

1. INTRODUCTION

1.1 Background

The decision to survey the soils and landforms of a 2.4 million hectare area of south-western Victoria (Figure 1) was based on the perceived opportunity for major changes in land use management. It is believed that a combined knowledge of critical soil properties and landform features is essential for success in such decision making if changes in land use practices are being considered.

Economic circumstances during the nineteen seventies suggested that substantial gains could be made from increasing wheat production. It was also recognized that farmers relying on single enterprises would benefit financially from the adoption of more flexible, multi-enterprise systems. In response to this economic environment the Department of Agriculture initiated research and development programs concerned with alternative land use, particularly the expansion of wheat production into the traditional grazing areas. To realize the potential for cropping in the higher rainfall regions of south-western Victoria, landform features (eg. %slope), critical soil properties (eg. pH), climatic requirements and crop phenology must be considered.

- Part I of the report presents an inventory of the soils and landforms which includes a statement, in map format, of the areal distribution of the different soil-landform units. It is envisaged that, for Part II, the land and climatic requirements of selected plants will be matched with the inventory to enable the development of flexible management systems for sustainable agriculture.

1.2 Scope

Although the area has been included in small scale soil and landscape surveys, for example continental resource mapping (Northcote 1960, 1962), and some parts of the area in larger scale land systems surveys (Newell 1962, 1979; Martin and Maher 1985), this investigation was restricted to a uniform soil and landform survey at the field scale of 1:100 000 over the entire area.

Landforms and soils were described according to the Australian Soil and Land Survey Field Handbook (McDonald et al., 1984). Soils and landforms are presented on the maps as compound soil-landform units. This precludes the need to use map overlays and yet still reflect the field situation. This system has resulted in a relatively large number (267) of different map units.

1.3 Presentation and use

The classification system and presentation of soil morphological and landform data have been designed to facilitate the use of the report by the many individuals and organizations concerned with aspects of land use planning and management. The dominant and sub-dominant soils are described in detail for each different map unit, however the mapping scale is too broad to allow the actual location of individual soil features. The final map unit symbols also include a code for the dominant landform pattern and element which are described in the text. The second chapter of the report fully explains and presents the overall classification system. This chapter should be read carefully before using the accompanying maps.

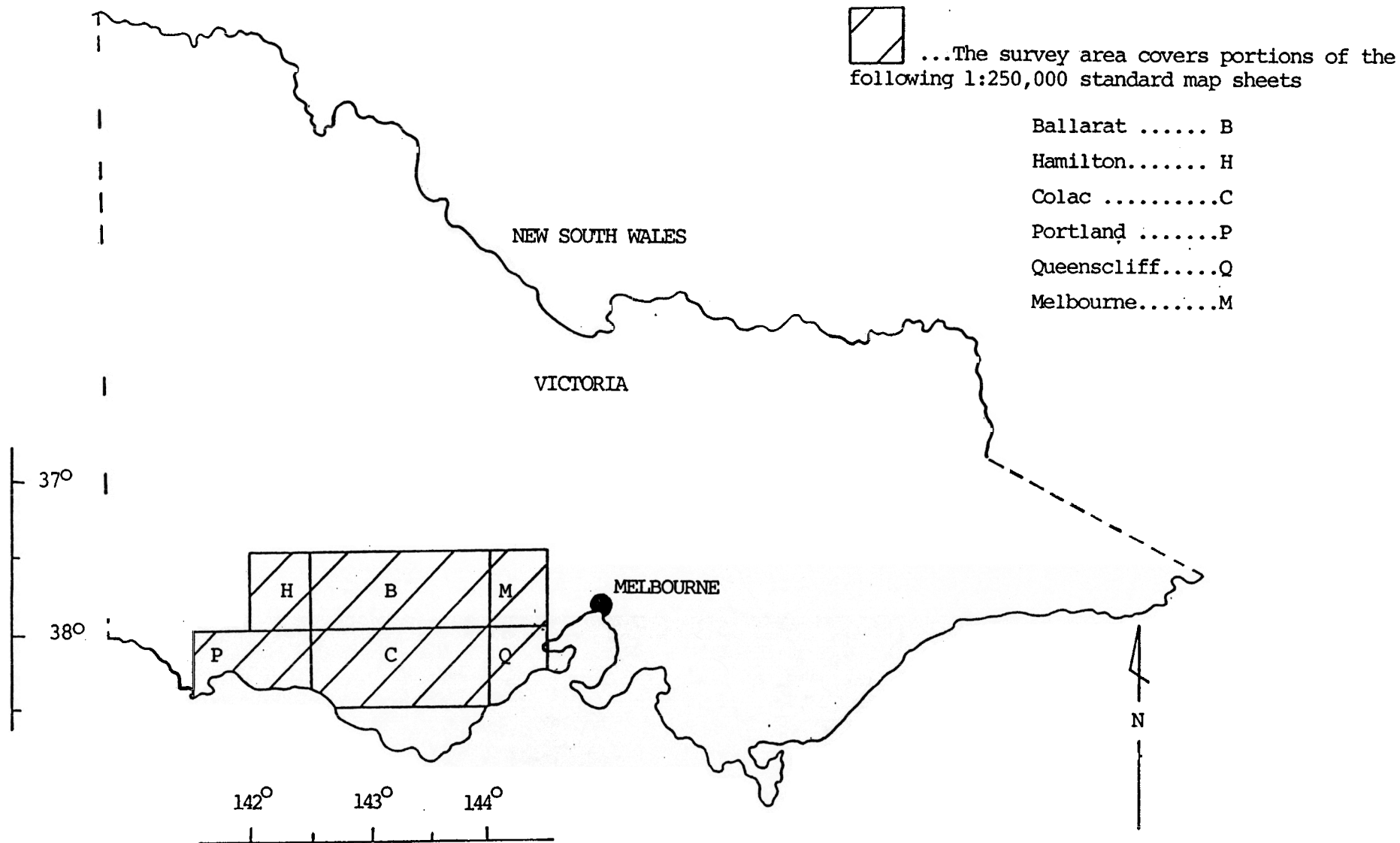


Figure 1: Index to Soil - Landform Map Sheets