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Department of Conservationand Land Management
Science Division

COMPUTING AND INFORMATION TECHNOLOGY SUPPORT

A Discussion Paper – July 2001

by

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1. INTRODUCTION

The management of computing and information technology (CIT) support for the Science Division is an integral part of its Mission to " provide up-to-date and scientifically sound information to uphold effective conservation and land management in Western Australia". It is the means by which the research information generated at significant cost, is secured and made available to our stakeholders, including output purchasers, managers, operations and policy staff and the public. Scientists and technical officers also require efficient CIT support to allow them to perform their work properly, and it is an important tool in developing our reputation in science.

For the last 10 years, CIT has largely been the responsibility of the respective Groups, and has been provided on an *ad hoc* basis by part-time contractors or other parts of the Department, primarily Information Management Branch (IMB). In some cases scientists have sought assistance outside the Department, which then raises issues of IT ownership, and for access to data to be limited. Because we have been reliant largely on external IT services, there have also been issues of consistency of support for software (e.g GIS and database software). Some biodiversity information systems have been successfully developed at the WA Herbarium, however these are primarily restricted to information on flora (eg Florabase, WAHerb). Attempts at integration with the WA Musuem to develop a Faunabase have been unsuccessful.

This Discussion Paper details the type of support required by the Science Division and presents some options for meeting these needs. There was considerable input into this issue from Paul de Tores, Angas Hopkins and Paul Gioia. Documentation from Paul de Tores and Angas Hopkins are attached as support. A meeting was also held with Colin Pearce, Peng Soong, Jenny Moss, and Robyn Wilson to discuss future collaborations and developments with IMB.

2. SUPPORT REQUIRED

There are three broad areas in which CIT support is required; desktop and network support, database management, and Geographical Information Systems (GIS).

2.1 Desktop and Network Support: Ongoing support at each metropolitan research centre is required for purchasing hardware and software, ensuring compliance with CAMS requirements, setting up computers / installing software, and on what software might be appropriate. Network support is also required. Across the Division, this would probably require 0.5 FTE – 1 day at Woodvale, 1 day at Kensington, 1/2 day at Herbarium.

2.2 Database management: There are three issues here. One is advice and training in use of the appropriate database and in database design. The second is the knowledge of what databases exist in the Division. Several attempts have been made at

identifying the various databases that exist and a recent attempt by Corporate Information Services captured approximately 60% of known databases. However there are no processes in place for keeping this information up-to-date. This is a serious issue as several senior staff will be retiring in the next few years and there is no adequate tracking system in place to determine where their data lies. A third issue is the access to biota distributional databases by other Departmental staff. Scientists have problems with issues of custodianship and confidence in others to properly maintain the database.

2.3 Geographic Information Systems: GIS is quickly becoming a more important tool for scientists to interpret their spatial data and to tranfer their information to other stakeholders. IMB, in collaboration with BIG staff are currently developing a corporate spatial database system (SDS), which will provide complex spatial databases to the Department via the Web. WABIOTA and a corporate metadata system would be subsets of this. The intention is that SDS will become the repository for all the Department's corporate databases and will be administered by IMB. Interogation and interpretation will be undertaken in partnership with IMB. Rules on access and custodianship will apply. Paul Gioia is developing a pilot study and this should be completed within 3-4 months.

3. STRATEGIES

There is an urgent need within the Science Division to improve the way it manages the knowledge it generates. New resources, or the reallocation of existing resources, are required to achieve this and this issue should be regarded as a priority despite budget cuts. It is proposed that better use of existing Departmental resources be used, and that a position be created within the Science Division to coordinate our databasing and GIS activities. It is believed that this is a better solution than attempting to ' go it alone' at this stage.

A conduit is required between the scientists and IMB to ensure that databases are developed in the correct format for easy integration with the SDS. This person, under the control of the Director or Science Adviser, would also be responsible for maintaining the metadata statements database. There is also need for better planning of science projects so that databasing and GIS requirements are taken into account. As part of the SPP approval system, projects that are going to involve IMB should be signed off by the relevant IMB manager. The benefits of better collaboration with IMB are identified in Angas Hopkins' paper.

It is proposed that for a three month trial period ISS provide Desktop and Network Support, via AlphaWest, to the Science Division for a charge of $50 per hour. This has the advantage over the contracting of other providers in that this group have a good knowledge of Departmental network and operating systems. During this period a log of all activities will be kept and a better idea of the future support required, determined. For no additional charge HelpDesk will arrange the purchase of computing hardware and software.

There is also a need for scientists to accept more responsibility for the efficient and effective management of the data they generate. This needs to commence with the planning of SPPs as mentioned above. Additional resources may be required for training and these should be identified during the IDAPES process.