

poorly skilled new staff, with the goal of developing a workforce plan for the next 3-5 years.

By developing new assessment tools and resources and providing training and mentoring for staff, we are reinforcing our recruitment criteria with team leaders—the need to get a person in post must not take precedence over them having the core skills, if at all possible. If people need to be appointed with skills gaps, we will have a structured training and development programme to improve their skills.

For this group, and more specifically, our existing staff, we are developing a series of postgraduate modules specific to our core technical capabilities under an umbrella arrangement that the Environment Agency has with the University of West of England. We are working with national academic, Agency and industry experts to develop and deliver different modules. The modules already in existence include groundwater hydraulics, conceptual modelling, borehole construction and aquifer characteristics. In development this year, we have modules relating to groundwater hydrochemistry, groundwater contaminant fate and transport, geotechnical engineering, remediation risk management and landfill gas. We have 45 CAT points approved so far and a further 50 in development. Staff will be able to complete as few or as many modules as the business needs. Some will be able to complete an M.Sc. degree after additional research linked to a work-related topic or project.

As well as this, we are working closely with various universities, especially those with postgraduate courses or research in relevant subjects, to provide either single modules or specific additional courses for our staff. A sponsorship scheme for places on postgraduate courses has not been progressed, as the main current issue is with our existing staff rather than attracting new ones.

Our new workforce plan will enable us to define the number of staff we need to deliver geoscience work in 3-5 years and for us to plan on how to improve the current capability levels to get there, with any related changes that arise from new legislation, organisational priorities and more capable staff, who need less supervision. This will also include a continued need to attract and train new staff, but at an acceptable lower turnover rate and through use of the expertise of our older, more capable staff as mentors.

The technical development framework data on capability levels across the Agency will soon be

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collected again, with a view to separating those capabilities that staff can do, from those that they are required to use to deliver their current role. For example, someone may have skills in groundwater resources but only currently be delivering land quality or vice versa. If they scored their capability for both types of skills, one would probably be higher than the other, giving a false picture of the situation. We have set ourselves a target of 15% improvement in overall capability this year.

### Conclusion

The recruitment and retention problems affecting universities have knock on effects to the employers of such graduates. As employers, we have to fill the training gaps left by universities. The key missing skills relate to the ability to think in 3D and to apply the knowledge and theory they have learned to real situations. The Agency has identified recruitment and retention issues in geoscience, hydrology, civil engineering (flood risk management) and land use planning at present.

We are concerned about any recruitment and retention issues in GEES subjects at undergraduate and postgraduate level, as this can only increase the pressure on employers to provide additional training and will further reduce the available candidates for any vacancies. There is a need to promote interest in these subjects within schools and for employers to promote the range of potential jobs that the GEES subjects can lead to at schools and universities.

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*The data provided in this paper was gathered as part of the Environment Agency's work on recruitment and retention of geoscientists. The views expressed in this paper are those of the author and do not necessarily represent those of the EA*

## Some key ideas on recruitment and retention in the GEES Disciplines

The GEES Subject Centre Conference 2007

The 2007 GEES Subject Centre residential conference, themed on Recruitment and Retention in the GEES disciplines, yielded some useful key ideas from attending delegates. Listed below are some 60 suggestions (in no particular order) that derive from the conference presentations and workshops, from informal conversations in the bar and over dinner, and from post-it notes completed by some delegates on departure. We hope that Heads of Department, staff responsible for recruitment etc and, indeed, all GEES academics will find this set of ideas to be useful.

### Recruitment

1. Re-design promotional websites to get into the student 'mind set'. The quality and accessibility of websites is obviously now crucial.
2. Research your own institution for good practice in recruitment and retention. What are other departments/schools doing? Learn from their experience.
3. Become involved with Student Ambassador Programmes. For example, find out about the RGS-IBG Ambassador Scheme (contact Kate Amis at kate.amis@rgs.org).
4. Establish and run a subject-based conference for local schools (e.g. providing guidance on how to succeed at 'A' level and/or life at university).
5. Advertise and promote the career benefits of a GEES degree.
6. Adjust your curriculum to enhance graduate employability and links to the world of work. (We know that about 90% of students enter HE primarily to improve their career prospects.)
7. Use a survey or focus group of your former graduates to identify ways in which your degree programme(s) could be enhanced, particularly in terms of career relevance and employability.
8. Read the GEES Subject Centre guide and other GEES resources on how to enhance employability in the GEES disciplines (<http://www.gees.ac.uk/projtheme/emp/employ.htm>)
9. Support the Geography Action Plan and other comparable initiatives in related disciplines
10. Use your alumni as 'recruitment agents' especially those in school teaching.
11. Ensure your staff have a good understanding of what is taught at GCSE and A level and how the school curriculum is changing.
12. Get prepared for the new Diplomas and revise your advertising and admissions policies accordingly.
13. Provide guest lectures/workshops in local schools
14. Provide CPD activities for school teachers e.g. on climate change, GIS or supporting the new Diplomas.
15. Explore the Leitch agenda on skills, employer engagement, CPD and learning in the work-place. Might new provision and programmes in this area help to offset the forthcoming demographic decline in the number of 18 year olds?
16. Devote more staff resource to recruitment. Try to ensure that everyone sees it as their job to bring in 'customers'.
17. Consider a substantial time release for one or two staff who could lead up on recruitment.
18. Try recruiting overseas for all courses but especially for those at Masters level.
19. Reward staff who excel in recruitment (promotion, conferences, travel etc)
20. Develop a 'special relationship' with schools that provide (or have the potential to provide) a significant number of your students.

which could encourage students to take GEES subjects at degree level.

