

DROUGHT FORCES LOW LAKE LEVEL MANAGEMENT FOR GREAT LAKE

Severe and protracted drought conditions have forced Hydro Tasmania to make unprecedented operational decisions in order to meet electricity demand. To manage the implications of such decisions, Hydro Tasmania has set social and environmental risk bands for Great Lake, in Tasmania's Central Highlands. Great Lake is one of the most important hydro storages.

The risk bands have been written into storage operating rules and approval from top level management within Hydro Tasmania must be given before the lake can be drawn down into the medium and high level risk bands.

As a lake approaches the medium risk band, a low lake level monitoring program is implemented, which focuses on the key environmental risk factors for Great Lake. Regular reporting of information helps aquatic and operational managers decide on management actions that will minimise environmental and social impacts. This includes alerting the public to risks associated with recreational activities when lakes are at low water levels.

For the high risk band, trigger levels for aquatic parameters such as water quality and algal habitat have been set to ensure that the ecological balance of the lake is monitored.

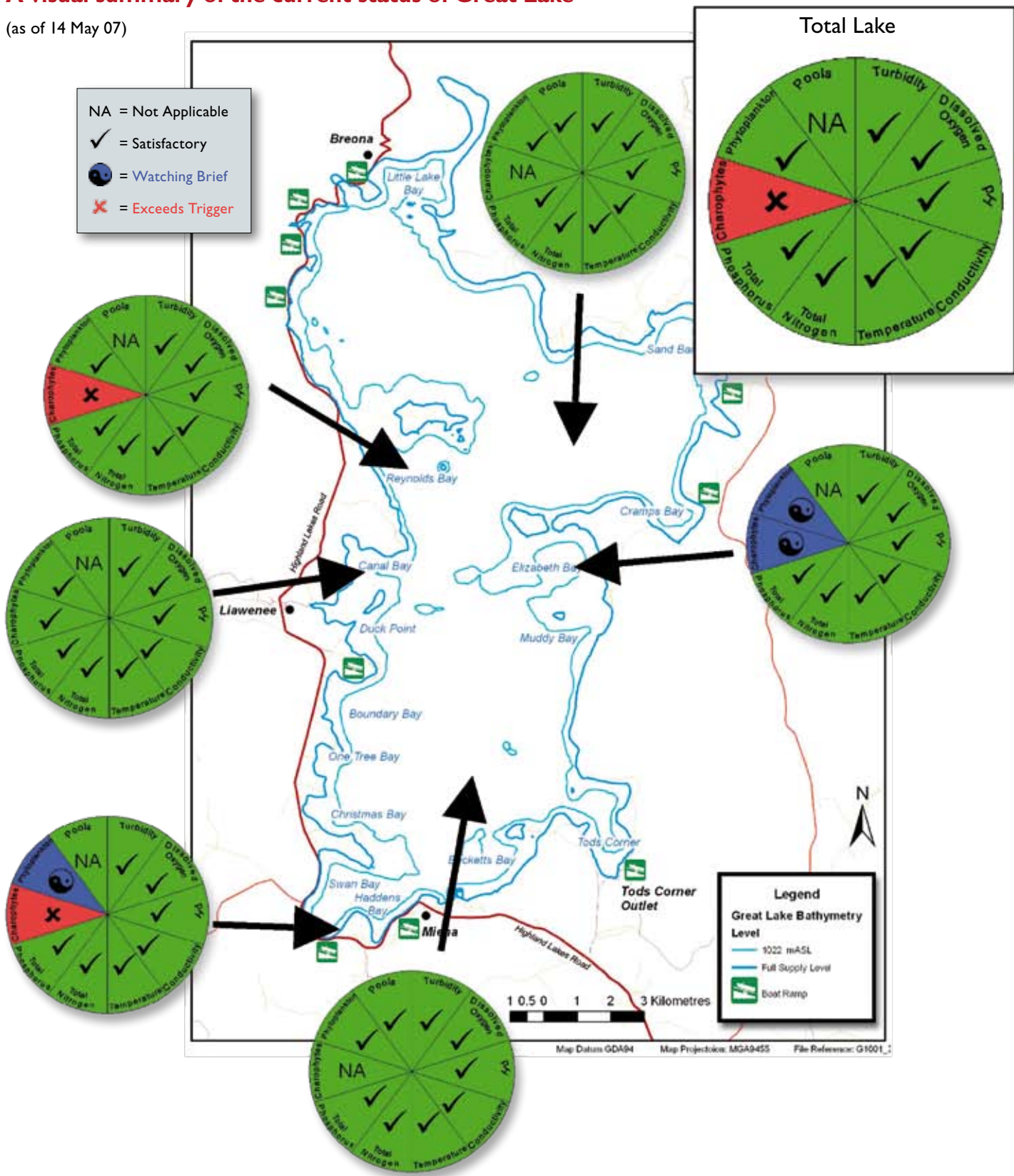
Key stakeholders, including the Inland Fisheries Service and Marine and Safety Tasmania, are kept informed when lakes enter the medium and high level risk bands, receiving regular communications on lake level status.

Trigger values for Great Lake

| Component | Trigger | Management Risk for Ecological Impacts |
|-----------------------------|--|--|
| Turbidity | Values consistently >13 NTU | High turbidity Potential for change in state |
| Algae (charophytes) | 15% of maximum mapped distribution of charophyte beds remaining | Loss of habitat for threatened species |
| Silt Coverage (charophytes) | Significant increase in amount of charophytes covered by a high sediment layer or evidence of large areas of dieback due to smothering | Smothering of charophytes |
| Nutrients (TP/TN) | >0.35 mg TN/L >0.01 mg TP/L | High nutrient (TP/TN) levels Potential for change in state |
| Phytoplankton | Presence of toxic cyanobacteria or algal blooms No specified requirements for downstream users | Algal blooms in pools and main lake Impacts on recreational use Potential for change in state |
| Dissolved Oxygen (DO) | <90 (% saturation) | Low DO levels/anoxic conditions leading to fish kills (loss of threatened species) |
| Fish | Presence of threatened fish species in isolated pools | Decrease in abundance and diversity of threatened fish species in pools and/or main lake |
| Macroinvertebrates | Presence of threatened macro-invertebrate species in isolated pools | Decrease in abundance and diversity of threatened macro-invertebrate species in pools and/or main lake |
| Pool Formation | Formation of isolated pools due to low lake levels | Stranding of fish and threatened aquatic species |

A visual summary of the current status of Great Lake

(as of 14 May 07)



For additional information on low lake levels or Great Lake environmental management, please contact:

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