

2014

Issues and Options for Little River: A Scoping Document



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ACKNOWLEDGMENTS

This scoping report was prepared by Dr Suzanne Vallance with funding support from the Christchurch City Council and the Little River Wairewa Community Trust. The author gratefully acknowledges the input provided by the interviewees and representatives from various agencies.

DISCLAIMER

While every effort has been made to ensure that the information herein is accurate, the author accepts no liability for error of fact or opinion which may be present, nor for the consequences of any decision based on this information. Concerns about matters of fact or inaccuracies contained in this report may be directed to Dr Suzanne Vallance at suzanne.vallance@lincoln.ac.nz, ph 03 3251922.

ISSUES RAISED

If you require further information about the issues raised in this report, or wish to provide feedback/make a submission to the Christchurch City Council, please contact the Christchurch City Council's Strengthening Communities Advisor – Akaroa/Wairewa or a representative of the Little River Wairewa Community Trust.

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Aim:

To undertake an introductory scoping exercise with a small sample of Little River residents who are representative of the communities of Little River, and other stakeholders, to help identify the challenges, future directions, priorities, and options for the future development of the Settlement.

Objectives:

This research:

- Takes into account work conducted by stakeholders in the last 20 years;
- Identifies the range of issues and options facing the settlement and indicates priority areas;
- Explores the need to develop a '*mini*' suburban (*Area*) plan for the long-term development of Little River area;
- Indicates possible implementation pathways, including policies, plans and strategies, that may be available to local authorities (including the Christchurch City Council (CCC) to help implement further schemes and projects;
- Suggests engagement issues and strategies.

Methodology

A mixed methods approach comprising interviews, observations and revision of secondary sources was used. In-depth, semi-structured interviews were conducted with 19 members of the Little River community and associated stakeholder groups representing: the Little River School and school Board of Trustees, playcentre, Wairewa Community Trust, Railway Station Trust and information centre, Wairewa Runanga, Fire Brigade, local businesses, farmers and major land holders, community groups and long-term residents. Approximately 12 representatives from the Christchurch City Council (CCC), New Zealand Transport Authority (NZTA) and Environment Canterbury (ECan) were also interviewed. Observations of, for example, river levels and river banks, public meetings, contamination from septic tanks, traffic movements, etc , also took place. Secondary data sources were assessed where possible and are listed in the References section.

Summary of Findings

Objective 1: Assessment of work conducted by stakeholders in the last 20 years.

Material obtained from documents and websites reviewed during the course of this research is included in the relevant subsections below and in the reference list at the end of this report. It is important to note, however, that in many cases there is a mismatch between the number of formal/informal consultation exercises referred to by participants and official documentation of those processes and their outcomes. Many participants (including those from CCC) described issues that had been “going on for years” and while some of these (such as water supply) had been addressed, others (notably road safety, waste water disposal, the commercial centre layout) had not.

It is clear from the documents that are available that a considerable amount of research and consultation has been undertaken in the Settlement by both the BPDC and CCC; however, the amalgamation of Banks Peninsula District Council (BPDC) and Christchurch City Council, and the extended earthquake sequence that began in Sept 2010 has meant, in some cases, the loss of records, duplication of effort, or lack of continuity in particular programmes of work. It is possible that processes around monitoring and review have also been affected by these events.

Objective 2: Identification of issues, options and priorities for the Settlement.

There was strong consensus that some of the most pressing issues facing the Settlement include:

Road safety: Improvements to pedestrian and cyclist safety at four ‘hot spots’ should be undertaken with some urgency. These hot spots identified by the interviewees are:

- The highway/Kinloch Rd/Morrisons Rd intersection where the Rail Trail currently appears to terminate;
- The ‘town centre’, particularly between the service centre on one side of the highway and the shops, railway station, vet and garage on the other;
- The stretch on Western Valley Rd between the school and the highway;
- The stretch between Cooptown and the school in Little River.

Flooding: This has become a serious issue in the Settlement and opportunities for collaboration between local land owners (including the CCC and the Department of Conservation (DoC), residents and stakeholders (including ECan and NZTA)) – possibly coordinated through a dedicated River Ratings District Scheme – should be pursued.

Waste water treatment and disposal: The existing wastewater disposal arrangements require investigation so as to establish whether or not a different scheme is needed urgently. Some residents are concerned about contamination from aging and quake-damaged septic tanks, the inadequate servicing of individual household's on-site treatment systems, and minimum section sizes for dispersal fields. A reticulated scheme was scheduled to begin before 2019 (in the current Long Term Plan) but, according to a CCC source, this will likely be deferred.

This is important because there was general agreement that future development (both commercial/retail and residential) in the Settlement should only proceed within the carrying capacity of the wastewater system (and be sympathetic to the surroundings). There was, however, some divergence as to how wastewater disposal issues should be addressed and integrated. Some interviewees wanted to revive the BioCentre/Advanced Pond System proposed under BPDC (NIWA, 2004, Dakers 2000) whilst others preferred systems that might serve residential clusters.

Other issues seen as significant include:

- the water supply quantity and quality;
- balancing rural land use with eco-recreation/tourism/arts and craft-based opportunities;
- retaining and improving community assets and connectivity.

All of those interviewed were deeply committed to the health and wellbeing of the Settlement and its people; many described low-impact, eco-recreation, tourism, craft and small business opportunities that would enable more residents to work locally, taking advantage of – but also protecting and enhancing - this unique setting.

A wide range of other issues and options was also alluded to, though there was less agreement over their relative importance. A more detailed description of the issues is presented in the main body of the report.

Objective 3: The need for a mini suburban (Area) plan.

The results of this scoping exercise indicate a need for a mini-suburban Area plan.

Although formal consultation and informal conversations have taken place between members of the Settlement and various authorities over the last 20 years, this has largely been piecemeal, sporadic, distributed over different agencies (including the Banks Peninsula District Council), and ad hoc rather than strategic. Because various issues are often addressed in isolation from other concerns (e.g. water supply is not coordinated with wastewater disposal), solutions in one area may inadvertently cause problems in another. Better coordination and integration would be of immense benefit to the wellbeing of the residents and the broader environment.

Interviewees often commented on a lack of effective internal communication among the CCC's different departments and workstreams, and between the CCC and external organisations, such as

Environment Canterbury (ECan) around flooding, and the CCC and the New Zealand Transport Authority (NZTA) around road safety. My own experience and observations over the course of this research suggests a more strategic mini-suburban Area plan approach would help address this.

Taken together, the “chronic” issues raised over the course of this research – road safety, flooding, wastewater disposal, water supply, balancing land uses with amenity and employment opportunities - are both *significant* enough (in terms of health, safety and environmental impact), and sufficiently *interconnected* as to justify the development of a mini-suburban (Area) plan for the Little River Settlement.

The need for a more coordinated, integrated approach – such as a mini-suburban Area plan - will become “acute” and more urgent if a) a waste water disposal scheme enables more rapid residential development and/or b) subdivision rules are relaxed to a significant extent in the District Plan review.

Objective 4: Possible implementation pathways.

Both the District Plan and Long Term Plan are being reviewed and both represent crucial opportunities to develop and implement a more strategic approach to the issues and options facing the Settlement. Much hinges on the resolution of wastewater treatment and disposal issues with a key question being: Is the extant ‘scheme’ - comprising individual households’ septic tanks/on-site treatment systems - adequate for current needs, and would this ‘scheme’ cater adequately for further development in a way that meets sanitation and water quality standards.^{1, 2, 3} This should be considered in land-use (re)zoning decisions in the District Plan and provisions for a reticulated system (or clusters of systems) in the Long Term Plan.⁴

According to one CCC source, much of the CCC-owned land in the Settlement is ‘fee simple’ rather than reserve. This provides considerable flexibility in terms of using this land for a) flood mitigation including swales and/or land swaps for vulnerable homes and businesses b) commercial development c) residential development and d) recreation.⁵

¹ In accordance with CCC’s Sustainability Policy:

<http://www.ccc.govt.nz/thecouncil/policiesreportsstrategies/policies/groups/sustainability/sustainabilitypolicy.aspx>

²

<http://www.ccc.govt.nz/thecouncil/policiesreportsstrategies/strategies/healthyenvironmentstrategies/watersupplystrategy.aspx>

³

<http://www.ccc.govt.nz/thecouncil/policiesreportsstrategies/strategies/healthyenvironmentstrategies/surfacewaterstrategy.aspx>

⁴

<http://www.ccc.govt.nz/thecouncil/policiesreportsstrategies/strategies/healthyenvironmentstrategies/wastewaterstrategy.aspx>

⁵ In accordance with CCC’s Social Wellbeing Policy

<http://www.ccc.govt.nz/thecouncil/policiesreportsstrategies/policies/groups/community/socialwellbeing.aspx>

Irrespective of the level of future growth, the current roading/pedestrian/cycle configuration is inadequate and should be addressed as a matter of urgency. The *Community Profile* (CCC, 2014, p. 1) noted that “Many children travel by school bus. There is no public transport and distances preclude walking or biking”. This is somewhat misleading as it is safety⁶ as much as distance that precludes walking or biking. This creates a self-fulfilling prophecy: because it is too dangerous to bike, children in particular become reliant on motorised forms of mobility, which increases vehicular traffic and heightens risk to pedestrians and cyclists. This represents a barrier to children accessing various recreation and social opportunities and is inconsistent with the sentiments expressed in the Christchurch Transport Strategic Plan⁷ which seeks to make it easier and safer to walk and cycle.

While the CCC by-law on speed limits does not apply to Highways (as it does on, for example, Western Valley Rd (BPDC, 2005)), the CCC could:

- Work on traffic calming measures;
- Investigate the possibility of developing a Local Area Traffic Management or Neighbourhood Improvement Plan;⁸
- Take a lead in securing and developing dedicated, off-road cycle/pedestrian pathways.

