

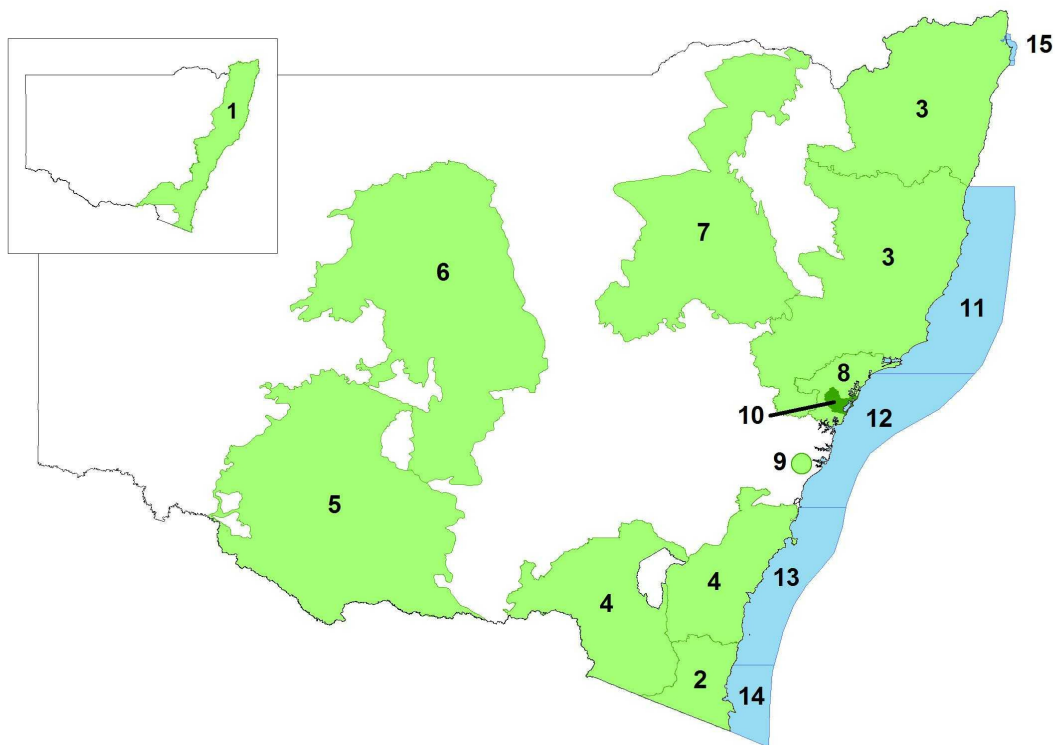
Attachment 1

C-Plan conservation planning projects in New South Wales

Regional Forest Agreements – Interim Assessment Process (region 1 in map)

Use of C-Plan for negotiations in 1996 between the Commonwealth Government, Forest Products Association, State Forests, CFMEU (Construction, Forestry, Mining and Energy Union), National Parks and Wildlife Service (now Department of Environment and Conservation - DEC), and non-government conservation groups. Outcomes included deferral from logging of about 800,000 ha of production forest pending subsequent comprehensive assessments (below).

Roles of team: contribution to shaping the State Government's approach to the process; development, testing and validation of C-Plan; demonstration of software and concepts of systematic conservation planning to stakeholders; involvement in design of the negotiation process; training and technical support for stakeholders for their independent use of the software; operation of software for the stakeholder negotiations; analysis of outcomes.



Regional Forest Agreements – Eden (region 2)

Use of C-Plan for negotiations between major stakeholders in 1997 to identify new national parks and nature reserves in the Eden Management Area. Outcomes included about 39,000 ha of new formal reserves.

Roles of team: further development, testing and validation of C-Plan; presentations to negotiating interest groups and other stakeholders; contribution to shaping the State Government's approach to the RFA; operation of software for the stakeholder negotiations; analysis of outcomes.

Regional Forest Agreements – Upper and Lower North-east (region 3)

Use of C-Plan for negotiations between major stakeholders in 1998 to identify new national parks and nature reserves in the north-east of the State. Outcomes included about 323,000 ha of new formal reserves.

Roles of team: further development, testing and validation of C-Plan; presentations to negotiating interest groups and other stakeholders; contribution to shaping the State Government's approach to the RFA; operation of software for the stakeholder negotiations; analysis of outcomes.

