

# Matrix – mark three – a geological survey in transition

From Earthwise

[Jump to navigation](#) [Jump to search](#)

From: Allen, P M. 2003. [A geological survey in transition](#). British Geological Survey Occasional Publication No. 1. Keyworth:British Geological Survey.



D A Falvey, Director from January 1998. David Falvey was born in 1945 in Sydney, Australia, and graduated from the University of Sydney in 1967 with a BSc in Geology & Geophysics and Applied Mathematics. He gained a PhD in Marine Geophysics at the University of New South Wales in 1972. He worked in exploration geophysics for Shell from 1972 to 1974. He lectured in geophysics at the University of Sydney from 1974 to 1982. From 1982 to 1994 he worked for the Bureau of Mineral Resources, later to be renamed the Australian Geological Survey Organisation now Geoscience Australia, in Canberra and became Associate Director and the head of the Petroleum and Marine Geosciences Group. He was Director of the Ocean Drilling Program in Washington from 1994 to 1997. Plate 6

DIRECTOR (P J Clark)						
BS - Broad Business Support Group						
PROGRAMME DIVISIONS			CORPORATE DIVISIONS			
Geological & Hydrogeological Services		Minerals, Environment & Geochemical Services	Provision of Geology, Geophysics & Oil/Gas Services	Corporate Services & Business Development		Administration
SA	SA	SA	SA	SA	SA	SA
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	32	33	34	35	36	37
38	39	40	41	42	43	44
45	46	47	48	49	50	51
52	53	54	55	56	57	58
59	60	61	62	63	64	65
66	67	68	69	70	71	72
73	74	75	76	77	78	79
80	81	82	83	84	85	86
87	88	89	90	91	92	93
94	95	96	97	98	99	100

A major restructuring came into effect on 1 April 1997 to take account of the requirement of the Senior Management Review and Prior Options to reduce the number of management posts. International and Marketing Division became two groups in the Corporate Services and Business Development Division. The Land Survey, once with three Assistant Directors and twelve units, was reduced to four groups. In 1998 P J Strang became head of Southern and Eastern England, J W Arthurs of Northern Ireland, D W Peach of Hydrogeology, D C Holmes of Fluid Processes and Waste Management, D C Ovadia of UK Business Development, and W Hatton of Minerals. The NERC Isotope Geoscience Laboratory rejoined BGS. In 1999 N J Riley became head of Basin Analysis and Stratigraphy Group. Figure 9 (from Office Notice ON/12/97)

BGS Programme & Management Structure			
Executive Director (Dr D A Falvey) *			
Director General (Dr F M Allen (1997-2000))			
Marketing, International & Corporate Development Directorate (Dr C W A Rowley)			
BSG Internationalism & Corporate Development (Dr D C Doolan)			
UK Business Services Managers • Central Directorate Support • Press Office			
Geological Resources & Facilities Directorate (Prof A Cooper) **	Land & Resources Directorate (Dr M E Carr)	Environment & Materials Directorate (Dr D C Williams) **	Information Services & Management Directorate (Ms J Gorman) **
Geological Management & Engineering (Dr D C Doolan)	Integrated Geoscience Centre (Dr J J Hatton)	Geoscience Services & Water Supply (Dr C W Peach)	Information Management (Ms J R A Gorman)
UK Energy Services (Prof J B Foulds)	Integrated Geoscience Centre (Dr J J Hatton)	Partnership and Project Services & Investigation (Dr C D Rowley)	Market Services (Dr C A Daniels)
Geophysics & Water Resources (Dr J R Evers)	Continental Shelf & Marine (Dr N G T Preece)	Other Geoscience & Geological Research (Prof D C Chadwell)	Publication Services (Ms B Gorman)
Energy, Geoscience & Environmental (SA F J Claxton)	Other Minerals & Energy Resources (Dr M G Parker)	Production and Waste Management & Remediation (Dr J D Daniels)	
Information Systems (Dr W Hatton)	Geological Services of Northern Ireland (Dr J D Daniels)	Special Services & Other (Group Support) (Dr J D Daniels)	
Nature & Core Management (Dr V A Peck (2000-01))	Regional Geoscience (Dr J J Hatton)		
* Assistant (Dr V A Peck (2000-01))			
Administration & Finance Directorate (Ms P D Curry) **			
Finance, Accounts & Contracts (Ms B J Williams)	Personnel Administration (Ms J D Daniels)	Facilities & Infrastructure (Ms G B Strick)	