Objective 5: Engagement issues and strategies.

The CCC, as both territorial local authority and a significant land and asset owner in the Settlement, has a key role to play in its future development. The BPDC had a very different culture, structure and presence in the Settlement than the CCC. Post-amalgamation, many of those interviewed have struggled to adjust to this vastly different style of ‘engagement’ which tends to be much more ‘formal’. In this context, the continued location of a CCC service centre and library in Little River is important, as is representation at the Community Board and Councillor level.

Whilst acknowledging resource constraints that make lengthy and deliberative consultation processes somewhat less appealing, the result can justify the investment. Many of those interviewed, some of whom have considerable experience with different approaches to consultation, expressed an appetite for more ‘open’ and discursive forms of engagement where the community and stakeholders are more active in problem-framing as well as solution-finding.

A precedent for an engagement process that could be used to integrate the various issues raised in this report has been set in Akaroa Harbour Basin Settlements Study.⁹ Here, an ‘Identifying the Issues’ discussion document was prepared and released for public comment. That step resembles this

⁶ See CCC’s Children’s Policy

<http://www.ccc.govt.nz/thecouncil/policiesreportsstrategies/policies/groups/community/children.aspx>

⁷

<http://resources.ccc.govt.nz/files/TheCouncil/policiesreportsstrategies/transportplan/ChristchurchStrategyTransportPlan2012.pdf>

⁸

<http://www.ccc.govt.nz/thecouncil/policiesreportsstrategies/policies/groups/streetsroads/trafficcalmingpolicy/index.aspx>

⁹ <http://www.ccc.govt.nz/thecouncil/policiesreportsstrategies/areaplans/akaroaharbourbasin/theissues.aspx>

Scoping Exercise undertaken for Little River. Following this Identification of Issues, the next steps in the Akaroa Harbour Basin Settlements Study were:

- Gathering additional information and technical reports. It is recommended that, minimally (and working with NZTA and ECan), this stage should address wastewater and water quality, road safety, flooding, and CCC asset analysis (including land ownership), as well as business land supply, zoning and real estate market analysis.
- Information mapped to identify areas least and most affected by these constraints.
- Statement of Issues released.
- Public consultation on issues and options. This stage could usefully begin with a day-long public 'hui' with ECan, NZTA, DoC, the Wairewa Runanga, and CCC representatives from relevant workstreams including, but not limited to, elected members, Waste water, Strategy and Planning, Transport and Greenspace, Parking, Waterways and Flooding, Park Ranger, Cycleways.
- Final Outputs and Implementation plan prepared.¹⁰

The Akaroa Harbour Basin Settlements Study took approximately 2 years but covered eight Settlements. The timeframe and budget could be considerably reduced by focussing on just one Settlement.

¹⁰ For an example, see <http://resources.ccc.govt.nz/files/IssuesAndProspectiveProjects-akaroaharbourbasin.pdf>

Background Information

Little River is a small Settlement about midway between Christchurch and Akaroa. The 2013 census of Little River/Wairewa (including Little River, Hilltop, Western Valley Rd, Okuti, Prices Valley, Ataahua, Kaituna, McQueens Valley – Southern edge Gebbies Valley/Motukarara, but excluding Birdlings Flat) put the population at 933, with a median age of 46 years. The New Zealand Deprivation Index 2006 for the Little River/Wairewa area is 3 to 4 (with 10 being the most deprived). For the purposes of this study, the 'Settlement' only includes Little River, Western Valley Rd, Okuti, and Cooptown/Hilltop.

Employment opportunities in the area are fairly limited, and although there is some farming and forestry, and several small businesses, many residents commute to work in Christchurch. The Settlement has a marae, a primary school, for years one to eight (decile five) with 105 students, a play centre, two garages, a hotel, several homestays, two cafés, an art gallery, two veterinarians, two churches, the CCC service centre/library, craftstation/railway station/information centre, a domain, rugby club rooms, community hall, Okuti Valley hall, fire station and a few other small businesses scattered over the Settlement. There are about 20 sport/recreation based groups.

Little River used to fall under the jurisdiction of the Banks Peninsula District Council but, since amalgamation, is now part CCC. A close reading of relevant documentation suggests that immediately after the amalgamation, the CCC embarked on a fairly extensive programme of consultation and a developed a wide-ranging programme of works for the Settlement (around, for example, wastewater, the town centre, water supply and so on). Unfortunately, the extended earthquake sequence that started in September of 2010 interrupted this process, and has put the CCC under some serious human resource and financial constraints. Both the Long Term Plan and District Plan are up for review, and these represent significant opportunities to re-visit those pre-quake programmes, some of which were responding to long-standing needs and concerns.

The CCC is a major land- and asset-holder in the Settlement and, therefore, has a key role in its future (see Fig. 1 below).

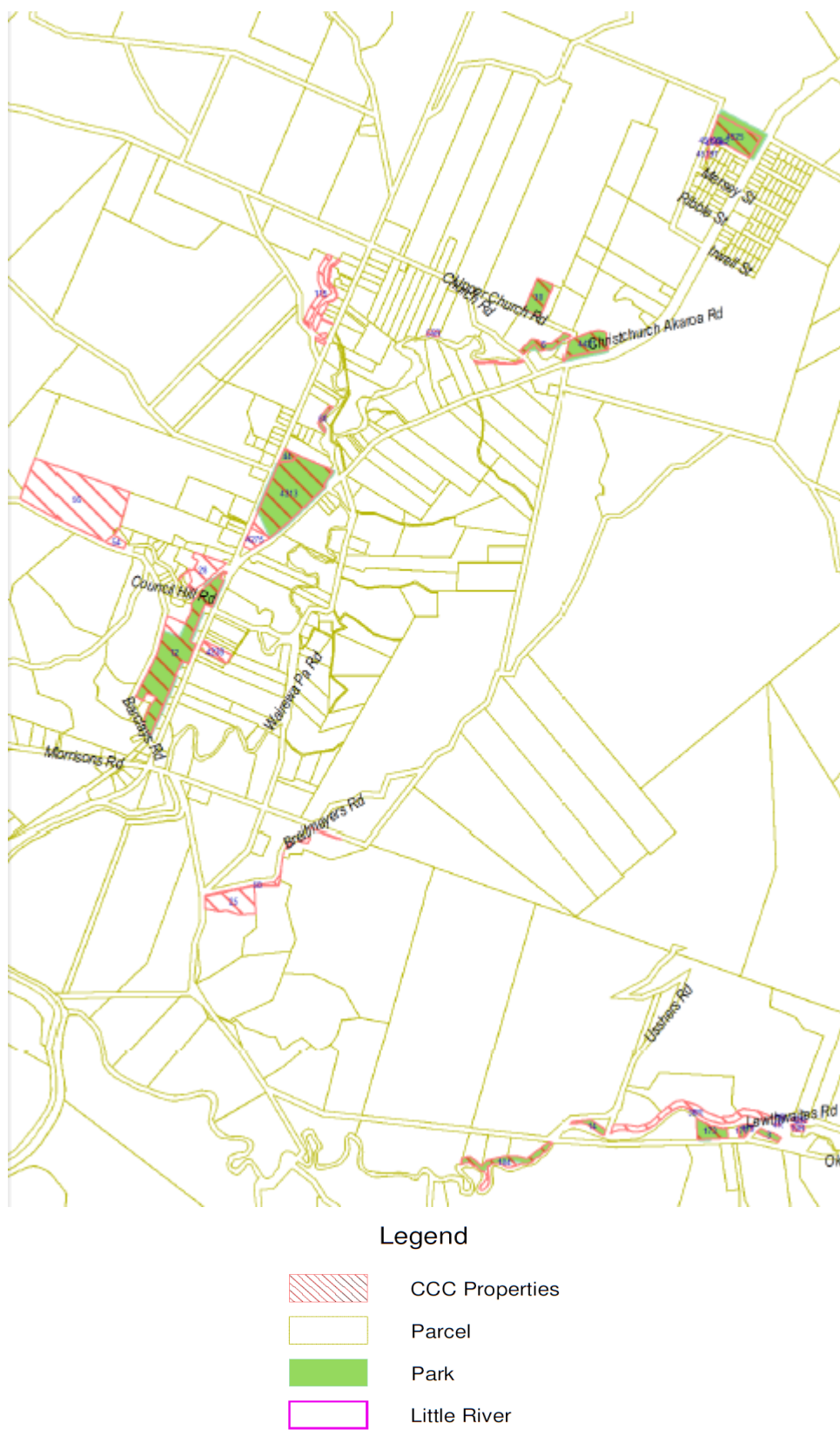


Figure 1: CCC properties in Little River

Issues and Options

Road safety

Road safety, particularly during weekends and over the summer months, was a real concern for almost all of those interviewed for this research, and many noted this was a long-standing issue raised initially with NZTA in 2002 where the New Zealand Police, the Community Board, the Safer Banks Peninsula Trust and over 200 residents petitioned NZTA to reduce to the speed limit through the township from 70k/h to 50k/h. NZTA conducted a speed rating survey and responded that the 70k/h speed limit “is appropriate” and suggested a “temporary traffic management plan that could be implemented on special occasions” subject to NZTA’s approval (Letter to BPDC from NZTA Engineering Officer, 4th Nov 2002).

