means that they cause, or may cause, a risk to air traffic. If this is the case, options for bird management at the site(s) concerned should be developed and a more detailed risk assessment performed to determine if it is possible and/or cost effective to implement management processes at the site(s) concerned. This process should be repeated annually to identify new sites or changes in the risk levels produced by existing sites. Where national laws permit, airports, or airport authorities, should seek to have an input into planning decisions and land use practices within the 13km bird circle for any development that may attract significant numbers of hazardous birds/wildlife. Such developments should be subjected to a similar risk assessment process as described above and changes sought, or the proposal opposed, if a significant increase in birdstrike risk is likely to result.

Federal Aviation Administration

The United States Federal Aviation Administration (FAA) has no jurisdiction over New Zealand; however, they provide critical guidance on land use in the vicinity of aerodromes in Advisory Circular AC 150/5200-33B (Table 7).

Table 7. Section of the FAA AC 150/5200-33B relevant to the proposed wastewater irrigation facility.

Section	Advice
2.3	WATER MANAGEMENT FACILITIES **f. Wastewater discharge and sludge disposal.** The FAA recommends against the discharge of wastewater or sludge on airport property because it may improve soil moisture and quality on unpaved areas and lead to improved turf growth that can be an attractive food source for many species of animals. Also, the turf requires more frequent mowing, which in turn may mutilate or flush insects or small animals and produce straw, both of which can attract hazardous wildlife. In addition, the improved turf may attract grazing wildlife, such as deer and geese. Problems may also occur when discharges saturate unpaved airport areas. The resultant soft, muddy conditions can severely restrict or prevent emergency vehicles from reaching accident sites in a timely manner.
2.4	WETLANDS **a. Existing wetlands on or near airport property.** If wetlands are located on or near airport property, airport operators should be alert to any wildlife use or habitat changes in these areas that could affect safe aircraft operations. At public-use airports, the FAA recommends immediately correcting, in cooperation with local, state, and Federal regulatory agencies, any wildlife hazards arising from existing wetlands located on or near airports. Where required, a Wildlife Hazard Management Plan will outline appropriate wildlife hazard mitigation techniques. Accordingly, airport operators should develop measures to minimize hazardous wildlife attraction in consultation with a wildlife damage management biologist.
2.6	AGRICULTURAL ACTIVITIES. Because most, if not all, agricultural crops can attract hazardous wildlife during some phase of production, the FAA recommends against the used of airport property for agricultural production, including hay crops, within the separations identified in Sections 1-2 through 1-4. If the airport has no financial alternative to agricultural crops to produce income necessary to maintain the viability of the airport, then the airport shall follow the crop distance guidelines listed in the table titled "Minimum Distances between Certain Airport Features and Any On-Airport Agricultural Crops" found in AC 150/5300-13, Airport Design, Appendix 17. The cost of wildlife control and potential accidents should be weighed against the income produced by the on-airport crops when deciding whether to allow crops on the airport.

Appendix C: Te Anau Wildlife Program

Te Anau Airport Manapouri Wildlife Management Program document.

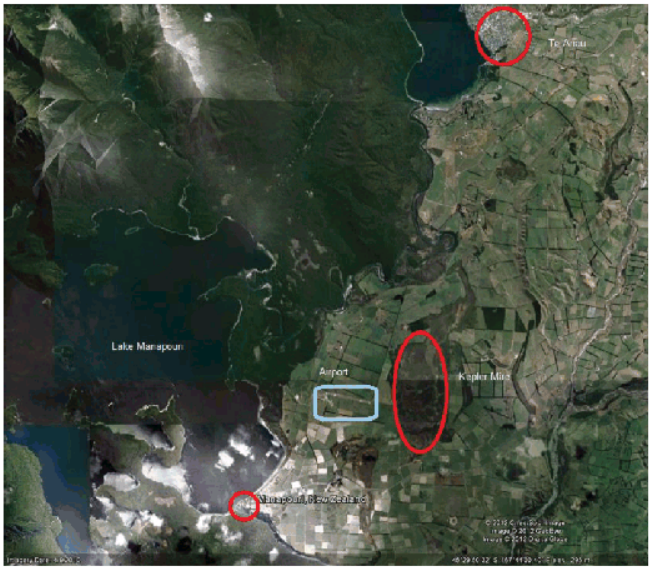
Te Anau Airport Manapouri Wildlife Management Program

Purpose: To provide a program that will enable the airport to achieve compliance with Part 139.71 Wildlife Hazard Management.

139.71 Wildlife hazard management

Each applicant for the grant of an aerodrome operating certificate shall, where any wildlife presents a hazard to aircraft operations at their aerodrome, in areas within their authority, establish an environmental management programme to minimise or eliminate any such wildlife hazard.

