



WHAT ARE THE MAIN
DIFFICULTIES IN GAINING
EMPLOYMENT IN THE
ECOLOGY SECTOR.

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Introduction

Many university graduates struggle to find employment after their time has been completed at university. In the UK one fifth of graduates are not considered by employers as equipped for work upon graduating according to research by Pearson's Business school (Hewitt, 2020). The difficulties of any individual in securing a role in a specific sector may be dependent on the individual's circumstances and the sector that the individual is trying to break into. One of the sectors that many graduates will be hoping to enter is the ecology sector.

Ecology is the scientific study of living organisms and the interactions between these organisms and their environment. Careers in the ecology sector include private sector consultant ecologists, researchers, those that work for government agencies such as the Department for Environment, Food and Rural Affairs (DEFRA) and non-government agencies such as the Wildlife Trusts (gov.uk, 2020; Prospects, 2020). The work that an ecologist carries out includes fieldwork surveys on species and habitat surveys, research on how human influences or a proposed change in the environment will affect the environment and to advice and implement legislation as well as managing areas for wildlife. Ecologists may have to help to reduce or eliminate the risk of harm to wildlife and habitats in areas that contain protected species. Ecologists also analyse and interpret data and predict any impacts on populations, communities and ecosystems based on current and long-term data (gov.uk, 2020; Prospects, 2020).

The ecology sector has its own difficulties when it comes to gaining employment, these difficulties include the amount jobs available in comparison to graduates wanting employment, the amount of all year round work available (many positions are seasonal) and the amount of employers wanting extra skills in the form of volunteering or specific species licences which take many years to acquire (Prospects, 2020).

This report looks into the main difficulties into gaining a career in the ecology sector by searching career websites looking for the requirements as a graduate ecologist. Local job advertisements were also searched and the skills and qualifications required were compared to see if there are any reoccurring themes that come up on the majority of webpages. The Chartered Institute of Ecology and Environmental Management (CIEEM, 2020) website has also been researched as it is specifically aimed at the ecology and environmental sector so the advice provided here will be relevant to recent ecology and environmental science graduates.

A survey was conducted on 209 participants that were either working, have previously worked or that are hoping to one day secure a role in the ecology sector. The participants of the survey were all members of an ecology social media page and were anonymous participants.

The advice found on gaining employment in the ecology sector

The difficulties of finding employment in the ecology sector is not something that is a focus on most career advice pages, but rather the advice is on how to break into the ecology sector and advice on how to gain a first job.

The National Careers Service recommends that people looking into a career in ecology should become a member of a regular membership body in the sector (GOV.UK, 2020). Becoming a member of a professional institute such as the Chartered Institute of Ecology and Environmental Management and the British Ecological Society ensures that graduates are up to date on the current news and legislation in the sector.

CIEEM (CIEEM, 2019) is a professional membership body that represents and offers support to workers in the ecology and environment sector. CIEEM offers membership grades that are recognised by potential employers in the ecology sector. A competency framework tool can be used, this is where members answer a series of questions to see where their competence level is (CIEEM,2019). The competency framework tool allows potential members and current members to decide which grade level is suitable for them. Competence is how well an individual can demonstrate a specific skill. A competency framework (CIEEM, 2019) can be referred to so that members can progress towards higher grades. Members have access to a Continuing Professional Development (CPD) tool to help them work their way up to a higher membership grade.

Members can log hours and tasks into the CPD tool and compare this to the competency framework to see where there are gaps in a member's knowledge. Some professional institutes offer mentoring platforms for individuals who want to progress. Mentors are professionals in the industry who take on a mentee and advice on specialist subjects such as career progression or advice to those trying to work their way up to different membership grades.

It is recommended that an undergraduate degree in ecology and environmental management is the best starting point for those who wish to pursue a career in ecology. A postgraduate degree is also very desirable and has many benefits - one of these being to enhance the chances of employability but others include gaining extra skills and opportunities to specialize in an area (CIEEM, 2020; Gov.uk, 2020). Voluntary work for organisations such as the Wildlife Trusts and the National Trusts as well as training courses run by CIEEM, the Field Studies Councils (FSC) and specialist groups such as amphibian and reptile groups (ARG) and the Mammal Society are good opportunities to further skills in an ecological discipline.