In lieu of a speed limit reduction through the township, other options, such as traffic calming measures, have been explored. At times, this exploration has been tied to consultation over the Rail Trail and/or town centre redevelopment works (Chch-Little River Railtrail Trust, 2004; CCC, 2007; Traffix, 2007, CCC, 2009). A scoping study (Opus, 2005) conducted as part of the BPDC Urban Transportation and Parking Strategy identified a number of traffic and road safety issues including:

- Vehicles parking on the side of the Highway during peak times, leading to conflicts and problems with a deep open drain;
- Little use made of available off street parking;
- Pedestrians crossing the Highway if parked on the eastern side;
- Safety at Butcher’s corner
- An increase in cycle numbers once the rail trail is open

Opus made 12 recommendations, however, only a few of these have been implemented. Consequently, traffic and road safety has not improved significantly and is arguably worse now the rail trail is complete.

The Rail Trail has promoted a stronger cycle-consciousness among residents, with several interviewees detailing numerous opportunities to develop more cycle-friendly paths/loops of different sorts around the Settlement and surrounds. The ‘Spine of the Lizard’ pathway has also raised awareness of the numerous walking trails that weave around and through the village. Both the Spine and the Rail Trail were seen as providing an opportunity for Little River to evolve into a viable and vibrant recreational ‘cycling and walking hub’ that would create tourism opportunities around homestays, arts and crafts, and fresh produce. While this ‘big picture’ appealed to many interviewees, there were also concerns that important traffic and road safety details were being overlooked, particularly in the town centre where both tourists and locals congregate.

Unlike Christchurch, Little River has no public transport provisions and, consequently, many local children rely on their bicycles to get to and from school. Their access to social and recreational activities are also enabled – or constrained – by cycling/walking infrastructure. The ability for children to walk and cycle safely around the Settlement is seen as crucial in terms of building

independence, their personal and social development, and enabling participation in the range of recreation activities on offer.

The four stretches of road considered trouble-spots for locals and visitors were:

- The highway/Kinloch Rd/Morrisons Rd intersection where the Rail Trail currently appears to terminate;
- The 'town centre', particularly between the service centre/library on one side of the highway and the shops, railway/craft station/information centre and garage on the other;
- The stretch on Western Valley Rd between the school and the highway;
- The stretch between Cooptown and the school in Little River.

The highway/Kinloch Rd/Morrisons Rd intersection

The “*near-completion*” (Interview 4) of the Rail Trail in 2006 has made cycling both an opportunity and an issue for Little River. Currently, the trail appears to terminate at the Kinloch Rd bridge. As one interviewee noted, the Rail Trail “appeals to an older or younger cyclist, and if that’s the demographic then you do need to connect it safely into the village” (Interview 6). Cyclists have often been seen standing at the intersection apparently confused about where the town centre is and how to get there, or reluctant to cross the road, on a sweeping bend with limited visibility to the south, in a 70km zone. This situation was described by several interviewees as “an accident waiting to happen”.

There was a real sense of frustration among interviewees that this situation has not been resolved despite 10 years of lobbying and consultation (in 2004, 2005, 2007 and 2009) and numerous proposed solutions. The CCC has recently (in 2014) undertaken an analysis of the situation and a draft proposal is due to go out for consultation before the end of the year. As this document has not yet been released for public consultation, it is not possible to gauge interviewees’ responses. Many were unaware that there was a draft document due out for consultation; instead they proffered solutions of their own including:

- Reducing the speed limit to 50 km/h before the Kinloch Rd/Morrisons Rd corner;
- Installing an island on the highway just north of the Kinloch Rd/Morrisons Rd corner;
- Creating a tunnel under the road, as farmers do for cows;
- Covering the ditch along the eastern edge of the highway to create a cycle lane to the service centre;
- Installing better signage to provide both directions to the village and information on recreation options within the Settlement, as has been budgeted for since 2009 (CCC, 2009a).
- Painting pictures of bicycles on the ground to direct visitors along the safest route.

The town centre

Currently, the stretch of highway from Kinloch Rd to Western Valley Road is in a 70k/h zone with the garage, veterinarian, railway/craft station/information centre, café, store, art gallery, silo stay and diner on the western side, and the service centre and library on the east.

The issue raised by most interviewees is that this speed limit is too high for peak periods such as weekends, 8.30 – 9 am and 3-3.30pm on school days, on weekends, and during the summer months. Because the land on the eastern stretch is predominantly paddocks and pasture, it has a very open appearance with very few traffic calming signals. It is also one of few straight stretches of road on what is otherwise a fairly windy highway; it presents a rare opportunity to pass slower moving vehicles.

Options for addressing this problem proposed by interviewees included:

- Reducing the speed limit to 50k/hr;
- Painting double yellow lines;
- Installing better signage and entry/exit points for the parking area around the railway/craft station;
- Narrowing the road and adding features to make it look busier and signal to drivers to slow down;
- Widening the road to allow more room for parking and/or a cycle lane, perhaps by covering the ditch along the eastern edge;
- Developing the area behind the railway/craft station and directing non-through traffic there so as to reduce the number of vehicles on the highway.

Western Valley Rd

The stretch of Western Valley Road between the school and the highway is currently zoned 50k/h, however many interviewees were concerned that the condition of the road, and its width, present dangers for students and parents walking/cycling to and from school. The road edging is erratic and when it rains, pedestrians and cyclists are forced onto the road. Further, outside the school/community hall, it is not clear where the road ends and the 'path' begins. One interviewee recounted how, just recently, one day after school her 5 year old son had stepped onto the road when a heavy truck "thundered past". She had to lunge to save him.

Options for addressing this problem proposed by interviewees included:

- Fixing the potholes, road edges and drainage issues;
- Re-painting the edge-line on the side of the road 50m either side of the school (so that parents can tell their children not to go over this line).
- Installing a cycle path along one side, like the one in Purau.

Cooptown to Little River

As discussed below, Cooptown has the potential to accommodate a larger population than it does at this time; however further growth here will exacerbate pedestrian/cycling connectivity problems between Little River (and the school) and Cooptown. Interviewees associated with the school noted that the school bus is already at capacity for this route and any growth in the number of students from further afield will displace Cooptown students. Consequently, the number of young children cycling along the highway (with cattle trucks, heavy vehicles going to the quarry and depot, and tourist vehicles) is likely to increase. School visits to the nearby marae, for example, are also framed by concerns for traffic safety.

- Several interviewees noted the possibility of creating a dedicated cycle/pedestrian route that could cut behind Cooptown and run alongside the Okana river to the school.

Road Safety Summary

There was a clear consensus that cyclist and pedestrian safety is a serious issue for the Settlement and needs to be addressed as a priority. Many interviewees were clear that cyclist and pedestrian safety - and the connectivity between residential/commercial clusters - should underpin future development.

For each of the four stretches of road alluded to here, interviewees proposed means of separating cyclists and pedestrians from vehicular traffic. This would promote both traffic safety and the emerging identity of the Settlement as a walking and cycling-friendly destination.

Flooding

Background

Over the last few years, parts of the Settlement – and particularly the town centre - have been badly affected by a number of flood events (see Fig. 2 below). The most severe of these occurred on March 5th and flooded areas that had not been seen as at risk previously (see Fig. 3 over page). This included the home of one couple who had lived in their house for 47 years without any flooding.

Even those whose homes had not been directly affected were concerned because the road has been closed a number of times, school children have been evacuated, properties have been contaminated by sewage from upstream, and the viability of the town centre is impacted which could leave residents without key services.



Figure 2: Contractors shut the highway due to flooding on July 6th 2014 (Photo, author)

In the past, the water levels of Te Roto o Wairewa/Lake Forsyth have been managed in such a way as to mitigate flood events; a channel can be opened at Birdlings Flat to reduce lake levels and thereby increase its stormwater capacity and the drop from Little River. This method of flood mitigation did, however, cause “brutal”¹¹ (Interview 9) changes in the lake’s salinity, adversely affecting water quality and aquatic life. Several years ago, the Wairewa Runanga began working with the CCC and others to rehabilitate the lake, with a major step being the installation of a groyne at Birdlings Flat. This allows better control over the amount of water discharged from the lake at any one time (see the Water Quality section below for details) and makes it more viable for higher lake levels (and improved water quality) to be maintained. Given this context, there was a widespread belief that the lake levels before the March 2014 flood event were not being kept low enough to accommodate the increased stormwater.

In June 2014, the CCC convened a public meeting in Little River to present the findings of their research into the March 15th flood event. The information (including Fig. 3 below) indicated, however, that lake levels were *not* a contributing factor in this particular event (though it is not clear whether they may have been a factor in other cases).

¹¹ By one account, the channel had a 100 cubic meter capacity which would drop the lake level by half meter a day, whereas the groyne has a 40 cubic meter capacity. While the groyne can be opened in a day, the channel could take up to 4 days to create.

