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CHANGING THE SITE RECORDING SCHEME

GARRY LAW
AUCKLAND

The NZAA Site Recording Scheme (SRS) is in its fourth decade of existence. Its design as a paper based system is fundamentally unchanged from what was obviously a soundly conceived scheme in the first instance (Golson and Green 1958). Today, however, there are a number of challenges facing it, which mean some planned changes are appropriate, even required.

The Existing Scheme

The SRS is structured around published map sheets. Site numbers are allocated by map sheet and the fundamental method of site location is that of the grid reference, a point in relation to the geodetic grid used for the NZMS260 map sheets. The system is broken into a number of district files, the boundaries of most of which are dictated by the sheet margins. Thus there is a Northland file, which includes sheet P08 – Ruawai. There are many sites recorded on sheet P08 – site number 1 for this sheet for instance, is a ring ditch pa – the site number for it is usually rendered as P08/1.

For each site there is a site record form filed in serial order in the filing cabinet of the district file. Often there are plans and photographs accompanying this. The sites are entered into the SRS by the filekeeper who checks they meet the requisite standards, that they have not been previously recorded, etc. The requirements for this are explicit in the Site Recording Handbook (Walton 1999). Duplicating each record in each district file is the central file housed in Wellington, which aims to be a mirror of the district files. It too is paper based.

The SRS commenced with the primary intention of being a tool for research and advocating protection and it was run by volunteers, many of them amateur archaeologists. The staffing has changed over the years, with a Department of Conservation (DOC) staff archaeologist now filling the Central Filekeeper role and being employed to do just that for part of his time, DOC regional staff members taking some of the district filekeepers roles and an

increasing number of filekeepers being Historic Places Trust (HPT) archaeologists. Despite this there are still some district files run by NZAA members outside these two organisations.

The situation of NZAA, DOC and HPT all having vital roles in the SRS is not a new one and for over a decade there has been a guiding document agreed between the three parties, called for convenience the Tripartite Agreement, negotiated for the Association by Ian Smith in the early 1990s (Smith 1993). This sets down the agreed roles of the parties and some of the detail of how the SRS operates as regards the three agencies. It is available on the net at [http://www.nzarchaeology.org/Upgrade Project documents/tri.doc](http://www.nzarchaeology.org/Upgrade%20Project%20documents/tri.doc)

The SRS is owned by NZAA but of course the other two organisations have contributed a great deal to it over the years.

A tool which is an adjunct to the SRS and run by DOC is the Computerised Index to New Zealand Archaeological Sites (CINZAS). It is owned by DOC. It is a simple database set up in the early 1980s with basic text information about sites. It has been a valuable tool for the central file and provides useful paper lists of sites for district file keepers (for instance sites listed by grid reference order) and basic information on site location for planners, local authorities and the like. Some of the fields were never well constructed (*site type* is an annoyingly ill-disciplined one) and other fields were overtaken by time – for instance the Local Government coding was rendered redundant by the late 1980s local government amalgamations and was never re-coded. It has not kept up with developments in databases, so it is not web accessible for access or updating and has not included site maps and photographs which are now readily and affordably within the scope of such systems. Despite this the information in CINZAS can be of considerable use in planning and archaeological site distribution studies.

A fundamental shift in the use of the SRS has been the growth in its use for cultural resource management (CRM). Since the SRS was conceived the Historic Places Act (HPA) has extended protection to archaeological sites and through the operation of the Resource Management Act some sites are further protected by provisions in Regional and Local Plans under that Act. The SRS has been a resource for people undertaking land development to find out about the potential existence of sites they have to consider and to find those for which they may need to gain authorities and consents to proceed.

The SRS is not a perfect tool for this task: it (deliberately) accepts sites that are younger than the HPA cut off; it includes destroyed sites (again deliberately); it is not good at signalling if an absence of site record means an absence of sites; or at signalling much of the significance of sites that are recorded. For these reasons it is a tool that the Association has long avowed needs to be interpreted by people with skill in our area of knowledge.

The most serious problem that has become obvious is that the accuracy of location of many of the sites was poor, partly for technical mapping reasons but partly because accuracy of location was less of a priority for a research tool than it is for a resource management tool. Further, many sites recorded in the early years of the SRS had never been revisited so it was not known if they still existed.