The National Careers Service (Gov.UK, 2020) advises that ecologists need to be able to use specific computer software, show attention to detail and have good maths knowledge. As

work hours are species related hours may be unsociable, this depends what species is being surveyed or monitored (Prospects, 2020). Unsociable hours may be a problem for somebody with family commitments such as single parents or families where the other parent is already working unsociable hours.

What do the employers want from a candidate applying for a starting role in the ecology sector

Nine assistant and graduate roles were examined on LinkedIn, Indeed.co.uk, ecology jobs, environment job and Countryside Jobs Service (CJS) Eight out of nine of the advertisements wanted a full driving licence. Four of the roles wanted report writing skills or good written communication skills. Six of the roles specified that they wanted a relevant BSc degree with two of these roles stating that they would prefer a postgraduate degree. Three of the roles wanted CIEEM membership. Six out of nine of the roles stated that they wanted the candidate to have or be working towards a protected species licence and two wanted the candidate to hold a CSCS card (LinkedIn, 2020; Indeed jobs, 2020; ecology jobs, 2020; environment job, 2020; CJS, 2020). CSCS stands for Construction Skills Certificate scheme, it is a card that shows that you have attended and passed a health and safety course aimed specifically for working on construction sites - they are essential for gaining access to most construction sites (CSCS, 2020). Other requirements that employers stated were that candidates should be good with Microsoft Office, have a good knowledge of wildlife legislation and one role wanted the candidate to have at least three years of survey experience (LinkedIn, 2020; Indeed jobs, 2020; ecology jobs, 2020; environment job, 2020; CJS, 2020).

What are the main difficulties of gaining employment in the ecology sector?

Based on the advice given by career professionals and the job advertisements from employers - without a driving licence an assistant ecologist would find it extremely difficult to travel to and from sites. Public transport would be too time consuming and may not operate during unsociable hours and in remote locations. As colleagues may not all live close by or work on the same surveys it is not always possible to car share. As many protected species such as bats and great crested newts are surveyed in the evening during spring and summer months (JNCC, 2004; English Nature, 2001), the work hours may be unsociable and seasonal which could impact people with family or financial obligations.

Memberships to professional bodies and training courses may cost money and some individuals may not have the financial means to get themselves set up and are competing against those that may be in a better financial position to acquire skills. There are accredited universities that are provided with free membership to some professional institutions. Volunteering may be difficult for students who work part time alongside their studies or students who have dependents. The need for a protected species licence may be impossible to acquire during studying for a university degree due to the level of competency required

for the licences and the amount of time required to acquire the skills needed for competency.

Survey

A survey of nine questions was conducted using survey monkey (Survey Monkey, 2020) and a link was provided on a British Ecologists social media site (Facebook) with a post explaining the research and that the results were all anonymous. 209 participants completed the survey although some skipped several questions. Once the questions were in these were then compared to other questions to see if there was a significant relationship between specific factors and gaining employment. As the results were based on proportions they were analysed using a chi-square test for independence (McHugh, 2013). A Fisher's exact test was used to compare the proportion of participants with and without a driving licence as the number of participants without a driving licence was small. The results were analysed using the "R" software package and the results were presented using the Microsoft Excel office package.

The factors that were compared included if there was a relationship between those with post graduate degrees and those who are currently working in ecology; if there was a relationship between those who have volunteered and those who are currently working in the ecology sector; if there was a relationship between those that have gained a full time position in the ecology sector and those with a post graduate degree; if there was a relationship between those that have secured a full time role in the ecology sector and those that have previously volunteered and if there was a relationship between having a driving licence and gaining a position in the ecology sector (Fisher's exact test). The results of the respondent's answers were represented in a bar graph using Microsoft excel.

Results

209 respondents completed the survey these included 22 students, 156 respondents working in the ecology sector and 30 respondents that are currently trying to gain roles in the ecology sector. 1 respondent was retired from the ecology sector, 1 said that they were furloughed and they are now trying to get back into the ecology sector, 1 was working in the ecology sector but stated that they left as they felt undervalued and underpaid, 1 said that they were working in the conservation sector and another in the water sector.

Relationships between postgraduates and employment in the ecology sector

There is no significant relationship between between respondents with a postgraduate degree compared to respondents without a post graduate degree when gaining employment in the ecology sector ($X^2=1.45$, $df=1$, $p= 0.23$).

208 people responded to the question “What is your highest level of education?” of these responses 120 had a postgraduate degree, 83 had an undergraduate degree, 4 had A levels and 1 had GCSEs as the highest qualification (see Figure 1).