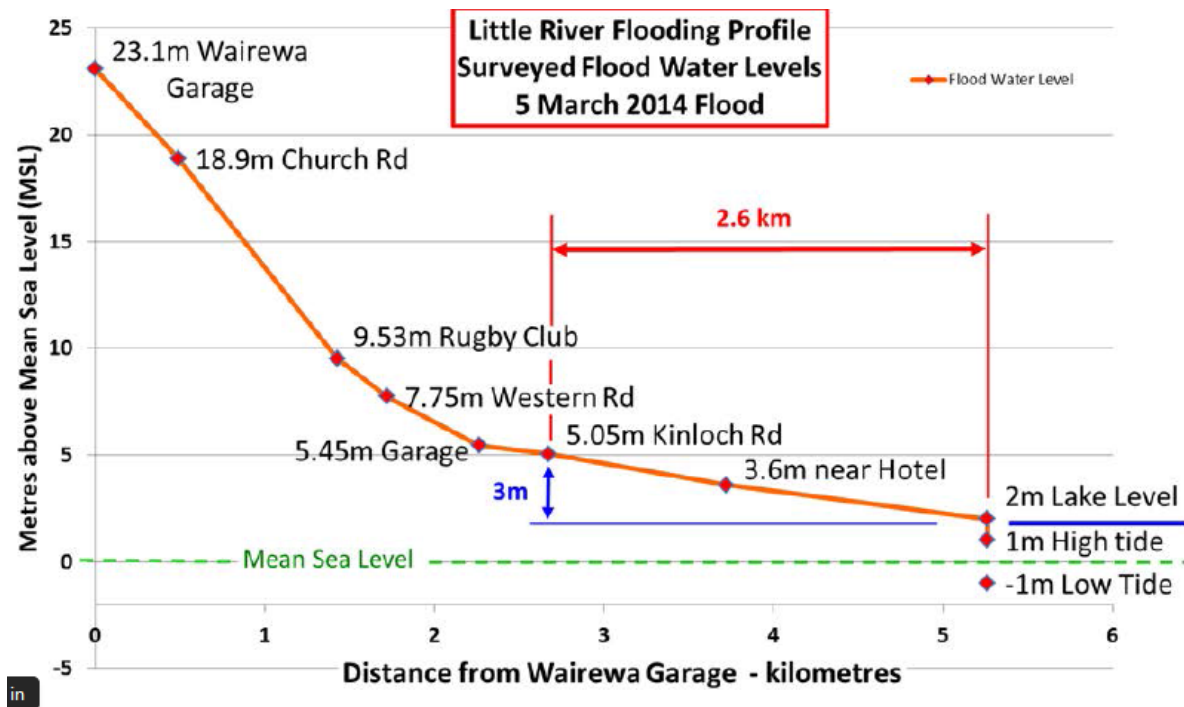


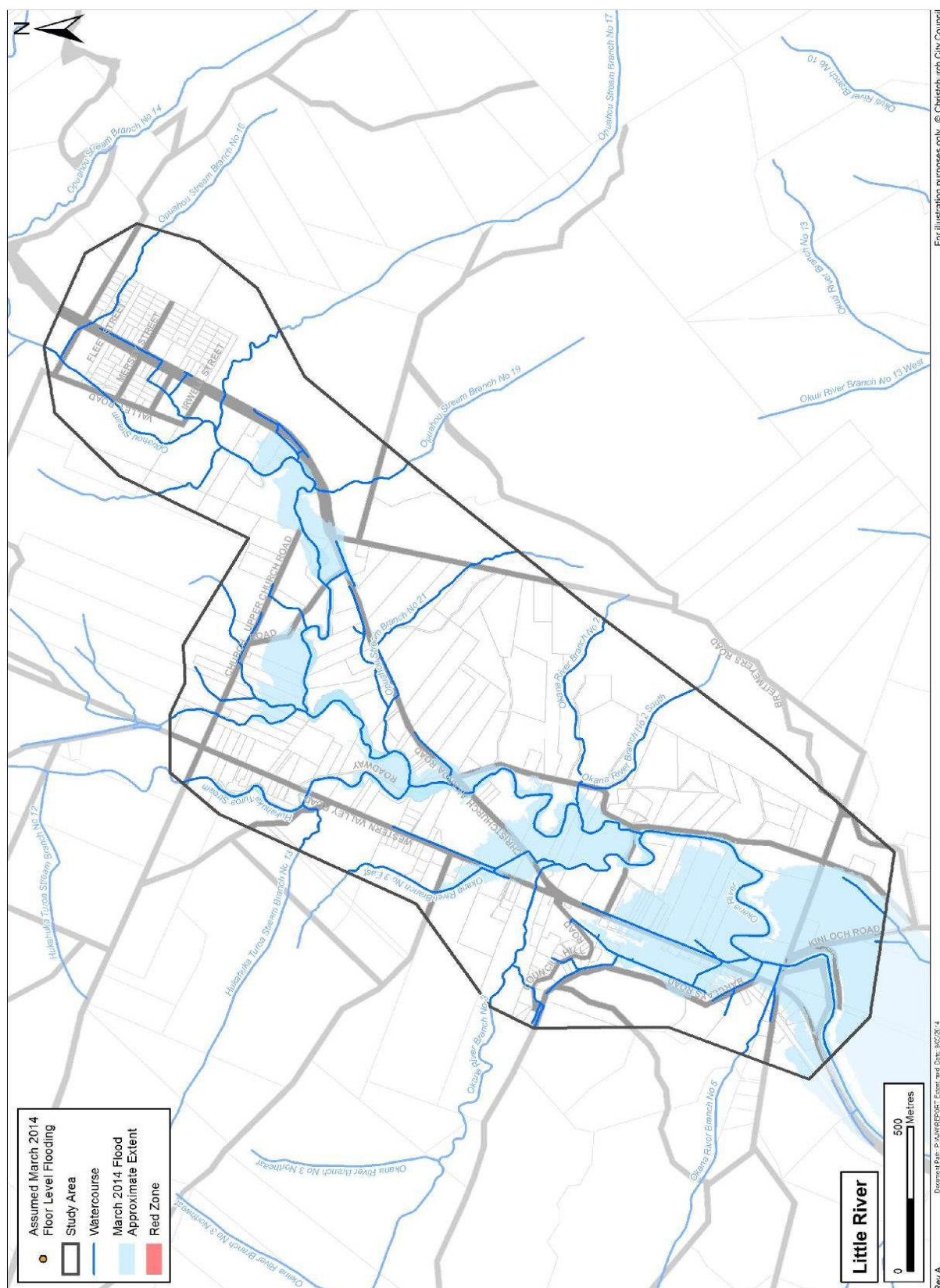
Figure 3: Lake levels on 5th March (Graph: CCC)

Presenters noted that the period between 1993 and 2011 exhibited largely benign rainfalls, but that historically the Settlement has been prone to heavy rainfalls and flooding. The apparent connection between the recent spate of floods and the new lake level management configuration involving the Wairewa Runanga and the CCC was presented as an unfortunate coincidence.

It was pointed out that:

- Little River is situated on a natural floodplain (see Fig. 4 below);
- The catchment upstream is steep and subject to heavy rain;
- The Okana will flood over its floodplain from time to time;
- There are significant restrictions to flood flows between the Kinloch Bridge and the Lake;
- The community is unlikely to have the money to create a floodway large enough to avoid flooding.

It was emphasised several times (using Fig. 3 above) that lake levels are not always a contributing flood factor so, importantly, *other* options beside managing lake levels – both strategic and practical – had to be considered.



In practical terms, possible mitigation measures presented at this meeting included:

- Clearing river channels to reduce flooding frequency – by keeping more of the storm events in the channels;
- Providing low level breakouts through the over-bank deposits beside the river below Kinloch Rd to make the path to the lake easier.
- Increasing the size of the channel beginning at the lake edge to get the water to the lake more rapidly;
- Raising vulnerable items out of harm's way to reduce losses;
- Re-building above flood levels when the opportunities arise;
- Providing real-time access to rainfall data;
- Developing a community response plan.

Similar messages were repeated in the Mayoral Flood TaskForce report released soon after. That report is also reasonably clear that "In large events the [Wairewa Pa Rd/Kinloch Rd] bridge does not pass the entire flow" (2014, p. 455). The report is less clear about what can or will actually be done to reduce flood risk besides maintaining the waterways on CCC land and upgrading two pipes/drains. Increasing the size of the pipe / culvert located on east side of main road past 4230 to 4240 Christchurch Akaroa Rd may reduce the amount of water flowing over the road. A second culvert that drains to the north side of 10 Barclays Rd to an open channel on the east side of the Christchurch Akaroa Highway is scheduled for replacement and could be enlarged. The report noted, however, that "the area will still be flooded until the water level at the outlet can be reduced" (p. 453). The report does not explicitly say so, but the implication is that, essentially, neither replacing the culverts nor maintaining willows and riverbanks on CCC land will satisfactorily address the flooding problem.

This suggests a need for more strategic approach to this particular natural hazard that incorporates land use/development, coordination/funding of major works, and maintenance across the whole catchment. This is signalled in the Taskforce report (2014, p. 455) where the causes of the flooding in Little River are attributed to a combination of:

- Inadequate channel capacity and the constraining impact of the Wairewa Pa Road Bridge;
- A lack of maintenance catchment-wide along the Okana River corridor and its tributaries which has led to the establishment of extensive vegetation, particularly willow trees, along and within the river corridors.
- Water overflowing from the Okana River Branch No3 (Police Stream) which is severely choked by vegetation. Drainage infrastructure becomes submerged and unable to function causing more widespread ponding from other sources.

The report suggests that in Cooptown, the Opuahou Stream and its tributaries are potentially under capacity.

This lack of a coordinated flood mitigation strategy can be attributed to the fact that, at present, there is no strategic multi-agency oversight. Instead, individual land-owners (including the CCC and DoC) are responsible for the control of trees, bank stabilisation, removal of debris and so on. Some take this responsibility seriously, others less so. The Taskforce report noted that responsibilities on

“crown land around waterways is unclear and will require further work to identify who this responsibility lies with” (2014, p. 458). Private landowner agreement would also have to be obtained before works could be undertaken on their land, such as the construction of flood flow channels across the flood plain downstream of the Wairewa Pa Road Bridge. Further, without adequate coordination, works upstream could result in problems downstream. Finally, ad hoc removal of trees can cause bank stability issues (Fig. 5).



Figure 5: Bank stability issues along the Okana (photo: Author)



Figure 6: Floodwaters reach the Kinloch Bridge on July 6th (Photo: Author)

Given the constraints around what the CCC can (and can afford to) do, it was suggested that the idea of a dedicated River Ratings District be revisited to devise a catchment-wide strategy and undertake a coordinated programme of works. Though similar proposals had failed to be passed by vote on two previous occasions (in 1993 and 2008), ECan are currently in the process of assembling a working group to develop goals and objectives for the area.