Regional Forest Agreements – Southern (region 4)

Use of C-Plan for negotiations between major stakeholders in 1999 and 2000 to identify new national parks and nature reserves in the south-east of the State. Outcomes included about 326,000 ha of new formal reserves.

Roles of team: further development, testing and validation of C-Plan; presentations to negotiating interest groups and other stakeholders; contribution to shaping the State Government's approach to the RFA; operation of software for the stakeholder negotiations; analysis of outcomes.

Riverina Biogeographic Region – 1999 (region 5)

Use of C-Plan by the National Parks and Wildlife Service (now DEC) to identify preliminary options and priorities for achieving conservation targets for vegetation types, involving consultation with stakeholders.

Roles of team: compilation of regional data sets; design of the conservation assessment process; analysis of data with the software system; consultation with stakeholders about priority conservation areas; reporting on methods and recommendations.

Riverina Biogeographic Region – 2002 (region 5)

Use of C-Plan by the National Parks and Wildlife Service (now DEC), with advice by a specially convened panel of regional biodiversity experts, to identify priority areas for conservation. The project was designed specifically to integrate expert judgements and data analysis (often regarded as mutually exclusive alternatives) in a way that takes advantage of their complementary strengths and weaknesses.

Roles of team: compilation of regional data sets; convening of expert panel; liaison with experts; development of a protocol for integrating the different sources of information to identify priority areas; identification of priority conservation areas; reporting on methods and recommendations.

Cobar Penepain Biogeographic Region (region 6)

Use of C-Plan by the National Parks and Wildlife Service (now DEC) to identify preliminary options and priorities to achieve conservation targets for land systems in the region, involving consultation with stakeholders.

Roles of team: compilation of regional data sets; design of the conservation assessment process; analysis of data with the software system; consultation with stakeholders about priority conservation areas; reporting on methods and recommendations.

Brigalow Belt South Biogeographic Region (region 7)

Use of C-Plan in the Western Regional Assessment for negotiations between major stakeholders from 2002 to identify new national parks and nature reserves in the bioregion, including the Pilliga and Goonoo forests. Outcomes included about 348,000 ha of new conservation areas.

Roles of team: oversight of data preparation; further development, testing and validation of C-Plan; operation of software for the stakeholder negotiations; subsequent use of the software to develop land use options for discussions at ministerial level.

Lower Hunter and Central Coast Local Government Areas (region 8)

Use of C-Plan by LHCCREMS (Lower Hunter and Central Coast Regional Environmental Management Strategy), PlanningNSW (now DIPNR) and a group of seven Local Government Areas (LGAs) from 2002 to identify priority conservation areas for the region as a basis for review of zonings. The LGAs are Gosford, Newcastle, Wyong, Port Stephens, Maitland, Cessnock and Lake Macquarie. Identification of priority areas continues.

Roles of team: advice on compilation of data; technical support for use of C-Plan.

Georges River catchment (region 9)

Use of C-Plan from 1999 to 2001 by the National Parks and Wildlife Service (now DEC) and PlanningNSW (now DIPNR), in collaboration with the ten councils covering parts of the catchment, to identify priority conservation areas and recommend local government conservation zonings.

Roles of team: development of data on vegetation, plants and animals; advice on conservation targets; analysis of conservation options in software; development of zoning plan.

Wyong Shire (region 10)

Use of C-Plan by local government planners in 2003 to assist in identifying areas for primary and secondary conservation zones. Collaboration with the C-Plan project team continues and further work is planned.

Roles of team: compilation and analysis of data; advice on conservation targets; development of the approach to integrating multiple considerations to produce a zoning plan; operation of software.

Manning Shelf (region 11), Hawkesbury Shelf (region 12), Batemans Shelf (region 13), and Twofold Shelf (region 14) Marine Bioregions from 2000 to 2004

Use of C-Plan by the Marine Parks Authority to assess coverage of habitats by existing marine parks and to design and recommend potential areas for new marine parks.

Roles of team: advice on data compilation; technical support and advice on use of software.

Cape Byron Marine Park (region 15)

Ongoing work by the Marine Parks Authority and Department of Environment and Conservation to develop a zoning plan within the park, involving workshops and analyses in C-Plan.