21. Work not just with 6th forms but also with pupils at key stages 3 and 4 (or even earlier).
22. Provide a fieldwork experience for local schools/pupils.
23. Work with your institutional Widening Participation Unit (minorities and disadvantaged groups tend to be under-represented in the GEES disciplines).
24. Upgrade your fieldwork curriculum so that it is prominent in your advertising and looks attractive.
25. Enhance your Open/Preview days so that prospective students (and their Mums and Dads) are made to feel really welcome and leave with a very positive impression.
26. Polish up your promotional literature.
27. Keep prospective students/applicants 'warm' by staying in touch with them ('good luck in your exams', newsletters, novelty items)
28. Remember that these days most students work part-time. Ensure that potential applicants are aware of the kinds of part-time job opportunities available locally.
29. Advertise our disciplines' generally strong performances in the new National Student Survey (our 'customers' are 'happy')
30. Ensure your department and/or its students appear in the local, regional or even national media (for good reasons, if possible!).
31. Design your website so that 6th form students visit it to help their A levels.
32. Think in terms of customer relationship management (CRM) and building a relationship with your prospective students.
33. Offer more Open/Preview Days and perhaps provide non-attendees packs for those unable to come.
34. For students who ultimately did not enrol on your degree course, find out why they became 'decliners'. What put them off? Why did they go elsewhere?
35. Set up a marketing and recruitment committee to lead up and co-ordinate work in this area. Prepare a plan or strategy.
36. Take steps to ensure that your current undergraduates are fully aware of the postgraduate courses and opportunities you offer.
37. Especially at postgraduate level, market by segments not by subjects.
38. Develop classroom materials for use by schools
39. Offer revision courses to local school pupils.
40. Design a curriculum which matches student needs and interests (not those of the staff). Let's get modern!
41. Calculate roughly what proportion of the staff's time and the department's budget are devoted to marketing and recruitment. Given the importance of student numbers, is it enough?
42. Think about the department as a small business. Consider the importance which small businesses typically attach to bringing in customers and ask whether you are giving it a comparable level of priority and resource.
43. Consider widening your portfolio of courses.
44. Review the website and promotional literature of other departments and disciplines. Identify examples of good practice.

## Retention

1. Focus on linking the curriculum to the students' academic background and preparedness.
2. Adapt your current induction programme to include less talking from Programme Directors and more listening to students and getting them to work together and with Subject Tutors.
3. Try to give your students a real sense of belonging, engagement and community – through both academic and social activities.
4. Ensure that students at risk of leaving (or under-achieving) are identified and given appropriate support and encouragement.
5. Remember that for some students leaving university or changing courses will be the right decision.
6. Provide good pastoral support and an active personal tutoring system. Ensure every student is known.
7. Motivate students through active learning and fun. Ensure that they see the purpose, value (and sometimes the career relevance) of their GEES studies.
8. Bring back some former students early in the course who can act as possible role models: 'you could be where I am in three/four years time'.
9. Use your best teachers in stage one.
10. Use you alumni as mentors and perhaps as sources of work-based learning placements.
11. Consider using fieldwork early in the first term to increase social bonding and to help students to fit in (not a guaranteed aid to retention but it might help)
12. Bring in guest speakers representing different areas of career opportunity (e.g. Environment Agency, petroleum industry etc)
13. Provide sensitive and constructive feedback on students' work. Try not to demoralise 'weaker' students.
14. Remember that students may not be happy discussing any academic issues they are having with someone who marks their work ('If they know I'm struggling, they'll mark down my work').
15. Consider seeing your students as 'customers' who (given fees etc) increasingly expect and are entitled to excellent 'customer service'.
16. Remember that although students may be struggling to 'settle down' in their first year, it is in their third year when they are most under pressure and likely to 'crack'. Just because they have learnt the ropes by now doesn't mean they aren't in need of support, especially as this is the time where they have the least face-to-face contact.

If you have other suggestions that you would like to add, we would be delighted to hear from you via email to [elaine.tilson@plymouth.ac.uk](mailto:elaine.tilson@plymouth.ac.uk).

## GEES Subject Centre Small-Scale Learning & Teaching Project Funding 2008-09

Have you got a curriculum development idea or an interest in researching something about student learning in the disciplines? Have you been to a GEES Subject Centre event or been involved in one of our other activities that you would like to follow up? Then how about bidding for some project funding!

The GEES Subject Centre has set aside funding for 2008-2009 to support small-scale learning & teaching projects for one year. It is expected that funding for individual projects will normally be in the range £2,000 - £5,000 and will be awarded by open competition to projects that will enhance student learning and / or enrich the learning and teaching research literature in one or more of the above three disciplines.

You will be able to find further information at <http://www.gees.ac.uk/> from mid-March onwards.