In order to explore the different options, and test community appetite for a dedicated Ratings District, two further public meetings were organised by the local CCC Community Board representative, Maria Bartlett, who proposed a number of options for flood mitigation and management. These included:

- Individual efforts in-situ to elevate or better protect vulnerable houses and businesses (with, for example, sandbags);
- Retreating and/or relocating to less vulnerable areas;
- Communal solutions such as:
 - developing a global resource consent for in-bed works in the Settlement (as opposed to having landowners apply individually);
 - supporting a dedicated Ratings District scheme which would enable major works to be conducted;
 - establishing a community administered fund to undertake smaller-scale works, such as working bees for willow clearance, riverside planting .

The interviews for this scoping exercise were conducted within several months of these meetings and the Flooding Taskforce report.

Research findings

The level of concern about this issue among interviewees was related to a) the imminence of heavy rain event b) location of dwelling/business or c) potential liability and responsibility for maintenance.

Those interviewees who talked about a dedicated Ratings District were broadly supportive, providing the scheme was 'equitable' and charged, for example, on a per dwelling basis. Large land owners (who were not necessarily directly affected by flooding) were concerned that the scheme would be based on acreage or river frontage, and those whose land was a composite of multiple titles were likewise wary of a payment per title scheme. A common (mis)understanding was that ECan had been unable (or unwilling) to administer a levy per dwelling, and that their method of calculating charges under the previous proposals had been "far too complicated".

A figure of around \$200 – 250 per year, per dwelling was often mentioned as acceptable, though some advocated for some small variation based on whether a dwelling was actually located in the floodplain. The follow up meeting convened by the Community Board representative had convinced at least some of those interviewed that flooding was a "collective problem", even for those whose homes or businesses were not directly affected. Some interviewees went to great lengths to make it clear that they would not be willing to pay out for solutions they did not think would work and that

something had to be done *downstream* of the town centre. If an overall catchment strategy were developed, many were willing to contribute in practical ways where possible through working bees, planting days, etc.

A Ratings District scheme would enable some of the solutions presented by the interviewees to be carried out. The actual viability of these ideas is not assessed here, but they included:

- Better coordination between CCC, DoC and ECan over river maintenance and management. At present, work is being conducted above the town centre which means that in a large flood event, floodwaters will get to problem areas even more quickly than they do now. Issues downstream of the town centre need to be addressed urgently;
- A protocol around opening the lake that balances water quality issues and flood mitigation (and include an agreement with the owner/driver of the digger who does the work).
- Although many understood that lake levels were not a significant factor in the March 5th event, several mentioned that more analysis is required before lake levels can be dismissed as irrelevant in all cases;
- Installing a series of swales around the town centre to help manage stormwater overflow. These could double as reserves or bike tracks when dry;
- Developing a riparian strip planting strategy in which the community and key stakeholders like the Wairewa Runanga, ECan and the Zone Committee were involved that addressed a) planning and design along the catchment; b) fencing to keep stock out; and c) willow maintenance and replacement with native species (in conjunction with local nurseries). Current funding streams do not always cater for planning and design or fencing; both affect the likely success of planting projects. The maintenance strategy would have to be differentiated over the catchment; target 'hotspots' first (lest action upstream create problems downstream) and identify successional planting options;
- Realigning the confluence of the Okana and Okuti rivers so that, during major flooding, these two flows "merge like a zip" rather than counteracting each other, and slowing flow, as they do at present;
- Reducing the height of the stockbanks along the river between the Kinloch Bridge and the lake;
- Installing an overflow channel running from the Kinloch Bridge to the lake, thus providing a more direct runoff from this trouble spot;
- Dredging the river;
- Dredging the lake;
- Raising the Kinloch Bridge.

There was some support for a global consent from ECan (or something similar through the zoning committee) for in-bed work; however, several interviewees pointed out that a) different strategies had to be adopted in different parts of the river, so education and guidance would be required and b) that the official representatives at the public meeting are not necessarily the enforcement people with the result being that there may be different interpretations of 'emergency works'. One interviewee noted that he won't be doing any in-bed work unless expressly directed to, so as to avoid infringement penalties.

Flooding Summary

The June meeting convened by CCC to discuss flooding has challenged beliefs about the role of lake levels in flood mitigation and the CCC/Wairewa Runanga's management of those levels. It also raised awareness of the need for coordinated willow maintenance and highlighted the significance of the stretch of land between the Kinloch Bridge and the lake. Most (though not all) of those interviewed now accepted that lake levels were not a significant factor in the March 5th (2014) floods; consequently, there is more willingness to explore ways of balancing water quality in the lake and flooding issues.

Interviewees (even those not directly affected by flooding) were very keen to see some kind of flood mitigation action taken to protect the town centre, the highway, and individual homes. With the focus no longer solely on managing lake levels, myriad other options are now being considered. Most were cautiously supportive of an "equitable" Ratings District Scheme provided the schedule of works "made sense" and would address issues downstream of the town centre. Many also pointed out that future development should occur in areas less prone to flooding.

Wastewater and sewerage disposal

Background

At present the Little River wastewater treatment system relies primarily on privately owned and serviced septic tanks/on-site wastewater treatment. There are a couple of exceptions, such as the waste water from the Railway/Craft Station/Information centre where wastewater is self-contained and transported to Christchurch. Some of the private systems are "ageing and dysfunctional"¹² and/or located in areas with high ground water levels. This, combined with increased awareness of, and concern about potential adverse effects on the environment, led to an exploration of an alternative, reticulated wastewater disposal option that would service Little River, Western Valley and Cooptown.

In the past a number of alternatives have been proposed and explored including:

- Conventional centralised sewerage systems using a) pumps/gravity sewers to an oxidation pond or package plant or b) small bore septic tank pumped to an oxidation pond/treatment plant (like that developed in Wainui).
- Conventional on-site treatment and disposal options.
- A 'BioCentre' waste processing unit that would integrate waste water treatment and disposal (by aerobic biological filters and sand filtration), and education (Dakers, 2000).

¹²

<http://www.ccc.govt.nz/cityleisure/projectstoimprovechristchurch/wastewater/littleriverwastewaterproject.aspx#jumplink1>

- An Advanced Pond System that uses algae to ‘disinfect’ wastewater (NIWA, 2004, n.p.) and which, according to NIWA, are “cost-effective, require little maintenance, and have generally performed well”.

Research conducted by Yamabe, et al. (2009) found that 25 participants (one third) prioritised taking an ‘eco-friendly’ approach to wastewater disposal. While 30 of 70 participants supported the installation of a reticulated system, 14 thought their individual system (including standard septic tanks and multi-chambered systems like Hynds Environmental/Oasis Clearwater¹³) were adequate. Of Yamabe’s 70 interviewees, 11 suggested that ECan¹⁴ incentivise the use of individual, on-site treatment options and support upgrades to septic tanks systems through the provision of grants and subsidies. A similar number thought the CCC should encourage the re-use of grey water and reduce water demand (low flush toilets, low flow shower heads, etc) in future housing to minimise the quantities of material going into the various systems, whether that be centralised or not. Yamabe’s (2009) report noted that the topography, high ground water levels, flooding and river catchments that discharge into Te Roto o Wairewa/Lake Forsyth made it difficult to identify one location for a reticulated system; instead they suggested different systems to serve different clusters.

Though the CCC has programmed reticulation work to be carried out between 2016 and 2019, “no decision has been made”¹⁵ on the exact nature of the system. The CCC website currently depicts presumably their preferred option (Figure 7 below) from 2008 which shows sewage pumped to Birdlings Flat.

Importantly, however, much of this scoping work and budgeting was conducted pre-quake (in 2008). Post-quake, a decision on which scheme to adopt does not seem imminent given the likely expense of a reticulated system in a climate of fiscal constraint. It is possible that evidence of water contamination/health risk would be required in order to justify including a reticulated sewerage system in the next Long Term Plan.

It should be noted that policies, rules and programmes for wastewater disposal/discharge of water is of special importance to tangata whenua. The Mahaanui Iwi Management Plan (IMP, 2013), which includes Wairewa, promotes integrated catchment and sub-catchment management plans that provide for Mauri and customary use as first order priorities, along with kaitiakitanga and the principle of Ki Uta Ki Tai (from mountain to sea). This includes attending to the effects of land use on water quality and quantity, and the assimilative capacity of catchments and their associated limits (ibid, p. 78). This integrated approach where a range of values - besides utility – are acknowledged and reflected in the IMP, could usefully inform decision-making on this issue.

¹³ These multi-chambered systems treat household waste on-site and purportedly remove most toxins. These systems should be serviced every 6 months.

¹⁴ Currently, individual on-site systems are permitted on sites/lots larger than 4 hectares. There is no minimum site size for such systems, but a resource consent is required. This evaluates which system, site plans, drip lines, number of bedrooms, soil type, evidence of ponding in the past, and so on.