The Scheme is Already Changing

These problems are being overcome by the SRS Upgrade Project, currently running with welcome assistance from local authorities and central government under the leadership of Lynda Walter. The Project involves a desk-top assessment of all of the sites in an area which sorts them into groups; some being well recorded, recently visited or with locations verifiable from available information and a second group set down for a field visit because the information about them is old or otherwise suspect. The field visit generates new information on their location and condition. The process generates a site record update for the sites visited and a database with information on all sites, whether visited or not. Iwi are involved in the Maori sites and often take part in the field checks. The Project will complete its task over non-DOC land in the next two years. DOC has a parallel process running for sites on its land which will conclude a little later. NZAA Upgrade staff are assisting DOC in the first stage of this; a desktop review of sites. The Upgrade Project has an NZAA Council steering group (see Appendix 1 for the current members). Because of the close linkage with local authorities in this project one of the key outputs has been the availability to the councils of improved site location information, inevitably taken into their corporate Geographic Information System (GIS).

One of the outputs of the Project funded by central Government has been for NZAA to develop and enter data into a GIS system of its own. The creation of this has been completed and the addition of data from the Upgrade Project is continuing on a progressive basis as the local authority based projects are completed. It is designed to be web accessible. The Upgrade Project GIS is currently hosted by a commercial organisation and because the development has been designed around standard software packages it is perfectly feasible to host it with other agencies in the future.

The capabilities of a GIS are considerable. Such systems have the ability of an digital database for searching and accessing the data in many ways, by asking questions of the coded data. Fundamental to their design is their graphic capability. Maps can be produced interrelating site location to property boundaries, topographic maps, aerial photographs or any other sort of

map that can be entered in the system. The Upgrade Project GIS includes topographical and cadastral information. The archaeological data can be requested from a screen so the GIS map is not only a display but an interactive tool. Figure 1 is a representation of a screen from our developing GIS system.

Change – Pressures, Threats and Opportunities

The biggest threat to the SRS as it currently exists is technical redundancy. The paper based system is not how modern organisations handle data. It is inefficient of users’ time, particularly in accessing data in the SRS. To access information, users must contact us, often in writing if they cannot connect with the filekeeper by phone or email; often they need a researcher to visit the file and look at the records by hand; and the system is inefficient in returning information, often in paper form alone. The present SRS might seem cheap to run but it is imposing costs on others. Their tolerance of this is not endless. Already we have seen DOC being more reluctant to have filekeeper

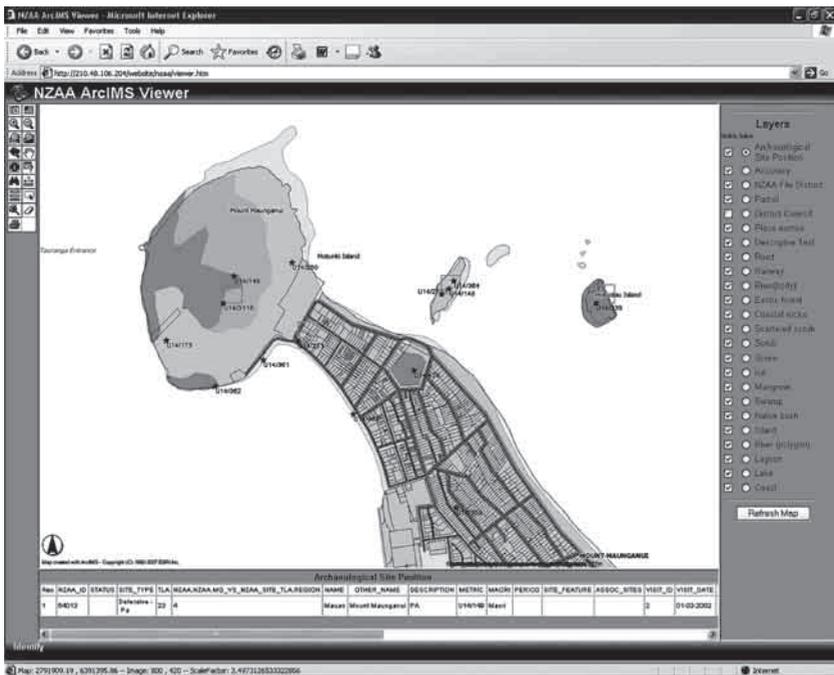


Figure 1. A screenshot from the upgrade project GIS showing part of Mt Maunganui.

roles amongst its staff and one local authority, the Auckland Regional Council (ARC), captures much of the SRS information into a database of its own because it considers it can not fulfil its responsibilities using the SRS alone.

