

King and Yolande Sustainability Review

Outcomes and commitments Water quality and river health

Sustainability reviews provide Hydro Tasmania with the opportunity to evaluate the impacts of our hydropower operations in the catchments we operate in. Based on the information review and community consultation we undertook baseline monitoring on water quality and river health, and a specific study on metal loads to Lake Burbury. The outcomes and commitments regarding water quality and river health within the King and Yolande catchments are presented below.

Water quality

Water quality was rated as the second highest concern in the community consultation survey. Two respondents commented on pollution in the King River from mine discharge to the Queen River. Concerns regarding legacy (historic) mine discharge via Linda Creek to Lake Burbury were also raised in the information review.

Water quality and river health information is important to collect for the lakes and rivers we manage. This information allows us to measure any substantial change in water quality over time and better understand our waterways.

Lake water quality

Information on water quality in lakes Margaret and Burbury is captured on a rotational basis in line with our Lake Monitoring Strategy. Water quality data was last recorded for these lakes in 2012.

Monitoring aim

During the Sustainability Review process, we commenced a West Coast Lakes Baseline Water Quality Monitoring Program in 2019 - 2020.

The program involved monitoring of Lake Burbury at five sites (Crotty Dam, Comstock Creek, Linda Creek, Bradshaws Bridge and Eldon River) and one site at Lake Margaret.

These sites were monitored in September and November 2019, and January 2020. March and May sampling did not go ahead due to impacts of COVID-19.

Measurements of nutrients, metals and aspects necessary to support aquatic life such as dissolved oxygen, were taken at the surface and various depths to collect information on water quality across the lakes.



Water quality management: Lake Burbury (source: M.Wapstra)

Outcome

Water quality at both lakes Burbury and Margaret has remained consistent over time. Recent data fit within historic ranges and expectations for both sites.

Lake waters were clear, with high amounts of oxygen, low nutrients and slightly acidic pH. Recent metals data also indicates that copper and zinc continue to be below the local triggers adopted for the maintenance of a recreational fishery.

Commitment

We are committed to the establishment, strengthening and maintenance of stakeholder relationships to better understand and assist in mitigating, where possible, any potential water quality issues.

We will maintain ongoing water quality monitoring in West Coast lakes in line with our rotational Lake Monitoring Strategy and will review our lake monitoring needs (with a focus on metals) in response to any major changes in industry within these catchments.

Metal loads to Lake Burbury

As part of the Sustainability Review, we completed a specific study to investigate how metals in runoff from legacy mining activities contribute to metal concentrations in Lake Burbury, how they have changed over time, and what threat, if any, they pose to lake health and the recreational fishery.

Study aim

Event-based monitoring (where water quality is assessed under a range of flow conditions) was undertaken to determine the load (the amount), and distribution of metals entering Lake Burbury from mine runoff in Idaho and Linda creeks.

Outcome

A stream flow monitoring site was temporarily reinstated on Idaho Creek above Linda Creek. Flow and electrical conductivity was monitored continuously and metal concentrations were monitored during higher flow to estimate current metal loads to Lake Burbury. Monitoring was undertaken from spring 2020 to autumn 2021 in order to capture a range of seasonal flows.

The results of the study indicate that whilst these creeks continue to deliver metals (mainly copper and zinc) from the Mt Lyell mine site into Lake Burbury, concentrations have decreased significantly over time. Lake monitoring has also shown that metal concentrations within the lake typically remain below the local recreational fishery limit. Therefore, risks associated with current mine discharge to the lake from Idaho and Linda creeks appears to be low.

Commitment

We will maintain ongoing water quality monitoring in Lake Burbury in line with our rotational Lake Monitoring Strategy and will review other monitoring needs in response to any major changes in industry within the catchment (e.g. recommencement of mine operation).



Metal loads study: Idaho Creek monitoring site

River health

Similar to our Rotational Lakes Monitoring Program, we also routinely monitor the health of our rivers as part of our River Baseline Monitoring Program. The program assesses bugs that live in the river, which provide a good indication of river health and water quality. River health monitoring for the West Coast sites was previously undertaken between the late 1990s and 2012.



River health assessment: King River

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River health assessment: Yolande River

Monitoring aim

As part of the Sustainability Review, river health was monitored at West Coast sites to assess the status of and trends in river health.

Outcome

Sites were monitored seasonally in spring and autumn and included: the Eldon River upstream of Lake Burbury, King River downstream of John Butters Power Station, and the Yolande River upstream of the Zeehan Highway.

The King River site was impaired, meaning the bug communities found were not what would be expected in a very healthy environment, but this finding was consistent with previous records. The Eldon River and Yolande River sites were found to be consistently in near natural (healthy) condition. Results from the 2019-20 program were consistent with historic records and trends in river health across our West Coast catchments.

Commitment

We commit to continuing to implement our rotational river monitoring program in West Coast catchments. Where results are outside of the expected range and cannot be readily accounted for by climate and hydropower operations, further investigation will be typically undertaken to identify reasons for change and appropriate management actions to be taken.



River health assessment: Eldon River

Contact us

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