¹⁵

<http://www.ccc.govt.nz/cityleisure/projectstoimprovechristchurch/wastewater/littleriverwastewaterproject.aspx#jumplink1>

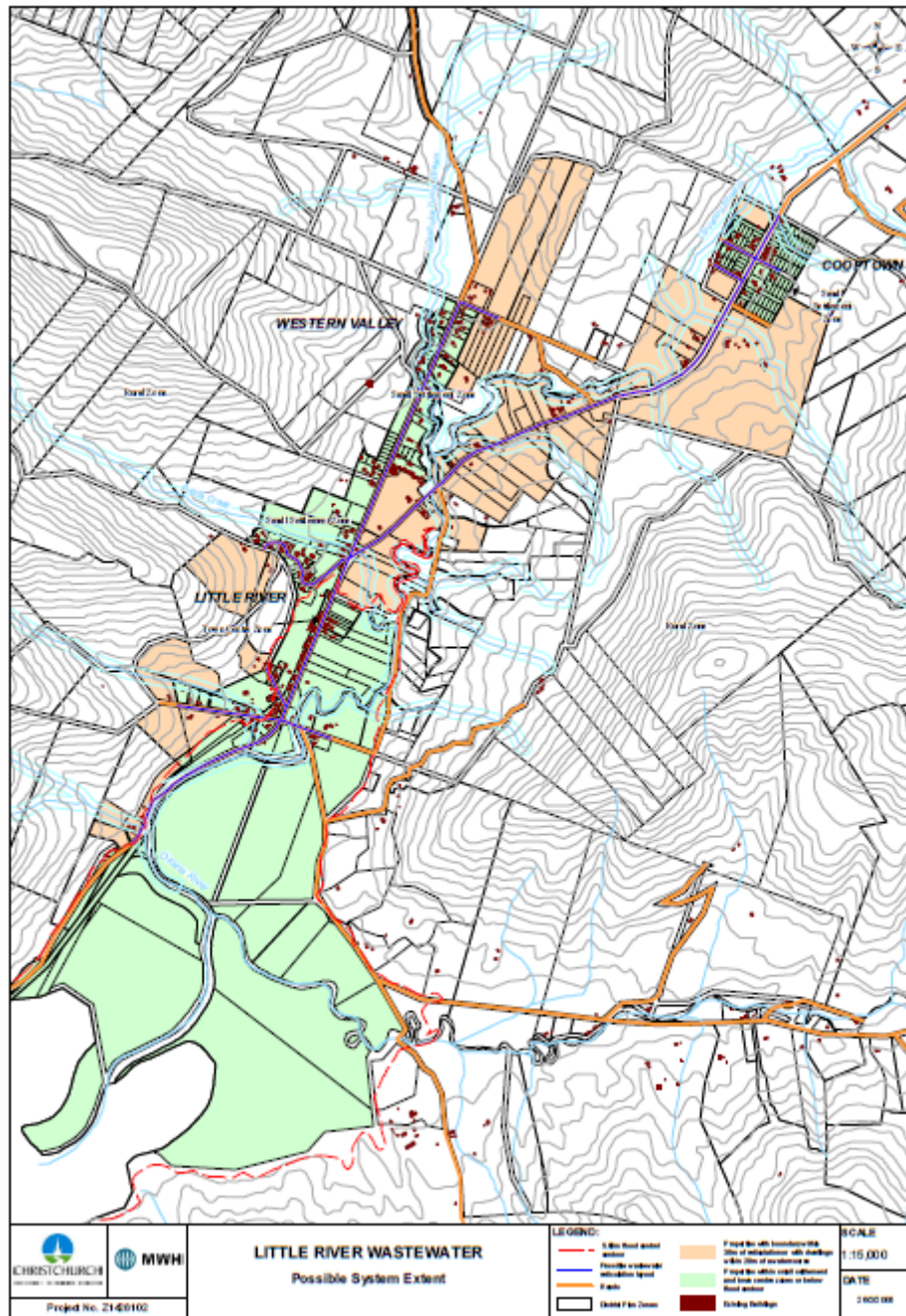


Figure 7: Proposed wastewater scheme for Little River (figure: www.ccc.govt.nz)

Research findings:

There was broad agreement that future development in the Settlement should take place within the carrying capacity of the wastewater treatment and disposal system. That said, there was less consensus around the type(s) of scheme(s) required. A ‘one size fits all approach’ may not be appropriate given the Settlement’s varying topography, water tables and housing densities.

For some (including parents associated with the school/playcentre), the recent floods have caused problems associated with contamination from sewage. Several interviewees posited that the earthquakes may have damaged underground sewer pipes in the area and that these may now be leaking. There was a sense that the current system overall needed some careful consideration.

The interviews conducted for this current research project showed that there is still widespread support for a reticulated scheme like the BioCentre, with several interviewees enthusiastically pointing out that such a facility could combine sanitation and education. They also mentioned that a considerable amount of scoping work had been conducted (see Dakers, 2000, NIWA 2004) and that this research should be revisited before any decisions are made about future schemes.

Among the interviewees very concerned about wastewater disposal, there was little support for a facility like the one being built in Wainui, which was seen as expensive to install, operate and maintain. The most likely locations for such a facility within the Settlement were generally dismissed as being overly reliant on pumps, or unworkable due to flooding or subsidence issues. One interviewee expressed a sentiment held by several others, saying that locating a facility in Birdlings Flat “makes sense, but goes against my belief that we should take responsibility for our waste, not ship it out elsewhere” (Interview 5).

Several suggested exploring the viability of establishing smaller schemes to serve clusters of housing, rather than having one reticulated system. This approach was described as being more resilient as it did not depend on one pipeline. In an extraordinary event, a more distributed scheme would increase the chances that at least one clustered system retained its functionality. Some mentioned a need to explore alternative schemes that have been developed and tested recently, in Christchurch post-quake, on dairy farms, and in other small communities throughout New Zealand (see Warnes, et al., 1993; MfE, 2003).

Others pointed out that many households had installed individual on-site wastewater disposal systems (e.g. Hynds, Oasis, Biolytics) and that these appeared to be working well in areas where the dispersal fields were sufficiently large/appropriately located. Some interviewees did, however, report problems where dispersal fields were not large enough, were located too close to neighbours’ boundaries, or where the recommended maintenance schedule was not followed (possibly due to the expense of servicing). These on-site systems cannot, therefore, be seen as a universal solution. Some interviewees pointed out that there are a range of on-site composting treatment options that do not require a large dispersal field.

Wastewater Summary

Wastewater disposal has been considered a problem for many years and it is largely assumed that a wastewater disposal scheme of some kind (alluded to in the last Long Term Plan) is to go ahead. Some further research may be required before the next LTP budget is finalised to assess the extent of the possible problem associated with aging, damaged, or poorly located septic tanks, and the risk of contamination from sewage after flooding. This would indicate whether or not a reticulated scheme, or cluster of smaller schemes, is urgently required. Given the assumption that some sort of

scheme is budgeted for, some discussion (with the community and key stakeholders such as the Wairewa Runanga) is warranted.

Though there was less consensus around the exact nature of the ideal wastewater scheme, there was widespread agreement that future development in the Settlement should only proceed within the overall system's carrying capacity.

Water Supply

Background

As with wastewater disposal, water supply was seen as a key issue underpinning any future development. The Council is currently upgrading the water supply to Little River and Cooptown so as to comply with the Health (Drinking Water) Amendment Act 2007 for Small Water Supplies. Reticulation will be extended to Little River and Cooptown areas zoned as "Small Settlement" and will involve renewal and/or provision of new water pipes, and the installation of a new bore and booster pump station in Little River on Council Hill Road. Eligible – that is, legal - existing users will continue to be connected to the scheme and new users may apply.¹⁶ It is anticipated that a second upgrade of the water supply treatment plant in Council Hill Road will go to tender in early 2014 and is expected to take 12 months to complete.

At the time of the upgrade proposal, a survey of current and potential legal users was conducted; these included blocks of land with title within the Small Settlement zone, but without dwellings. The survey excluded those in rural zones, even when they were reliant on the previous scheme/supply. While the upgrades will double the capacity of the system, if all blocks with title within the Small Settlement zone have dwellings, there will be no spare capacity. As it stands, the upgraded system puts restrictions on use, with supply limited to 1000L/day/dwelling. A draft by-law making it compulsory to install 5000L rain water collection systems in new dwellings in this zone is currently under review.

Four options for supplementary sources have been identified namely:

- an intake on the Hukahuka Turoa Stream,
- an intake on the Opuahou Stream,
- an intake on the Okana River
- and a well source in the Little River.

Based on the assessment, the intake in Opuahou Stream and Okana River are the most likely options for consideration.

It should be noted that this 'technical' assessment of water supply reflects a particular view of water quality and quantity. The Mahaanui Iwi Management Plan (2013, p. 77), on the other hand, prompts

¹⁶ <http://www.ccc.govt.nz/cityleisure/projectstoimprovechristchurch/water/littleriver/index.aspx>

a shift towards a “changed perception of freshwater resources: from public utility and unlimited resource to wahi taonga”. This is reflected in the emphasis given to water supply providing Marae and communities with access to “safe, reliable and untreated drinking water” (ibid, p. 80) by, for example, restoring waterways rather than digging deeper wells, finding new sources, or using different treatment options. This position on water supply also reflects the principle of Ki Uta Ki Tai where sourcing is intrinsically connected to disposal thus bringing together two issues that are often treated as separate.

Research findings

The upgraded water supply has been widely appreciated. Interviewees associated with the school (including parents) saw the upgraded scheme as a real asset to the area as the previous supply had been erratic in terms of both quality and quantity.

Interviewees did, however, raise a number of issues around connections, restrictions and future supply. It seems there may be cases where users of the old supply may not have been formally connected, or may lie within a rural zone adjacent to the Small Settlement. This means several households who used the old supply may not have access to the new supply.

While the flow restrictions were generally seen as sensible, some connections – such as that to the rugby club rooms which has a large draw after weekend home games, but very low use otherwise – were thought to have different requirements.

Several respondents pointed out that the system now relies on pumps that may be compromised during an extended power outage. A gravity-feed system was seen as more resilient, but it was also understood that it is prohibited to farm cattle within 2 km of a council-owned water intake, which has serious implications for farmers. Those who seek to secure future water supplies – whether gravity-fed or pumped - should be mindful of the effect this has on the farming community.

With regard to future supply, there was concern on the part of many of those interviewed that water supply, wastewater disposal and future subdivision proceed in tandem.

