

Clean Water Q&As

1. How swimmable are our rivers?

New Zealand's swimming guideline is based on the levels of *E. coli* bacteria in the water. The more *E. coli* and the more frequently their numbers spike above 540 *E. coli* per 100 ml, the higher the risk you'll get sick if you swim in that river. Based on this measure and frequency, we know 72 per cent of New Zealand's rivers (more than 0.4m deep) and lakes (at least 1.5km perimeter) are suitable for swimming either more than 95 per cent of the time (excellent), 90-95 per cent of the time (good), or 80-90 per cent of the time (fair). This approach aligns closely with the way European countries and the US assess risk and suitability for swimming.

2. Why does the 72 per cent of waterways being suitable for swimming differ from previous figures saying only 40 per cent was suitable?

A claim that has often been repeated is that 60 per cent of monitored sites have water quality unsuitable for swimming (or 40 per cent suitable). This was never accurate or representative because councils focused their monitoring on higher-risk sites. To extrapolate this data out nationwide is erroneous. The new information has been acquired by using consistent data and monitoring over the whole country.

3. Why are the swimmability water quality targets and maps focused on the 54,300km of larger water bodies?

The target, maps, regulations and reporting requirements on swimming are focused on those rivers that are fourth order, which are typically more than 0.4m deep, and lakes that are greater than 1.5km in perimeter. There are three reasons for setting this minimum size:

- A river or lake needs to be sufficiently large for it to be practically swimmable.
- The total length of all streams and small lakes or ponds is approximately 450,000km and would distort the proportions away from those that are practically able to be used for swimming.
- The compliance costs of measuring and monitoring hundreds of thousands of kilometres of streams or ponds cannot be justified.

Managing the smaller tributaries will be critical to achieving targets. Therefore the fencing requirements apply to all continually flowing waterways on the plains or over 1m wide elsewhere. The wider regulatory requirements of the National Policy Statement (NPS) also apply to these smaller water bodies.

A regional council may choose to include in its plans or monitoring smaller lakes or rivers for swimming if there is a local need.

4. How will the new water quality improvements for swimmability be achieved?

Firstly, we know the exclusion of stock from waterways delivers a significant reduction in *E. coli* and improvements in water quality for swimming. This will be achieved through the new national regulations.

Secondly, the planting of riparian margins further reduces the run-off of both pathogens, sediment and nutrients. This improvement applies in both rural and urban environments. There are significant differences in the width and type of planting that work best in different environments and that is why the detail of this is better left to regions and local communities.

Thirdly, improvements in discharge treatment and reducing sewage overflows by councils, industry and farmers. There needs to be continuous improvement in systems covering wastewater and stormwater.

Fourthly, there needs to be limits on the volume of water takes and the discharge of nutrients, and this is being progressively achieved through implementation of the NPS.

5. What is the reason for the focus on *E. coli* exceedances for rivers in respect of swimmability but in lakes both *E. coli* and toxic algae?

E. coli is the most common reason water quality in rivers is unsuitable for swimming whereas for lakes the most common reason is toxic algae.

We can model toxic algae in lakes with existing data, but it is not possible to do the same for rivers. In rivers, toxic algae growth is linked to nutrient levels but the science is not good enough for any reliable and predictive models. The science is evolving and it may be possible in future to add this to the river classification.

The frequency of toxic algae in rivers is limited to short periods of time over relatively short lengths and is unlikely to change the classification of rivers or the national or regional tables.

Councils are still specifically required to address toxic algal blooms, and the amended NPS gives stronger direction on the need to limit nutrients like nitrogen or phosphorus.

The Land Air Water Aotearoa (LAWA) website also provides information on toxic algae blooms to complement the swimmability maps and, in areas where they have occurred, people should check before swimming.

6. How has the cost of the swimmability target been estimated?

We know from case studies that measures like stock exclusion and riparian planting reduce the frequency of *E. coli* exceeding swimmable water quality standards. In the Manawatu, at a cost of \$46 million, 600km has been improved from the red (poor) to the orange (intermittent) category. This works out at a cost of \$76,000/km. This new target is not just to move 10,000km out of the unswimmable category but to improve all three swimmable categories (excellent, good and fair) to 26,000km. This is how the estimates of \$880m by 2030 and \$1.16 billion by 2040 have been calculated.