The structure on the reintroduction of matrix management in April 2000. Figure 10 (from Office Notice ON/3/00)

## Chapter 19 Matrix – mark three

After the trauma of the 1997 reorganisation, the last thing that BGS staff wanted in 1998 was another one. On the 5 January 1998, however, David Falvey replaced Peter Cook as the Director (Plate 6) and it seemed unlikely that he would break the mould used by his predecessors and not initiate one. However, he was not to be given a free hand to do it how and when he wished. The Science and Management Audit, which took place just before his appointment in 1997, responded to pleas from the staff that they interviewed and advised that a period of stability, free of review and

reorganisation was needed for the BGS. In reaction to this, David Falvey announced that he would leave the current structure in place for two years. This meant that April 2000 became the target date in all minds for another upheaval.

That it would be an upheaval was in no doubt as soon as it was realised what process he was going to use to prepare for it. Knowing that the BGS, Price Waterhouse apart, had not revised its Strategic Plan since 1988, David Falvey determined that the time was ripe for another strategic planning exercise. He announced that he was going to do it at a series of open meetings he held immediately he took office in January at Keyworth, Edinburgh and Wallingford when he introduced himself to the staff. Full details were released in an office notice at the end of that month.

The aim of the new Strategic Plan was to define the shape of the BGS beyond 2005, when the 15-year Geological Mapping Programme was due to finish. The plan was to set out key strategic issues facing the BGS, the Survey's customers, the geoscience community and society as a whole over the next decade. It was to identify the steps that had to be taken within the BGS in order for it to position itself as the premier provider of 'geoscience solutions' in the UK. It was intended that the Strategic Plan would provide a long-term framework within which detailed business and programme planning could take place. The process was to be completed in a year, during which there were to be wide-ranging consultations within the BGS and outside among the user community.

The plan was to be drafted by a small team of junior staff without any input from management. Stuart Marsh, who was the Board Secretary from the Central Directorate Support Group, was nominated to be the secretary to the drafting team. An invitation was put out to all staff to apply to join it. Applicants were asked to submit a 300-word statement on the importance of this exercise to the future of the BGS, giving the skills they would bring to the team. The six successful applicants were John Bloomfield from Hydrogeology Group, Wallingford, Paul Egerton from the Petroleum and Marine Geology Group, Edinburgh, and four from Keyworth. These were Andy Howard of the Central England and Wales Group, David Talbot of Analytical and Regional Geochemistry Group, Jenny Walsby of Geospatial Information Systems Group and Sandra Williams, head of Finance. Only one of the team was over forty.

There were several reasons for doing it this way. One was that in by-passing the management David Falvey was going to obtain unfiltered comment from staff on the perceived state of the Survey. As an Australian, who had never worked in the UK before this appointment and had had practically no contact with the BGS, he was severely disadvantaged in comparison with his senior managers, the majority of whom were BGS careerists. At that stage in his tenure he would have had difficulty even in detecting the filters, let alone assessing their mesh size. Perhaps more importantly, he was looking for the views of staff who were going to be working in the survey for at least the next twenty years and therefore had a long-term stake in its future. As junior staff, they were likely to be unabashed at the idea of consulting staff, and it was expected that staff would be open and honest with them. The risk in this process was with regard to the quality of the end product. Many senior managers were resentful at being excluded from the process and doubted whether a team of quite junior staff, some with very little or no experience of the BGS outside their own projects, could deliver a sound Strategic Plan. In the view of the managers, as they were going to have to implement and manage the strategy, they should have a hand in developing it.