93 of the postgraduates are currently working in the ecology sector, 8 are currently students, 17 are trying to gain employment in the ecology sector and 1 is retired from the ecology sector.

112 of the postgraduate respondents had a degree related to ecology and 8 of the postgraduates did not have an ecology related degree.

5 of the 8 postgraduates without an ecology related degree were working in the ecology sector, 2 were students and 1 is trying to gain employment in the ecology sector.

Of the 83 respondents with an undergraduate degree 60 were currently working in the ecology sector 10 were students and 12 were trying to gain employment in the ecology sector.

71 of the undergraduates had an ecology related degree and 12 had a degree that was not related to ecology. 11 of the respondents without an ecology related degree were working in the ecology sector and 1 was trying to gain employment in the ecology sector.

The 4 respondents with A levels as their highest level of qualification were all students.

1 respondent had GCSEs as their highest level of qualification and this person is currently working within the ecology sector.

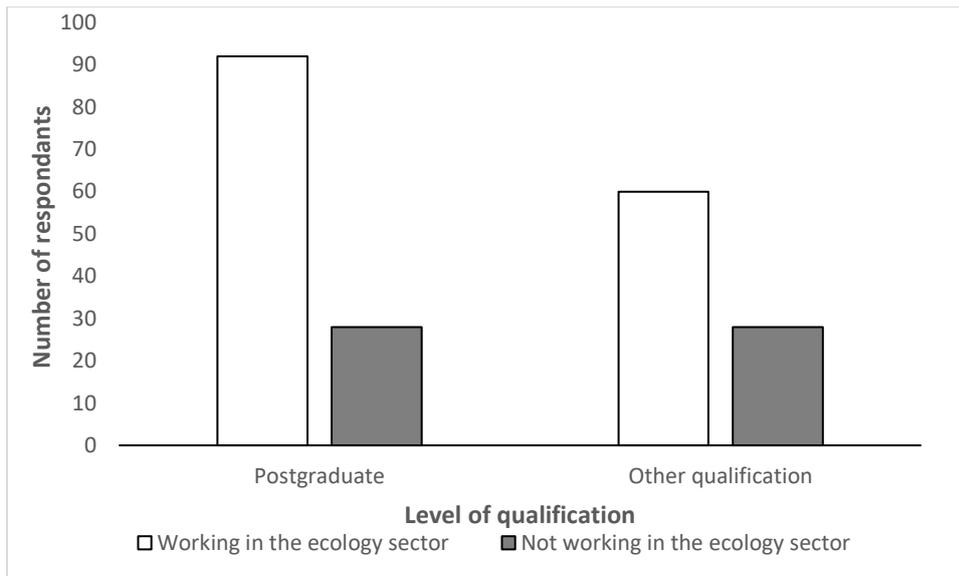


Figure 1: The figure above is a bar chart that shows the number of postgraduates working in the ecology sector compared to other levels of qualifications that are working in the sector.

Relationships between level of education and gaining full time positions in the ecology sector

The respondents with a post graduate degree were significantly more likely to gain full time employment than those that did not have a post graduate qualification ($\chi^2 = 5.81$, $df = 1$, $p = 0.021$).

118 postgraduate respondents answered the question “If you are an ecologist how long after applying did it take you to gain your first full time position?” 91 of the 118 postgraduate responses had gained a full time position and 27 (22.9%) had not (see figure 2). 54 (45.8%) gained their first full time position within a year, 27 respondents (22.9%) gained their first full time position in 1-2 years, 9 (7.63%) respondents gained their first full time position within 3-5 years and 1 (0.85%) respondent took over 5 years to gain their first full time position (see Figure 2).

81 undergraduate respondents answered the same question. 52 had gained a full-time position and 29 (35.8%) had not. 30 (37%) gained their first full time position within a year, 15 (18.5%) gained their first full time position within 1-2 years, 4 (4.9%) gained their first full time position in 3-5 years and 3 respondents (3.7%) took longer than 5 years to gain their first full time position. None of the respondents with A level or GCSE as their highest level of education had gained a full-time position.

