

## Launceston – Queenstown via the North and West Coasts

### Fieldtrip Guide

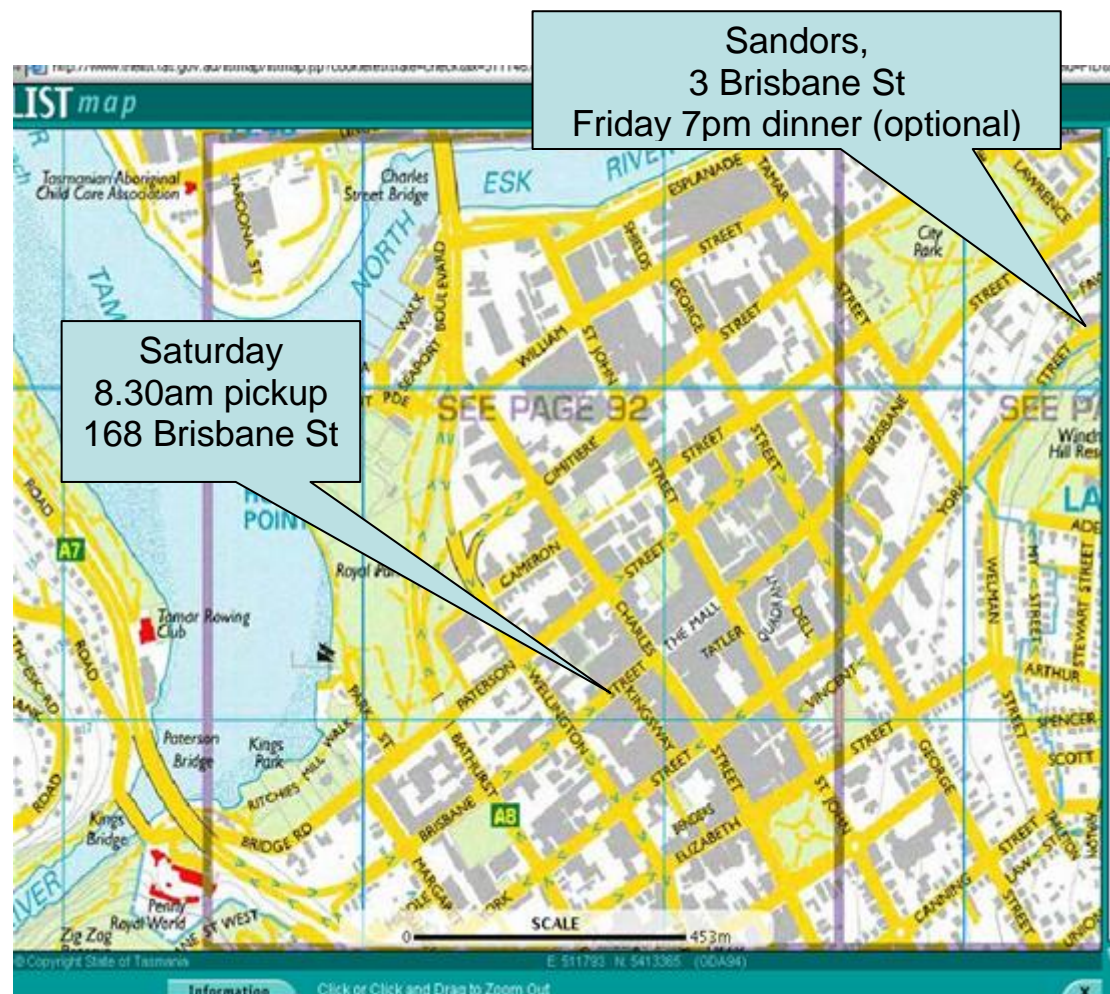
#### Friday night

Informal dinner and drinks at Sandors, 3 Brisbane St, at 7pm.  
Dress casual and tidy. Pay your own bill.

#### Saturday 9<sup>th</sup> February 2008

**Leader: Colin Mazengarb** Mineral Resources Tasmania (Dept of Infrastructure Energy and Resources), **with contributions from Chris Sharples and others.**

Pickup: 8.30 am 168 Brisbane St, opposite Village Cinemas, Manions Coaches.  
9.00 am Abel Tasman Airport Motor Inn 331 Hobart Rd pick up.  
9.30 am Launceston Airport pick up.



**Major Theme for the day:**  
**Landscape evolution of the Tamar Valley**  
**implications for natural hazards with emphasis on land stability**

Most of the examples will be based on recent and past work undertaken by Mineral Resources Tasmania.

**STOP 01** - Launceston Airport 9.45 am:

- Introductions and overview of field trip, regional geological setting, dominant geomorphological processes, outline of recent and ongoing research.

**STOP 02** - Lawrence Vale Landslip, South Launceston 10.45 am:

- Overview of recent study of landslide. This landslide destroyed >40 houses in the 1950s-70s.

**STOP 03** - Cataract Gorge 12 pm:

The stop will include a walk up the main path from the road bridge, casual lunch at the chalet (you pay), toilets available, walk back to bus over high track for vista of Tamar.