The ARC is not the only agency to have taken SRS data into an digital medium. Mostly, however, this has been restricted to the limited data set available through CINZAS. Clearly agencies with different needs from NZAA will always have a need for systems with different information fields. The risk is that the proliferation of these will remove the incentive to maintain the SRS, which will wither because of its failure to adapt to modern technology. Many of the CRM consultants now operating in New Zealand are becoming more sophisticated in their own computerised systems. They produce reports, plans and maps electronically. They are looking to obtain SRS information in a digital format. An interface to a paper based system is increasingly dysfunctional for them. Updating the SRS with information they collect must be kept simple for them if their continued support is to be assured.

Nor is the capacity of NZAA even to sustain the present system assured. After discussion with filekeepers the Council has come to the conclusion the SRS is only just coping with the pressure on it for information for CRM purposes. The pressure would be impossible in Auckland if the ARC system had not effectively removed over 90% of the traffic. In other areas with rapid development such as the Bay of Plenty and Nelson the imposition on filekeepers is very considerable.

There are some technical challenges as well. New Zealand mapping is in the process of moving onto a new geodetic grid. New Zealand Geodetic Datum [NZGD]2000 will supersede the previous datum, NZGD49, established in 1949 and currently set as the GPS standard. With the new datum is a new projection for topographic mapping - New Zealand Transverse Mercator (NZTM). New grid references need to be calculated for all presently located sites for this new projection. Moreover, the publication of paper maps is to cease. Digital representations of topography will be available instead. They will not be broken up into "sheets" but rather be a continuous field. Hence one of the fundamentals of the SRS, maps with boundaries, is about to be removed. In addition the new geodetic grid has to be accommodated. One could persist with the old NZMS260 boundaries imposed onto the new projection but it would become increasingly artificial as the availability of printed maps declines. NZAA Council has already taken the decision in principle that it will move to a single national site numbering system at some point in the future.

An option with this is to switch the file boundaries to a different geographic basis. The obvious one is the boundaries of the Regional Councils

/ Unitary Authorities. This would be rational for the CRM use to which the scheme is now dominantly applied. The overlap of these local government boundaries and the present file districts is surprisingly close. The Coromandel and Taupo files are the ones that stand out as inconsistent (both fall predominantly in Waikato Region). The changes to the mapping system are issues that will need to be tackled but they are not urgent; they can be dealt with progressively.

Our partner agencies have developing needs. The HPT operates a separate database of Authorities issued under its Act and is beginning to collect all its Authority generated reports electronically. It would like to link these to the SRS. More fundamentally, its staff assessing Authority applications need ready access to the SRS. Using the current paper based system is a major inefficiency for them.

DOC too has changing needs. It wants to have better asset management information. The SRS and CINZAS are far too limited for this and it is proposing to transfer information on sites within its lands into a new database for the systematic recording of condition, visitor and maintenance information peculiar to its own needs. NZAA has agreed to the transfer of information from the SRS for this purpose. DOC would like to maintain linkage to the SRS but that is best achieved electronically. As DOC makes this change, CINZAS will lose much of its relevance to them and it is predictable they will in future decide there is no need to sustain it.

If all this sounds like doom, gloom and impossible decisions let us remember what we have. Very few nations have national recording systems for archaeological sites. Those that do, almost always have them in a government agency. Similar non-archaeological schemes in New Zealand operate from Government agencies. Ours is a substantial success, one with some great strengths and one we should take pride in for what it has done to date.

The opportunities to be gained from using modern technology are considerable. A digital database will allow much more sophisticated querying of the data in the system. It will allow display of information on maps, with linkages to the text and plan information on screen, and will enable information from other geographic databases to be incorporated. Such a system is not limited to a person on a terminal linked directly to the host computer, for these systems are now web accessible. It is possible for someone to log in remotely and, depending on their access permissions, either look at information or update it. Some access need not involve special software but will operate using web browsers. More sophisticated use would require more than that. (Think of the difference between say *smaps.co.nz* where you access maps on a web browser like Internet Explorer or an alternative like Google Earth which

requires you to have a program mounted on your own computer for you to use the system over the net).

