



MOUNT LYELL REMEDIATION

**The rehabilitation of
derelict mining
infrastructure along
the Strahan foreshore,
Western Tasmania**

**John Johnston, Stuart Newman
& Stewart Needham**

**Mount Lyell Remediation
Research and
Demonstration Program**



a Tasmanian and Commonwealth Government initiative

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Department of Environment
and Land Management



supervising scientist

This report describes research that is part of the Mt Lyell Remediation Research and Demonstration Program, a joint program between the Supervising Scientist and the Department of Environment and Land Management, Tasmania.

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Executive summary

A century of mining by the Mount Lyell Mining and Railway Company Limited (MLMRCL) at Queenstown has resulted in significant environmental impact around the town of Strahan on Macquarie Harbour. The effects range from the riverine disposal of tailings and slag, which has resulted in a 250 ha delta at the mouth of the King River in Macquarie Harbour, to the development of now derelict railway and port infrastructure on the harbour foreshore. Construction of MLMRCL facilities at Strahan resulted in significant land alteration, and has left a historical legacy, with many artefacts from the mining operations. The Mount Lyell Remediation, Research and Demonstration Program (MLRRDP) was designed to identify items of heritage value, carry out remediation works in key areas to rehabilitate areas associated with the mine operation, and generally clean up the area of derelict valueless material.

The community of Strahan, together with government agencies and businesses, was consulted over priorities for environmental clean-up of the harbour foreshore. The community emphasised the importance of maintaining and documenting the unique cultural heritage of the area.

The agreed work program included:

- an archaeological survey of the foreshore, to classify points of historic and cultural value;
- the rebuilding of the seawall at Memorial Park in order to halt the erosion of the area;
- the extension of the historic foreshore walkway, with removal and recycling of scrap metal from railway infrastructure; and
- the rehabilitation of the area around Pyrite Wharf, with pyritic (acid forming) material and refuse removed, the drainage channel strengthened and the remaining structures made safe.

The rehabilitation of Regatta Point Wharf was also highlighted by the community as a priority. However, the financial requirements and resources demanded by this project proved to be beyond the scope of the MLRRDP.

The archaeological survey detailed cultural heritage values and made recommendations for management, preservation and, where relevant, removal of features. An interpretative brochure was also produced in order to provide information on the many heritage items along the foreshore walkway.

As part of the strategy to maximise the benefits to the local community, some of the projects were carried out by a labour force recruited under the New Work Opportunities (NWO) scheme through the Department of Social Security. The NWO group was supervised by the West Coast Development Board and funded by the MLRRDP. Local contractors were also engaged by the project.

Fifty-five metres of stone wall and walkway were constructed at Memorial Park to rehabilitate erosion of the foreshore in this area. The historic walkway between Regatta Point and Pyrite Wharf was resurfaced and rehabilitated. Two tonnes of metal from the former railway formation was collected from the foreshore and recycled. The 2.5 ha derelict Pyrite Wharf area was rehabilitated. This involved management of polluting pyrite concentrates still on the site, removal of derelict structures and materials, contouring and spreading of topsoils

and reseeded of the site with native species. The central creek was realigned and barriered with rock to prevent erosion.

Key results of the project include interpretation of cultural heritage and an improvement in stability, safety and aesthetic value of the foreshore region. The employment opportunities provided short-term social benefits with the potential for the NWO group's participants to gain longer term employment based on the skills and training developed through the project work experience.

The project represents a tangible benefit to the community and visiting tourists through improved amenity (in terms of stability, safety and aesthetics), and interpretation of the history of the foreshore and rehabilitation of derelict mining-related structures. This rehabilitation has been carried out in a manner sympathetic to the cultural history of the area and consistent with the new focus of Strahan as a fishing port and tourism destination.

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1 Introduction

The Mount Lyell Remediation, Research and Demonstration Program (MLRRDP) was established by the Tasmanian Department of Environment and Land Management's Division of Environmental Management (Environment Tasmania) and the Commonwealth's Office of the Supervising Scientist (OSS). The program consists of a series of projects to investigate the extent of environmental impacts which have resulted from over a century of mining activities in the Mount Lyell region and to determine ways in which this damage can be remediated. This program is one of the most comprehensive responses to mining-related degradation in the world.

The port of Strahan was the sole supply and export centre servicing the mining operations in the Queenstown and Zeehan areas following establishment of the town in 1880. Initially an overland track connected the port with Queenstown, although this was replaced by the Abt Railway in 1897, which ran from Queenstown to Teepookana on the King River and eventually to Strahan in 1899 (fig 1). Strahan continued as a major service centre and transportation hub until 1963 when Queenstown was connected by the Murchison Highway to the north coast, ending the monopoly of the port. After 1970, mining products were transported by road to Melba Flats and shipped out of the port of Burnie. Strahan went into decline as the association with the mining industry waned and has increasingly become dependent on fishing and aquaculture. More recently, tourism has become the town's main economic base.

The Abt railway closed in 1963 after sixty-six years of service following the upgrading of the Queenstown-Strahan road to an all-weather surface suitable for heavy trucks. Operating costs for the road fleet were considerably lower than for the rail system. Ore concentrates were transported by road to Regatta Point and Pyrite Wharf for seven years until 1970, when the Emu Bay Railway was contracted to haul concentrates north. The Abt rail line and port facilities were subsequently allowed to fall into unsightly and dangerous disrepair. As a result, the beauty, safety and social amenity of the Strahan foreshore have been compromised. Although this degradation is not a direct result of mining, it is a direct legacy of the mine infrastructure.

This report summarises the activities undertaken at Strahan by the MLRRDP to remediate areas affected by derelict mine infrastructure. The program included community consultation to determine priorities, work programs designed to rectify perceived problems and cataloguing of items of historic cultural heritage significance.

Although Strahan shows none of the severe vegetation loss that is evident around Queenstown, the picturesque foreshore region has suffered the effects of a working mine railway and port facilities which were operational for over sixty years prior to their abandonment (fig 2). The effects of mine-related operations include:

- the clearing of vegetation for the railway, causing widespread erosion and infestation by weed species. Derelict mine-related infrastructure was unsightly and in some cases presented a safety risk;
- the foreshore and beach was littered by a large amount of iron debris. Most of the debris consisted of rusting railway iron with no cultural heritage value;
- a large volume of pyrite concentrate remained at the Pyrite Wharf presenting an ongoing problem of acid drainage as a result of pyrite oxidation. Leachate from this area flowed directly into Macquarie Harbour;

- derelict wharf areas continue to present a navigational hazard to water craft and periodically shed timber into the harbour presenting a hazard for boats and float planes;
- the stone seawall at Memorial Park was eroding and in need of reconstruction. Memorial Park itself is a central feature of Strahan and is heavily utilised by the local people and tourists (McConnell & Clark 1996).

It was these environmental problems that the project set out to document and, where possible, rectify. Though much of the infrastructure was unsightly, it represented an asset in terms of its potential for interpretation as part of the cultural history associated with the industrial development of the west coast. As such, a priority of the project was to record and document the history of the area and enable rehabilitation to be undertaken in sympathy with cultural heritage considerations.

The project consisted of three stages:

- 1 identification of priorities;
- 2 enjoining community and government support;
- 3 design and manage or, where appropriate, assist in works to complete the identified priorities within the project budget of \$60,000.

Unlike other projects in the MLRRDP which examined the effects of mining pollution, this project sought to remediate the effects of the mining infrastructure on a town that now has only a historical link to the present mining operations.

This project represented a departure from other components of the MLRRDP in that it recognised the immediacy of the issues addressed to a local population and its commercial base. Objectives were therefore determined which reflected both the potential tangible benefits to the community and the positive public relations this would generate for the MLRRDP, as well as the intrinsic benefits the project outcomes would have on the environment of the Strahan foreshore.

2 Site location and description

Macquarie Harbour is a large natural harbour of some 276 km² situated on the mid western coast of Tasmania. The harbour is renowned for its outstanding beauty and the southern end of the harbour has been declared a World Heritage Area. A great number of tourists visit Macquarie Harbour to experience the natural history and wilderness aspects of the area. Tourism has always been of great importance to the region, even when mining was at its peak. As far back as 1886, George Perrin, the conservator of forests, described 'the extreme beauty of Macquarie Harbour' (McConnell & Clark 1996a). The harbour itself has a rich history, with a convict station at Sarah Island, which subsequently became a major ship and boat building centre using the native huon pine.

Strahan is the largest settlement on the shores of Macquarie Harbour. The town is situated in Long Bay to the north of the King River on the northern shore of Macquarie Harbour, approximately 40 km from Queenstown and 45 km from Zeehan. Good road connections exist to both these centres. The Tasmanian capital city of Hobart is approximately five hours drive away via Queenstown and the Lyell Highway (fig 1).