Water supply summary

For most people, the upgraded supply is working well and is widely appreciated. With regard to future supply, there was widespread concern that water supply, wastewater disposal and future subdivision proceed in tandem.

Future Development

Background

In recent years the Settlement has experienced fairly rapid population growth and the school roll has increased from 82 to over 100 students within the last 5 years prompting the need for an additional classroom. Some of this growth may be attributed to displacement of residents from Christchurch city following the earthquakes; however, development in the southwest areas of the city (Halswell, Hornby) and in Lincoln (Selwyn District) has made Little River reasonably commutable.

Consequently, the population has not only increased; it has become more diverse, with rural landowners and farmers now neighbours with lifestyle block owners and those wanting a smaller, more manageable section in areas with reasonable density, close enough to facilities like the school, community hall, store and garage. An important element of this research was, therefore, scoping residents' and stakeholder views on if, where, and how, future development might occur.

Interviewees were asked "if the population was to double over the next 20 years, what should we do now to futureproof the Settlement".

Research findings

Residential development

- Future development should occur within the carrying capacity of the water supply and wastewater disposal systems, and avoid areas prone to flooding;
- Development, particularly in Cooptown, should occur with connectivity and pedestrian/cyclist safety between Cooptown and Little River in mind;
- Residential development should be "sympathetic" to the surroundings and "not resemble a city street". Generally interviewees favoured generous, but varied, lot/section sizes (of between 1000m² and 4 hectares; however, a number of interviewees pointed at that it is important to look after the Settlement's elderly population by zoning for an aged care facility or a small cluster of elderly persons' homes close to the service centre/library and school.
- Subdivision rules could be more flexible in certain areas. This would allow large land-owners to subdivide small lots to enable succession/inheritance issues to be more easily resolved. The passing of a large landowner creates issues in that, unless a large farm is to be divided into (less economically viable) chunks or sold outright, one heir must 'buy-out' any siblings. This creates a prohibitive debt burden that income from the farm cannot meet. Large land owners may, in fact, hold multiple titles but see problems selling these lots because they may be in areas subject to erosion, or on good pasture. In such cases, it was argued, rules should be guidelines that provide a basis for a dialogue around moving those titles to more suitable areas based on, for example, steepness, bush, erosion, distance to amenities, waste water, water supply, access, and so on. As low-lying areas in and around the Small Settlement zone are vulnerable to flooding, other options for developing in safe areas should be considered.

The Town Centre and Commercial Development

- The CCC is a major landholder in the town centre and there are numerous options for developing this land, either for residential, commercial or flood mitigation purposes;
- Rezone, or allow community use of reserve land (for 'pop-up' buildings), to promote commercial development in the town centre; specifically, a space is desired that will allow local businesses – and a doctor - to hire/lease rooms, much like the EPIC building on Manchester Street in Christchurch.
- Many would like to see more opportunities for the people who live in the Settlement to work in the Settlement.
- Many of these ideas are consistent with another proposal for an Alternative Technology and Environmental Studies Centre that could be built over the existing Service Centre/library, but also house flexible moveable buildings, Heartlands, university outreach programmes, alternative technologies (anything from poultry self-feeders to solar/wind/hydro power generators) and promote the work of local and Banks Peninsula-wide Trusts, businesses and the Wairewa Runanga.
- Create a Recreation and Sculpture Park that “provides a recreation area close to Little River that families can enjoy and can learn about the natural environment”. Such a centre would promote the area’s “high natural values (aesthetic, intrinsic, biodiversity); link to the rail trail and mountain biking in the region; provide a showcase for the creative people in the area; provide a facility for the local people and visitors to the area; provide an attraction which will benefit local businesses.



Land Use

- Several saw opportunities to diversify subdivision sizes to encourage 'boutique' production of, for example, nuts and fruit so as to allow those who live in the Settlement to work in the Settlement, rather than commute to Christchurch.
- Some interviewees were concerned about the effects of forestry (which is becoming more common on the Peninsula) on water quality and land slips during and after milling.

The Domain

- Comments about the new domain configuration were mixed. While several interviewees liked the fencing, others had concerns about the lack of access near the playcentre (for people pushing prams) from the highway. Visitors often failed to note the Western Valley Rd entrance and, finding the highway entrance blocked, had to do a u-turn on the highway.
- Others were concerned about access between the school/community hall and the domain as the path from the front door currently directs pedestrians straight onto the side road which lacks a footpath. It was often described as being car-focussed rather than pedestrian-friendly.
- The Little River School Principal has noted there are opportunities for the school, playcentre, Ministry of Education, fire brigade, Domain Board and CCC to work together to improve the domain and school grounds to a) facilitate multiuse spaces and modern learning environments and b) enhance pedestrian safety. His comments resonated with points raised by a number of interviewees who thought the domain/playground/school configuration could be improved.
- There are issues with the current configuration and governance of the school/community hall/fire station and domain. The 'community hall' works on shared (fire brigade/CCC) ownership model with the fire station, tea room and men's toilets owned by the fire brigade, and the other men's and ladies toilets and main hall owned by CCC. The septic tank is on CCC land administered by the domain board and there is no fire wall between the fire station and hall, which possibly breaches CCC regulations. A post-quake assessment also showed that this same wall probably requires extra bracing to meet current building standards. While no costings were provided, these works will likely be expensive, and perhaps prompt questions about the future of the building.

Other

- There is widespread enthusiasm to see Little River develop as a walking/cycling-based recreation hub. There are plenty of circular routes of varying degrees of difficulty, many with stunning views and points of interest. Large land owners interviewed were cautiously supportive of this idea, but had concerns around liability (in case of an accident), access through gates (which are not always left as they should be), and the effect on stock (particularly during lambing and around mothering calves).¹⁷ A few noted issues with a lack

¹⁷ Such concerns are not uncommon, as indicated on the FAQ section of this website: www.walkingaccess.govt.nz

of toilets at the Reserve Rd track and Tumbledown/Te Oka bays. Others noted that cyclists and walkers sometimes clash.

- Little River and its surrounds have a rich history of both Maori occupation and colonial settlement, with many sites of significance located in the area. Care would have to be taken to ensure sites of historical value and cultural significance were managed and portrayed appropriately, in accordance with “the use and interpretation of Maori cultural traditions, tikanga, values, language and symbols” (MIMP, 2013, p. 164).
- The Settlement lacks a medical facility and this has been a longstanding concern (see, for example, Taylor Baines, 1998). The Community Profile (2014) also noted that despite several years of consultation and the proposal of various solutions, “traction has been slow” and the settlement is not serviced. According to one interviewee, the District Health Board has allocated funds to the Lincoln Medical Centre to cover Little River residents but, although “while back they had a few clinics in the [Little River] Service Centre” it is difficult to establish how Little River residents now benefit from this arrangement;
- The Settlement lacks public transport to and from Christchurch, but there is support for a community vehicle trust;
- The Fire Brigade lacks a generator;
- The Fire Brigade would benefit from more support in responding to local emergencies, including those of a medical nature;
- The Settlement lacks a campground open year round that accommodates budget oriented visitors, cyclists and campervans;
- Several of those interviewed were angry that access to Bossu Rd was compromised by the groyne at Birdlings Flat.

Community Assets

- That the Settlement must keep and seek opportunities to develop the assets it currently has, including, but not limited to, the:
 - School and playcentre;
 - Service Centre and library;
 - Domain and buildings, including the toilets and tennis courts;
 - Fire brigade and station;
 - Marae;
 - Community halls (including the one in Okuti Valley with the Toy Library);
 - Railway/craft station/information centre and buildings which had over 98,000 visitors in 2013;
 - Recycling depot;
 - Trails and reserves;
 - Lake;
 - Churches;
 - Playground;
 - Pony club land in Cooptown.

While it could be argued that in quantitative terms these assets are not used to capacity, the *quality* of use is important. These assets support the social infrastructure of the area and enable residents of the Settlement to be resilient and self-supportive. An example of this was the playcentre's recent quiz night held in the community hall, with over 100 participants. This not only raised a significant amount of money for the playcentre, observations suggest these sorts of meetings also create opportunities for residents to share information and work through concerns, opportunities, issues and threats facing the Settlement.

Future Development Summary

There was no vehement opposition to moderate levels of residential growth providing future development was 'sympathetic' to the surrounds in terms of amenity (especially around provision of different lot/section sizes) and the carrying capacity of water supply, wastewater and pedestrian/cycle infrastructure/connectivity between Cooptown and Little River.

Interviewees were keen to explore options for those who live in the Settlement to work in the Settlement. They were keen to see current community assets retained and improved with flood protection, rental space in the town centre, cycle/pedestrian paths, and development of the domain. The *quality* of the use of these assets is as important as the quantitative aspects.

Water Quality in Te Roto o Wairewa/Lake Forsyth

Ka hāhā te tuna ki te roto	If the lake is full with eels
Ka hāhā te reo ki te kāika	If the home resounds with speaking
Ka hāhā te takata ki te whenua	The land will be inhabited by people ¹⁸

Many of the issues mentioned above have implications for the water quality in Te Roto o Wairewa/Lake Forsyth. The lake has been described as "a severely degraded lake ecosystem with eutrophication, algal blooms and sedimentation problems"¹⁹ but with the potential to be rehabilitated.

The Mahaanui Iwi Management Plan states that that cultural health of the lake is degraded as a result of lake level management based on arbitrary trigger levels; a decline of the tuna population; contaminants entering the lake as a result of inappropriate land use on lake edge margins; nutrient rich sediment entering the lake as a result of poor land cover and inappropriate land use in the catchment; and poor water quality in lake tributaries (MIMP, 2013. p. 310).

