Let's be SMART about objectives

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Key points

- SMART objectives improve effectiveness of rehabilitation projects by providing clear, measurable goals for evaluation.
- Many project objectives fail to meet SMART principles, making it difficult to evaluate success or show progress towards long-term goals.
- A simple step-by-step process to create SMART objectives is provided to improve this important step in project planning.

Abstract

Tens of millions of dollars each year are invested in river, streambank and wetland rehabilitation activities in Queensland. As part of the Aquatic Ecosystem Rehabilitation Process (AERP), setting clear objectives is a necessary step to achieve program goals, provide criteria for evaluation and support adaptive management. They are critical as part of the AERP which is designed to consider a rehabilitation project within a whole-of-system, values-based framework. The SMART (Specific, Measurable, Achievable, Relevant, Time-bound) principles approach has been adopted to guide objective setting in the AERP.

Historically rehabilitation projects were undertaken without defined objectives of what success looks like. Previous published studies have found projects either lack objectives altogether, or objectives are not able to be used for evaluation due to lack of specific, measurable outcomes. Our own assessment of a funding program in Queensland found that 37 projects contained 172 objectives, yet only one met SMART principles. The lack of SMART objectives limits project evaluation. We cannot determine the return on rehabilitation investments.

To guide AERP users in writing SMART objectives we have adapted a template which constructs objectives by sequentially answering questions: What is being managed? How will it change? How is it measured? What is the timeframe for achievement? What is the target for change? A library of SMART objective examples has also been produced. The process can inform rehabilitation actions by establishing links with program funding goals and allow effective evaluation and adaptive management within the AERP and other rehabilitation frameworks.

Keywords

SMART objectives, monitoring and evaluation, Aquatic Ecosystem Rehabilitation Process (AERP)

Introduction

Each year tens of millions of dollars are invested in river, streambank and wetland rehabilitation activities in Queensland. The Aquatic Ecosystem Rehabilitation Process (DETSI 2021) provides a consistent approach to project planning in aquatic systems. An essential step of the rehabilitation planning process is to define the system needs and objectives. Experience is showing that clear, effective goals or objectives are not commonly defined in rehabilitation or management projects (Park et al. 2013, Jones and Kirk 2018, Freestone et al. 2026). This is limiting the potential for evaluation of investment outcomes and hampering adaptive management. This project has aimed to provide clear, simple guidance to constructing effective objectives for aquatic ecosystem rehabilitation and

management. This guidance will be incorporated into the AERP to drive uptake and improve application of the rehabilitation process.

SMART objectives

Measurable objectives provide clear evaluation criteria to assess the success of project investments. Objectives can also guide the design of project activities to achieve outcomes relevant to funding goals. Objectives can establish clear links between a project's activities, the desired short-term outcomes (within project time frames) and how these contribute to longer-term outcomes (expected beyond project timeframes). SMART principles provide a framework to construct effective objectives (Aldridge and Colvin 2024). SMART objectives are:

- Specific – clearly defining what is being managed by the project and how it is expected to change with intervention.
- Measurable – there is a clearly defined measurement unit relevant to what is being managed to assess change from intervention.
- Achievable – the target endpoint is defined with consideration of limitations of the project, both internal and external.
- Relevant – what is being managed at short timeframes is relevant to achieving longer-term goals. There are known or expected causal links between actions, outcomes and desired change.
- Time-bound – there is a defined timeframe for desired change and evaluation.

Assessing project objectives against SMART principles

Many rehabilitation projects have objectives that are ambiguous and do not provide criteria against which projects can be evaluated for success. This is limiting the potential for learning and adaptive management to improve outcomes of current and future projects. For example, Jones and Kirk (2018) assessed 89 New Zealand Landcare project proposals and found only 53% (47) had clear statements of one or more project outcomes. 7 of these proposals had outcome statements meeting 4 of the SMART principles, these 7 were Specific, Measurable and Relevant, and of these 6 were also Achievable and one Time-bound. The authors highlight that without clear and measurable outcome statements, empirical evaluation of project effectiveness is impossible. Of those applications without a clear outcome statement, the section of the proposal tended to focus on statements of project activities, outputs, methods and project justifications. Project outputs are not appropriate indicators of project success without clear causative links to desired outcomes.