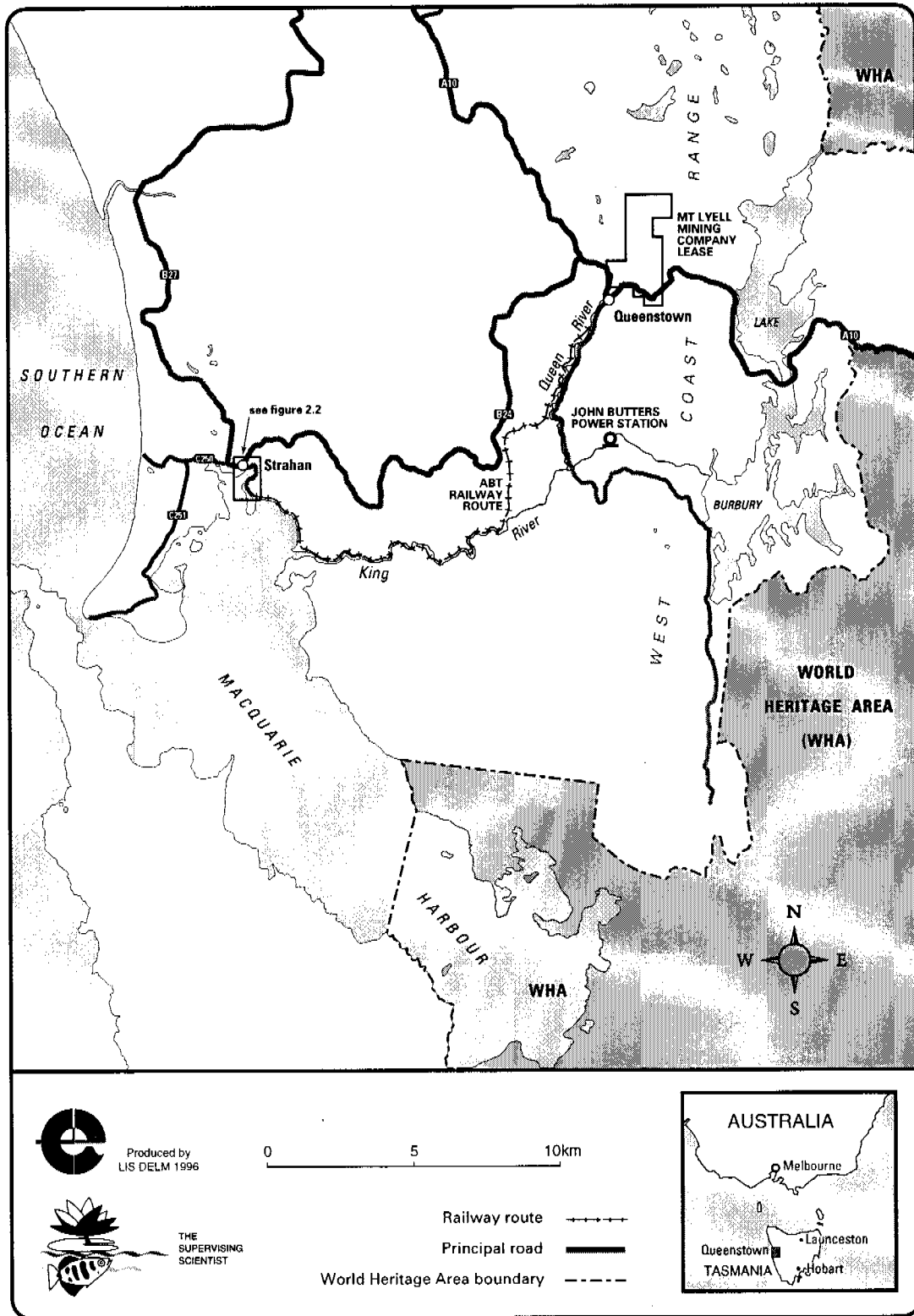


Figure 1 Regional map

Strahan is a frontier town that first grew in response to the need for services during the prospecting boom of the 1880s, providing a safe harbour for access to the mineral fields. The construction and layout of the town is typical of its many-faceted history, including mining, prospecting, forestry and tourism (fig 2).

Strahan is dominated by the mining infrastructure of its past. In addition to the railway, there were also stations, sheds, ore storage sites, accommodation for miners and all the structures and facilities that support a large mining operation such as Mount Lyell.

As the final destination of the King River, Macquarie Harbour has also suffered outflows of tailings and effluent from mining operations at Mount Lyell. The mine is situated in the headwaters of the Queen River, which has its confluence with the King River 15 km downstream of the mine.

In recent times, Strahan has embraced the increasing tourism market, selling itself as a gateway to the south west wilderness. McConnell and Clark (1996a) suggest that: 'Much of Strahan's 'sense of place' derives from the contrast between its low scale residential character and its vibrant commercial waterfront in the beautiful Macquarie Harbour landscape.'

3 Background history

Macquarie Harbour was first explored by Europeans in the summer of 1815–16 by James Kelly, who included in his circumnavigation of Tasmania a search for exploitable natural resources. Kelly successfully identified a huon pine resource in Macquarie Harbour and in 1816 commercial pining began in earnest, using mostly convict labour. By 1820 the King River had been explored, although little serious pining took place until the 1840s (Bannear 1991, Pink 1984).

When tin was discovered at Mount Bischoff in 1871, renewed interest in mining led to a spate of mineral prospecting on the west coast, for which Macquarie Harbour was a useful access point for transporting men and materials to prospecting areas (Binks 1988). Gold was finally discovered in the Macquarie Harbour area in 1883, with small deposits found in the King River (Blainey 1978).

By 1882 there was a settlement established in Macquarie Harbour at Smiths Cove, including two shops and an accommodation house. However, the cove was considered unsuitable for a long-term settlement. Local store owner FO Henry wrote to the government asking for land in nearby Long Bay to be surveyed and prepared for sale. This was done and the settlement at Smiths Cove was relocated to Long Bay in 1883 (Binks 1988).

By the 1890s Strahan was still a village with a number of small jetties and functioned mainly as a service centre for prospectors and piners. Further mining developments in the district, most notably in Zeehan and Queenstown, led not only to a rise in mining-related activity, but also an increase in services and general interest in Macquarie Harbour, in which Strahan was the largest settlement. In 1883, a gold rush was triggered in the King and Queen Rivers. The Iron Blow was found and initially prospected as a gold deposit on the eastern side of Philosophers Ridge below Mount Lyell (McConnell & Clark 1996). Although initial prospecting attempts concentrated, unsuccessfully, on gold, the Iron Blow was worked for over a century as a copper resource. The Mount Lyell mining field soon became one of the most successful copper mines in the world and Tasmania's largest industry.

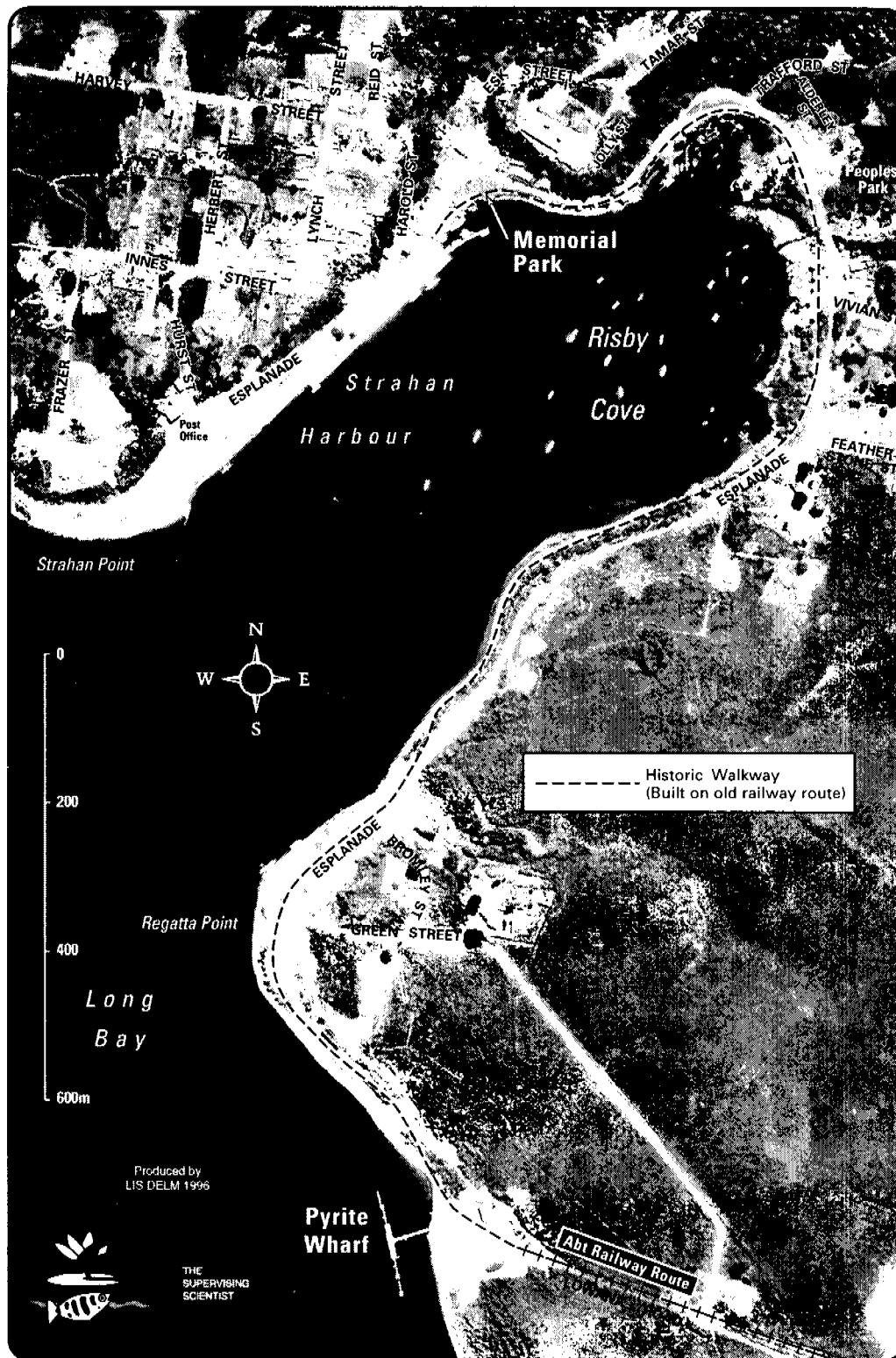


Figure 2 Local map of the Strahan foreshore

These and many other discoveries led to large numbers of prospectors entering the area, the bulk of them travelling through Strahan (Binks 1988). There existed no easier routes to Queenstown than that through Strahan, a 40 km trek up the King River. There was no overland access from Hobart other than exploratory tracks. The 1890s were a period of growth and development for the railways, which strengthened the role of Strahan as a major port—at some times the busiest in Tasmania. A rail link from Zeehan was constructed in 1892 and in 1897 freight was transported via the Abt railway from Queenstown, although the final part of the journey was completed via towed lighters from Teepookana near the mouth of the King River, the only existing railhead at that time.

In 1899 the Abt railway was extended from Teepookana to Regatta Point, where the Mount Lyell company built a cargo handling facility and a wharf capable of handling large ships. A year later, the final one-mile railway link was built between Regatta Point and the Strahan foreshore, forming a complete rail link between Queenstown, Strahan and Zeehan. Railways were an extremely important mode of transport in the harsh terrain and climate of the west coast. Although a large initial capital investment was required, railways required little maintenance compared with roads, which were often impassable in the frequently wet weather. The Lyell Highway, which provided a through link to Hobart, was not completed to Queenstown until 1932. The Murchison Highway to the north west coast and port of Burnie was not completed until 1963 (Rae 1994).

In the 1890s, Strahan was experiencing rapid growth and had in excess of 1500 residents (Ware 1908), with many more people travelling to and from the goldfields and pining operations. By 1907 Strahan was considered to be the third busiest port in Tasmania after Hobart and Launceston. At this time the Union Steamship Company of New Zealand held a virtual monopoly on shipping trade in the area (McConnell & Clark 1996a).

The period from 1900–10 is considered to be the peak of Strahan's economic development (Bannear 1991). Strahan was an important junction for mining operations, for many of the huon pine forestry operations (Pink 1984) and as a port for the local fishing fleet that operated from the main wharf built in 1890 by FO Henry. It was around this time that major reclamation work began in the area of the Strahan foreshore to expand the commercial wharf area and create suitable level access for rail lines (Binks 1988). The present-day Memorial Park is situated on some of this reclaimed area. The Mount Lyell Mining and Railway Company's Regatta Point wharf and facilities were completed and unloading of mining materials and coke to fire the Queenstown smelters and loading sheets of blister copper for export commenced in 1899.

The establishment of the Emu Bay railway in 1892 from Zeehan to Burnie broke Strahan's monopoly as a centre of transport and meant that material from Zeehan could be shipped out of Burnie rather than Strahan. The rail link meant that the rough and often dangerous sea voyage into Macquarie Harbour could be avoided, which proved a great incentive for passengers to bypass Strahan altogether. This lessened the town's importance as a port servicing the Zeehan mining field, although it remained as the major link to Mount Lyell and Queenstown.