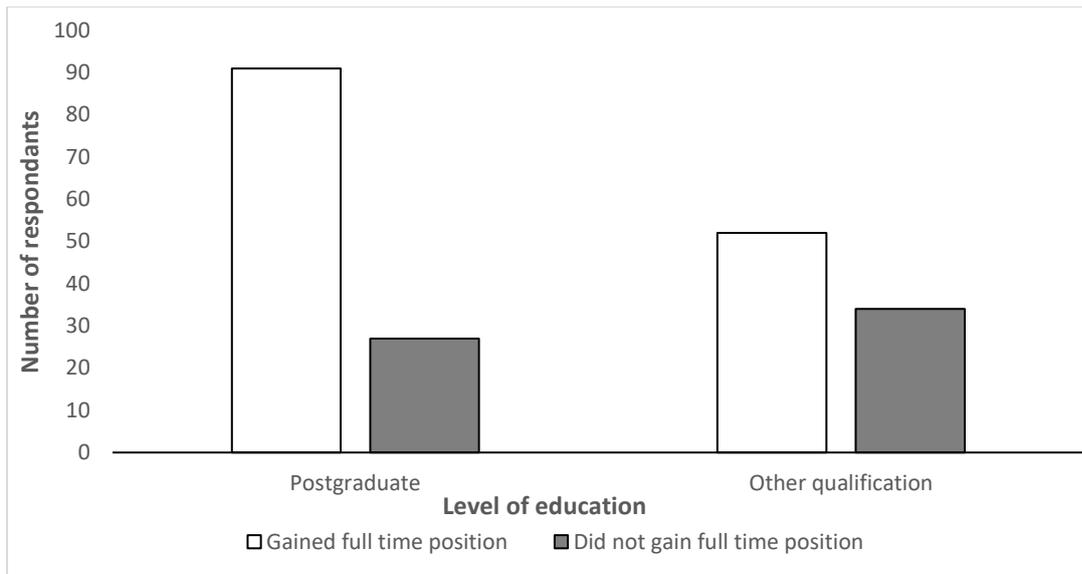


Figure 2: A bar chart that shows the number of postgraduates that gained a full-time position in the ecology sector compared to those that gained other qualifications in the ecology sector.

Relationships between volunteering and gaining employment in the ecology sector

There was no significant relationship between respondents who had volunteered and respondents who had gained a career in the ecology sector ($X^2 = 0.153$, $df = 1$, $p = 0.7$).

208 respondents answered the question during your time in education did you participate in any voluntary roles? 208 answered this question. 154 respondents had volunteered, and 54 respondents had not (see Figure 3).

Out of the 154 students that had volunteered 110 were working in the ecology sector, 16 were students and 23 were trying to gain employment in the ecology sector.

128 of the 154 that had volunteered were volunteering in roles that gave them skills that they could bring to the ecology sector and 24 of the volunteers had other roles that did not give them relevant skills.

Of the 128 respondents that had gained relevant skills from their voluntary roles 92 were working in the ecology sector, 14 were students and 17 are still trying to gain employment in the ecology sector.

Out of the 24 volunteers that did not gain relevant skills through their volunteering roles 17 were working in the ecology sector, 2 were students and 5 were still looking for work in the ecology sector.

Out of the 54 respondents that did not volunteer 42 are working in the ecology sector, 6 are students and 6 are trying to find employment in the ecology sector.

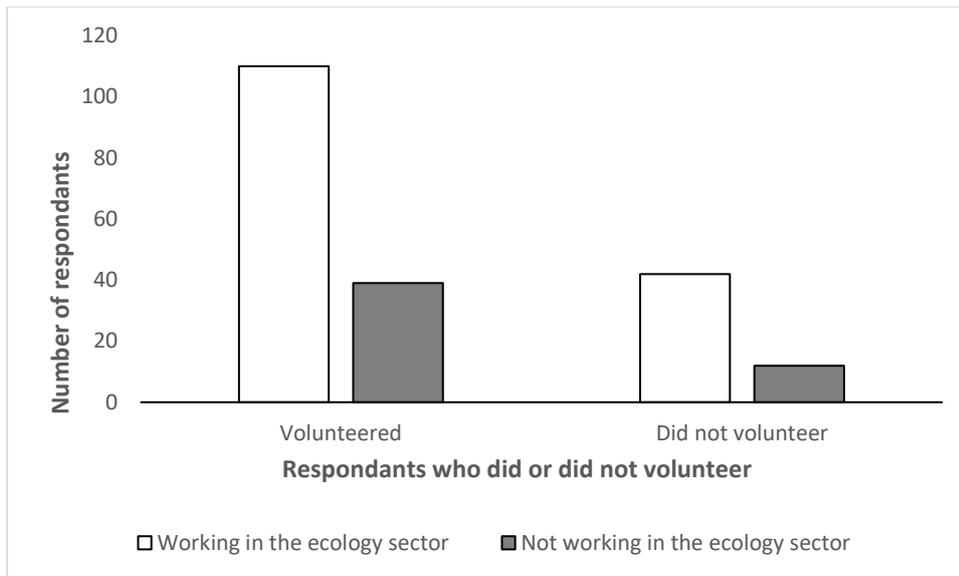


Figure 3: A bar chart that shows the number of respondents that volunteered and working in the ecology sector compared to those that did not volunteer and are working in the ecology sector.