There is a need for debate over the level of access the general public would have. The potential to misunderstand the information if used without experienced advice must put some limits on data availability but some access would certainly enhance site protection. A balance needs to be found. The basic site location information is increasingly available to local government. Many are putting versions of their GIS on the internet. (See http://www.cityofdunedin.com/city/?page=searchtools_gis for Dunedin's version). We can expect that they will be putting the site location information they hold into these systems and in their Land Information Memoranda (LIM) reports. NZAA then has no basis for being reticent with this basic information from its own system.

However, the adoption of this sort of system will not be without consequences. If we eventually take in all the SRS information, the database hosting will assure the security of retention of the data. The need for duplicate files will have passed. Indeed, the need for an updated paper file at all is then questionable. Information requests will be able to be centrally handled with considerable ease. Some regular users such as CRM consultants could be allowed quite wide access rights. Clearly such a system will greatly challenge the role of the district file keepers, perhaps freeing them from the provision of information role that dominates much of their time, but still leaving them with a gatekeeper and quality improvement role. For a few who are not computer literate or web connected the step will be considerable.

Nor will the central role be the same as that of the present Central Filekeeper's role if we take this route. While the database hosting will diminish some current responsibilities there still is a vital central role in database management, keeping the integrity of entered data and setting access levels.

NZAA Council has already decided that a digital SRS is the direction in which it wants to go. However, it has to explore the costs before taking the next steps. The functionality of the system needs to be determined and the traffic it will generate needs to be estimated before a cost can be estimated. This then is the first step that NZAA will be taking.

What future?

Stay as we are? Give it away? Adapt?

We could stay much as we are and make paper based adaptations to things like the map changes but risk the SRS becoming marginalised because it imposes on other people too much for its continuance.

We could allow the SRS to be swallowed by some agency or agencies with the resources to build fancy computer systems, but it will be adapted to their needs. Other agencies have narrower interests, e.g:

- Iwi are interested in Maori sites – the SRS is wider than that
- HPT is more focused pre-1900 archaeological sites and on Registered Sites as defined in the HPA
- DOC has a greater interest in sites on its estate.
- Local authorities are only interested in sites in their land boundaries and usually are not interested in sites which have been destroyed.

There is a strong case for NZAA to have a continuing central role in the governance of the SRS. The alternative NZAA Council prefers, is to move on with NZAA still in a central role, building on the strengths of the present SRS but overcoming the current weaknesses.

Principles

NZAA Council believes there are a number of principles that have been built into the SRS which should continue in the future:

- NZAA is the owner. There can be only one. Assistance with hosting and filekeeping from other agencies is very welcome and NZAA will engage with them on decisions about the operation of the scheme but NZAA is the body with the permanence, reach and scope which best fits the SRS.
- The information is a national resource for all New Zealand. NZAA would never contemplate charging for access to the information on the basis of its intrinsic value. This is not, however, the same as needing to charge to recover administration costs.
- Open information. NZAA believes the cause of site protection is best achieved by people being readily able to find out where sites are. There are a few closed files in the SRS at the moment, most dating from the first decades of its existence. They are not the model on which the success of the SRS has been based.
- Free access to the SRS for NZAA members using it for research purposes is a tradition and closely bound to local involvement. It will continue.
- Local involvement. Filekeepers and researchers taking a deep personal interest in the maintenance and improvement of the site records for their area have been fundamental to the success of the SRS. It must continue.
- Reciprocation. Where other agencies make use of the SRS there must in turn be a commitment from them to continue to support the Scheme.

- Limits on transfer. No other agency will receive by transfer a full copy of the information in the SRS. Where local sets are made available they will be on a time limited basis with constraints on onwards transfer.

So what is the future?

A start has already been made on a new digital database. The basic form of a database / GIS has been created by the Upgrade Project. It incorporates the CINZAS data for all the SRS sites. Information from sites assessed and visited during the Upgrade Project is being progressively added, and summary data is also entered for sites that were not visited.