Roles of team: advice on data compilation; technical support; operation of software.

Applications for 2004 and beyond

Discussions underway with selected Catchment Management Authorities and the LHCCREMS consortium of local governments (Lower Hunter and Central Coast Regional Environmental Management System) about applications and further development of C-Plan for catchment action plans, property vegetation planning, incentive delivery, and urban development scenarios.

Attachment 2

C-Plan conservation planning projects outside New South Wales

The number of registered users in early July 2004 was 271. Of these, 27% are in New South Wales, 13% are interstate, and 60% are overseas.

Benefits to New South Wales of interstate and international collaboration

There are three main benefits to New South Wales of collaboration between the C-Plan project team and other teams elsewhere in Australia and overseas: (1) testing the software on a wide variety of data sets for many purposes, with feedback to the C-Plan team on limitations and suggested improvements; (2) injection of ideas and techniques from other innovative projects, helping to ensure best-practice in New South Wales; and (3) helping to establish New South Wales as a world leader in research and applications in conservation planning.

Interstate projects

Interstate users are from all other states and territories.

Completed or current projects involving the project team cover the following regions:

- * Queensland Brigalow Belt
- * Queensland Wet Tropics
- * Melbourne grasslands
- * Victorian box-ironbark woodlands.

International projects

International users are from Brazil, Canada, China, Colombia, Cuba, Denmark, Guyana, Japan, Netherlands, New Zealand, Portugal, Seychelles, South Africa, Uganda, UK, USA and Venezuela.

Completed or current international projects involving the project team cover the following regions or countries:

- * Guyana
- * Amazon floodplain
- * northern USA
- * north-eastern USA
- * the whole of Canada
- * Okanagan area in British Columbia
- * boreal forests of Canada
- * western desert environments in South Africa
- * Cape Floristic Region of South Africa (a global biodiversity hotspot)
- * Thicket Biome of South Africa
- * Forests of the Upper Yangtze ecoregion in south-western China (a global biodiversity hotspot)
- * global analyses of biodiversity hotspots for Conservation International (see newspaper item in Attachment 3 and publications by Rodrigues and others in Attachment 4).

Attachment 3

Article on C-Plan software in the Sydney Morning Herald

The Sydney Morning Herald

Easter Weekend Edition, April 9-11, 2004

Number crunch time for species

Deborah Smith
Science Editor

If you want to do a global study of biodiversity, the biggest of its kind, who you gonna call?

Matthew Watts, in Walcha, a small town near Tamworth.

Information collected by thousands of scientists around the world on more than 11,600 animal species, and 100,000 conservation areas, was sent to Mr Watts to analyse on his desktop computers by Conservation International, a US-based environmental research organisation.

"I don't usually work on that magnitude of data," Mr Watts said. "It took about a week of number crunching on three or four machines."

The study's findings, including that 1424 "gap species" of mammals, amphibians, turtles and tortoises, and threatened birds, are not protected in any of their habitats, were published this week in the journal *Nature*.

Mr Watts, a computer consultant, developed software called C-Plan several years ago, as part of a research program run by Bob Pressey, of the Department of Environment and Conservation in Armidale.

The software is designed to assist in environmental disputes, by helping groups with different interests to negotiate the best areas to be protected. "It tells you the relative importance of each of the areas in a region for achieving conservation targets," said Dr Pressey, who won a Eureka Award for the project in 2002.

Conservation International decided to commission a global biodiversity study before last September's World Parks Congress in South Africa, and asked Dr Pressey and Mr Watts to join an international team of 21 scientists.

Thousands of surveys of vertebrates carried out by governments, museums and scientists in different countries were included in the analysis. "It was the first time such a comprehensive data set had ever been assembled," Dr Pressey said.

The team compared maps of more than 100,000 protected areas to maps of the distribution of 11,633 species. Among the unprotected "gap species" identified were 300 critically endangered animals, mainly found in tropical mountain regions and islands in developing countries.

Although 11.5 per cent of the planet's surface had been protected so far, a more targeted approach to conservation planning was required to avoid large-scale species extinction during the next few decades, the team concluded.

Mr Watts said his involvement showed it was possible to make a global contribution and still enjoy a rural life. "Walcha is a beautiful place to live. Very peaceful."

Attachment 4**Publications on C-Plan software applications**

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