It was in the 1920s that Strahan began to fall into serious decline, due largely to the closure of most of the smaller mining operations in the Zeehan fields, a shortage of easily accessible timber and the post-war depression experienced by most of the world. Several sawmills turned to commercial extraction of huon pine oil in order to survive until the depression abated (McConnell & Clark 1996a).

Soon after the end of the depression and shortly before the second world war, the Mount Lyell Mining and Railway Company began to produce pyrite concentrate as raw material for the manufacture of superphosphate fertiliser. In the 1930s Mount Lyell produced a third of Australia's superphosphate. As a result of this new endeavour, the Mount Lyell Company built another cargo handling facility to the south of the existing wharf at Regatta Point to export an anticipated 80 000 tonnes of pyrite every year. This facility, named 'Pyrite Wharf', was opened in 1953 and operated until 1970.

From 1963 pyrite concentrate was hauled to the wharf by road following closure of the Queenstown-Strahan Abt railway line. The railway system, which had been allowed to run down in the years prior to its closure, was left to deteriorate. The contracting of the Emu Bay railway to transport Mount Lyell concentrates in 1970 severed the final tangible link between Strahan and the mining fields of the west coast.

At the time of closure, the Abt railway formation ran the length of the foreshore region from the King River to Strahan. Two major wharf and loading facilities existed at Regatta Point and Pyrite Wharf, with railway stations situated at Lowana and Regatta Point. Today, only the Regatta Point railway station survives. The railway route itself soon became a thoroughfare for the people of Strahan, with some sections later made into roads. The shore was littered with rusted metal and railway ballast. The Pyrite Wharf and the Regatta Point Wharf were still structurally sound for some years, but without routine maintenance the wharves soon became derelict. Pyrite Wharf was eventually burnt and the supporting pylons cut off at low water mark. No attempts were ever made to repair or rehabilitate these areas.

The land tenure of the Macquarie Harbour foreshore is crown land. Areas of mine related infrastructure have previously been leased to the Mount Lyell Mining and Railway Company and have subsequently reverted to the crown on abandonment of the leases. Under normal circumstances the lease holder would be required to rehabilitate disturbed areas of crown land. However, in the case of the foreshore this has not occurred and a priority of the MLRRDP was to restore these disturbed areas to an aesthetic and stable landform.

4 Identification of objectives

The Strahan foreshore rehabilitation project served an important function in broadening the awareness of the wider community in the activities of the MLRRDP. In rehabilitating degraded areas of Macquarie Harbour, the project improved the aesthetic appearance of the foreshore, documented cultural heritage and created tangible infrastructure assets for the Strahan community.

These developments created a wider exposure for the MLRRDP outside the mining, scientific and technical community to which the majority of projects within the program related. The benefits of environmental remediation resulting from the program were able to be related to the broader community by linking these projects to the tangible improvements to the foreshore.

4.1 Community involvement

Consultation

One of the more important aims of the project was to involve the Strahan community in the decision-making process wherever possible. The rationale for this was that the people of Strahan know better than anyone else what is important to their cultural heritage. This was

achieved by means of several public meetings with members of the project leadership to decide what aspects of the environmental degradation needed the most urgent attention.

The first meeting between all the relevant parties took place on the 1st May 1995, with the following organisations represented:

- Strahan Town Advisory Committee
- West Coast Council
- Strahan Landcare Group
- Hobart Marine Board (Strahan Office)
- Parks and Wildlife Service
- Commonwealth Employment Service
- Department of Primary Industry and Fisheries
- Hydro Electric Commission
- Representatives of local tourism, fisheries and aquaculture enterprises
- Office of the Supervising Scientist (Federal)
- DELM Division of Environmental Management (State, now Environment Tasmania)

The interests of Strahan residents were represented by the Strahan Town Advisory Committee and members of the public.

In addition to initial discussions, certain stakeholders were approached to provide support in kind, including the following organisations:

- Department of Employment Education and Training (DEET)
- West Coast Council
- Hobart Marine Board
- West Coast Development Board
- Department of Premier and Cabinet
- Strahan Landcare Group
- Technical and Further Education (TAFE)
- Hydro Electric Commission
- Parks and Wildlife Service
- Strahan Town Advisory Committee
- Strahan foreshore businesses

The meetings resulted in the following four objectives in order of priority:

- 1** reconstruction of Regatta Point Wharf;
- 2** rehabilitation of the Pyrite Wharf area;
- 3** reconstruction of the seawall in the Strahan Foreshore Memorial Park;
- 4** general clean-up of refuse from railway infrastructure and extension of the historic foreshore walkway to Pyrite Wharf.

It was agreed the area should be inspected by an archaeologist to identify and classify items of cultural heritage significance in order that rehabilitation works be carried out in a manner sympathetic to the history of the area.

Although the rehabilitation of Regatta Point Wharf was part of the initial project brief, it was later decided that the rehabilitation of the wharf should be outside of the direct control of MLRRDP due to the complex issue of funding and the number of different agencies involved in management of the site. However, the MLRRDP was represented on the Regatta Point Steering Committee that was formed to investigate the feasibility of redeveloping the wharf.

Engineering plans for a new wharf structure were subsequently developed. An assessment of the structural fabric of the wharf was also undertaken (Spratt 1993) together with a report on proposed reconstruction options by a heritage consultant and architect (Davies 1995). These reports indicated reinstatement of the wharf was beyond the financial resources of the MLRRDP. However, the demonstrated need for the facility provided the impetus for other agencies to develop ongoing plans for the redevelopment of the site.

Following advice from the Commonwealth Employment Service (CES) it was decided that much of the work for objectives 2, 3 and 4 would be carried out by members of a New Work Opportunities (NWO) group recruited specifically for the Strahan foreshore project. The MLRRDP was the major sponsor of the group, although considerable 'in kind' support was provided by the West Coast Council.

The community of Strahan has also involved itself beyond the development of priorities of the program. On Saturday, April 13, a community planting day was held, coinciding with the end of the revegetation trials on tailings levees deposited on the banks of the King River as part of the Remediation of Tailings Banks project (plate 1). Around forty people attended the event, including residents of Strahan and Queenstown, schoolchildren, Landcare members and the scientists involved in the project. More than 300 native trees were established along the lower right bank of the King River. The end of the event was marked by a barbecue to which all participants were invited. Certificates of appreciation were awarded to the schools involved in the event. The planting day heightened public interest in the MLRRDP. Further support was provided to Strahan Landcare by way of potting materials and seed for the propagation of native species for ongoing rehabilitation projects in the Strahan area including Pyrite Wharf.

A Landcare project application by Strahan Landcare to rehabilitate the Pyrite Wharf area was also supported, although the application proved unsuccessful.

New Work Opportunities group

In order to achieve the objectives of the project it was necessary to recruit a labour force to implement the bulk of the rehabilitation work (plate 2). The group was formed under the New Work Opportunities (NWO) scheme under the direction of the Department of Employment Education and Training (DEET).

A proposal for an employment program under the New Work Opportunities scheme was developed in cooperation with West Coast Development Ltd and forwarded to DEET for approval.

The selection criteria for eligibility under the scheme were as follows:

- sponsor contribution
- quality of work
- labour availability
- relevance of training
- permanent job prospects
- community benefit



Plate 1 Community planting day on the King River Delta

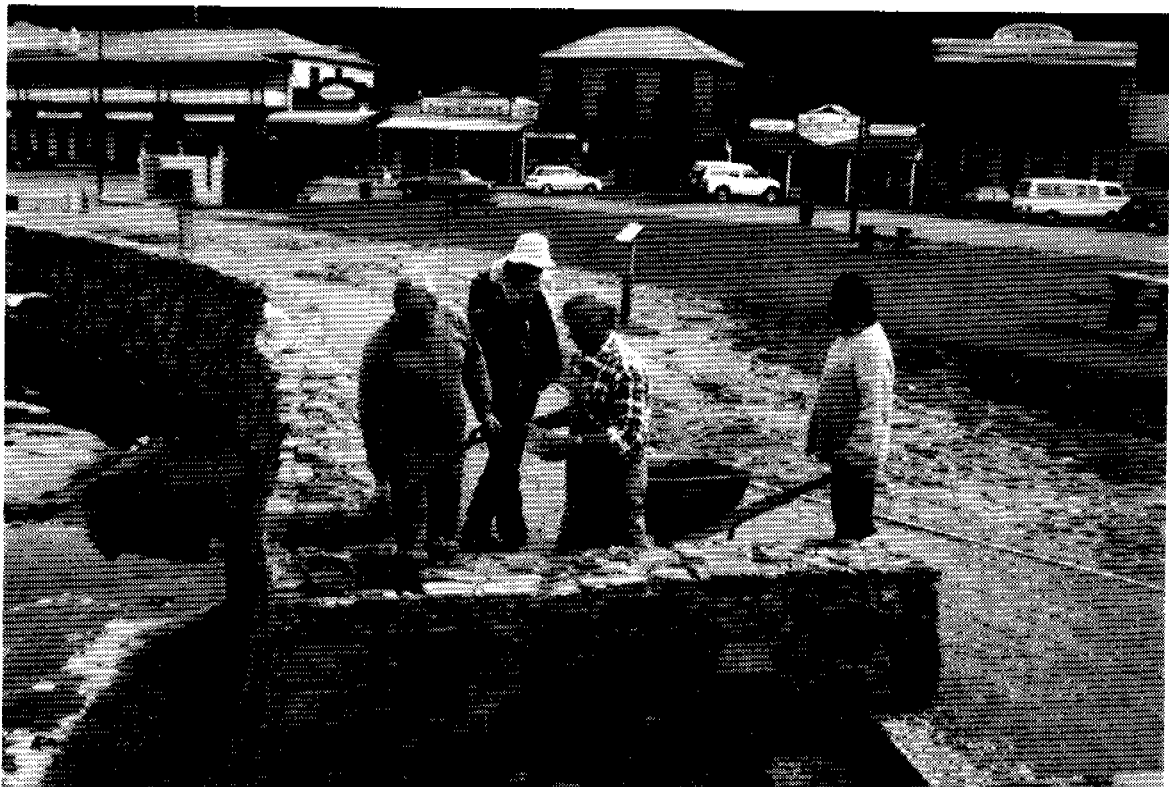


Plate 2 New Work Opportunities group at work on the seawall, Memorial Park, Strahan

The proposal was successful and the local CES provided suitable candidates for interview, seven of whom were subsequently recruited.

Appointment of the NWO group for the Strahan project was subject to a screening process for endorsement by union groups and the Australian Heritage Commission prior to approval by DEET. The cultural heritage inventory undertaken by the project assisted the approval process by ensuring the project was consistent with community and cultural heritage objectives.

The purpose of the NWO scheme was to retrain long-term unemployed, to provide work experience and to improve their long-term employment opportunities. Seven participants formed the NWO group, combining work on the remediation projects with training at the Queenstown TAFE college for two days a week. Among the skills acquired were first aid, basic construction techniques, carpentry, stonemasonry, landscaping skills, horticulture skills, communications, industrial relations and occupational health and safety.