Relationship between full time employment and volunteering

The respondents that volunteered during education were not statistically more likely to gain full time ecology positions than those who did not ($\chi^2 = 3.139$, $df = 1$, $p = 0.076$).

101 of the 152 that volunteered gained a full-time position as an ecologist (see Figure 4) and 51 (33.6%) did not. 60 of the respondents that gained a full time position did so in less than a year (39.5%), 28 (18.4%) of the respondents gained a full time position in 1-2 years, 10 (6.6%) of the respondents took 3-5 years to gain their first ecology position and 3 (2%) of respondents took over 5 years to gain a full time position in ecology.

42 of the 51 respondents that did not volunteer gained a full-time position in the ecology sector and 10 did not. 24 (46.2%) gained their position in less than a year, 14 respondents (26.9%) within 1-2 years, 3 (5.8%) respondents within 3-5 years and 1 respondent acquired a full-time position after 5 years.

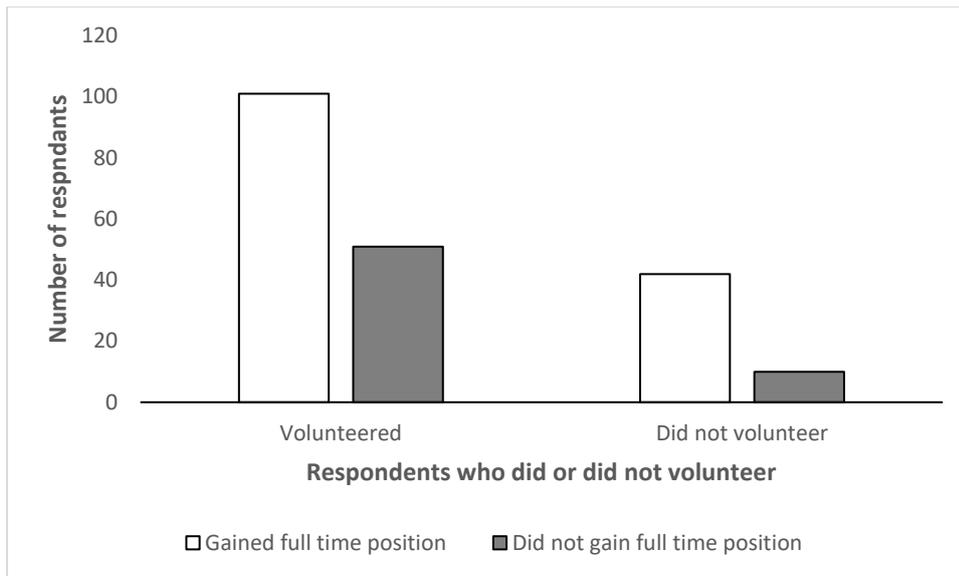


Figure 4: A bar chart to show respondents that have volunteered during education and gained a full-time position compared to those who have not volunteered and gained a full-time position.

Relationships between possessing a full driving licence and working in the ecology sector

Respondents with a driving licence were significantly more likely to be working in the ecology sector than those that did not (Fishers Exact, $p = 0.001$).

208 (see Figure 5) dependants answered the question “do you have a full driving licence?”. 196 respondents did have a full driving licence and 12 did not.

151 respondents with a full licence were working in the ecology sector and 42 respondents with a licence were not working in the ecology sector.

1 respondent without a driving licence was working in the ecology sector, 9 were students and 2 were trying to gain employment in the ecology sector. No respondents without a driving licence had held a full-time position as an ecologist.

Of the 12 respondents who did not have a full driving licence 8 of them said that the greatest obstacle to them gaining a full time position was the lack of a driving licence or car.