Geographic Situation: Te Anau Airport Manapouri is situated on Southland District Council owned property in a rural setting between the two settlements of Manapouri and Te Aanu. Manapouri being situated approximatey 7 km to the south of the aerodrome and Te Anau approximately 20km to the north geographically. Landcorp leases and owned a number of farms that surround the aerodrome and crop and graze the land on a seasonal farming rotation. Approximately 3km to the west of the aerodrome is Lake Manapouri and to the 1 km from the runway 26 threshold is the western edge of the the Kepler Mire Wetland.



Bird Species Common to the Airport: the following bird types have been observed either within the surrounding property of the airport or within the approach and take-off fans at both ends of the main runway 08/26. Observation method has been via simple naked eye method. Sparrows and Finches are not regarded as a significant threat.

- Black Backed Gull
- Red Billed Seagull
- Black Billed Seagull
- Magpie
- Oyster Catcher
- Spurwinged Plover
- Canadian Geese

Bird Strike Threats: Through obsevation and reference to a number of articles we have categorised these birds into two basic areas of threat.

- Soaring – Approach and Departure
  - Black Backed Gull
  - Red Billed Gull
  - Black Billed Gull
  - Canadian Geese

The most common bird strike threat from these birds is during the approach and take-off airbourne phase of flight where the bird is hit in the air at altitude.

- Ground – Landing and Take-Off
  - Magpie
  - Oyster Catcher
  - Spurwinged Plover

The most common type of bird strike threat is during the landing touchdown, take-off roll and rotation phase when the bird lifts off in fright and flies into the aircfraft.

As a result we have been able to provide various methods of control to reduce the risk of brid strike potential at Te Anau Airport Manapouri.

Control Methods: The airport has employed two methods of control to help reduce the likelyhood of birdstrike potentail.

- Passive
- Invassive

Passive Control

Environmental where possible where enviromental conditions can be reduced to attract birds habitating on the airport these have been elimiated by

- Removing nesting material
- Reducing water pooling
- Reducing food sources

Environmental tends to reduce the following bird types

- Red Billed Seagull
- Black Billed Seagull
- Magpie
- Oyster Catcher
- Spurwinged Plover

Percussion Noise Bird Scarer Canon has been employed on a random basis prior to every large aircraft movement and tends to scare birds from the aerodrome on a temporary basis.

Percussion Noise tends to reduce the following bird types

- Black Backed Gull
- Red Billed Seagull
- Black Billed Seagull
- Oyster Catcher
- Spurwinged Plover

Invassive Control

Trapping during specific period of the season Magpie traps are placed around the aerodrome to attract Magpies. These are then destroyed.

Trapping tends to reduce the following bird types

- Magpie

Poisioning Program a Poisioninig Program has been developed between the Department of Conservation, Keplar Farms and the Te Anau Airport Manapouri to eliminate the nesting colinies of Black Back Gulls in the Kepler Mire. This program which began in September 2012 will extend for 5 years and will set up a poisioning exercise about the same time each year using bread pasted with Alpha Choralose at the nesting point of these birds.

Poisioning tends to reduce the following bird types

- Black Backed Gull

Shooting Program we have identified a flock of Canadian Geese situated in the Keplar Mire abeam the Threashold of Runway 26. It will potentially be a one off cull using a helicoipter to airial shoot these birds. The best time to contro these birds is January.

Shooting tends to reduce the following bird types

- Canadian Geese

Bird Species

Appendix D: UK CAA CAP 680 – long grass policy

CAP 680 – Aerodrome Bird Control document.

Chapter 7: Airfield Grass Management

Safety Regulation Group

Civil Aviation Authority

CAP 680

Aerodrome Bird Control

www.caa.co.uk

Safety Regulation Group

Civil Aviation Authority

CAP 680

Aerodrome Bird Control

Important Note

The CAA has made many of the documents that it publishes available electronically (in addition to traditional printed format). Where practical, the opportunity has been taken to incorporate a clearer revised appearance to the documents. Any significant changes to the content of this document will be shown in the Explanatory Note. If no such changes are indicated the material contained in this document, although different in appearance to the previously printed version, is unchanged. Further information about these changes and the latest version of documents can be found at www.caa.co.uk.