At the end of the project participants were awarded TAFE certification in basic construction and acquired skills in environmental rehabilitation. The skills and experience developed through the program together with the high public profile of the project provided participants with improved future job prospects.

Newsletter

Throughout the MLRRDP, a bimonthly newsletter was produced covering the activities of all 17 projects in the program, with the purpose of keeping the community and the scientists involved in the program informed of the various findings and developments. The newsletter included news of both scientific and community activities, visits, meetings and kept an updated list of all projects. The newsletter was freely available from DELM and Parks & Wildlife offices, Copper Mines of Tasmania, West Coast Council and other government offices. An extensive mailing list was developed for people involved in the projects and members of the public interested in the developments and outcomes of the program.

4.2 Specific objectives

The community consultation process resulted in the following specific objectives for the project:

- commissioning of a cultural heritage inventory of the Strahan foreshore;
- reconstruction of the seawall at Memorial Park to prevent further erosion;
- rehabilitation of the Pyrite Wharf area, including revegetation and removal of scrap metal;
- general clean-up of the foreshore, including the extension of the historic walkway from Regatta Point to Pyrite Wharf.

The cultural heritage inventory was carried out first in order to avoid disturbing artefacts of cultural significance, followed by the Pyrite Wharf rehabilitation and the seawall construction, with the general foreshore clean-up occurring after the first two projects. The time frame for Strahan foreshore activities is summarised in table 1.

Table 1 Time frame of Strahan Foreshore activities for 1995–96

No	Project name	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1	NWO training at Queenstown TAFE								
2	Wet stone wall, Memorial Park								
3	Foreshore dry stone wall restoration								
4	Rock barrier Pyrite Wharf drain								
5	Seeding of Pyrite Wharf area								
6	Cultural heritage inventory								
7	Foreshore interpretation brochure								
8	Foreshore walkway to Pyrite Wharf								
9	Scrap and rubbish removal								

5 Project implementation

5.1 Cultural heritage inventory

Introduction

Derelict mining infrastructure from the Mount Lyell Mining and Railway Company created safety and stability problems in several areas. The historic foreshore walkway formed part of the railway link to Teepookana and Queenstown until 1963 and is a popular drawcard for tourists and residents. At several points the track passes poorly preserved, dilapidated structures (plate 3, plate 4) and ends as a badly formed track at Regatta Point, which is a severely derelict and unstable, partly collapsed, timber structure.

The original railway continued to Pyrite Wharf (fig 2), which comprised waste ground contaminated with acid-producing pyrite and areas of active erosion. All that remained of this wharf was the base of wooden pylons which had been cut off at water level on low tide. Most of the pylons are in an advanced state of decay and present a navigational hazard at high water when they are submerged below the surface.

One of the initial problems facing the foreshore redevelopment project was confusion over what items on the foreshore could be classified as heritage and what items were worthless refuse. In addition, amongst items of clear historical value, it was not clear which should be moved and preserved and which should be left in place and passively managed.

Although there had been previous surveys of the Strahan foreshore (Nolan et al 1990, Bannear 1991, Godden MacKay 1993), none have concentrated on the foreshore area of Strahan. It was decided early in the community consultation process that a professional appraisal of cultural heritage of the foreshore was needed.

Archaeologists Anne McConnell, a consultant in cultural heritage management and Quaternary geoscience, and Linda Clark, an experienced materials conservator at the Queen Victoria Museum in Launceston, were engaged to undertake the survey. They were chosen for their experience and their local knowledge.

Project brief

The study area was defined as all terrain between the waterline and the nearest road, from Strahan Wharf to the mouth of the King River. The Regatta Point Wharf was excluded from the study, as its cultural heritage significance had already been assessed (Godden MacKay

1993). The boundary of the study area was delineated to include the main areas of disturbance from the MLMRCL.

The primary objectives of the cultural heritage inventory were to:

- prepare an inventory of items of cultural heritage in the study area;
- consult with all relevant stakeholders, particularly the Strahan community, to identify and document the significance of heritage items;
- prepare a historical summary of the project area which identifies the relevant historical themes and provides a historical context for the heritage inventory;
- identify and assess the cultural significance of each item, taking into account its historic, social, scientific and aesthetic values;
- identify whether the location of each item is a significant factor in the heritage value of either the item or its present environment;
- make specific recommendations for conserving the significant heritage.

In addition, the brief required the consultants to prepare a report including:

- a summary of the history of the area;
- an inventory of heritage items, identifying those classified as significant;
- a report on the community consultation undertaken;
- recommendations for managing and conserving heritage items.

Methods

The consultants undertook a series of field surveys of the foreshore area, over a period of three days. The study area was surveyed on foot, with community members invited to participate. The foreshore from Strahan to Pyrite Wharf was re-walked in the company of Strahan residents with a special interest in local history and heritage, who provided additional information on items and locations.

Historic research

The historical research component of the report was designed to establish both the history of individual sites and a general overview of the history of the region. The research occupied 6.5 person days and utilised a number of sources, including published and unpublished reports, maps and photographic records, the Galley Museum, Zeehan Pioneer Museum, West Coast Heritage, Copper Mines of Tasmania, the Tasmanian and Crowther collections of the State Library and the Tasmanian Archives Office. Also consulted was the Tasmanian Historic Places Inventory (formerly the Tasmanian Historic Sites Catalogue) run by the Parks and Wildlife Service's Cultural Heritage section. The Shipwrecks Register was checked but found not to be relevant. Most of the photographic records were from the Tasmanian Archives Office. The most useful written records were those of the Mount Lyell Mining and Railway Company and the State Government records relating to the Strahan Council and the Marine Board, all of which are held in the Tasmanian Archives. The study suggested that any further research into the history of Mount Lyell should utilise this source of information.



Plate 3 Example of a poorly preserved historical feature on the foreshore of Strahan



Plate 4 The deteriorating seawall at Memorial Park, Strahan

Among the most useful sources for site histories were members of the local community, particularly the members of the Strahan Historical Society. McConnell and Clark (1996) conclude that: 'a regional oral history project to tap and document the important and rapidly diminishing resource of personal memories and research efforts of the west coast's residents is urgently needed and would be invaluable in documenting the full history of the west coast'.

Community consultation

In addition to the views of individuals, it was also important to allow the Strahan community as a whole to comment on what they feel to be culturally and historically important.

In order to get the local view of what was culturally significant on the foreshore, the consultants canvassed the opinions of residents of the area. This was done in two ways. First, eight residents with a special interest in the history of Strahan, including members of the Strahan Historical Society, were contacted and interviewed for their views on the cultural heritage of the foreshore.

The second method was to organise half a day for an 'open office' at the Parks and Wildlife Service office in Strahan, when members of the public could meet the consultants and air their views on the cultural heritage of their surroundings. The advertisements placed in the *Western Herald* newspaper appear as Appendix A.

Other local and State Government agencies and businesses were consulted regarding their views on the management of the area, including:

- West Coast Regional Council
- Forestry Tasmania
- Parks and Wildlife Service (Strahan Office and Cultural Heritage Branch)
- DELM (Planning Division)
- West Coast Heritage
- Risby's Forest Industry Pty Ltd

Documentation

For the purpose of this kind of study, a 'site' was defined as a place or set of features (objects or places of human origin) with a single or closely related function, which have been recognised historically as a functional entity. A 'feature' was a single location or object within a site that can be differentiated on the basis of location, specific function or age. As an example, Pyrite Wharf was defined as a site, although the remains of the wharf, brick supports and gravel banks are all individual features. It must be noted, however, that an isolated feature may not form part of a site.

All sites and features identified were recorded on standardised recording forms (see McConnell & Clark 1996b). Features were recorded on the feature record forms, incorporating a description of the site, its history, an assessment of its significance and a photographic record. Sets of features considered to be sites were described using specialised site record forms similar to the feature record forms but more comprehensively detailed. These forms were designed for use in the Parks and Wildlife Service's Tasmanian Historic Places Inventory.

Classification of significance

Significance was measured qualitatively based on the judgement and experience of the consultants. Nine facets of significance were recognised, including:

- scientific or archaeological value;
- historical value or association (which may derive from association with an event or person of historic interest);

- technological importance (representative of the technology of the time);
- social significance (including community or special interest group value);
- interpretive/educational value;
- aesthetic quality;
- structural integrity (which reflects scientific value for archaeological sites);
- relative rarity; and
- representativeness.

Each aspect of significance for a site or feature was ranked using general levels of very high, high, medium, low and very low. A summary statement of significance was made using an approximation of the average value.

In assessing the significance of sites and features, the consultants adhered to the Burra Charter (Australia ICOMOS 1988), which makes the following definitions and recommendations.

- It is important to realise to whom the significance applies. Cultural significance is defined in the Burra Charter (Australia ICOMOS 1988) as the 'aesthetic, historic, scientific or social value for *past, present and future generations*'. This implies that undue emphasis must not be put on the contemporary social value of the place and that current community views should not be considered as the only aspect of social value (McConnell & Clark 1996);
- The Burra Charter (Australia ICOMOS 1988) states that: 'Conservation of a place should take into consideration all aspects of its cultural significance *without unwarranted emphasis on any one aspect at the expense of others.*'

The consultants also recognised the following.

- Cultural significance must be based on heritage values only and must not include management constraints or needs. These needs should be identified at a later stage.
- The context of relationships between sites is of critical importance. A site or feature in isolation may not be significant, but as part of a whole it may form an important component of the cultural heritage. An example of this is the Pyrite Wharf complex which is classified as more significant because of its associations with the history of the Mount Lyell mining operations.

It is therefore important to take a wider view of the whole area, often in the context of its history, as well as closely examining its smaller parts.

Final report

The final report is titled *Strahan foreshore historic cultural heritage inventory and assessment project* and is divided into two parts. Part 1 includes a detailed history of Macquarie Harbour, Strahan and the Mount Lyell lease site, including thematic histories of the many different activities carried out at Strahan (for example, the history of mining and prospecting, huon pine forestry, tourism and recreation and the small dairy industry). Also included is an extensive discussion of the levels of significance assigned to each site, the rationale behind each classification and an explanation of the assessment procedures. The report outlines which of the features of the Strahan foreshore are worthy of protection, which should be left in situ and which should be removed.

Part 2 of the report comprises an inventory of all items classified in the format of the Parks and Wildlife Service's Tasmanian Historic Places Inventory. Information recorded included the site's map reference, type, owner/manager, function, tenure, dimensions and significance.

The final report was distributed to Copper Mines of Tasmania, Strahan Local Library, the West Coast Regional Council, the DELM Library, the State Library of Tasmania, the Cultural Heritage Branch of the Parks and Wildlife Service, the Strahan Historical Society and West Coast Heritage. The distribution of the report was intended to maximise the availability of the document as a resource material for the west coast community.