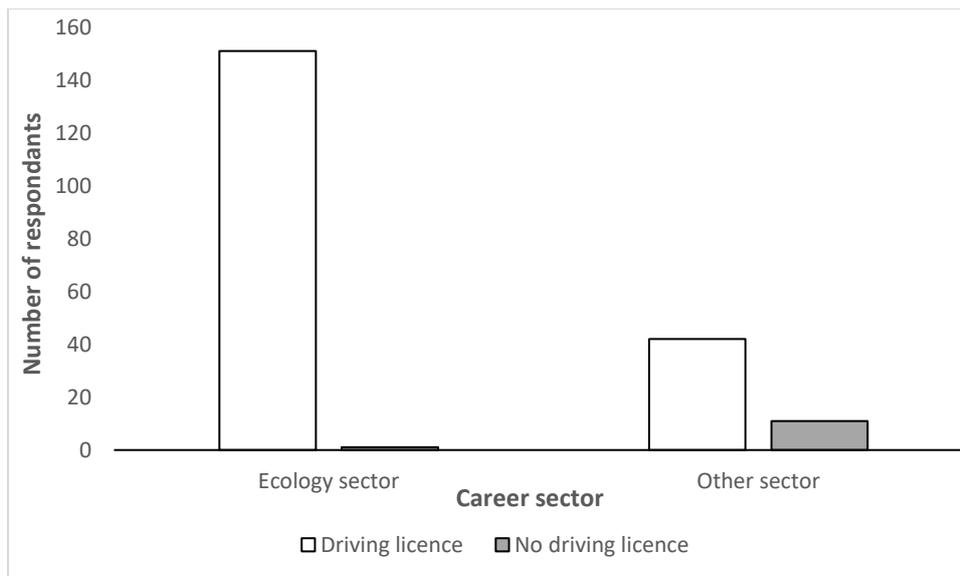


Figure 5: A bar chart to show the number of respondents with a driving licence and working in the ecology sector and those without a driving licence and not working in the ecology sector.

Most common reasons for difficulty in gaining a position in the ecology sector

The respondents were asked what they felt were the greatest obstacles to them personally in gaining a role as an ecologist (see Figure 6).

40 said that there was too much competition for roles, 37 said it was because of the lack of financial resources they had to support volunteering, training and the maintenance of a vehicle, 36 said that they could mostly only find seasonal positions, 34 said that they had a lack of skills, 18 said the lack of a driving licence or car, 5 said family commitments and 2 said the lack of qualifications.

There was also a box for respondents to comment on other obstacles. 2 people said that their circumstances meant that they only wanted part time work and that they were self-employed. 1 of these respondents said that it can be difficult finding enough work. 2 people said that there was minimal or no obstacles in gaining positions. 1 person said that gaining experience specifically in phase 1 habitat surveys and report writing was hard and most employers wanted this experience. 3 people said the lack of protected species licences that some employers were asking for has held them back and all 3 also said that gaining references for these licences was particularly challenging. 3 people felt that the working class were disadvantaged when applying for roles as they may not have the financial means to volunteer or go on extra courses. 1 said that lack of MSc was the main challenge to gaining employment. 2 people said that there was a lack of roles in their area 1 of these 2 people was unwilling to move and the other wanted to ensure that the area they moved to was affordable. 4 said that they were lacking in specific experience. 1 said it is a struggle when you have not volunteered in specific roles, 1 said that the salaries were too poor. 1 said that there are not enough full time and permanent contracts and many roles are fixed term positions.