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Chapter 7 Airfield Grass Management

1 Principles

1.1 **'Short Grass': A Bird Attractant**. Originally, aircraft mostly landed and took off from the airfield grass which was kept very short. Even after the provision of tarmac and concrete runways, it was still mown short so that aircraft could use it in emergency. However, mowing grass short creates a bird attractant which greatly increases the probability of birdstrikes on airfields by:

- Providing security by enabling birds with eye levels only a few centimetres above ground, and which depend for their security on being able to scan distant horizons for early warning of approaching potential danger, to see over the wide open space of the airfield.
- Increasing populations of invertebrate animals on which many bird species depend for food: frequent mowing continuously replenishes the humus in the upper layers of the soil, creating an ideal environment for soil invertebrates.
- Permitting easy access to the rich food supply of invertebrate animals which live just below the soil surface.

1.2 **Long Grass: A Bird Deterrent**. Short mown grass must be avoided, except where it is **essential** to meet other operational requirements. By modifying the maintenance regime to allow the grass to grow taller to 150 to 200mm (6" to 8"), rather than 25 to 75mm (1" to 3"), the attraction is largely eliminated. The term "long grass" is a misnomer which has caused problems and prejudice for many years because of the image of uncontrolled vegetation it evokes. However, the required 150mm to 200mm is neither long nor tall: it will not even conceal a pint beer glass. Long grass is not necessarily repellent; it replaces the shorter ground cover which is strongly attractive and makes bird dispersal very difficult. Long grass is effective because it:

- Spoils the security of the all round good view from a bird's eye level of a few centimetres.
- Makes it more difficult to locate prey at and below the surface while making it necessary for the bird to spend more time looking up over the grass to detect potential danger.
- Reduces populations of soil invertebrate food animals.

2 Effects of Long Grass

Long grass is not a cure-all. On balance, it is very beneficial because, maintained properly, it:

- Almost eliminates small gulls, grassland plovers and other waders (the most hazardous species on most aerodromes).
- Reduces numbers of corvids and Starlings significantly.
- The hazardous birds displaced are not replaced in any significant way by other species.

However, bird controllers should be aware that:

- Lapwings will roost in long grass at night and, exceptionally, by day in strong winds.
- Rooks, Crows and Starlings often forage in long grass. Corvids are relatively tall and can see over the grass. They also feed by probing and digging in the grass, so they are less impeded by the vegetation than species such as gulls and plovers which locate prey at the soil surface by sight. Starlings also probe for food and feeding flocks characteristically 'roll over' as birds from the rear take flight and move to the front, thus maintaining surveillance over the surrounding terrain. Game birds, Skylarks, Snipe and other species which skulk in cover are not deterred by long grass.

Overall, long grass has very few of the most numerous and hazardous species - small gulls and grassland plovers - and reduced numbers of corvids and Starlings. By comparison, the less numerous and hazardous species which are not deterred, or are attracted, by long grass are an acceptable 'trade-off'. It may be concluded that:

Short grass is such a powerful attractant that bird dispersal action alone cannot control bird infestation over a short grass airfield. Maintaining the grass at 150mm to 200mm reduces the attraction to a level at which it is practicable to prevent birds from using the airfield by active dispersal methods. Long grass should be maintained over as much of the airfield as possible.

3 Standards for Long Grass

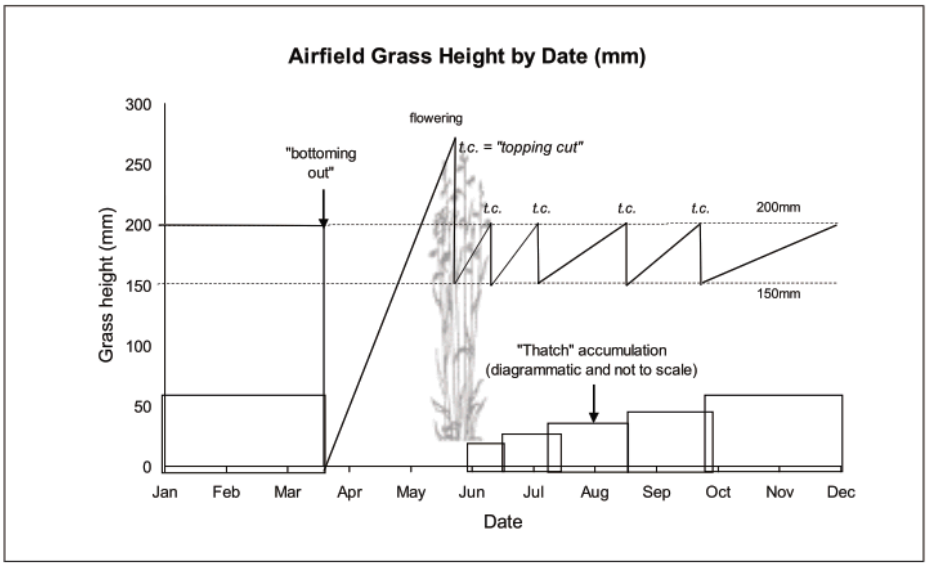
Grass shorter than 150mm does not deter the common airfield birds: all short mown grass attracts birds and non-essential short margins to runways and taxiways draw them into the most hazardous situations. Grass which has been permitted to grow too tall cannot support itself and falls over or is very vulnerable to flattening by wind, rain and snow, and it then no longer deters birds. Among common birds only some wildfowl graze grass and they select very short grass which is growing vigorously. Pigeons and finches, however, feed on the leaves, seeds and flowers of many weeds. To achieve the effects described in paragraphs 1.2 and 2 above, it is necessary to maintain a sward which is:

- All grass, or with minimal numbers of weeds.
- Between 150mm and 200mm tall.
- Erect and dense.
- Continuous over the unsealed surfaces.

4 Principles of Long Grass Maintenance

In almost all cases, good stands of long grass can be obtained by allowing the existing airfield sward to grow taller: re-seeding is rarely necessary. Where, because of climatic, soil or existing sward conditions, it will not readily grow to the necessary height and density, specialist advice should be sought. In addition to the requirements described in paragraph 3 above, it is necessary to ensure that the grass does not increase fire and FOD hazards, impede access by emergency vehicles, obscure runway lights, PAPIs, marker boards, etc., or interfere with navaids. A standard maintenance regime has been developed to avoid these problems and keep the sward in good condition, and has been proven over many years to produce the most effective long grass swards.

5 Standard Maintenance Regime



5.1 **Early Spring.** The first operation of the year is "bottoming-out" with a flail-type forage harvester in mid-March or as soon after as the ground will carry heavy machinery without compacting and rutting. This removes the previous season's dead vegetation and accumulated clippings ('thatch'), and encourages rapid re-growth of the long sward in the main Spring growing period. It also encourages the grasses to flower by May. Delayed flowering produces fewer and smaller flowers, and hence fewer woody stems to hold the subsequent leafy growth erect through the winter. Strong, healthy growth of the sward through the following season is dependent on the efficiency of this operation. Bottoming-out leaves the airfield with very short grass, but mid-March to late May is the period of minimum bird activity on most airfields when problem species have departed to breed. Bottoming-out should **never** be attempted earlier than mid-March as wintering flocks of small gulls and Lapwings will still be present and be immediately drawn to the cut areas. On the other hand, it should be completed sufficiently early for the grass to recover to 150mm by mid-May when young Rooks leave the nest. It may not be necessary to bottom-out every year: some aerodromes maintain a healthy sward by removing dead material every two or three years (but see paragraph 7 below).

5.2 **Through the Spring.** If thatch build-up has been heavy, it may be necessary to harrow with a spiked 'Aitkenhead' harrow, rake and clear again immediately after cutting and clearing and, possibly, repeat the operation. Similarly, if the ground is uneven because of rutting, molehills, or previous tussocky growth, rolling with a Cambridge Roller may be needed. Before a long grass regime is first established, and periodically thereafter, it is prudent to have soil analyses carried out and any nutrient deficiency made good in Spring. When seeking advice from agronomists, who commonly advise farmers on grass crops and pasture and may be unfamiliar with the unique requirements for airfield long grass, the need for sustained strong growth, rather than a flush of rapid lush grass, should be stressed. General purpose fertilizer in slow acting granular form, rather than a high nitrogen formulation, is appropriate. If weedkiller is required it should also be applied in this period.

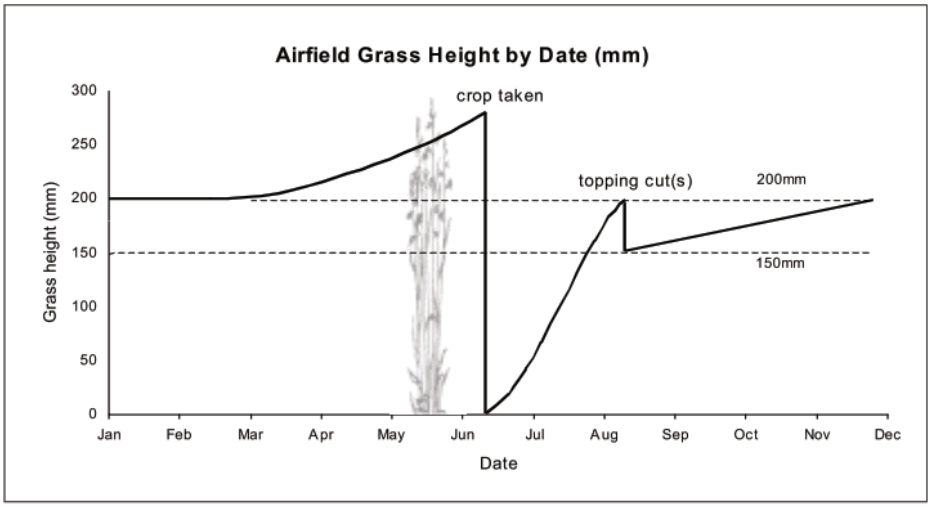
5.3 **Late Spring onwards.** The first topping cut at 150mm should be taken when the majority of grasses have produced flowering heads whose woody stems will support the sward through the winter. The majority of grasses in aerodrome swards produce flowering stems taller than 200mm. Therefore, it will probably be necessary to allow the grass to grow rather higher than 200m **on this occasion only**. Topping cuts are taken at 150mm with a skid-mounted rotary mower. Cutting height should be set with the mower on the grass, rather than a hard surface, because of the tendency for the skids to sink into the softer substrate.