Freestone et al. (2026) attempted to review the outcomes of 64 revegetation projects in the Canning River catchment, WA, to see if ecological objectives were met, and how monitoring data could be improved. The assessment was hampered by a lack of effective monitoring data. 25% of projects did not report any monitoring data and of those 75% of projects with data, none could be used to quantitatively assess ecological outcomes. The study showed that without specifically including evaluation of ecological outcomes as a goal of project monitoring during design, it is not likely to be able to be evaluated in the future. The authors recommended that SMART objectives be adopted in project planning as a foundational step to quantitative monitoring and project evaluation for ecological outcomes.

Adding to this record of program evaluation we reviewed project management plans for 37 funded projects across south-east Queensland. The management plans required input of project objectives, although no guidance was provided for how to construct these objectives. Taking the objectives as presented in the plans there were 172 objectives across the 37 projects. We assessed the project objectives against SMART principles to understand how effective these objectives will be to evaluate project outcomes. Assessment criteria included Specific objectives requires specific definition of what was being managed and how it was expected to change, the use of action words indicated an activity and were not assessed as specific. Measurable objectives required a specific unit of measure to be

defined relevant to what is being managed. An objective was only assessed for being Measurable if it was Specific. All objectives were considered time-bound by the contract timelines of 2 years. Achievable and Relevant principles were not assessed as these require more information than available in the project management plans.

Comparing the 172 identified objectives to SMART principles, 33 objectives (19%) were assessed as being Specific, these clearly defined what was being managed and the desired change. Of these 33, 5 objectives (3%) were assessed as Measurable, these provided a specific measure relevant to the target of management. 3 objectives provided a specific target to be achieved, but notably only 1 of these was also assessed as Specific and Measurable. From this assessment, 5 of 172 objectives (3%) would be able to be evaluated for change, and 1 would be assessable against a target.

There were some common ways that the objectives provided in project management plans did not match SMART principles. 107 objectives were focussed on activity statements of what would be done under the project ranging from on-ground activities, planning, prioritisation or engagement and education activities. These were not assessed as Specific as the desired outcome of management was not identified. 48 objectives did focus on desired project outcomes, stating the site or ecosystem attribute, ecosystem or stakeholder value or other benefit to be achieved through the project, though many were not specific or did not identify how this was desired to change. Many projects were not deemed Measurable as a specific unit of measure was not defined or was not relevant to the stated target for management. For example, 12 projects included an objective to "increase landholder education and awareness" or similar, however only 1 of these were assessed as measurable, stating a measure of landholder self-evaluation through survey of level of education. All other objectives regarding landholder education and awareness stated measures of behavioural change, project acceptance or participation, or attendance at education events. In these cases, the actual goal would to be an increase in landholder participation in rehabilitation projects or behavioural change in management actions. The education of landholders should be considered an activity being implemented to achieve this outcome.

A template for SMART objectives

Multiple assessments of real-world project objectives have shown many are lacking relevance, clear links to desired outcomes and measurability. Clear, simple guidance on how to construct effective objectives is needed (Park et al. 2013). Such guidance will improve effectiveness of this important project planning step and ensure objectives are effective to inform project activities while demonstrating logical links to long-term outcomes. Effective objectives will also form the basis of quantitative project evaluation and adaptive management. To provide this guidance we adapted a published SMART objective template (Aldridge and Colvin 2024). The template provides a step-by-step process to constructing SMART objectives. We have also developed an Objectives Library providing examples to address common management goals for waterway and streambank rehabilitation projects. These examples can be adopted and modified for specific project goals by project proponents.

