

# Farmland protection maps for the northern rivers of North Eastern NSW, Australia-an application of soil landscape information

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The Northern Rivers region of NSW comprises the Tweed, Richmond and Brunswick Rivers catchments. Maps depicting those contiguous areas within this region that are considered to be the better agricultural land (not just prime agricultural land) have been derived from published soil landscape information (Morand 1994; 1996; 2001) and mapping currently underway. The maps were used by the NSW Department of Planning 'Northern Rivers Farmland Protection Project' to establish a system of regional agricultural protection through the planning system. The project is a response to the problem of incremental and substantial loss of agricultural land to urban development. Two categories of farmland protection, State and Regional, were developed. State farmland is country that has a relatively unique combination of quality soils and landforms with a favourable climate. Regional farmland is country that is significant from a regional perspective but not necessarily unique. Each category will be subject to its own specific planning rules. A third category is 'other rural land', which may include small pockets of better quality land. National parks and state forests are excluded.

Soil landscape mapping undertaken by DECCW and its predecessor organisations was chosen as the base data for the mapping because:

- There is complete coverage of the Northern Rivers-time and resource constraints did not allow a mapping programme dedicated specifically to farmland protection.
- Each soil landscape is discriminated in terms of soils, landform, geology and, to a lesser extent, vegetation.
- A broad land capability ranking is allocated to each soil landscape.
- Soil type, soil fertility, landform, land capability and natural hazards were the primary factors considered when determining which soil landscapes were to be selected - all these factors are considered in each soil landscape description.
- The Farmland Protection map could be derived from relatively simple manipulation of the soil landscape maps.

## Soils and landforms

State: soils are predominantly Red Ferrosols (Nitisols) forming on Tertiary basalt. Landforms are generally rises to low hills with slopes <15%. Regional: soils are mixed, but include Red Ferrosols (Nitisols) on the steeper basaltic country. Other soils are Brown and Black Dermosols (Phaeozems), Vertosols (Vertisols), Hydrosols (Gleysols, Fluvisols) and Kurosols (Acrisols, Planosols). Landforms can vary from alluvial plains, to rises, to rolling low hills and hills with slopes up to 33%. Other Rural Land: variable, but includes good farmland on narrow alluvial plains where size precludes inclusion within the other categories.

## Conclusion

The Farmland Protection Project is a good example of how the considerable amount and variety of information collected for soil landscape maps can be utilised to produce strategic planning maps where time and resources are limited. Although there is a substantial input of time and resources into producing soil landscape maps and reports, their versatility and adaptability for providing more than just soil information is a powerful feature. The soil landscape concept is particularly conducive to the type of application illustrated on this poster.

## References

Morand DT (1994) 'Soil Landscapes of the Lismore-Ballina 1: 100 000 Sheet Map and Report'. (Soil Conservation Service of New South Wales, Sydney).

Morand DT (1996) Soil Landscapes of the Murwillumbah-Tweed Heads 1:100 000 Sheet Map and Report. (Department of Land and Water Conservation: Sydney).

Morand DT (2001) Soil Landscapes of the Woodburn 1:100 000 Sheet Map and Report. (Department of Land and Water Conservation: Sydney).