5.4 **Through the growing season.** Topping cuts at 150mm should be repeated each time the grass reaches a height of 200mm. The 50mm clippings readily fall through the standing grass and are held at soil level: they neither lodge on the surface to depress growth, nor blow onto runways and taxiways to cause FOD problems. It is, therefore, important that topping is not delayed and a greater volume of clippings produced. Typically, about four topping cuts may be required in a growing season but this varies between aerodromes and in different years. In practice, the number of cuts cannot be determined in advance. Vigorous growth may continue after a specified number of cuts has been completed, and the sward may collapse. On the other hand, cutting before growth has reached 200mm will, at best, result in unnecessary wheel ruts being created and, at worst, tempt the tractor driver to lower the cutting height to ensure that the grass is actually cut, and result in the grass being kept too short to be effective.

5.5 **Winter.** After growth ceases in autumn, no further maintenance is necessary. The accumulation of clippings from topping cuts during the growing season and die-back of the grass due to frost will create a build-up of thatch which will need to be removed at the start of the next season's maintenance cycle.

These operations are summarised in tabular form in Tables 3 and 4.

6 Silage-based Long Grass



These operations are summarised in tabular form in Tables 3 and 4.

Long grass produced after silage cropping is less effective and more susceptible to mistakes and problems with its management than a sward produced by the standard regime above. However, bottoming-out is expensive as it involves specialist

equipment and the disposal of many tonnes of dead grass. An alternative regime has, therefore, been adopted on some aerodromes which, in effect, involves delaying bottoming-out until the sward contains sufficient new growth to be of value for animal feed: usually as silage; or, occasionally, for drying to make feed pellets. Hay is not recommended as it weakens the sward in the long term. It also has a greater potential to cause FOD problems and, if bad weather delays drying and lifting, it can damage the underlying sward. The "silage option" is inferior to purpose grown long grass in several ways:

- It is cut short after the Spring flowering season and the woody flowering stems are, therefore, removed. Subsequent growth is almost exclusively leafy, cannot remain erect through the winter and, thus, is less effective.
- Even though the primary aim may be to produce a healthy, dense, weed-free sward, cropping inevitably introduces a conflict of interests and it is, of course, the farmer who carries out the operations.
- Motivation to maximise yield often delays silage cropping to the extent that the grass does not recover to the required 150-200mm by the end of the growing season, especially in dry summers, and a deterrent sward is lost for a whole year.
- Farmers may attempt to take a second or, even, third silage crop. These cuts are invariably taken so late in the growing season that there is no chance of a long grass sward being re-established.
- Fresh silage stubble is very attractive to birds, especially corvids, and cutting often coincides with the fledging of Rook chicks. At some aerodromes, Lapwings and Black-headed Gulls may have returned from breeding, and be attracted to the stubble.
- While farmers have an obvious interest in applying fertilizer in Spring to encourage growth up to the time of harvest, there is, for them, only a financial penalty in feeding later to improve the winter stand of long grass. After cropping, the grass may be neglected.
- Farmers with short term contracts have no incentive to maintain soil fertility by replacing the nutrients they remove with the crop by adding fertilizer.

Introducing the competing demand of cropping has accentuated the problems which occur with long grass maintenance and which arise mostly from a lack of understanding of the requirement. A single mistake can result in no effective long grass for a whole year and thus it is important to agree a maintenance plan in advance and for all interested parties (Operations, bird controllers, Air Traffic Control, Works Services, contractors, etc.) to understand what is to be done, when and why.