The strategic planning process began in early March 1998 with a two-day retreat at Rothley Court, Rothley, in Leicestershire. It was attended by the Directorate, selected staff from NERC HQ and the strategic planning team and was run by an external facilitator. At this meeting the Director took the opportunity to tell the Directorate the content of the Science and Management Audit report and about his private briefing with the SMA Chairman and the NERC Chief Executive. One matter stood out. The SMA had interviewed forty members of staff in its data gathering exercise and had gained

the impression that inter-group competition was still rife, despite the attempts to deal with it made in the 1997 reorganisation, and that there was little cross-divisional co-operation. The NERC Chief Executive told David Falvey that this was something he had to deal with. There were, in this, shades of the early 1980s, when Malcolm Brown also had to deal with the problems of having a strong-minded set of individualists on the Directorate. A matrix management system had emerged that time. Would one emerge again?

The Strategic Planning team, when it began, was concerned at first with the broad canvas. Through March and April they consulted with staff by putting key questions on the BGS Intranet and asking for answers by e-mail. They met with stakeholders — a new word made popular by a new Government — and attended group meetings. By May, they had devised what they called the 'Agenda for Strategic Geoscience'. This was circulated among staff for comment, and revised. They then put together a 'Mission and Goals' paper, which was also circulated, and in July were able to write the first draft of the Strategic Plan. At every stage up to and beyond this point the team reported to the BGS Board.

The draft Plan was revised during August. It was renamed 'the Prototype Plan' and presented to the Director. On 16-17 September, the team presented the Prototype Plan to the Directorate at a retreat at the Hannover International Hotel, Hinckley, where it was hotly debated. A summary was then prepared for the Group Managers to see.

While it had been evident to most staff that the Strategic Plan would lead to a new work programme and, possibly, a new management structure, it took on an unpredicted function in September. The second call for volunteers for early retirement had still not produced a total that fully met the restructuring and rationalisation requirements of the NERC Prior Options Steering Committee. The Director decided, therefore, that there should be a review of the skills of all Grade 7 and SSO staff (Bands 4 and 5). His aim was to match the skills profile obtained this way with the one required to carry out the programme that would emerge from the Strategic Plan. His expectation was that the skills evaluation exercise would reveal staff who were not suited to the programme without retraining, as well as gaps in the skills profile that could be filled by retrained staff or new recruits. He did declare, however, that some staff might find themselves facing compulsory redundancy as a result of it. Later in the year the skills evaluation exercise was extended downwards to include HSOs (Band 6). Thus, when he put key elements of the emerging Strategic Plan to staff during October they were met with considerable interest. Suddenly, it was realised that the employment prospects of individuals could be dependent on the Strategic Plan.

The whole document went up on the BGS Intranet later in October for staff to comment on through November. At about the same time, when the business planning cycle began, it became evident that the financial year 1999/2000 offered the bleakest prospects for commercial income that had ever been experienced. The gap between planned expenditure and predicted income was much too large to be dealt with by the usual range of devices that had been deployed by the Directorate since the early 1980s. An action plan was developed by a subgroup of the Directorate to reduce this gap and enable the BGS to finish the financial year with a balanced budget. It became clear, while drawing up the plan, that, though it was possible to reduce the gap to a manageable level for 1999/2000 by making draconian cuts, there were knock-on effects in succeeding years. An inescapable conclusion was that the BGS could not continue to support its current staff size without changing the top-heavy age and grade structure. Work on the action plan occupied the early months of 1999. A final version was put to the Directorate and then to the Board. It was scrutinised by NERC HQ and on 22 April the Director announced that he was declaring a state of redundancy. Twenty-five senior staff were to be made redundant by 31 March 2000. Seven of these were to meet the Prior Options total; eighteen were new. A last call for volunteers to take early retirement was made that same day. The skills evaluation exercise, tied as it was to the emerging Strategic Plan, assumed considerably more

importance now.

The second stage in the development of the Strategic Plan began in November, when 'Team Plus' was established. Team Plus consisted of the original strategic planning team with the addition of two Assistant Directors and eight Group Managers. The decision to introduce this unplanned stage in the process was in reaction to the continued resentment among senior managers about their exclusion. In addition, the Prototype Plan, though a wordy document, was light on detail in some important areas, reflecting the limited experience of the team. The new, enlarged team divided into two groups, one to define in more detail a science strategy and the other to look into core assets. They worked, as had the original team, by consulting externally and internally. In January 1999 consultation with customers was carried out and the last big question was put to staff on the Intranet. This was for them to consider what type of organisation was needed beyond 2000. The final version of the Strategic Plan was then prepared and went to the Board in March 1999 for their endorsement.

