Update on water quality of the Opuha catchment

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Outline

• Latest monitoring data of upper Opuha catchment

• Lake water quality

• Long term trends – nutrients, E. coli, invertebrates
Contact recreation - summertime monitoring

2 sites on Lake Opuha
Suitability for Recreation Grade (based on E. coli – rolling 5 year)
High E. coli in Ribbonwood Ck
Lake Opuha trophic status

Trophic level index (TLI)
- Nitrogen
- Phosphorus
- Chlorophyll a (phytoplankton)

More nutrients = higher cell densities
Annual average TLI

Mesotrophic status – moderately enriched
Overall trophic status not changing …. But N and P might be increasing
Inflow nutrient concentrations

4 sites sampled monthly since Jul 2015
Nitrate nitrogen

Nitrate + Nitrite nitrogen

- South Opuna R at Clayton Rd
- North Opuna R at Clayton Settlement Rd bg
- Station Stn at Clayton Rd
- Ribbonwood Ck at Clayton Rd
Opuha River

!!Long-term upwards trend

Opuha R - *N enrichment* - annual median DIN

DIN (mg/L)

- Highly enriched
- Moderately enriched
- Unenriched
- Annual median

Opuha River – dissolved P

No long-term trend found
• Despite only moderate nutrient enrichment – high periphyton biomass

Opuha River
• Cyanobacteria and didymo issues
Stream health – Invertebrate communities

QMCI – Quantitative Macro-invertebrate Community Index

High QMCI .......................................................... Low QMCI

Sensitive to changes in water and habitat quality

Tolerant of degraded water and habitat quality

Healthy

Unhealthy
QMCI scores

Invertebrates
QMCI - '5y average' | '2015/16'

- Very good
- Good
- Fair
- Poor
- Dry