7 Low Maintenance Regimes

On some aerodromes, attempts have been made to maintain grass long permanently to save costs but this usually results in a very poor sward which may even attract birds. Grass is not a natural 'climax' vegetation in Britain and, without on-going maintenance, it passes through scrub and birch stages, eventually to woodland. Low maintenance regimes or neglect have caused major problems necessitating very expensive remedial measures. Even where there is regular mowing, the grass can fail and be replaced by moss and weeds if soil fertility is not maintained. This, in turn, increases numbers of invertebrates which are food for birds. Also, experience has shown that, where grass maintenance includes annual short cutting and removal of arisings, populations of Short-tailed Voles *Microtus agrestis* and other rodents are

unable to increase to high levels. However, if the sward remains continuously long and becomes rank and matted, voles can maintain their systems of surface runs beneath the grass and dead thatch. Because the cycle is not broken, very large numbers can build up which, in turn, attract Kestrels, Short-eared Owls, Herons and, in the vole breeding season, Rooks and Crows which take the young from the shredded grass nests. If a low maintenance regime is contemplated, it is essential to monitor continuously the condition of the sward for signs of problems (thatch build-up, sparse growth, discoloured or dying grass, etc.), so that the cause can be diagnosed and appropriate action taken before the situation deteriorates out of control, and reinstatement costs escalate.

8 Weeds and Weed Control

Weeds in the sward can build up to an extent at which they replace the grass, leaving areas of bare ground which attracts birds when they die back in winter. However, this is an extreme condition. More commonly, the sward contains clover, dandelions, chickweed, groundsel, vetches, etc. which attract flocks of Woodpigeons, Stock Doves and Feral Pigeons in summer when they are flowering and seeding, and Woodpigeons again in search of clover leaves in winter. Flocks of up to several hundred finches also feed on weed seeds on airfields and are almost totally resistant to attempts to disperse them. Weeds may be scattered over the airfield or, quite commonly, concentrated in narrow strips along runway and taxiway edges, where de-icer runoff has killed the grass or poor reinstatement following excavation of cable runs has allowed weeds to colonise. The bare ground left by the dieback of annual weeds encourages further weed colonisation in the following season. Moderate weed infestation does not seriously harm the long grass and may be tolerated if it does not attract pigeons. However, pigeons **only** visit aerodromes to feed on weeds: removing the weeds eliminates the pigeon problem, and this can be done simply by the application of appropriate selective herbicides **before** the weeds set seed.

9 Damage by Pests and Disease

9.1 **Importance**. Damaged or unhealthy grass does not repel birds efficiently and may even attract them. The obvious signs of problems are the appearance of discoloured or dead patches in otherwise healthy grass (do not confuse with the general effects of drought or areas where the soil is poor, e.g. where old hardstandings have been grassed over).

9.2 **Rabbits and Moles**. Rabbits cause damage by grazing and burrowing. Heavy infestations can turn long grass into close cropped turf. Rabbits also use short or bare areas as communal latrines, which inhibits recovery and adds to other problems. Soil excavated by rabbits and bare patches caused by over-grazing are rapidly colonised by weeds, exacerbating problems further. Mole hills cause damage similar to rabbit excavations and hinder grass cutting.

9.3 **Insects**. Most insect damage is caused by the larvae of cranefly (leatherjackets), swift moths, and beetles (including weevils, click beetles, and chafers) which attack the root systems. The grass turns brown, dies, breaks away leaving bare earth, and does not recover. Weeds may not be affected. The larvae of noctuid moths, commonly referred to as 'cutworms', cause superficially similar damage by grazing at the soil surface and cutting off the grass blades from the roots. Again the grass turns brown, dies and breaks away but the roots survive and the sward can recover if the infestation is controlled.

9.4 **Disease**. Most diseases of grass are fungal and will show first as areas of poor growth (usually spreading), or discoloured grass. Again, if the grass cover is sufficiently damaged, weeds will take hold.

9.5 **Damage Control**. Where damage, especially by insects or disease, is suspected it is essential to treat the problem as soon as possible. Delay with arresting insect damage, for example, can necessitate ploughing and re-seeding large areas of the airfield at a cost of tens of thousands of pounds, and attracting even more birds. Therefore, it is important that monitoring the grass should be a routine part of the bird control quality management regime and that staff have sufficient expertise at least to recognise that something is going wrong. Thereafter, speedy and accurate diagnosis is essential: specialist help should be sought **immediately** a problem is suspected. Government agronomy advisors may be contacted through regional offices of the Ministry of Agriculture, Fisheries and Food and the Scottish Office Agriculture, Environment and Fisheries Department.