Stage three in the development of the Strategic Plan had already begun in February with the establishment of eight task forces to look into aspects of implementation of the Strategic Plan that was about to go to the Board. This was the key stage in the whole process. The original strategic planning team had chosen not to consider implementation for the very good reason that they regarded themselves as too inexperienced to deal with it. Each task force was chaired by a Group Manager, the Director or an Assistant Director. Members were drawn from the strategic planning team, management, the Board and staff. The topics that were considered were:

- ongoing strategic planning
- customer involvement
- the BGS work programme
- Digital Geoscientific Spatial Model • organisational structure • operations
- human resource management
- communications systems.

The three key ones were on the work programme, organisational structure and human resource management. The task force on organisational structure was small and chaired by the Director. All the task forces had to complete their work and report to the Board by May.

The penultimate stage commenced after Board endorsement of the eight individual implementation plans. This was to prepare a single plan from them, which presented a new management structure and work programme for the Survey. By July, the outline of a new programme fitting within a matrix management system had been drawn up and was ready for discussion.

The Strategic Plan itself, which did not contain any of the details of the programme or structure, was printed and issued to staff in September 1999, though it was not formally launched until early November. On 8-9 September the new work programme and new management structure were presented to a meeting of the senior staff. Only cosmetic changes were permitted at this stage. By 23 September the new programme and structure had been endorsed by both Sir John Krebs, the outgoing Chief Executive of NERC and Professor John Lawton, who was to replace him at the end of the month. The final stage was to put the implementation plan into action.

This, in outline, was the process that was followed. As an exercise in staff consultation the drafting of the Strategic Plan was exemplary. There was no reason for any member of staff to feel that he or she had not been given a chance to share in its development. Consultation diminished as the later stages progressed, particularly when the task forces were in operation and, after that, at the implementation stage, which began at the end of September, when it was virtually non-existent

except at Directorate level. There is an inevitability about this, as implementation is a complex matter sometimes requiring an autocratic approach.

The Strategic Plan that emerged from this process was built on the understanding that the BGS had to adapt to a number of changes that had emerged progressively during the last thirty years, but had accelerated in the last ten. Included were the changes in the uses to which geoscientific information was put. Scientific understanding of processes within the natural environment had improved immeasurably and the growth worldwide in the use of information and communications technology now enabled rapid and wide dissemination of new scientific information. After 165 years during which the work of the Survey had been dominated by the need to complete systematic geoscientific surveys, the BGS was facing a future beyond 2005 when these would play a much less important part. To prosper in the future, the BGS had to understand how to position itself so as to continue to serve the community in these changed circumstances. The vision presented is unequivocally that of a public service body.

Finding a way to adapt to the knowledge-driven economy, heralded in the Government's White Paper *Our Competitive Future* published in December 1998, was crucial. Understanding that the creation, application and dissemination of knowledge would, together, be a powerful driving force in the future, the BGS itself would have to accentuate its role as a knowledge-based geoscientific research organisation. In the plan, the BGS was defined as the gateway to the nation's geoscience knowledge. This recognises that, with 165 years of experience researching the geoscientific make-up of the UK, the Survey not only possessed a huge resource of data, information, skill and knowledge, but had an obligation to the community to exploit it fully for their benefit. The challenge ahead, therefore, was for the Survey to evolve into a knowledge-based scientific service provider that carried out user-focused strategic geoscientific research. This realisation, that in the future the BGS would have to concentrate heavily on the exploitation of knowledge, is in marked contrast to the current understanding that the BGS is primarily concerned with research and surveying.

