



Contact

Sustainable Hydropower Website
C/- Hydro Tasmania
4 Elizabeth St
Hobart TAS 7000
AUSTRALIA

sustainable.hydropower@hydro.com.au

Environmental assessment & monitoring

Environmental assessments are conducted in advance of development to identify the likely effects of a project and should be based on factual information with the environmental data collected being used for subsequent baseline monitoring once a scheme is operational

Issue

Numerous environmental risks need to be considered as early as possible in the consideration of alternative hydropower development options. In the absence of a sound environmental assessment, issues that could have been avoided or minimised can become problematic in the long term – issues related to key ecosystem components such as water quality, biodiversity, passage of aquatic species, pest species, erosion and sedimentation, alongside and almost invariably interlinked with many social issues.

In some parts of the world, environmental assessments are requirement of the development process; however this is not the case in all parts of the world, and regulatory frameworks vary considerably across the nations. Quality of environmental assessments is also a key issue – if not based on sound science and a strong research and monitoring program, they will not be credible nor achieve their intentions.

Monitoring is essential to determine the extent of scheme alteration of the natural environment, and the causative and compounding factors of any problem areas. An inadequate monitoring program does not allow assessment of effectiveness of mitigation measures, which greatly limits the ability of the hydropower industry to learn from collective experience. Monitoring may be done for compliance reasons, but unless the data are regularly evaluated by appropriately qualified personnel it may not be adequately informing management.

Management

Environmental assessments, also known as environmental impact assessments or environmental impact statements, are essential to predict and understand ecosystem impacts of a hydropower development. Environmental assessments need to identify likely or potential positive and negative effects of a project, in order to inform project

siting and design, and to develop suitable management and mitigation measures at as early a stage as possible. Environmental assessments should be relevant to the scale and nature of the project in question. Guidelines for the assessment should be developed in conjunction with regulatory authorities and community expectations. Environmental assessments should include evaluation of project alternatives, including the consequences of not undertaking the project. The environmental assessment should be open to public review and consultation.

Assessments should be based on good science and factual information, and data collected should be part of a pre-development monitoring program against which environmental effects can be measured once the scheme is operational. The effectiveness of management and mitigation measures should be monitored, and if necessary these measures should be adapted if data shows they are not to be meeting their objectives.