Findings and recommendations

The final report makes a series of recommendations concerning the conservation and management of the various sites and features identified in the study. Two features of the Strahan foreshore are considered to be of very high cultural importance.

- 1 Sites that formed an integral part of the Mount Lyell mining complex, including the following.
 - Regatta Point Wharf. The historic cultural significance of this site has already been assessed and recommendations made (Nolan 1995, Ward & Associates 1992).
 - Coke bins. Although the bins and part of the railway have been destroyed, the site retains a strong visual character and is of high significance due to its association with mining at Mount Lyell. The restored drystone walling should be monitored, while evidence of railway lines, including wooden sleepers and sections of metal track, should be left intact. Loose material should be removed from the site, although items of value should be retained, conserved and displayed at an appropriate museum or visitor centre.
 - Pyrite Wharf. As one of the largest and most conspicuous significant sites on the foreshore, Pyrite Wharf has considerable potential to reinforce links between Strahan and its mining heritage.
 - The Abt railway and the features that were in place prior to its closure. The track has since been converted into a historic walkway. The site should be left as is, as the relics of its past provide interest for walkers. The drystone walling along the formation requires attention.
- 2 Vivian Street Sawmill and Pine Oil Factory site and its associated features. This is an extremely rare site type and is especially important due to its links with Captain ET Miles, a prominent local figure in Strahan's history. The study makes recommendations for the passive management of the site.

The study also considered the following sites to have high cultural significance and recommended that preservative action be taken as soon as is practical.

- Memorial Park. The report recommends that the dry stone wall be rebuilt to withstand erosion, the memorial be stripped and repainted, with metal parts receiving a coat of rust-resistant paint. The ornamental gun that forms part of the Memorial Park should be repainted in a historically appropriate colour and remounted at a more visible level using non-corroding materials.
- Finger Pier/Grinings Sawmill Town Jetty
- Old Town Slip and associated features should be passively managed.

- Risby's Sawmill and all associated features. Although degraded, the site retains considerable historic value and is much appreciated by residents of Strahan. All features should be left in situ and passively managed. Access to the jetty should be restricted until found to be safe.
- Lighter No. 10. The remains of this small, wooden vessel should be passively managed.
- Union Steamship Company's carpenters workshop and features. Although the interior fittings have been removed by the present owner, much of the original fabric of the building remains. The study recommends that the building be made weatherproof by replacing broken glass and roof flashing, in order to prevent further corrosion of metal cladding. The antique Crossley engine at the site should be maintained in its present condition and passively managed unless Strahan residents desire otherwise.
- Lettes Bay Village. The study recommended that management of the site should be in keeping with its historic nature, although it is recognised that evolutionary change is characteristic of a living community. Excessively strict controls on building and development are not recommended. Residents should be encouraged to maintain their properties using historically appropriate materials. All historic features should be retained and passively managed.
- Fitzpatrick's Farm
- Lowana Sawmill

Sites considered to be of lesser, but still significant importance included:

- slip below Memorial Park
- lighter No. 5
- Davis's Jetty
- Gerrity's Slip
- survey mark in tree
- North Regatta Point Jetty
- red beacon
- Lowana Flat Cattle Yards
- Lowana Point Jetty/Slip, hut and fences
- Lowana Siding
- Lowana Station

Most of these sites require some degree of passive management and some interpretive material. See McConnell and Clark (1996a) for details.

The remainder of the items catalogued in the extensive inventory were generally classified as low to low-medium significance (see McConnell & Clark 1996b). There were also a number of sites described that were classified as having no particular historical or social value, nor any other cultural value. It was recommended that these items be removed.

The inventory also classifies items on the basis of their location. In isolation, sites and features such as the Memorial Park Slip, the surveyors mark in the tree and North Regatta Point Jetty would not be classified as high 'significance'. However, at their locations, in context, they 'relate to, identify and interpret an important part of the maritime history of Strahan' (McConnell & Clark 1996a).

Response to the report

After the inventory was copied and circulated, in order to make the information more readily accessible to the public, interpretative material was developed for pedestrians utilising the historic walkway.

Anne McConnell, co-author of the report, was commissioned to produce a one-page brochure, describing various points of interest along the foreshore illustrated on an accompanying map. Locations on the walkway alluded to by the brochure were marked by means of a small numbered post, which was considered more cost-effective and less prone to weathering and vandalism than an individual interpretative sign for each site. The brochure is included as appendix B.

5.2 Reconstruction of the seawall at Memorial Park

Introduction

Memorial Park forms a focus for the waterfront at Strahan. Slightly east of the jetties, the park is a grass area with a war memorial and a small cannon. The area is popular with residents and tourists alike. It is also the beginning of the popular historic walkway around the foreshore to Pyrite Wharf.

The reconstruction of the seawall represents a tangible benefit to the people of Strahan, in terms of aesthetics, safety, tourism and civic pride, which will last for many years.

The seawall at Memorial Park was in an advanced state of deterioration, with erosion of the landfill behind the wood and metal barrier.

The erosion of the seawall as a result of wave action and boat traffic at the main Strahan Wharf was an ongoing problem, with the area around the jetties and the waterfront shops under threat of further erosion (plate 5). Public consultation identified the disintegration of the wall as a potential danger and an aesthetic problem as the park represents the start of the historic walkway to Pyrite Wharf. High public utilisation of the area highlighted the importance of improving the safety and stability of the site.

Project implementation

The work was carried out by the NWO group, working under the supervision of West Coast Development Ltd, over 26 weeks. Though the original barrier was composed of metal and wood faced with dry stone, the new wall was constructed from cemented rocks, a design considered necessary to provide an engineered wall capable of withstanding the erosive effects of wave action generated by wharf traffic. This construction method is not historically accurate, but was chosen to avoid a recurrence of the same problem some years in the future. The design of the wall also differed slightly in the interests of safety. The old seawall was flush with the level of the park, however the new construction rises approximately 60 cm, to act as a safety barrier and provide a formed edge to the harbour side of the walkway (plate 6).



Plate 5 Seawall at Memorial Park, Strahan, before reconstruction



Plate 6 Reconstructed seawall at Memorial Park

Conclusions

The construction of fifty-five metres of stone wall was completed on schedule, as was the extension of the historic walkway through Memorial Park. The wall was built to an excellent standard and will remain structurally sound for far longer than its predecessor. The overall effect is in keeping with the former character of the wall, even if the specifics of construction and design have necessarily differed from those used in the past.

The new construction received praise from many members of the community, and its visibility makes it the most publicised result of the project's works.

Incorporated into the wall was a time capsule containing information on Strahan, MLRRDP newsletters, lists of Strahan School pupils and a local newspaper. It is intended the time capsule be recovered in one hundred years at which time the remediation program will be able to be judged on its effectiveness in remediating the environmental impact of a century of mining at Mount Lyell.

5.3 Rehabilitation of the Pyrite Wharf area

Introduction

The Pyrite Wharf area and the associated ship loading infrastructure are between the Regatta Point Wharf and the Lettes Bay holiday village, some 2 km south of Strahan Harbour.

Although comparatively recent, the remains of the Pyrite Wharf represent a period when Strahan was still an important transportation hub. The present cultural significance of Pyrite Wharf lies in its association with the century long history of MLMRCL.

Since its closure, Pyrite Wharf has become derelict. All that remains of the structure are rotting wooden pylons which were cut at low water level and now represent a navigational hazard. On the foreshore, concrete foundations of the pyrite loading facility are still standing. The rest of the area was contaminated with acid-producing pyrite concentrates and suffered from severe erosion. The area was barren and regarded as an unsafe eyesore (plate 7).

The site was littered with steel, timber and concrete debris from former structures and had become the site of unauthorised dumping of waste materials. It is at the southern end of the Strahan Foreshore Historic Walkway and is not an aesthetically pleasing end to what is a popular walking track (plate 8).

The decision was taken to rehabilitate the area into a stable aesthetic landform and to minimise any potential for the generation of acid leachate from oxidation of the residual pyrite on the site.

Project planning and implementation

Based on the recommendations of the community, the archaeological consultants and the project leaders, the clean-up of Pyrite Wharf consisted of the following works.

- Inert wastes comprising fragments of metal, wood and concrete were collected and covered with compacted cover material.
- The concrete foundations were incorporated into the final landform. Dangerous metal protrusions were removed.
- Acid-producing pyrite concentrates were buried at the lowest point on the site which comprised a catchment area for drainage lines. The material was covered with an organic peat layer and seeded with native wetland species. The objective of this placement was to ensure complete saturation of the pyrite to inhibit oxidation and the generation of acid leachate.



Plate 7 The Pyrite Wharf area south of Strahan, before rehabilitation



Plate 8 Deteriorating track-bed at Pyrite Wharf

- The site's central drainage channel was realigned and barriered with quarried rock to prevent ongoing erosion, while permitting permeation of surface runoff into the pyrite sump to maintain saturation.
- Stockpiled peat was spread over the site. Additional peat was imported to complete the coverage of the surface. Appropriate areas of compacted topsoils were ripped.
- The site was fertilised and seeded with native plant species.

The work was carried out by the NWO group, under the supervision of West Coast Development Ltd. Local earthmoving contractors were contracted to undertake works requiring heavy machinery (plate 9).

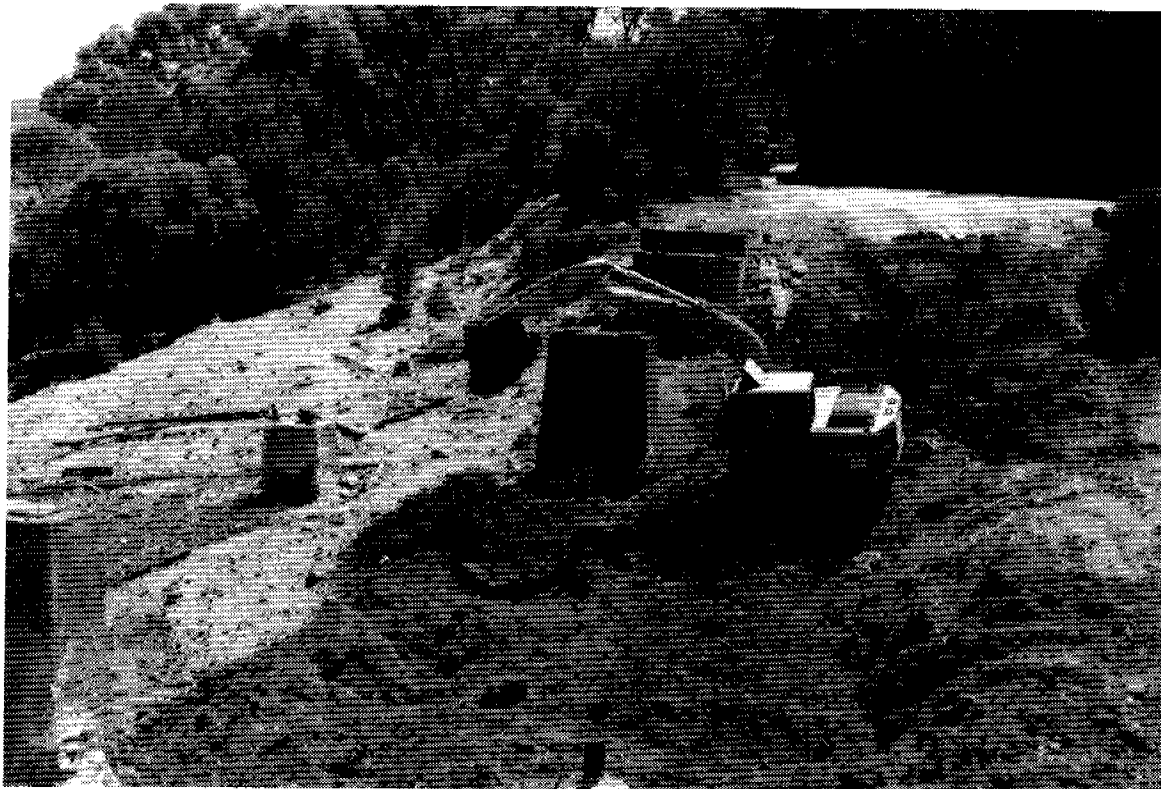


Plate 9 The Pyrite Wharf area during rehabilitation by earthmoving contractors

Revegetation works were designed to develop a stable aesthetic cover of native species consistent with the surrounding native vegetation. Wetland species were encouraged to grow along and adjacent to drainage lines and over the pyrite storage area.