The SMART objectives template adapted from Aldridge and Colvin (2024) provides a structured step-by-step process for developing objectives. The steps needed to create components of the objective are listed here and Table 1 shows how these are combined.

*Step 1: What is being managed and where? (**S**MA**R**T: Specific/Relevant)*

Define what is being managed. Avoid ambiguity by being as specific as possible. It is also important to define where the management intervention is occurring to ensure measures of change are accurate and reflect the impact of management efforts. What is being managed can include site attributes, ecological processes, ecosystem services, or how people interact with the system. To ensure a Relevant objective, the target for management must relate to program level goals, or have logical links to long-term desired outcomes.

*Step 2: What is the unit of measurement? (S**M**ART: Measurable)*

Change needs to be quantifiable. At this step, define a relevant unit of measurement to assess and track the desired change. For quantitative change, specific units of measurement should be defined. For qualitative change a unitless scale may be derived to communicate change, such as a survey response scale.

*Step 3: What is the direction of change? (**S**MART: Specific)*

This step defines the direction of change desired in what is being managed and measured following intervention. This is written as a change to (e.g. increase, decrease) or maintenance of the measure. A specific desired change should be defined. Terms like 'improve' are ambiguous and should be avoided. The use of an 'action' word here (e.g. construct, implement, investigate, develop) would result in the objective listing an activity or deliverable, rather than focusing on the desired outcome.

*Step 4: What is the timeframe for achievement? (SMAR**T**: Time-bound)*

This is the timeframe within which the objective is expected to be achieved and progress will be assessed. This can be written as an end date (e.g. June 2030) or a period with a starting reference date or initiation (e.g. three years from contract signing). The timeframe may be specified in a management or project plan or linked to a contract end-date, so it need not be repeated in every objective.

*Step 5: What is the target? (SM**A**RT: Achievable)*

At this step define the desired quantitative or qualitative change or endpoint of the measure. Ideally this will refer to the current state to determine the degree of change required. Careful consideration needs to be given to ensure the target is achievable within the constraints of the project, such as available resources (funding, time, people, skills, land access, materials etc), stakeholder involvement, jurisdiction and permitting.

Table 1 Template for SMART Objectives. By following the steps as presented, users can construct effective SMART project objectives

Step #	3	1	2	5	4
Component or Question	What is the direction of change?	What is being managed and where?	What is the measurement unit?	What is the target?	What is the timeframe for achievement?
Example 1: Steps	Increase	Canopy cover of native vegetation at project site	% cover of native vegetation >5m	70% native vegetation cover from baseline of 25%	5 years from July 2026
Example 1: Objective	Increase canopy cover of native vegetation (% cover >5m) at project site to 70% within 5 years from 25% at July 2026.				
Example 2: Steps	Reduce	Rate of streambank erosion at Fish Creek	Tonnes/year	no greater than 1 tonne per year	within 5 years from 2026
Example 2: Objective	Reduce rate of streambank erosion at Fish Creek (tonnes/year) to <1 within 5 years (2026-2031).				

Choosing the right objectives

The approach to writing SMART objectives can be applied at a number of management levels. Although program vision or long-term goals are often qualitative, short-term goals, and project activities should

be written with SMART principles in mind. To ensure goals and activities are relevant, a critical principle of SMART objectives, they must relate to the higher management level, working towards achieving the vision or long-term goal. Establishing the causal links and assumptions between long-, medium-, and short-term goals ensure relevance of project activities and outcomes. Explicitly defining causal links means that objectives inform effective project monitoring and evaluation. Monitoring can be targeted to attributes and processes expected to change from project activities, and evaluation of short-long-term outcomes is possible against the expected trajectory of change over each timeframe.