10 Pitfalls to Avoid with Long Grass

- Bottoming-out too early (Jan/Feb) when winter flocks are still present.
- Silage cut too late: grass does not recover to effective height by autumn.
- Lack of fertilizer results in weak long grass sward.
- Too few topping cuts allow the grass to become too long so that long arisings lie on top of sward. This causes a FOD hazard, kills the grass and, in turn, encourages insects which attract birds, and increases weed infestation.
- Too many topping cuts cause wheel ruts in grass and, if blade height is lowered because grass has not recovered to 200mm, result in too short sward.
- Final topping cut too early: Grass continues to grow beyond 200mm and is laid flat by wind or early snow.
- Application of selective herbicide in wet weather is ineffective.
- Application of selective herbicide too late in season after weeds have seeded is ineffective.
- Unnecessary short mown margins, or trimmed areas around markers etc. expand with each cut.
- Damage by rabbits, insects or disease.

11 Restrictions on Long Grass

11.1 **Background**. Numerous misapprehensions have arisen about the unacceptability of long grass in certain situations. Generally, it is proscribed only in areas of high fire risk. It is important to ensure that runway lights, PAPIs, etc. are not obscured.

11.2 **Surface Obstruction**. The clearances required are that, on an aerodrome with paved surfaces, grass may be grown to a maximum height of 200mm (i.e. the recommended maximum for long grass) within RESAs, unpaved stopways and the graded area of runway and taxiway strips.

11.3 **Lighting and Signs**. To ensure adequate visibility of installed lights and signs, grass in their immediate vicinity should be closely mown, killed, or replaced with gravel or concrete surrounds. In practice, where the long grass is properly restricted to the

recommended 200mm, minimal areas of around 1m only will be necessary. Where lights or PAPIs are on posts they will in any case be raised above the grass.

11.4 **ILS Critical Areas**. 200mm grass is acceptable in ILS critical areas except that, if signal drift occurs under wet grass conditions, it may be necessary to limit grass length to 75mm around each monitor aerial. Contractors should leave the grass as long as permitted and not increase the extent of short cut areas simply to ensure that they do not become too small.

11.5 **Runway and Taxiway Edges**. On some aerodromes, short margins to runways and taxiways are maintained on the pretext that they are 'anti-FOD strips'. The reverse is the case: frequent short cutting scatters the arisings and numerous pebbles, etc. on the sealed surfaces. Elsewhere it has been claimed that short margins are necessary to prevent long grass collapsing onto and invading the sealed surfaces. Again, this is completely incorrect: short mowing encourages grass to spread sideways, trap grit and loose soil, and colonise the tarmac and concrete.

11.6 **Grass Aerodromes**. Aircraft performance considerations require that the length of grass on movement areas should not exceed 100mm (4"). To avoid bird concentrations on the movement areas, grass length should be **uniform** over the whole surface of the aerodrome.

12 Grass Management

The standard maintenance regime (paragraph 5 above) is devised to permit airfield grass to be maintained in a way which is less attractive to birds than traditional gang mowing. It is biassed towards non-interference with aerodrome operations, rather than bird repellency, and is intended to provide a foolproof universal formula when virtually no appropriate expertise is available at aerodrome level. However, the best and most cost effective bird deterrent swards will be achieved where expertise and control is exercised to fine tune maintenance procedures in a manner more sensitive and reactive to local conditions. Examples are:

- The necessary frequency of topping cuts can only be determined as the growing season progresses.
- If thatch build-up is minimal, bottoming out may not be essential *every* year, thus permitting cost savings.
- On aerodromes with severe Rook problems at the end of the nesting season, it may be beneficial to delay the first topping cut until well after chicks have fledged. The grass may be allowed to grow taller than 200mm, and then return in stages to a 150mm-200mm height regime over the course of several toppings.

Introducing a flexible maintenance regime requires expertise to monitor and react to grass condition over a short time scale. Although it may save money, it will also require the availability of funds for maintenance operations to be carried out at short notice as the need arises.

Long grass regimes are usually effective only when the end user - the aerodrome bird control organisation - is closely involved in planning, monitoring and regulating the maintenance programme.

Table 3 Summary of Standard Long Grass Maintenance Regime

TIME OF YEAR	OPERATION	FUNCTION
Early Spring, or as soon as soil conditions permit.	Bottoming-out with flail-type forage harvester.	Removes all old growth and thatch to permit strong new growth.
Immediately after bottoming-out: to be completed to allow growth to 150mm by late Spring.	If necessary: harrowing, raking and clearing; rolling; fertilizing; weedkilling.	Removes further thatch, improves sward condition.
Late Spring, when flower heads have been produced.	Topping with rotary mower to 150mm.	Retains stiff grass flower stems to support sward erect through the following winter.
To end of growing season.	Topping cuts as required from 200mm back to 150mm.	Maintains grass at optimum height and minimises arisings which filter down to soil level, thus avoiding FOD & fire hazards.
Early Spring.	Repeat cycle.	