Having helped identify these causes of degradation, the Wairewa Runanga has been actively promoting the lake's rehabilitation by documenting the history of the lake, investigating lake sedimentation forms and the state of the catchment, analysing water quality (particularly re

¹⁸ <http://www.wairewa.org.nz/>

¹⁹ <http://www.wairewa.org.nz/overview.asp>

nodularia, a toxic algal bloom), and the adoption of different lake level management strategies that incorporate multiple values. The effect of these on tuna (eels) and other migratory species is of special interest.

Over time, deposits of gravel have been swept along the coast, coming to rest at Birdlings Flat where the Peninsula juts out into the Pacific. The lake opening has gradually been reduced through these processes becoming, first an estuary, and now a lake. Research suggests that some of the eutrophication problems in the lake are the result of this 'recent' (within living memory) inability of the lake to flush naturally; it has been described as a "sink with no plughole" (Iaeen Cranwell, Wairewa Rūnanga, cited in MIMP, 2013, p. 311). A permanent opening is one way that this flushing capability could be restored. The opening would also assist in the recruitment of migratory fish species (e.g. tuna, pātiki, kanakana).²⁰

As noted in the flooding section above, the meeting convened by the CCC in June 2014 has challenged some long-held perceptions that dropping lake levels by carving a channel to the sea is the best way to mitigate flooding in Little River. The interviews conducted for this scoping exercise therefore took place in the context of some re-evaluation of the role – and value – of the lake.

Research Findings

Several interviewees had an enormous passion for the lake and its wellbeing and could speak convincingly of its history, current condition and possible future. Many had a desire to see the lake rehabilitated to a condition whereby it was, minimally, not hazardous, but ideally, safe for recreational activities and aquatic life. Some interviewees were very supportive of the Wairewa Runanga's work in promoting and facilitating the health of the lake.

One interviewee recalled being unable to cross parts of the lake when he was a boy, whereas he can now wade across those same areas relatively easily. This anecdotal report is consistent with figures reported in the Mahaanui Iwi Management Plan which notes that there is "over 1 metre of sedimentation in the lake, equating to approximately 5,000,000 m³ of topsoil which has eroded from the catchment" (MIMP, 2013, p. 310). The increasing number of forestry blocks was a cause of concern as, when they are harvested, the erosion and loss of topsoil can be sudden and rapidly deposit sediment in the lake. One interviewee posited the view that natural processes (such as the sweep of gravel up the coast) were exacerbated by man-made problems such as deforestation and soil erosion and that, without massive intervention, the lake would eventually become a wetland.

One interviewee noted that water quality had improved and that the nodularia blooms had diminished. He also noted, however, that while the lake was now less brackish (and less conducive to nodularia blooms), conditions may favour other algae, such as anabaena.

²⁰ <http://www.wairewa.org.nz/overview.asp>

Social Infrastructure

The Settlement has an increasing, and an increasingly diverse, population but while there are some areas of contention – particularly over the lake opening and farming/forestry/amenity/conservation – those interviewed were remarkably tolerant of others' points of view. Potentially uneasy alignments between, for example, conservationists and farming/forestry interests were often framed by attempts to find solutions that might work for everyone.

The Settlement is home to a number of Charitable Trusts and community groups. The Wairewa Community Trust is a very active in the community. Their aim is to “promote the sustainable development of the Lake Wairewa and Southern Bays catchments, and plan, fund, develop and establish facilities which contribute to the social, cultural, environmental or economic wellbeing of residents or visitors to that area”.²¹ They support, among other initiatives, a (pest trap library, the summertimes programme, an edible garden; their website also promotes local events and services. They seek to work with other local groups and their Board includes representatives from the business community, the fire brigade, the Railway Station Trust/Craft Station Co-op, and so on.

The fire brigade deserves special mention due to their active, and very vital role, in the Settlement. They have begun improvements to the Asset Register system with help from Neighbourhood Support (WCT minutes Aug, 2014). The Fire Brigade has been formally assigned the role of Civil Defence and the Station a Civil Defence Post however several concerns have been noted. First, the brigade may face issues getting access to the highway during flood events. There have been problems around covering Civil Defence-related costs when a State of Emergency has not been declared. This Brigade is a volunteer organisation and reliant on having sufficient volunteers available. If the Brigade is called out on a medical emergency, accident and/or a fire, they may not be able to coordinate during a disaster/adverse event (Community Profile, 2014).

These networks, and others based around sports and farming (such as dog trials), bring people together from around the Settlement, as do the school and playcentre. They can, and do, work together to participate in, and run events like the Pumpkin Festival, the A and P Show, Off the Rails, quiz nights, motor cross, wellness weekends, senior citizens' hui, garden tours, planting days, working bees, and so on. Most (if not all) of those interviewed volunteered, or worked unpaid overtime, to facilitate these events/services.

A potential issue with social infrastructure is its relationship with more tangible community assets, like those mentioned above, particularly the school/playcentre/domain and fire station; the service centre/library; and the village centre. These hubs allow for a more consensual and collaborative style of leadership that is perhaps necessary in a community that lacks many of those traditional forms of authority, whether they be religious, medical, institutional, or cultural. These enable the Settlement to be relatively resilient, despite having a very distributed 'leadership'.

²¹ <http://littleriver.org.nz/>

Another potential issue is the relationship with the CCC. Many of those living in the Settlement have found the CCC more “bureaucratic” than the Banks Peninsula District Council. As one interviewee explained, “We as a community do not know what the [Christchurch City] Council should be doing. When we were with Banks Peninsula, we just rang up and let them know what we are doing. Now we can’t do that. And we talk to so many different people. We are getting lost in the system with the council” (Interview 11). There are options here to improve this relationship by adopting more deliberative participatory processes when engaging over the issues presented in this report.

Summary of Social Infrastructure

Whilst the community is not homogenous, and there may be some underlying tensions and occasionally vociferous dissenters, there is also an underlying acceptance that people in the Settlement do, to a greater or lesser extent, rely on each other. Focal points for social networks – the school, marae, the town centre, the community hall, service centre and library – are important, particularly in a Settlement where leadership is distributed rather than concentrated in the hands of a few. The transition from BPDC to CCC has not been easy and there are opportunities to improve the relationship by addressing some key issues identified in this report.

Engaging (with) the Community

There is a distinction to be made between engaging a community (to undertake the delivery of certain services) and engaging *with* a community (in varying ways, from ‘token’ consultation to more deliberative and empowered forms). Deliberative forms of engagement allow a range of actors and stakeholders to help frame problems and issues, as well as indicate their (lack of) support for the proposed solutions. Such engagement processes have been used to great effect in circumstances as diverse and controversial as flooding in the UK (Whatmore and Landstrom, 2011), to the citing of nuclear power plants in France (Callon, Lascoumes and Barthe, 2009), or the recovery of New Orleans which faltered for a long time before being rejuvenated by the Community Congress II (Olshansky and Johnson, 2010). Whatmore and Landstrom’s (2011) *Flood Apprentices* describes the way a community’s objection to river engineers’ flood mitigation walls were dismissed as “aesthetic”. Yet, a ‘slowing down’ of science allowed a new understanding to emerge whereby these objections were re-heard as a concern that the proposed flood walls would redirect floodwaters to other vulnerable areas. The evolution of a multi-stakeholder ‘Competency Group’ eventually led to an alternative approach using upstream bunds. Despite the growing list of positive outcomes from deliberative processes, they are often dismissed as time-consuming, costly and unpredictable.

In Little River, members of the community widely attributed flooding to higher lake levels. For the March 5th (2014) event, this was not correct; thus illustrating that the community is not always right. Yet, by ‘slowing down’ science and taking time to explain some technical issues, the CCC has ‘won some points’ with certain members of the community. More importantly, this new understanding has opened up myriad possibilities for the community to participate actively (through working bees and individual river frontage maintenance) and ‘passively’ (albeit financially through a Rating District scheme) in flood mitigation.

In the context of a Settlement still characterised to a significant extent by a ‘number eight wire’ attitude, deliberative approaches may work well, particularly for issues that are technical, interconnected, complex and controversial.²² Some examples of deliberative processes include hui open space, world café, and river of life.

Conclusion

This scoping exercise sought to establish whether there were enough issues of sufficient complexity, seriousness, and interconnectedness to warrant the development of a mini-suburban (Area) plan for the Little River Settlement. This research has identified a number of issues and options - road safety, flooding, wastewater, water supply, future development and water quality – that, with improved integration and coordination would have better outcomes than when they are addressed in isolation, as they are at present. The organic, ad hoc approach adopted in the past has created a situation that now presents some serious issues for residents and visitors alike. This scoping exercise therefore indicates that a mini-suburban (Area) plan approach is required.

It is recommended that an approach like that one used in the Akaroa Harbour Basin Settlement Study²³ be adopted, with this report regarded as the first step (Identifying the Issues) in a multi-stage process. It is also recommended that this multi-stage process include a ‘hui’ or ‘open space’ phase of engagement with members of the community as well as representatives from NZTA, ECan, the Wairewa Runanga, and CCC workstreams (including, but not limited to, elected members, Waste water, Strategy and Planning, Transport and Greenspace, Parking, Waterways and Flooding, Park Ranger, Cycleways) on-site.

The relationship between the Settlement’s residents and the CCC is a relatively recent one. The style of engagement adopted by the CCC and BPDC is so vastly different, any ‘consultation’ strategy over such a plan should be very carefully considered. While many of those interviewed for this research would like to see a more integrated approach to the issues raised, a ‘CCC-led’ process may not be viewed altogether favourably. A ‘community-led’ process, *facilitated and enabled by CCC*, may meet a better reception.

²² Ironically, these are precisely the conditions under which it is most tempting to use ‘token’ consultation techniques.

²³ <http://www.ccc.govt.nz/thecouncil/policiesreportsstrategies/areaplans/akaroaharbourbasin/theissues.aspx>

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