Manaaki Whenua
Landcare Research

LINKONLINE
Short webinars for environmental policy-makers and practitioners

Improving NZ's water quality – what is it worth?

The following questions were asked during our live webinar with Patrick Walsh, Maksym Polyakov, and Suzie Greenhalgh but due to time restrictions, we were unable to answer these in the session.

Just wondering what your impression is of people willing to pay more for clarity; and what the relative adverse effects of nutrients or e-coli are against clarity?

In the survey material, we highlighted different aspects for each indicator. With clarity, aesthetics were highlighted, so someone WTP more for that prioritizes that instead of other types of recreation.

I was interested in comments regarding 20% decrease in nutrient levels at any given council would be an amazing success. Many councils are looking at much larger reductions than this - up to 70% in N, how feasible is this in a generation?

That is a good question. There have been a number of well-intentioned policies over the last few decades and trends in nutrients have not improved. It is also important to differentiate between policies that are projected to reduce on-farm nutrient use by a certain percent with regional council average improvements in nutrients in waterbodies.

Do you think the proposed revisit of the data to check its "stability" of findings will be sufficient to change policy?

That is an excellent question. We hope that it would be a useful finding for policy makers.

A number of regional values are not significantly different to zero. Have you produced distributions of the aggregate mean values? How broad are they?

Yes, we can produce national averages of the values. That will be a good thing to incorporate into the paper draft.

Was the initial targeted rate proposed to address water quality in Auckland set at $140, but met with outrage as I recall. $70 was the limit - which to me says that Aucklanders do not value water quality that highly?

There are several Auckland Council representatives that could answer the question better than me, but I was under the impression that it was assessed as a portion of a home or business's value. Even a $70 annual for both homes and businesses generates hundreds of millions of dollars, which to me shows a fairly high value for water quality.

Thank you for the presentation, I was just wondering if you could explain a bit more about the "pretext" to the survey i.e. was it communicated that a x% reduction in E. coli would mean you could safely swim x% more at your local beach?

The outcomes are presented at the regional council level, so would not identify which beaches were definitely affected.

Is clarity primarily related to sediment though? Or does it also include green stuff… which may be improved by targeting other factors, such as nutrients…

There is likely some overlap between the indicators, as you suggest, although we highlighted the main benefit categories associated with each indicator.

What about metals limits??

Metals are drawing a lot of interest in environmental regulation, and we agree that they would be good to value. The literature on metals and valuation is very scarce, so this would be a good future research focus.

Regions and swimming (clarity) versus nutrient concern where lots of media e.g., canterbury- that seems to be a link - can you talk about that? e.g., clarity payment in Tasman compared with Southland - possibly due to less swimming in southland rivers? It's too cold!

Yes, there are some notable differences between regions that might affect our estimates. Using temperature as another control variable is a good idea to explore.

I have a notion that using the word nutrient confuses the public. It sounds so positive. Try the survey again saying cow poo and chemicals and I bet you get a different result.

When we do the next round of the survey, we will revisit the language in the focus groups.

Those regions with poor water quality seem to value improvements most; how to protect those areas with high water quality where people do not perceive/value the need to make improvement? Happy to discuss some underlying policy issues displaying this research. The problem is that people don't value enough what they take for granted.

This is a good question for policy. As water quality is a multi-dimensional issue, this would suggest targeting certain water quality indicators over others. Thank you for the input.

I have two questions: (1) Could you please let us know how you developed the bid design for the choice experiment? (2) Have you stratified your sample to make them representative for the whole of New Zealand as well as across NZ regions? Thank you.

A Bayesian efficient design was developed for the choice questions using Ngene software. The survey was done in conjunction with the Lincoln Environmental Perceptions survey, so was made to be nationally representative.

Can you give a specific example of how this work could inform policy? N=856 suggests there would have been only a handful of respondents in each region (assuming most were in Auckland). Also, how meaningful is a 1% improvement for people to provide a useful WTP value. I think we can just conclude that generally at a national level people value water quality improvement, but not inform specific policies at a site-specific level.

For a policy example, the draft paper shows how these estimates might be used to value a change in water quality resulting from a sediment policy. Since the 1% change is assessed at the regional council level, there could be individual streams and rivers that see significant positive changes. This change is more in line with most policies that are passed, so should be more relevant. It also provides insight into non-use values associated with general water quality improvements, as opposed to target improvements in local, identified rivers.

It is likely that some groups face barriers to accessing water bodies. In your survey is equality in accessibility assumed in the questions? i.e., are the results just for water quality being improved, rather than water being both of higher quality and accessible?

Accessibility is an important issue that was unfortunately outside of the scope of the survey.

The willingness to pay seems to be strongly correlated with the existence of an issue. Waikato has a long history of poor water quality from dairying, that people can see - so they value clarity highest. Canterbury has a recent increase in dairy, with increasing nitrate issues, and they value that higher. Have you looked at that in your analysis?

In the paper, we present our results in more detail, which will help to answer this question. We present our coefficient results there that show interaction terms with baseline water quality. You point to an interesting issue, that the media and historical attention on water quality might affect people's values. We will look for an indicator of this to use in future analysis.

Did you only look at current water quality, rather than the recent (last 50 year) history of water quality concerns? The recent history would seem to be most important.

For our baseline water quality indicator, we used current water quality. We had also interacted a trend indicator (i.e. flat, negative, or positive) and it was not significant in the regressions. However, this is an issues worthy of future research.

An earlier question mentions metals. These are really important for urban rivers. It'd be great to see these included in a future study.

Thank you for the input We agree that this should be a focus of future work and will push for it.

I think it is important to use a term other than 'nutrients' when dealing with the public because they think 'more nutrients' are a positive thing.

In our next survey iteration, we will explore alternatives in the focus groups.

Is the "existence value" significant when compared to the value we are seeing here?

Since the results are presented at the regional level, there is likely a decent amount of existence value present. However, we excluded values outside of a person's region, so as you note, this is likely an underestimate of total value.