Table 4 Summary of Silage-Based Long Grass Maintenance

TIME OF YEAR	OPERATION	FUNCTION
Early Spring.	Fertilizing at farmer's discretion.	To increase crop.
May-June.	Silage cut.	Removes dead grass & thatch plus early season growth to provide feed for livestock.
Following on.	Fertilizing, rolling, aerating as required (varies with aerodrome).	To thicken sward.
Remainder of growing season.	Topping cuts as necessary.	To maintain sward at 150-200mm.
Following year.	Repeat cycle.	

Revision History

Rev. No	Rev. Date	Details	Prepared by	Reviewed by	Approved by
00	23/03/2018	Initial Bird Strike Risk Assessment - DRAFT	Phil Shaw Managing Director	Kylie Patrick Principal Consultant	Phil Shaw Managing Director
01	25/05/2018	Initial Bird Strike Risk Assessment - FINAL	Phil Shaw Managing Director	Phil Shaw Managing Director	Phil Shaw Managing Director
02	02/07/2018	Initial Bird Strike Risk Assessment – FINAL Rev02	Phil Shaw Managing Director	Phil Shaw Managing Director	Phil Shaw Managing Director

Distribution List

Copy No.	Date	Format	Issued to	Name
1	02/07/2018	PDF	Southland District Council	Ian Marshall
2	02/07/2018	PDF	Avisure	Administration

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Te Anau Airport Manapouri Manager's Report - September 2018

Record No: R/18/10/23714
Author: Matt Russell, Group Manager Services and Assets
Approved by: Matt Russell, Group Manager Services and Assets

☐ Decision ☐ Recommendation ☒ Information

1 The Te Anau Airport Manapouri Manager's Report identifies operational issues, aircraft movement, operator changes and management matters.

2 The Airport Manager's report is attached.

Recommendation

That the Te Anau Community Board:

a) Receives the report titled "Te Anau Airport Manapouri Manager's Report - September 2018" dated 15 October 2018.

b) Determines that this matter or decision be recognised as not significant in terms of Section 76 of the Local Government Act 2002.

c) Determines that it has complied with the decision-making provisions of the Local Government Act 2002 to the extent necessary in relation to this decision; and in accordance with Section 79 of the Act determines that it does not require further information, further assessment of options or further analysis of costs and benefits or advantages and disadvantages prior to making a decision on this matter.

Attachments

A Te Anau Airport Managers Report - September 2018 ⇩

24 September 2018 - Airport Manager's Report

General
The summer season has started with the Tauck aircraft arriving seamlessly. In addition to the Tauck, Air Chathams have started their freight charters with the first flight departing Te Anau last Saturday for Auckland direct with approximately 5-6 tonne of crayfish.

Operations
The overall passenger numbers from large aircraft are looking good for the summer with an increase in large aircraft movements. In previous reports comments have been made of a new airline provider, this has still not be decided but if Alliance was to continue then a larger Fokker Jet Aircraft would probably be the aircraft of choice to cope with the increased demand and cut down on the point to point traveling time. The change to aircraft type is still scheduled for January 2019.

Quotes and design for two suitable stand-alone Helipads have been completed and construction should start in the next month or so. This will relieve parking issues at the fuel pumps and enable better access to itinerant helicopters that require freight loading directly from the car parking area. With the increase in helicopter activity this presently poses additional risk allowing trucks to transit the apron. The location will be between the Terminal and the Refuelling Farm.

Assets
A draft marketing package has been created by the Council and distributed to the major stake holders of the airport. Further refinement will commence in October before final approval is given by Council. The main focus is on regional activities with airport capability providing that entrance point to those activities.

Safety, Security and Training
Changes to the Bird Strike mitigation procedures are being looked at as a result of a recent report on Bird Strike potential at the airport by an Australian Consultancy group. Although our methods have been relatively successful with an extremely low bird strike rate since statistics were taken over 5 years ago, improvement to procedure will further enhance this low strike rate statistic.

Replacement of the current security and aircraft movement cameras are being investigated as the current system is now out dated and becoming unreliable.

Drone signage is being looked at with the area engineer and the airport manager as this activity increases. There have been no reported drone issues at the airport to date but nationally signage is beginning to appear. Under the Civil Aviation Rule Part 105, drones cannot be operated within 4km of an aerodrome without the airport operators' permission. There have been a small number of approved drone activities within this area over the last 12 months.