NPK (8:4:10) fertiliser was applied to the site at a rate of 300 kg/ha prior to seeding the site with a range of native species including:

- *Acacia mucronata* (narrow leaf wattle)
- *Acacia verticillata* (prickly moe)
- *Acacia sophorae* (coastal wattle)
- *Eucalyptus nitida* (Smithton peppermint)
- *Leptospermium scoparium* (manuka)
- *Melaleuca squarrosa* (swamp paperbark)
- *Restio tetraphyllus* (cord rush)

Seed applications were undertaken in June 1996. Weed control was undertaken to inhibit colonisation by invasive weed species.

Conclusion

By the project's completion, 2.5 ha of derelict ground had been rehabilitated and stabilised, and conditions appeared suitable for the development of sustainable vegetation cover (plate 10).

The Pyrite Wharf is now a fitting terminus to the Strahan Foreshore Historic Walkway. Concrete and stone foundations from the mining era preserved and incorporated into the final landform facilitate interpretation of the former industrial importance of the site.



Plate 10 The Pyrite Wharf area following rehabilitation

5.4 Clean-up of refuse from railway infrastructure and walkway extension

Introduction

Since closure of the Queenstown to Strahan Abt railway, the section between Strahan and Pyrite Wharf has been used as a walkway and thoroughfare by the people of Strahan. Over the years, rail and sleepers have been salvaged for various uses. Those parts of the trackbed which remained at the beginning of this project were crumbling and eroding. The edges were overgrown with weeds and the whole foreshore area was strewn with metal refuse, consisting mostly of metal plating and badly rusted railway engine parts and rails. As the sleepers and the supporting structures eroded away, the railway thoroughfare became degraded. The drystone wall that bordered much of the walkway had mostly disintegrated as a result of the action of waves and tides.

The state of the historic walkway is of importance due to its popularity with residents and tourists. The walkway also presents aspects of Strahan's cultural heritage, which add to the interest and enjoyment of the area.

Project planning and implementation

The extension of the walkway was carried out by the NWO group, under the supervision of the West Coast Development Board and project leaders. In developing the walkway, derelict rail materials identified as having no cultural significance were classified as refuse and cleared from the site. The metal refuse, consisting mostly of rusted boiler parts, was removed into piles and taken from the site to be recycled. A total of 22.2 tonnes of steel was collected (plate 11).

Results

About 400 m of the walkway was remediated (plate 12). The refuse that cluttered the area is gone and weed species have been removed. Numbered signs have been mounted on or near the heritage items. The numbers on the signs correspond to the interpretative brochure, which will be distributed to the public in Strahan via the tourist centre or the Parks and Wildlife Office.

5.6 Renovation of the Strahan Recreation Hall

The foreshore rehabilitation project was mostly outdoor construction work. However, when inclement weather prevented work outdoors, the participants in the New Work Opportunities group worked on the renovation of the Strahan Recreational Hall and the construction of a covered entrance at the Strahan Football Ground. The West Coast Council assisted by providing funds for materials. The range of skills to which the NWO participants were exposed was extended in this work to include carpentry.

6 Conclusion

The MLRRDP rehabilitated derelict areas of mining infrastructure on the Strahan foreshore left by the Mount Lyell Mining and Railway Company Limited.

The project engaged community support to establish rehabilitation priorities through community consultation. The outcomes are consistent with Strahan's present day relevance as a tourism and fisheries centre.

Intrinsic to the implementation of agreed community objectives was the provision of in kind support from other organisations, principally the Commonwealth Employment Service and Department of Employment Education and Training, West Coast Council, West Coast Development Board and the Strahan Landcare Group. This support enabled the scope of the rehabilitation project to be extended beyond that which would have been achievable by the MLRRDP alone.

The key objectives completed by the program were the:

- rehabilitation of the Pyrite Wharf area;
- reconstruction of the seawall in the Strahan Foreshore Memorial Park;
- clean-up of refuse from railway infrastructure and extensions of the Historic Foreshore Walkway to Pyrite Wharf;
- documentation of the cultural heritage of the foreshore area and recommendations for management of heritage items.

The re-instatement of Regatta Point Wharf, proved beyond the resource capability and time frame of the MLRRDP. However, the co-ordination of community interest groups and relevant government authorities established through the MLRRDP resulted in the

demonstration of a need for the rehabilitation of this facility and provided the impetus for other agencies to continue redevelopment of the site.

As a consequence of the community involvement in this project, awareness and appreciation of the MLRRDP outside of the scientific and mining communities was significantly increased.

Significant improvements in amenity will remain as a long standing reminder of the benefit to the Strahan community. These include a comprehensive documentation of the heritage values of the area, signage and material for a heritage trail, an attractive rock retaining wall at Memorial Park, and removal of safety and environmental hazards and replacement with a stable and substantially more attractive land form at Pyrite Wharf. It is hoped that certified technical training in basic construction techniques and practical skills by members of the New Work Opportunities program will lead some of them on to improved job prospects.



Plate 11 The Strahan Foreshore Historic Walkway before resurfacing. Scrap metal has been collected and is awaiting removal for recycling.

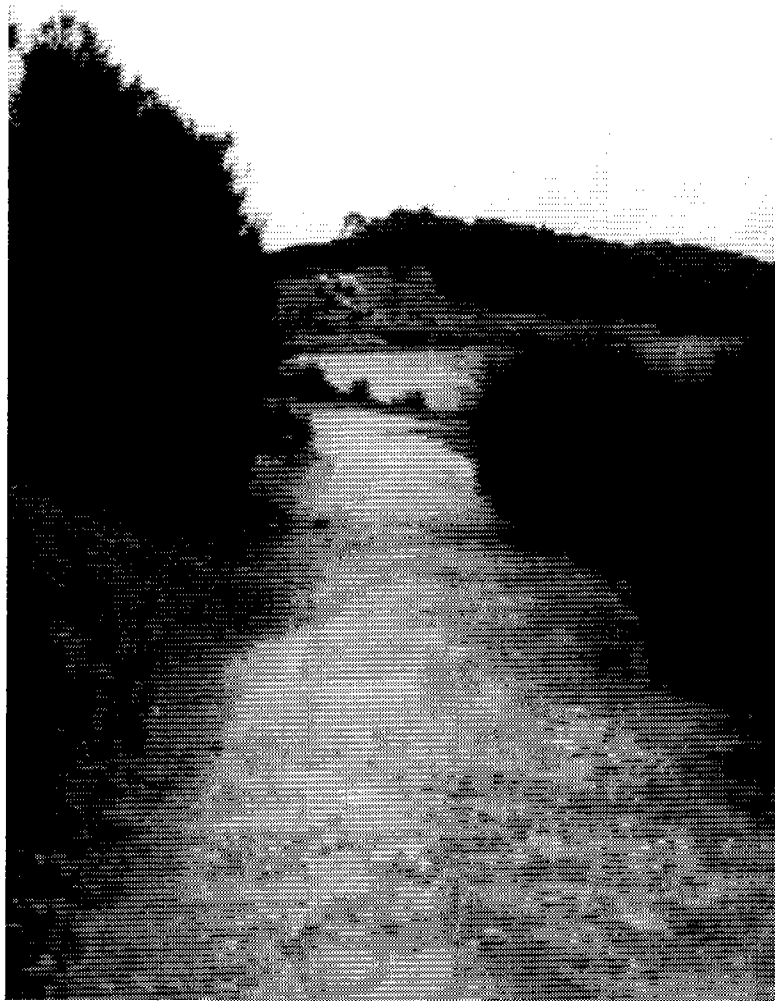


Plate 12 The rehabilitated walkway

References

- Australia ICOMOS 1988. *The Australia ICOMOS Charter for the Conservation of Places of Cultural Significance (The Burra Charter)*.
- Bannear D 1991. *King River to Kelly Basin archaeological survey: A survey of the history and prehistory of Macquarie Harbour's northern shore*. Occasional Paper No. 29, Department of Parks, Wildlife and Heritage and Forestry Commission, Tasmania.
- Binks C J 1988. *Pioneers of Tasmania's west coast*. Blubber Head Press, Hobart.
- Blainey G 1978. *The peaks of Lyell*. Melbourne University Press, Melbourne.
- Davies P 1995. Regatta Point report on proposed wharf reconstruction options. Report by Peter Davies, Architect/Heritage Consultant. Parks and Wildlife Service, Hobart.
- Godden MacKay 1993. *Strahan conservation study final report*. Report to the Strahan Municipal Council by Godden MacKay Heritage Consultants, Surrey Hills, NSW .
- McConnell A & Clark L 1996a. *Strahan foreshore historic cultural heritage inventory and assessment project*. Part 1. Report to the MLRRDP.
- McConnell A & Clark L 1996b. *Strahan foreshore historic cultural heritage inventory and assessment project*. Part 2: Inventory of historic cultural heritage of the Strahan foreshore area. Report to the MLRRDP.
- Nolan R 1995. Waterfront development plan, Strahan. Report for the Regatta Point Redevelopment Steering Committee. (Not yet released or publicly available)
- Nolan R, Evans R, Fletcher P & Abbot M 1990. *Development plan: Town centre and wharf area, Strahan*. Report for the Municipality of Strahan by the Office of the Commissioner for Town and Country Planning, Department of Environment and Planning.
- Pink K 1984. *Through hell's gates: A history of Strahan and Macquarie Harbour*. The Advocate, Burnie.
- Rae L 1994. *The Abt railway and railways of the Lyell region*. Advocate Printers, Burnie.
- Spratt P 1993. *Regatta Point wharf Strahan structural and fabric assessment*. Prepared by Peter Spratt & Associates Consulting Engineers for Department of Parks Wildlife and Heritage.
- Ward A & Associates 1992. *Regatta Point railway station conservation plan*. Report to the Department of Parks, Wildlife and Heritage, Tasmania
- Ware J 1908. *Strahan: Macquarie Harbour*. Originally published by John Ware, Strahan and produced in 1981 as a facsimile edition by the Zeehan Pioneer's Museum.