- Evolution of the gorge and its geohazards.
- Consequences of historic river management and challenges for the future.
- Discussion on seismic hazard.

**STOP 04** - Pleasant Hills, Grindelwald 2.30pm:

- Influence of local geology on slope evolution.
- Inspect recent landslide and discuss management issues facing Council.

**STOP 05** - Bradys Lookout panorama 3pm (Toilets available):

- A great vista to admire various landscape terranes, and local geohazards.

**STOP 06** - Beauty Point Landslide 4 pm:

- The challenge of controlling development on active landslides in the context of soaring property prices.
- Vista to admire the industrial estate on the eastern shore where a certain pulp mill is to be built.

Travel to Devonport via Latrobe and Spreyton: arrive 6pm at Glasgow Lodge Motel, 59 George Street, Devonport (6424 1480).

Meal at local hotel beside Mersey River, starting ~ 6.30 - 7pm. Dress casual and tidy.

## **Field Trip Notes: Day 2 - North and West Coasts**

### **Theme for the day:**

### **Landscape Evolution, Landslides, Coastal Systems and Climate Change**

The north-west coastline of Tasmania has been described as three broad types by Edwards (1941) as follows:

#### **Silted Indentations with Prominent Cluffed Headlands**

*(West Head to Devonport and Boat Harbour Beach to Stanley Peninsula)*

Wide, deep bays formed in belts of relatively resistant sediments (not covered by basalt) and bordered by prominent cluffed headlands formed in still more resistant rocks. Bay-mouth bars and mid-bay bars have closed off the heads of these bays and led to their extensive silting.

#### **The Scarp Coast**

*(Devonport to Boat Harbour Beach plus Stanley Peninsula and Marrawah)*

The distinctive feature is a narrow emergent coastal plain backed by a more or less continuous scarp that exceeds 60m. The scarp development is due to the undercutting by marine erosion of the sheet-like basalt flows that cover the basement geology. Subsequent emergence of the coastal plain has removed the cliffs from attack by the sea and left them to weather into a steep escarpment. At major river mouths the coastal plain widens and the scarp shows a corresponding embayment. Lava flows infilling old valleys frequently extended below present sea level and where these filled valleys were narrow, marine erosion has formed a basalt peninsula or narrow headland. As the sea level dropped the back of the peninsulas could be removed if erosion intersected the old valley floor, leaving an isolated basalt outcrop as an island (e.g. Stanley Peninsula) or rock stack on the shore platform. Where the width of lava-filled valley or valleys passing below present sea level was considerable, as between Table Cape and Boat Harbour Beach, or to a lesser degree at Don Heads; the width of the shore platforms has been restricted – due to the resistant nature of the basalt and subsequent modern marine erosion.

#### **The Emergent Coast**

*(west from Stanley Peninsula around the coast to Marrawah)*

A deeply indented coastline of the first type, fronted by a wide coastal plain of recent emergence and extensive swamps. Scattered in this plain are hills of resistant rocks that were previously islands.

### **Reference**

Edwards, A.B. 1941 The north-west coast of Tasmania. *Proceedings of the Royal Society of Victoria*, **53**: 233-267.

## **Landslides and Geomorphology along the Scarp Coast**

(Devonport to Burnie) Leaders: Michael Stevenson, Colin Mazengarb and Chris Sharples.

Leave Devonport at 8.30 am.

Drive along coast via Lilloo Beach to admire coastal plain and escarpment.

**STOP 01** - Caravan Park, Button Rd, Ulverstone 9.00 am:

- Stacked marine terraces at Ulverstone, past sea levels and the case for tectonic uplift.
- Recent coastal processes and implications for management.

**STOP 02** - West Ridge Road, Preservation Bay 10.30 am:

- Large-scale landslides (1-2km in size) - what causes them?
- Mysterious lineaments behind escarpment.
- Vista of coastal landscape.

**STOP 03** - Round Hill Lookout 11.30 am:

- Views over elevated landscape remnants.
- Surface at 170m and benches at 90m.

**STOP 04** - Lunch and toilet stop in Burnie 12pm.

**STOP 05** - View Rd Subdivision, Burnie 1 pm:

- Visit to a proposed subdivision development on recently moved landslides!
- Discussion of the role of geoscience in developments such as View Rd, Boat Harbour Beach, etc.

Leave for Strahan at 2.30 pm.

**STOP 06** - Ocean Beach 4.30 pm:

- Inspect some of the fastest eroding coastline in Tasmania as explained by Chris Sharples.

Arrive Queenstown 6pm. Bus returns to Launceston.

## **Participants**

Sandra Brizga

Gareth Davies

Joanna Ellison

David Gibson

Deb Hunter

Agata Imielska

Bernie Joyce

David Kennedy

Sam McColl

Colin Mazengarb

Richard Mazurek

David Outhet

Colin Pain

Ian Rutherford

Chris Sharples

Nicola Smith

Michael Stevenson

Vanessa Wong