

Sea Level Rise

- **What common misconceptions has council seen about sea level rise?**

In the case of Dunedin, there can be the misconception that sea level rise will lead to the sea coming up over the coastal dunes and inundating the area. The actual threat to somewhere like South Dunedin, however, is sea level rise pushing up already high groundwater levels, making it even harder for water to drain away when it rains.

- **What council infrastructure is at risk in groundwater flooding events? (Potential follow-up: was council infrastructure damaged in the 2015 flooding?)**

Rising groundwater will lead to surface ponding in some places and more extensive flooding after heavy rain. It could also damage roads, pipes and cables, as well as the foundations of buildings, particularly if the groundwater becomes saline. The DCC has about \$320 million worth of assets exposed to sea level rise of 0.5m. The bulk of this is water infrastructure, though roading infrastructure, parks, playgrounds and other buildings and facilities are also at risk.

- **Are city/district councils obligated to plan for sea level rise? (Follow-up: why is DCC planning for sea level rise?)**

As a local authority, Dunedin City Council has a responsibility to deliver infrastructure such as water and waste services, roads and footpaths, as well as functions around planning, building control and environmental health. Delivering to the best of our ability means understanding risks, like sea level rise, and planning accordingly.

- **What responsibilities will the council need to balance in this planning process (ie keeping rates down vs protecting residents)?**

We need to consider and balance residents' quality of life and value for money over the long-term.

We have already budgeted for two major projects so that wastewater from the Kaikorai Valley area – currently piped through South Dunedin to the Tahuna treatment plant – will instead be piped to Green Island for treatment. This will lessen wastewater flooding in South Dunedin during times of heavy rain. The combined cost of these projects is \$51 million. Given the scale of the work, these improvements will take about seven years to design, plan and construct.

We have also budgeted to spend \$35 million on flood reduction within South Dunedin over the next 10 years. The Dunedin City Council, the Otago Regional Council, GNS Science and other agencies are currently investigating the interaction of stormwater and groundwater in South Dunedin. Results of these investigations will help us to develop a holistic plan for how to spend the \$35 million and improve the management of stormwater flows and high groundwater levels.

It is also very important that we take the community with us and plan for the future together. While responding to climate change and sea level rise presents some challenges, it also creates some significant opportunities such as creating a shared long-term vision for the area and urban regeneration.

- **From what council knows, is it possible to hold the line in South Dunedin forever? (Follow-up: where does managed retreat fit in? What would council need from the community and private property owners to make managed retreat a realistic option?)**

At this stage, all options for the long-term future remain on the table.

Our current focus is on near term interventions which will alleviate flooding, while developing a forward-looking programme for adapting to the medium to longer term climate-driven challenges facing South Dunedin. Along with the Otago Regional Council, GNS Science and other organisations, we are currently collecting groundwater data and other technical data to help inform what the longer-term adaptation options and pathways might be. Our goal is to work with the community, central government and others to understand what is happening, build resilience, identify all the options and opportunities, and together decide how to best adapt to further changes in South Dunedin's environment.