Appendix A

Advertisement of 'Open Office' at Strahan, 28th September 1995.
Appeared in the *Western Herald* newspaper 21st September 1995.

Mount Lyell Remediation Research
and Demonstration Program [Project 10a]

Strahan Foreshore **[From Strahan Wharf to the King River Mouth]**

Historic cultural heritage inventory and assessment

Public comment

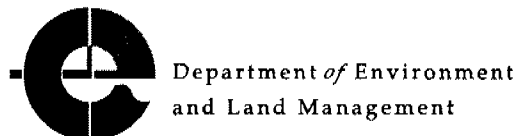
Consultants to the project are Anne McConnell (Archaeology/Cultural heritage management) and Linda Clark (Materials conservation). The consultants are currently carrying out fieldwork for the project.

As part of the *community consultation process*, Anne McConnell will be available on Thursday 28 September, between 12 noon and 4 pm, at the Parks and Wildlife Service Office, Customs House, Strahan.

If you have any comments to make on *the heritage and its history, its importance to you, or the management* of the places that have been identified, please drop in or phone on Thursday (28/9/95)

If you cannot come along at this time but you wish to comment, please phone or write to:

Anne McConnell – GPO Box 234, Hobart, Tas, 7001, ph. (002) 391494.



Appendix B

Foreshore interpretative brochure

Following completion of the Cultural Heritage Inventory, the consultant Anne McConnell was commissioned to produce a brochure describing the historical features of the Strahan Foreshore. The brochure contains historical information that provides a background for the description of specific sites and features, which are marked on the trail by means of numbered posts. The brochure will be distributed by tourist authorities in Strahan, Queenstown and Hobart.

Mount Lyell Remediation Research and Demonstration Program



Department of Environment
and Land Management



supervising
scientist

STRAHAN FORESHORE HISTORIC WALKWAY AN INTRODUCTION TO STRAHAN'S PAST



HISTORIC SITES FROM STRAHAN WHARF TO PYRITE WHARF

===== STRAHAN'S HISTORY =====

The first settlement at Strahan was established at Smiths Cove, a few kilometres west of the present town centre. Charles Donnelly landed at the cove in 1877 and selected the site as a safe anchorage for unloading goods for transport to the Pieman River mining fields. In 1883 Smith's Cove storekeeper F. O. Henry initiated a move to the present site of Strahan, with its more suitable harbour, building the first jetty and store. A customs house and telegraph office were built soon after by the Government.

Strahan grew rapidly, servicing not only the prospectors and miners in the developing western mineral fields, but also timber getters, including the Huon piners of Macquarie Harbour. As the only sheltered harbour on the west coast, Strahan became the major fishing port of the area. The town was inaccessible by land in its early days, relying totally on shipping for communication with the outside world. By 1900 the township boasted 1,500 people, servicing a regional population of 20,000. A contemporary observer notes there were *"thousands travelling to and from the inland settlements. Accommodation could not be found, with tents and camps being the order of the day. Strahan becoming for the time being the rendezvous of stoneybrokes and millionaires"*.

The narrow entrance to Macquarie Harbour, shifting sandbars and the stormy Southern Ocean made it extremely difficult for shipping. By the early 20th century, more reliable rail links were established between Strahan and the North Coast. Coupled with the decline of the Zeehan mineral field, this diminished Strahan's importance as a service centre. This was worsened by the Depression, a sharp decline in the Huon Pine timber industry and the gradual reduction in the numbers

of western mines. The town continued to maintain its role as the rail head and port for The Mount Lyell Mining and Railway Company. Today, Strahan continues to be an important service centre for fishing and aquaculture, and is now a focus of tourism.

STRAHAN'S FORESHORE was, from its beginnings, the focus for maritime transport and industry. From the 1880s the foreshore was scattered with piers, jetties, slips, sawmills, stores, shops, and small boats and dinghies, the main form of local transport. In the 1890s the main town wharf (the present wharf) was built, many new buildings were erected and the construction of railway links commenced. By 1901 a railway line around the foreshore connected the recently built Regatta Point Wharf with the main Strahan Wharf. The line continued to West Strahan and on to Zeehan. The foreshore between Strahan Wharf and Regatta Point remains the location of Strahan's commercial centre and recreational areas. In the past, the area boasted numerous sawmills, slips and jetties, the Union Steamship Company's workshops, a Huon pine oil distillery and the main port facilities for The Mount Lyell Mining & Railway Company.

THE MOUNT LYELL MINING & RAILWAY COMPANY (Mount Lyell Co.) was formed in 1893 to develop the rich copper loads near Queenstown, and survived for over a century until 1994. The Mount Lyell Co. was a mining giant, at times commanding an annual revenue in excess of the Tasmanian Government's annual budget. The company became a world leader in mining technology, ore treatment, pyritic smelting and superphosphate production. From the 1890s the operation became one of the worlds great copper mining operations. Critical to the success of the Mount Lyell operation was a reliable form of transport.



Strahan Town Centre, 1898 (Courtesy Archives Office of Tasmania)

The company saw the answer in a railway line to Macquarie Harbour, with shipping from Strahan. In 1897 the Abt Railway line was built through to Teepookana on the King River. From there, ore was transported by barge to the main port of Strahan for export. The Abt Railway employed a toothed third rail to overcome the steep grades in the extremely rugged terrain between Queenstown and Strahan. Teepookana Port experienced problems with the shallow water, leading to the extension of the railway line through to a new, larger wharf at Regatta Point.

As mine production and the range of products increased over time, Mount Lyell Co. developed Regatta Point Wharf to handle the increase in freight. The company built coke bins and ore loading bins behind the wharf, and ultimately the Pyrite Wharf bulk handling facility. With the upgrading of the road between Queenstown and Strahan, and maintenance of the Abt Railway becoming more expensive, the line closed in 1963. The harbour complex was closed in 1970, after which time goods were shipped via *Melba Flats* to Burnie on the north coast.

☞ The walk starts at the far end of Memorial Park (east of Strahan Wharf) - at this point you will be on the original formation of the Strahan to Regatta Point Wharf Government railway. From here, follow the path along the foreshore.

===== THE SITES =====

1 Government Railway - Strahan to Regatta Point: The walkway follows the Government-built railway link between Strahan Wharf and Regatta Point Wharf. Little remains of the original construction, but as you walk along this path you may see the remains of a dry stone wall (1A), a signal mound (1B), 1950s repairs to the drystone walling using railway iron (1C) and a metal water pipe (1D). This 2 km link was built in 1900. At its opening, the link was *'welcomed by the... public who had generally suffered the poor amenities and many inconveniences for so long'*. The 3'6" gauge railway was a critical overland link from the mines to the outside world. It was to transport mine products, supplies, and passengers. The line closed in 1963 along with the Abt Railway to Queenstown.

2 Steamship Boiler: The metal boiler on the foreshore is typical of those used in small steamships that carried cargo on Macquarie Harbour from the 1880s. Only one, the *Lowanna*, is known to still exist. This boiler is one of few that has escaped being scrapped, although it has a section cut out for use as a log shoe. Log shoes were metal 'sleds' attached to the front of felled logs to make their movement through the bush easier.

3 Old Strahan Slip: (1890s) All that remains of the first town slip are a concrete slab which marks the location of the winch, slipway timbers running into the water and wooden steps to the beach. Also present is a wooden retaining wall which marks a former boat building area, and a set of iron wheels for the launching cradle. The timber and metal parts are the remains of the *Taswegian*, destroyed when she was slipped here in 1956. The slip was also severely damaged in this accident, resulting in the building of a larger facility opposite the Customs House, which still provides for the needs of the Strahan maritime community today.

4 Risby's Sawmill & Jetty: Left of the fisherman's jetty you will see the remains of the Risby's Huon pine jetty with rail lines. By the road, the concrete block of a steam engine mounting is visible. Down by the water on the far side of Site 5, timber posts mark the retaining wall for waste

The fleet of lighters was purpose built, as coastal steamers couldn't navigate the shallow channel of the King River. After 1899, this lighter was used by sawmillers to transport timber from the local mills to various berths at the main Strahan Wharf. It was hulked in the 1940s, a period when road transport began to replace water transport, and the timber industry of Strahan was in decline.

6 The Glen Turk: This is the wrecked vessel in the water just beyond and to the right of *Lighter No. 10*. The *Glen Turk* was built and used in the Derwent and Huon Rivers until it was brought to Strahan in 1919 for use by a Strahan timber company. The vessel was of an unusual spoon-bowed design that allowed the boat to load logs from shallow waters.

7 Union Steamship Company Carpenters Workshop: This large corrugated-iron building and the wooden jetty were built in the late 1890s by the Union Steamship Company of New Zealand (USS Co.) to house carpentry workshops. The workshops oversaw the building and repair of many of the company's boats. The USS Co. played an extremely important role in West Coast shipping and had its Tasmanian office at Strahan. For almost eighty years, the company had a virtual monopoly on West Coast shipping, having taken over a number of the earlier local companies. When the company closed its operations in Strahan, the sheds were used for boats, and later, a sawmill operated by C. Morrison. Little evidence of this sawmill remains.

8 Vivian Street Sawmill, Jetty & Pine Oil Factory: At the end of Vivian St, immediately to the left of the modern house on the foreshore, are the remains of metal machinery and concrete foundations. These are all that survive of a unique and peculiarly Tasmanian industry - Huon pine oil distilling. The original jetty at this site was built in 1900 by Captain E. T. Miles, who lived in Moana (now 'Franklin Manor' across the road). Capt. Miles was a well-known figure for his involvement with the USS Co. Some time later during the 1920s, a sawmill was established on this site. During the Great Depression, two sawmillers diversified into Huon pine oil distilling to supplement dwindling incomes. Oil was produced here by the Waddle Pine Oil Co.

sawdust from the mill. Risby Bros built a major complex including a wharf, jetty, sawmill, a joinery and lumber yards.



Risby's Wharf and Mill at Risby Cove, 1899 (Courtesy C. A. Risby)

The mill extended across the road, but little can be seen in the thick bush today. In the top right corner of this bay on the water's edge, lies a large iron 'boiler', typical of those used to produce steam to drive the engines of sawmills around the turn of the century. This is all that remains of Risby's main West Coast mill. Initially, Risby's built a mill in West Strahan, but after it was destroyed by fire in 1899, the company moved their mill to this site. The Mount. Lyell Co. was an extremely important client during the operation of the mill. As well as supplying timber to the mines, Risby's supplied building timber for wharves and many of the houses of Strahan. The business was taken over by Grinings in 1915 who ran the sawmill for many years.

