

Development of the stream rehabilitation guidelines for Queensland

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Key Points

- A system or method for the identification of best practice management interventions for stream rehabilitation in Queensland.
- Gain an understanding of best practice rehabilitation principles
- Assess the necessity for intervention or monitoring
- Guide users to appropriate sources of information to further assess rehabilitation options based on their location within Queensland

Abstract

The *Queensland Department of Natural Resources, Mines and Energy* is undertaking the production of the *streambank, in-channel (instream) and riparian rehabilitation guidelines for Queensland* (the Guidelines). The Guidelines, to be delivered in mid-2018, will provide users with a framework to understand the latest best practice rehabilitation principles; to evaluate intervention or monitoring approaches; and guide users to the appropriate sources of information to assess rehabilitation options based on their location within Queensland. The principles of streambank, riparian and in-channel rehabilitation and restoration, including stream classification, restoration objectives, management techniques, best management practice and demonstrable outcomes, and operational case studies are the foundation of the Guidelines. Regionally appropriate rehabilitation approaches will be identified to inform improved management practices relevant to the local context.

An extensive engagement program with a broad stakeholder group is key to the ultimate successful adoption of the guidelines. More specifically, a detailed engagement program with Natural Resource Management organisations, River Improvement Trusts and local government across Queensland is integral to this project. Stakeholder collaboration and consultation is to be used to evaluate and incorporate the hands-on practical knowledge, proven techniques, local context and experience that natural resource managers across Queensland can provide.

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Keywords

Streambank, In-channel, Riparian, Rehabilitation, Geomorphology, Vegetation, Stakeholder engagement, Guidelines

Introduction

The *Queensland Department of Natural Resources, Mines and Energy* is undertaking the production of the *streambank, in-channel (instream) and riparian rehabilitation guidelines for Queensland* (the Guidelines). The Guidelines are to provide waterway managers with an understanding of waterway processes, form and function, and assist them in the identification of the most appropriate rehabilitation technique or management strategy within the waterway and climatic context. The focus is to be on the riverine and climatic conditions experienced in watercourses, wetlands and riparian zones of Queensland.

The work will consist of the development of a framework that can be applied to identify the most appropriate rehabilitation techniques to use in common situations including landscape rehabilitation and recovery from flood or tropical cyclone events across Queensland. They will act as the overarching framework against which regional and local approaches to rehabilitation can be nested.

- Gain an understanding of best practice rehabilitation principals;
- Assess the necessity for intervention or monitoring; and
- Guide users to appropriate sources of information to further assess rehabilitation options based on their location within Queensland.

The content within the platform will be searchable and cross referenced making it possible to create an accessible framework for intervention. This gives the user the ability to make a basic assessment of issues and determine:

- when or if intervention is required;
- what rehabilitation techniques would be required in that location; and
- where to find further technical information.

Stakeholder Engagement

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Stakeholder collaboration and consultation is to be used to evaluate and incorporate the hands-on practical knowledge, proven techniques, local context and experience that natural resource managers across Queensland can provide. The stakeholder input has been highly valued and influential in shaping the guidelines and identifying the local applications and region needs.

The Guidelines

The guidelines are targeted technical managers across Queensland to aid in the rehabilitation of waterways using best practice management techniques. The guidelines have been written to encourage the user to consider the broader implications of management actions and the necessity for intervention. These guidelines have been produced to form a link between the assessment of waterways and intervention actions (Figure 1).

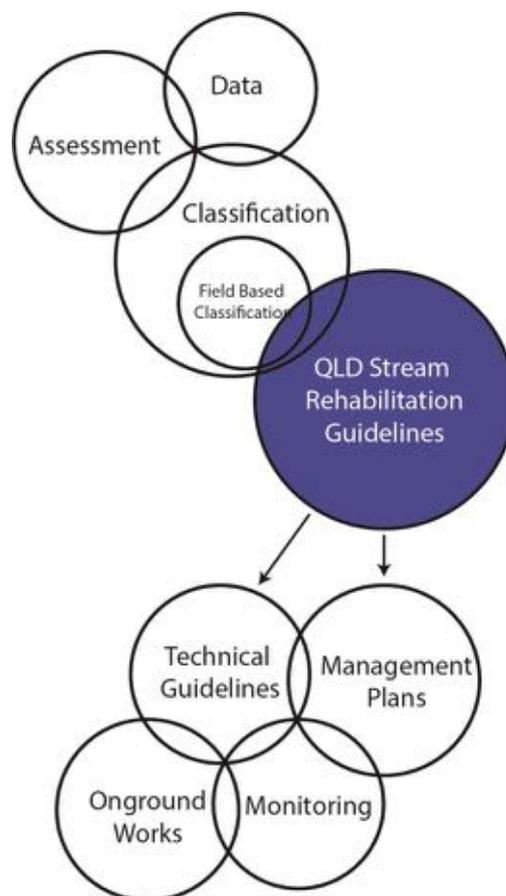


Figure 1: QLD Stream Rehabilitation Guideline Concept Diagram

The guidelines are designed to aid the user to answer the following questions:

- Is intervention necessary?

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- If so, what are the best actions to meet the rehabilitation objective?
- Which actions provide the most benefit (and least impact) to stream health?

The guidelines will be customisable based on user selections within the QLD STREAM REHAB website. The user will input their location, activity, objectives and potential actions and a guideline will be created that addresses their specific needs. The guideline will encourage the user to consider the broader implications of intervention with regard to their specific activity or objective.

Acknowledgments

Thank you to the Natural Resource Management organisations, River Improvement Trusts and Local Governments that we engaged with during the Guideline development process. The time, assistance and feedback has been invaluable for this project.