The links can be defined using a 'Theory of Change', which explicitly outlines the steps, causal links, assumptions and activities required for a program vision or long-term goal to be achieved (Table 2). As multiple goals may be nested under medium- or long-term goals, multiple activities may be carried out to achieve short-term goals. This process could also be applied to understand the multiple benefits that rehabilitation actions may provide, in addition to the planned objectives. The Theory of Change should be recorded and accessible, for example in a project management or monitoring plan, to enable future evaluation of project effectiveness. Over time this will also build evidence of how appropriate interventions are for different purposes.

Table 2. Example of Theory of Change for a project showing logical steps of causal links and assumptions from long-term goal, through medium- and short-term goals to project activities.

Vision or Long-term goal	Imaginary River is a healthy aquatic ecosystem with a diversity of native fish.		
Causal links	Impaired ecosystem health indicators include: • High algal load and large extremes of dissolved oxygen. • High temperatures. • Homogenous benthic habitat from sand deposition. • Low diversity and abundance of macroinvertebrates. • Low diversity and abundance of native fish.		
Medium-term goals	Reduce algal biomass. Decrease range of dissolved oxygen values through moderating extremes. Increase benthic habitat heterogeneity. Increase native fish diversity and abundance.		
Causal links	Current low riparian shading provides light for algae and heats water. High algal biomass is producing dissolved oxygen extremes. Benthic habitat lacks hard surfaces and depth diversity. This limits the range of suitable habitat for macroinvertebrates and fish.		
Short-term SMART goals	Increase shading canopy cover to >70% in 5 years. Increase hard surface benthic habitat to 20% of channel bed. Increase refuge water depth by 50cm.		
SMART Activities	Revegetate 1km of riparian area to 20m width. Install fencing to manage stock access. Manage vine weeds to reduce competition to tree species.	Install habitat structures – artificial log jam or rock riffle – every 20m in channel.	Install at least 2 artificial log jams designed to form terminal scour pools.
Assumptions	Increased shading through canopy cover will reduce algal biomass, leading to improved dissolved oxygen conditions. 1km length of increased riparian shading is sufficient to reduce water temperature at average flow rate.	Habitat is a limiting factor on macroinvertebrate and native fish population. Source populations exist for macroinvertebrate and fish colonisation.	Terminal scour will provide sufficient depth for refuge despite sustained sediment movement into reach.

Conclusion

The guidance provided by the SMART objectives template, and an Objectives Library of example objectives that can be adapted for project use, will improve setting effective objectives across river, streambank and wetland rehabilitation projects that can more effectively be used for project evaluation and adaptive management. In the Aquatic Ecosystem Rehabilitation Process, setting objectives is an important step and foundational to project evaluation and adaptive management. Integrating guidance for developing SMART objectives with the process will improve its application and outcomes.

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References

Aldridge, C.A. and Colvin, M.E. (2024). Writing SMART objectives for natural resource and environmental management. *Ecological Solutions and Evidence* 5(1):e12313. https://doi.org/10.1002/2688-8319.12313

Department of the Environment, Tourism, Science and Innovation (DETSI), Queensland (2021) Aquatic Ecosystem Rehabilitation Process, Wetland*Info* website, accessed 25 May 2026. Available at: https://wetlandinfo.detsi.qld.gov.au/wetlands/management/rehabilitation/rehab-process/

Freestone, F.L., Canham, C.A., Setterfield, S.A., Tayer, T.C., Beesley, L.S. and Douglas, M.M. (2026) How can we improve if we don't measure? Evaluation of riparian revegetation projects prevented by lack of monitoring data. *Ecological Management and Restoration* 27:e70034. https://doi.org/10.1111/emr.70034

Jones, C. and Kirk, N. (2018) Shared visions: can community conservation projects' outcomes inform on their likely contributions to national biodiversity goals? New Zealand Journal of Ecology 42(2):116-124. https://doi.org/10.20417/nzjecol.42.14

Park, G., Roberts, A., Alexander, J., McNamara, L, and Pannell, D. (2013) The quality of resource condition targets in regional natural resource management in Australia. *Australasian Journal of Environmental Management* 20(4): 285-301. https://doi.org/10.1080/14486563.2013.764591