5 Lighter No. 10: The remains of this vessel rest on the sand to the left of Risby's jetty. This boat was built locally of Huon pine and was one of a fleet of 10 vessels built and owned by the Union Steamship Co. between 1897 and 1899. These boats were used for storage and the transporting of goods between the railhead at Teepookana and the wharf at Strahan.

for use mainly in pharmaceuticals, with quantities being exported to Germany before World War II. However, despite early success, commercial Huon pine oil production was a short-lived industry which did not continue long after the end of the War. Behind the house is a large boiler which was used to power the mill.

9 Stave Pipe: Across the creek there is a narrow wood-stave water pipe, an old style of construction unusual for Australia. This pipe carried water to Regatta Point Wharf for supplying ships and locomotives.

10 Davis's Slip & Jetty: This small slip with a metal hand winch is typical of those which were built for Strahan residents to maintain their boats, whether for commercial or recreational purposes. The slip was built in 1916, although the upper part has been substantially rebuilt in recent years. The present 'carriage' was transferred from a disused slip in West Strahan. The very small wooden jetty about 50m to the north-east was also built by Davis in 1916 for mooring smaller boats.

11 Surveyor's Mark: Cut into the large eucalyptus tree on the foreshore edge, at about shoulder height, is a triangle about 30 cm long. This is typical of the marks made by early surveyors to denote land boundaries, particularly property corners. This mark was possibly cut in the 1880s when the first subdivision and surveys of Strahan were being carried out.

12 Regatta Point North Jetty: The remains of this substantial wooden jetty reinforces the maritime focus of Strahan and the importance of the sea in the lives of the townspeople. It was built to service the Regatta Point Wharf, and was maintained mostly by the Mount Lyell Co.

13 Regatta Point Wharf, Station & Residential Area: The wharf and port facilities were built between 1898 and 1899 as the new railhead for the Mount Lyell Co. The complex was comprised of a wharf, wharf buildings, a railway station, turntable,



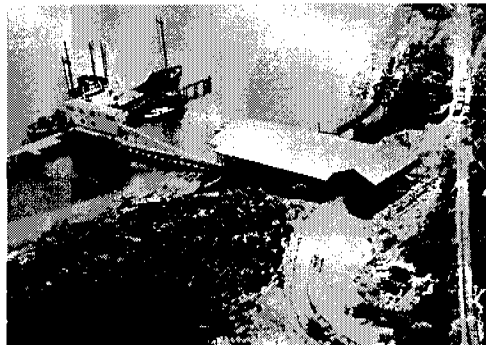
Regatta Point Wharf, 1900s
(Courtesy Archives Office of Tas.)

engineering sheds and workers' cottages. The wharf functioned as a railhead for the Abt Railway until 1963 when the line was closed. Road transport was used until the wharf closed in 1970. All that remains are the station building, a 16-ton steam crane brought from the railhead at Teepookana, and further east, remains of the main water tank and other railway equipment including points and weighbridge. Across the road stand the original engine shed and cottages built in the 1900s for Mount Lyell Co. workers. Further west along the road, the brick foundations in the bank are the remains of the Railway Hotel.

From the far end of Regatta Point Wharf, continue along the road past the seafood processing works, then follow the track towards the shore. This puts you on the lower railway formation that connected Regatta Point with the Pyrite Wharf. The main road is part of the original line also connecting these sites.

14 Coke & Ore Bins: Behind Regatta Point Wharf, the stonework and old timbers in the road cutting are the remains of large bins. Built in 1892 by Electrolytic Zinc and later taken over by the Mount Lyell Co., the bins were used for the storage of export pyrites and calcines (burnt ore), and for imported coke and coal needed for smelters and trains. They sat over the rails on high timber trestles, and a complex of rails allowed the bins to be filled and emptied.

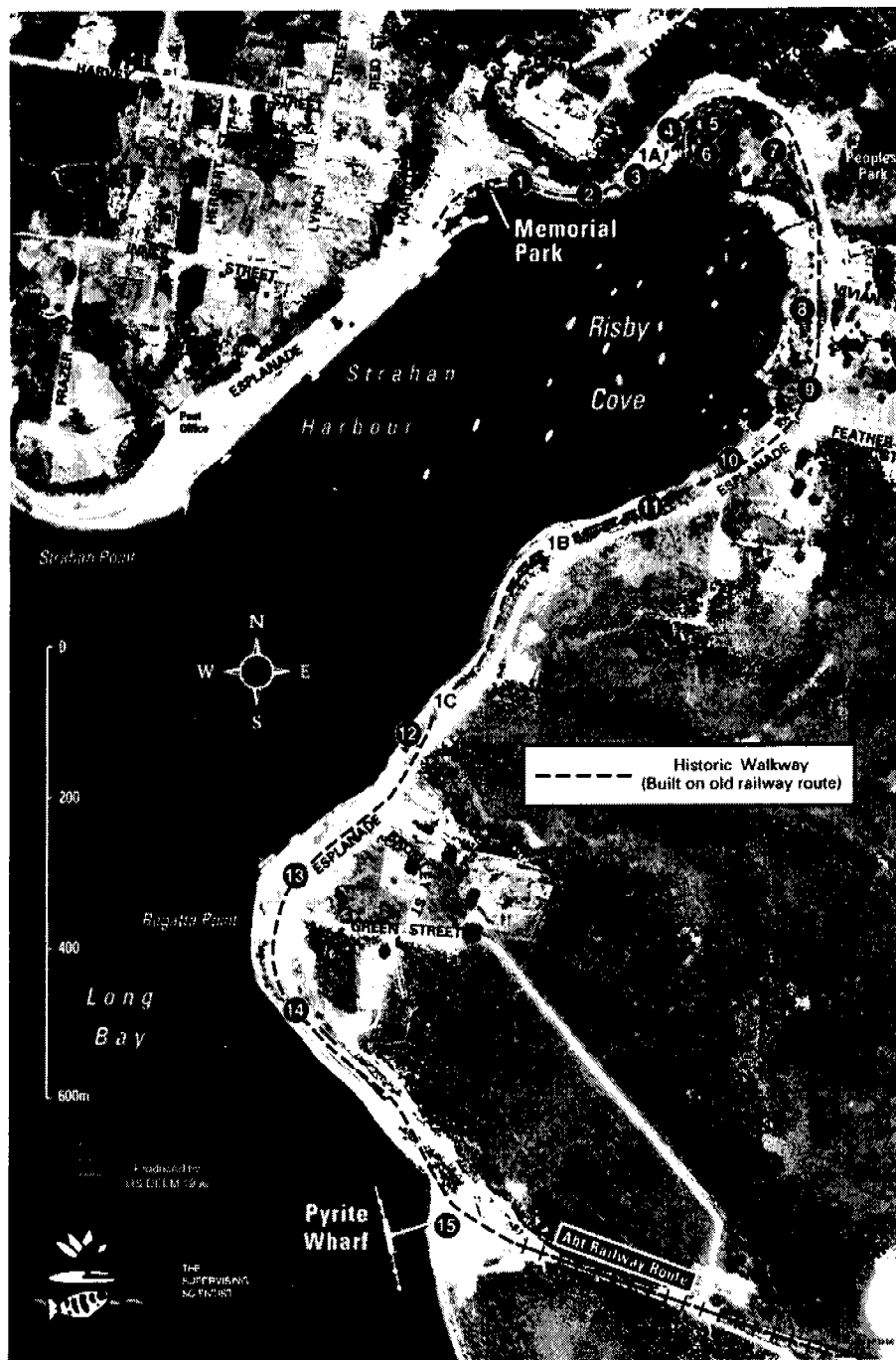
The bins closed in 1962 with the railway. Beside the road, just past the track, there are two rows of concrete piles at ground level. These are the remains of showers and changing rooms for the workers on the bins.



Pyrite Wharf and the Regatta Pt. Ore Bins, early 1960s (Courtesy Lou Rae)

15 The Pyrite Wharf (Ore Jetty): The gravel terraces, masonry piers, concrete foundations, railway track, gutters, stone banks, corded road, and wharf piles were, until 1973, the most modern of the Mount Lyell Company's port facilities. Known as 'the Pyrite Wharf', this was a bulk handling facility, mainly for pyrite concentrate, a by-product of copper recovery, which was used in the manufacture of superphosphate. By the 1920s, superphosphate was a greater source of revenue for the Mount Lyell Co. than mining. By the end of the war Regatta Point Wharf was becoming inadequate for handling the growing volumes of copper and pyrite concentrate. The solution was the Pyrite Wharf, built between 1950-53. A large shed covered the pyrite concentrate dump which was in the gully between the road and the wharf. Concentrate was loaded onto ships by a massive mechanised conveyor system with a capacity of 240 tons an hour.

The wharf was abandoned in 1970, and the area has been rehabilitated as part of the Mount Lyell Remediation, Research and Demonstration Program.



ROUTE MAP OF HISTORIC WALKWAY

Historic Sites along the Strahan Foreshore from Memorial Park to Pyrite Wharf.

The Strahan Foreshore Historic Walkway extends from Memorial Park, near Strahan Wharf, along the foreshore past Risby's Cove, to the Pyrite Wharf. The walkway follows a historical railway route, and is approximately 2.5 km long.

The sites along this walk are an important part of Strahan's history. They help to tell the story of the development of Strahan, Macquarie Harbour, and the West Coast, and in particular, the story of The Mount Lyell Mining & Railway Company. The sites, like many other historic places, are only vestiges of what once stood here. You may need to look carefully to see what is left - however, we hope this serves to heighten your enjoyment of the foreshore heritage.

Inside this pamphlet there is a route map and notes on each of the historic sites.



The Strahan Foreshore Historic Walkway (Courtesy Anne McConnell)

WE HOPE YOU HAVE ENJOYED THE WALK AND
A GLIMPSE OF HISTORIC STRAHAN THROUGH THIS PAMPHLET

Contact the following agencies if you would like more information about:

- **The sites and their history**

Cultural Heritage Branch, Parks & Wildlife Service, Hobart, ph (03) 62 332424, or
Strahan office of the Parks and Wildlife Service (in the Old Customs House), ph (03) 64 717122.

- **The Mount Lyell Remediation, Research & Demonstration Program**

Environment Tasmania, Department of Environment and Land Management, ph (03) 62 332652

To protect these historic sites so others may also enjoy the walk, treat the area with respect. Please do not move off the defined pathway, litter or remove items or native flora. Historic sites are part of our heritage and we wish to preserve them for others to enjoy.

- This pamphlet has been produced by the Department of Environment and Land Management with funding from the **Mount Lyell Remediation, Research & Demonstration Program**.
- The pamphlet was designed and written by Anne McConnell, with assistance from H. McDermott, Strahan Historical Society, S. Newman, J. Johnston & A. Graeme Evans.
- The sites along this section of foreshore are managed by the Tasmanian Property Services Group of the Department of Environment and Land Management.



Department of Environment
and Land Management

Mount Lyell Remediation
Research and Demonstration Program



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scientist