# West Midlands Study

Part A. Generate phytogeographic units or sub-systems for the West Midlands.

1. Compile existing botanical survey data for the West Midlands area (Lesueur Sandplain subregion of Geraldton sandplains and northern section of Perth subregion, north of Lancelin, of the Swan Coastal Plain Region)

Pre-existing floristic survey data were compiled into a coherent database, with reconciled taxonomy and reliable geo-referencing.

2. Collect additional botanical survey data to cover priority data gaps.

Specific gaps in the floristic survey data set were identified and the process of gap filling was carried out sequentially over two field seasons. In October 1998, 43 quadrats were sampled. In October 1999, 37 quadrats were sampled. The data from these quadrats (a total of 2602) have been incorporated in the database.

3. Analyse comprehensively the botanical survey data-

- to identify discrete plant communities,
- to quantify the floristic diversity in a way that is relevant to designing a reserve system,
- to define and map biogeographic units (sub-systems) which can be used as the basis for planning a reserve system, bringing together data on plant communities, soil landscapes and vegetation, and

The site x species data matrix derived from the floristic survey has been analysed using an agglomerative polythetic classification procedure in PATN. The classification has been truncated at the 500 group level - this provides meaningful groups as a starting point for the project and are represent the floristic community level.

The floristic communities so defined have then been further grouped in terms of their geographic patterns, to reflect regional catenary sequences. Finally 38 sets of floristic communities have been identified. These 38 sets have been mapped. Based on the mapped distribution of the sets, 29 regions have been defined. These 29 regions are based in part on the soil landscape map unit boundaries. These 29 regions were to be considered fine scale phytogeographic units or sub-systems to be used for the conservation assessments in the project.

4. Compare distribution patterns of selected plant taxa and other components of the biota to test the hypothesis that the proposed biogeographic units (sub-systems) are reliable surrogates for the biota as a whole.

Not done. A review of available fauna distribution data suggests that such a test will be meaningless. This component of the proposal will focus on plant species only.

5. Field validate the proposed sub-regions.

Not done

6. Finalise the bioregionalisation for the West Midlands study area, including proposals for adjustments to IBRA boundaries, and the identification of sub-regions.

Not done