The knowledge-based economy is technology driven and the Strategic Plan identified the Internet as the main vehicle to disseminate information. The development of systems for data management was essential to allow the BGS to take full advantage of modern communications technology. Foremost among these is the Digital Geoscientific Spatial Model (DGSM) of the UK. Ultimately, this will hold in digital form all the validated geoscientific data that reflect the current state of knowledge of the subsurface structure and composition of the UK and its offshore areas. The DGSM will replace, as the central reference source, all the maps and books that at present describe the geoscientific character of the UK and will be open to direct interrogation by the user community.

For most of its history the Geological Survey has contributed to the national economy primarily in relation to mineral resources. This began to change with the introduction of new planning legislation in the 1950s in association with the development of new towns and major civil engineering projects, such as new airport schemes. In the last thirty years the inclusion of geoscientific factors into planning controls has expanded considerably. In 1993, the White Paper *Realising our Potential* put enhancement of the quality of life and economic prosperity on equal footing within the agenda for the research councils. Now, while the management of natural resources, including hydrocarbons and water, is still important, the application of geoscience to understanding environmental change, preserving biodiversity, the mitigation of hazards and risks and the reduction of waste and pollution are on the ascent and this is recognised in the Strategic Plan.

Another important strand in the plan is the development of dialogue with clients and other users of geoscientific information. As long as the main remit of the Survey was to complete systematic surveys, dialogue with the user community was of minor importance. Systematic surveys are very long-term commitments and, once started, it is not advisable to tamper with the specifications.

The Programme Board, appointed in 1989, largely from the user community, provided guidance on the systematic surveys and monitoring programmes. For a work programme consisting predominantly of systematic surveys this was deemed adequate. The way in which the knowledge gained during the systematic surveys is exploited, however, is subject to continual variability because the exploitation is always targeted to meet specific and well-defined needs. Thus, in the era that follows the completion of the systematic surveys, consultation with the user community becomes paramount, whether it is about how existing data are exploited or how new resurveys are to be planned and conducted to fill knowledge gaps.

These were the main ingredients of the Strategic Plan, and they were to inform the shaping of a new programme. However, the needs for the future had to be reconciled with the need to complete the existing systematic surveys. This is something that the Strategic Plan did not actually address, but it was taken up by the BGS Work Programme Task Force. The new programme also had to permit developments that allowed the BGS to evolve into a knowledge-base organisation. The resulting programme would inevitably be transitional in nature, but it had to be set within a framework that was flexible to adapt to change year on year. The key to success was believed by the Organisational Structure Task Force to be in a new management structure. It would have to contain the flexibility to deal with the transition and permit the Survey to move on to the next stage. It was recognised early on that such a management system was probably better organised around a matrix than a hierarchical structure. At the same time, the introduction of matrix management was thought, as it had been in the early 1980s, to be necessary to deal with many of the issues that had arisen out of intergroup and interdivisional competition. Thus, the Organisational Structure Task Force recommended a new structure based on the matrix management model.

The matrix adopted ([Figure 10](#)) was based on the classic model. Research programmes comprised columns in the matrix diagram; human and physical assets comprised the rows. The terms 'Group' and 'Division' were abandoned. In their stead came Programmes and Directorates, respectively. Group Managers disappeared; Programme Managers appeared. Assistant Directors went out; Directors came in. The BGS Director became the Executive Director. The BGS Directorate became the Executive Committee.

The research programme was divided among three programmes directorates. They were the Lands and Resources, the Environment and Hazards, and the Information Services and Management directorates. The Lands and Resources Directorate was concerned mainly with strategic science; Environment and Hazards was predominantly applied research.

There were three corporate directorates, two of which had overriding responsibilities. These were the Administration and Finance Directorate and the Marketing, International and Corporate Directorate. Both were to provide services for and on behalf of the whole of the rest of BGS. The third corporate directorate was Geoscience Resources and Facilities, the head of which was the Chief Scientist. The main responsibility of this directorate was to manage the science staff, laboratories and other physical assets on behalf of the programmes directorates, which owned none of these. The Geoscience Resources and Facilities Directorate also was to run a relatively small R&D programme, which was to be determined by the directors of the programmes directorates.