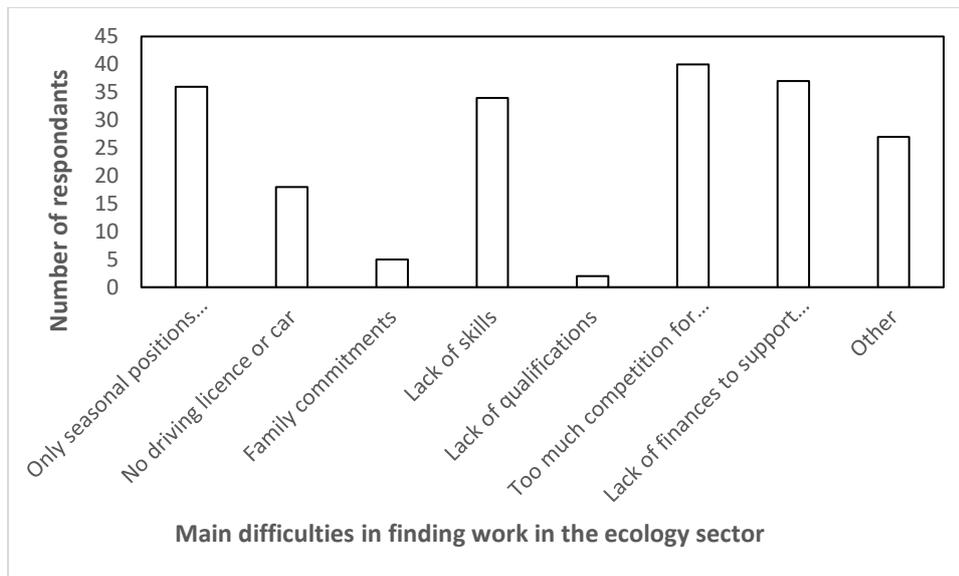


Figure 6: A bar chart showing the what the respondents felt were their main difficulties in gaining a position in the ecology sector.

Conclusion

Seasonal positions, lack of skills, too much competition for roles, lack of finances to support extra training, volunteering and the maintenance of a vehicle appear to be the most common reasons for any difficulty in gaining employment in the ecology sector. However, when put through statistical testing the most important statistical factor is possession of a full driving licence. Only one person that said they were working in the ecology sector said that they did not have a full driving licence and this person did not have a full-time position in ecology. This was also reflected in the job pages that were looked at as all but one of them stated that they wanted employees to have a full UK licence.

Whilst level of qualification was not statistically significant in gaining a role in the ecology sector, those with a postgraduate degree had a significantly higher chance of securing a full-time role than those that did not. The actual problem in the ecology sector in fact does not seem to be securing a role but rather securing a permanent full-time role. Many of the comments on the surveys noted the difficulty of securing a permanent position, many had financial commitments such as mortgages and families - these respondents may have been career changers that could not give up their current full time position for a part time or fixed term contract due to financial uncertainty. It seems surprising that there was no significant relationship between volunteering and gaining a role in the ecology sector. Most of the respondents had in fact volunteered but many of the respondents that did not volunteer still gained an ecological position.

However, the question asked on the survey was “During your time in education did you have any voluntary roles?” This means that the participants that had gained a position may have volunteered at another time and not necessarily during education. If the survey was repeated it would have been improved by asking if the respondents have volunteered ever rather than focusing on volunteering during education. The purpose of this question was to see if students that had volunteered managed to get an ecology job quicker – which 46% of respondents that volunteered during education gained a position within a year of graduating. Some of the survey questions had a comment box to answer the questions, it would have been beneficial to ask more qualitative questions specifically asking how the respondents had secured the role and the steps that they had taken to gain their position.

Another subject that occurred frequently was that the graduate jobs were asking for protected species licences and these may take many years of training to gain as well as obtaining the relevant references (Gov.UK, 2020). If employers want their graduate positions to have already obtained a licence, then that is another pressure put onto students that want to find positions straight from university.

Some consultancies may offer paid seasonal work during the survey periods this is a good way for students to earn some money and to train at the same time particularly in the holiday period. The best advice that can be given to undergraduate students just starting out in an ecology career would be to ensure that a full driving licence is obtained as soon as possible. As well as this it is a good idea to write to local consultancies and see if they have any seasonal positions available and if finances allow to use any extra money earned towards training courses aimed specifically at species identification, phase 1 habitat surveys, report writing and courses aimed at working towards a protected species licence such as bats, great crested newts or a dormouse licence. Membership of local groups such as a local bat group (BCT, 2020), mammal group (The Mammal Society, 2020) and amphibian and reptile group (ARG UK, 2020) would also be a good step in gaining experience with protected species and gives good networking opportunities for potential employment. Joining a relevant professional body such as the Chartered Institute of Ecology and Environmental Management as a student member is also provides networking and training opportunities.

A postgraduate degree is advised to boost the chances of employment and it also allows at least four years (including the three years it takes to complete an undergraduate degree) work towards building professional development alongside studying. This can all be extremely difficult for students who are struggling financially and who will need to use most of their finances to pay for essentials. Students with family commitments may also struggle with volunteering and training alongside studying. Whilst the ecology sector is very competitive and following this advice does not guarantee permanent employment, the information and advice given regarding training, volunteering and membership of a relevant body is a positive step towards potential employment. By participating in training courses, volunteering and professional membership where time and finances allow, students will gain a sound knowledge about the ecology sector and the potential difficulties that species in our current environment may face.

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