The Upgrade Project GIS has been designed with its potential for use as a digital SRS in mind. It can store images and documents related to sites such as site record forms, photographs and plans. It can accommodate polygons describing site boundaries as well as the usual single point. It can record HPA Authorities issued and used, national site numbers, site visit histories, bibliographic references and HPA registration (but it will not be the HPA Register) and carry out conversions to new geodetic base grid references.

It is designed to be web accessible. There are three current applications over the web, access to all of which is password controlled:

- a web browser accessed form used by field archaeologists participating in the Upgrade Project to enter Upgrade data into the database.
- a web browser based map display tool. This produces site position plots overlaid on maps. Limited information is available on the sites shown by clicking on them. This is a useful tool but limited as it has only basic search capability.
- a GIS feature streaming service which is made available to local government agencies which have participated in the Upgrade Project. This feeds the site data live into their GIS systems.

This is as far as the funding we have allowed us to develop the system. The highest priority is data entry from the Upgrade Project, with some of the earlier data prior to the development of the system still to be entered. The map display tool also needs more development to provide a better service to users. Web browser access has been extended to HPT archaeological staff. Filekeepers who are DOC staff members are the next on the list. Extending access beyond this is not a simple task. One problem is the service costs money and we have no funds for more users of the feature streaming service.

A key issue on which there has already been debate is how we will fund the new system. One view has been that we should target having as low a cost as possible. There are, however, two sides to this. Cost goes with

capability. We have long run the SRS on the donated time of others and a 'string and chutty gum' approach to our own expenses. Some improvement to functionality will mean more costs but there has to be a realistic limit on both. Opportunities for meeting the costs may include commercial and institutional user charges, as is currently the case, but they are far from the only potential sources. NZAA Council is committed to finding assistance that will keep user charges down.

The first stage of the future will be a new database that supplements the paper based SRS. Increasing the database capabilities and scanning in the paper site records will bring us to an electronic Site Recording Scheme. This is a task which will have some as yet unclear cost. We may end up doing less than is technically possible because of financial constraints.

Organisational needs caused by the creation of the new database also need to be addressed. The institutional arrangements for the ongoing support of the database and the Central File have to be revisited by the time the Upgrade Project is completed and delivers a new system with national coverage. NZAA, DOC and HPT have started working together on this through a Site Recording Working Party, which has recently completed an interim agreement on the process of transition for the SRS. The Working Party has set an objective of negotiating a new three way agreement that will replace the present Tripartite Agreement and define the roles of the parties as the SRS evolves.

But this is not the only consultation needed. This paper seeks engagement from NZAA members who are involved or interested in the SRS. Nor would we be taking advantage of the opportunities presented by a web accessible database if we did not, at the same time, map a path forward for the future roles of the district filekeepers. Their input will be sought at a future filekeepers' conference with a major session dedicated to the issues around changes to the SRS.

In the short term the new SRS database will:

- Provide consultants and researchers with better site distribution and site character information

In the medium to longer term a redesigned SRS will:

- Allow on-line allocation of site numbers to filekeepers
- Provide an on-line enquiry system for filekeepers and others to search for sites using the old Imperial number or the current NZMS 260 numbers
- Provide on-line search for filekeepers
- Provide an electronic submission option
- Provide an on-line accession feature for filekeepers.

- Provide central servicing of search information, freeing filekeepers to be the local quality managers for completeness / currency / accuracy.
 - Provide web-based access to approved users.
 - Provide web-based edit ability to selected users and data fields (e.g., HPT could manage the Authorities fields).
 - Provide limited web-based information to the general public.
- And the ultimate goal - is an electronic SRS.

Wrap-up

NZAA will be undertaking a survey of members - particularly of filekeepers and professional firms - to establish their interest in and likely use of the database and ultimately of an electronic SRS. This will be a key tool in planning the next steps on the journey. There will also be a session at the Hanmer Conference where the matter will be discussed and the results of the survey presented.

Glossary

CINZAS	Computerised Index of New Zealand Archaeological Sites
CRM	Cultural Resource Management
DOC	Department of Conservation
GIS	Geographic Information System
HPA	Historic Places Act
HPT	Historic Places Trust
SRS	Site Recording Scheme
Web Accessible	An electronic system where data can be accessed and or added/updated over the World Wide Web

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Appendix 1: SRS Steering Group Members

G Law (convener) , R Darmody, L Walter, K Greig, R McGovern-Wilson