Within the Geoscience Resources and Facilities Directorate were the head of the NERC Isotope Geosciences Laboratory (NIGL) and four Heads of Discipline. These four were responsible for the career development, deployment, staff assessment (reporting) and training of all science staff. Prior to the establishment of the matrix, all staff had been invited to nominate themselves to a discipline, of which there were nine major ones. These were allocated to the four Heads of Discipline as follows:

1. Geochemistry, Mineralogy and Hydrogeology
2. Geophysics and Marine Geoscience
3. Geology, Geotechnics and Palaeontology
4. Information Systems.

The fifth Head of Discipline was the head of the Administration and Finance Directorate.

The Heads of Discipline, or HoDs, also were to manage all the laboratories and other physical assets and be responsible for purchasing new equipment. Each had a small R&D programme. This meant that the Programme Managers had no assets at all, nor the power to spend except on consumables, thus enabling them to devote all their energies to managing and enhancing their programmes. In recognition of one of the principal reasons for the failure of Malcolm Brown's matrix management system, it was a primary objective in this reorganisation that there should be no overlap of interest between the managers on the two axes of the matrix.

The Strategic Plan attempted to minimise the difference between the Core and Commissioned programmes, in effect by defining all the research carried out within the BGS as Core or relevant to the Core. This was translated by the BGS Work Programme Task Force into a threefold division of the programme. The Core Geoscience Programme, largely funded by NERC as the proxy customer on behalf of the national interest, remained central, but built onto it was a programme of core enhancement. There were two parts to this. In one, were strategic commissions and partnerships with Government departments, agencies, the EU, NERC thematic programmes, LINK and so on. In the other, were the purely commercial partnerships and contracts, all of which, to be acceptable, had to be aligned to the BGS role and mission.

The project was the fundamental unit. Programmes were clusters of projects, both wholly Science-Budget-funded and commissioned. It was the responsibility of the Programme Managers to enhance their Core Programme. Unlike in the previous structure, where there were groups that depended almost entirely on commissioned or commercial income, with little or no Science Budget, every programme in the new structure had some core funding, which was set to allow each programme to operate above a minimum viable level. In total, there were ten research programmes and three information programmes in three programmes directorates. Four capability programmes, and the NIGL programme, were managed within the Geoscience Resources and Facilities Directorate.

Implementation was organised and carried out in the six months September 1999 to April 2000, finishing off with a tour of all offices by the Director and myself (I had been the Implementation Manager) to explain the matrix to all staff. Because the structure was completely new, there was no carry over into it from the old one. There were in total the same number of management posts, but as several managers were retiring on or near 31 March 2000, there were several vacancies. Posts were filled by a combination of interview by the Director and open competition.

During the six months to the end of March, the Implementation Manager and the Heads of Discipline progressively worked out the details of the way in which the matrix should operate. As they were completed, they were put up on the Intranet. At the end of the process, full details of the way in which the matrix was planned to operate stood on the Intranet for the guidance of all staff. By April Fool's Day, in the year 2000, matrix mark three, most procedures for operating it and a new work programme were in place.

Retrieved from

[http://earthwise.bgs.ac.uk/index.php?title=Matrix\\_-\\_mark\\_three\\_-\\_a\\_geological\\_survey\\_in\\_transiti&oldid=42736](http://earthwise.bgs.ac.uk/index.php?title=Matrix_-_mark_three_-_a_geological_survey_in_transiti&oldid=42736)

[Category:](#)

- [History of the British Geological Survey](#)

## Navigation menu

### Personal tools

- Not logged in
- [Talk](#)
- [Contributions](#)
- [Log in](#)
- [Request account](#)

### Namespaces

- [Page](#)
- [Discussion](#)

### Variants

### Views

- [Read](#)
- [Edit](#)
- [View history](#)
- [PDF Export](#)

### More

### Search

### Navigation

- [Main page](#)
- [Recent changes](#)
- [Random page](#)
- [Help about MediaWiki](#)

### Tools

- [What links here](#)
- [Related changes](#)

- [Special pages](#)
- [Permanent link](#)
- [Page information](#)
- [Cite this page](#)
- [Browse properties](#)

• This page was last modified on 23 September 2019, at 20:43.

- [Privacy policy](#)
- [About Earthwise](#)
- [Disclaimers](#)