7. Why has the Government changed its position on swimmability from wadeability in the 2014 NPS?

The Government position was and remains that all water bodies meeting a water quality suitable for swimming all of the time is not achievable. It did not consider the option of increasing the frequency of water being swimmable in 2014 and it did not have the data or modelling to support this approach.

The message from the submissions on the *Next Steps for Fresh Water* document published last year was that the public wanted a stronger focus on swimmability. We have worked with the Land and Water Forum and officials to find a way to require this while ensuring the targets and approach are workable.

8. What are the cost implications for farmers from these proposals? (MPI fact checking)

The immediate cost implication is the new stock exclusion rules. These are estimated to cost \$367m. Of this, \$32m will fall on dairy farmers and the remaining \$335m falls on the beef, deer and pig farmers. The lesser cost for the dairy sector is because 95 per cent of farms have already excluded stock. A significant portion (approximately \$200m) of the cost is for reticulated stock water required consequentially to fencing stock out of water ways.

9. What are the cost implications for councils and ratepayers?

The swimmability targets and tighter water quality requirements will impact on urban as well as rural New Zealand. The major impact will be in increasing the requirements on upgrading stormwater and wastewater systems, as well as ensuring new systems meet the required higher standards.

Councils currently have in their 10-year plans capital expenditure of \$7.8b for stormwater and wastewater upgrades. A portion of this will be for providing additional capacity but a significant proportion will also contribute to improving water quality. Examples including adding additional stages of treatment for wastewater, replacing older wastewater pipes that leak into natural water ways and new stormwater systems that better trap contaminants.

Councils are being required to report by March 2018 on how their contribution towards the new 90 per cent by 2040 swimmability target will be achieved. This will help identify how much will be improved by the existing programme of upgrades and what further investment will be required.

10. How do the stock exclusion regulations proposed differ from those proposed in the Next Steps consultation document?

Firstly, the date for stock exclusion requirements to be met on dairy support land has been tightened from 1 July 2025 to 1 July 2022. These are areas where dairy stock are grazed off season and are not being milked. There is also no distinction for dairy support deadlines between stock owned by the dairy farmer or third party grazing (previously the dairy support deadlines were longer for third party grazing). The dairy sector has acknowledged, having made such good progress in having

excluded stock over 95 per cent of dairy platforms, that this timetable was achievable.

The second change is to specifically regulate stock exclusion when farmers are break feeding, regardless of slope. This is the practice where stock are behind a temporary fence that is regularly moved and involves quite high stock intensity.

The third change is that dairy cattle and pigs must now be excluded from waterways more than 1m wide on the hill country. Previously restrictions would only apply to the plains and rolling hills.

The fourth change is that where landowners are unable to meet the stock exclusion requirements they can seek permission from council to instead develop a “stock exclusion plan” setting out alternative mitigations.

The fifth is that slope thresholds have also changed slightly and are now 0-3 degrees, >3-15 degrees, and >15 degrees (previously they were 0-3 degrees and 4-15 degrees – leaving ambiguity for slopes between 3 and 4 degrees).

The sixth and final change is a refinement that stock crossings used once or more per week must be bridged or culverted.

11. What sort of examples are there that a 100 per cent swimmability target is unachievable?

Some lakes, like Canterbury’s Lake Forsyth, have such high nutrient levels that toxic algal levels are often elevated making it unswimmable. Others, like Lake Papaitonga near Levin and Henley Lake in Masterton have high bird numbers almost all the time which naturally compromise water quality for swimming. Many water quality issues will take decades to resolve and the target is challenging.

12. Does the Government have support for its view that it is not possible to achieve 100 per cent swimmability?

The Government agrees with Parliamentary Commissioner for the Environment Dr Jan Wright, who said on Radio New Zealand on 12 February 2017: “So to make a decree that every single place is swimmable is not necessarily right. So where I end up is I think we need to be aspirational and practical.”

13. Are there other wider quality issues relevant to swimmability that are not covered in the new standards?

This work focuses on *E. coli*/pathogen risks and that from toxic algae. A further area is improving water clarity and reducing sedimentation. This is being recognised in the future work programme.