

# CIEEM Skills Gap Project

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**CIEEM Annual conference**

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**Skills for the Future: Understanding the impacts of new tools, techniques and approaches**

# Why a new Skills Gap project ?

Our profession had experienced significant change

Became a Chartered Institute in April 2013

Introduced new award of Chartered Ecologist

Large scale infrastructure projects such as HS2 emerging

Very significant cuts to public spending with impacts on statutory nature conservation bodies and local authorities, with loss of expertise.

Changes in academia and increased student fees

Brexit

**But its not only our profession**

A CBI survey, published in July 2016, indicated employers are struggling to recruit skilled staff and this could get harder after withdrawal from the EU .

# The Questionnaire

The TECDC meeting in May agreed that a simple questionnaire should be sent to the membership to determine:

- what skills they had needed to acquire in the recent past,
- the additional skills they envisage requiring in the future and
- the drivers that they felt were their motivation for developing new skills.

## So who responded?

Unfortunately we have limited information as a significant number did not fill in the last section which asked for:

- Gender
- Membership grade
- How long they had been working in the profession and
- Where they were based

Eulalia will now tell you what we **do** know about the respondents

# Summary

- Slightly more females than males
- 75% were full members
- Over half had been in the profession between 5 and 20 years
- 35% over 20 years
- So just over **91% had been in the profession for more than 5 years**

**This cohort are basically well established practitioners  
rather than new entrants**

# Method

The questionnaire had 4 sections

## **Section 1**

asked for 3 skills that had been required in the previous 2 years

## **Section 2a**

asked for 3 skills that were likely to be required in the next 2 years

## **Section 2b**

asked for 3 skills that were likely to be required in the longer term, 3 to 5 years

## **Section 3**

Asked respondents to identify the drivers (the WHY question)

## **Section 4**

Was for personal information

This meant we had to code  
**3,972 individual open ended question responses**  
(excluding Section 4)

2 stage coding  
to enable grouping

|   |       |
|---|-------|
| Communication                           | C     |
| Advice                                  | Cadv  |
| Campaigning                             | Camp  |
| Communicating with clients              | Ccli  |
| Presentation                            | Cpres |
| Marketing                               | Cmark |
| Media                                   | Cmed  |
| Negotiation                             | Cneg  |
| consultation/participation/stakeholders | Cons  |

|                      |        |
|----------------------|--------|
| Species ID           | ID     |
| species ID animal    | ID-A   |
| species ID bats      | ID-B   |
| Species ID bird      | ID-Bi  |
| Species ID GCN       | ID-GCN |
| ID inverts           | ID-Inv |
| ID marine            | ID-m   |
| Species ID botany    | ID-P   |
| Species ID plants    | ID-P   |
| ID grass             | ID-PG  |
| ID lower plants      | ID-PL  |
| ID protected species | ID-PS  |
| ID salt marsh plants | IP-Psm |

# It might sound simple ...



|            |  |             |      |
|------------|--|-------------|------|
| 4828014212 | Increased business and staff management skills | <u>Mbis</u> | Full |
| 4828014212 | Increased business and staff management skills | <u>Mpeo</u> | Full |

|            |   |     |      |
|------------|---|-----|------|
| 4828189748 | Use of GIS to produce Phase 1 maps <u>etc</u> for reports | GIS | Full |
|------------|---|-----|------|

|            |                                       |   |      |
|------------|---------------------------------------|---|------|
| 4827804448 | Increased knowledge and understanding | U | Full |
|------------|---------------------------------------|---|------|

|            |   |  |      |
|------------|---|--|------|
| 4861493037 | Elaboration of new project proposals that focus essentially on biodiversity that limit the possibility to get derailed into other unrelated actions |  | Full |
|------------|---|--|------|



The first analysis was carried out with the following table used to record progress.

| Task                          | Section 1 |         |         | Section 2a |         |         | Section 2b |         |         |
|-------------------------------|-----------|---------|---------|------------|---------|---------|------------|---------|---------|
|                               | Skill 1   | Skill 2 | Skill 3 | Skill 1    | Skill 2 | Skill 3 | Skill 1    | Skill 2 | Skill 3 |
| Coded using abbreviations     | ✓         | ✓       | ✓       | ✓          | ✓       | ✓       | ✓          | ✓       | ✓       |
| Sorted alphabetically by code | ✓         | ✓       | ✓       | ✓          | ✓       | ✓       | ✓          | ✓       | ✓       |
| Coding checked                | ✓         | ✓       | ✓       | ✓          | ✓       | ✓       | ✓          | ✓       | ✓       |
| Counted                       | ✓         | ✓       | ✓       | ✓          | ✓       | ✓       | ✓          | ✓       | ✓       |
| Grouped by code               | ✓         | ✓       | ✓       | ✓          | ✓       | ✓       | ✓          | ✓       | ✓       |
| Ranked                        | ✓         | ✓       | ✓       | ✓          | ✓       | ✓       | ✓          | ✓       | ✓       |
| Extended code                 | ✓         | ✓       | ✓       | ✓          | ✓       | ✓       | ✓          | ✓       | ✓       |
| Table prepared                | ✓         | ✓       | ✓       | ✓          | ✓       | ✓       | ✓          | ✓       | ✓       |

**This resulted in the first nine tables**

## SECTION 1: Skills developed in last 2 years

|                        |     |
|------------------------|-----|
| 1 Management skills    | 144 |
| 2 Communication skills | 105 |
| 3 ID skills            | 87  |
| 4 Survey skills        | 85  |
| 5 Legislation          | 50  |

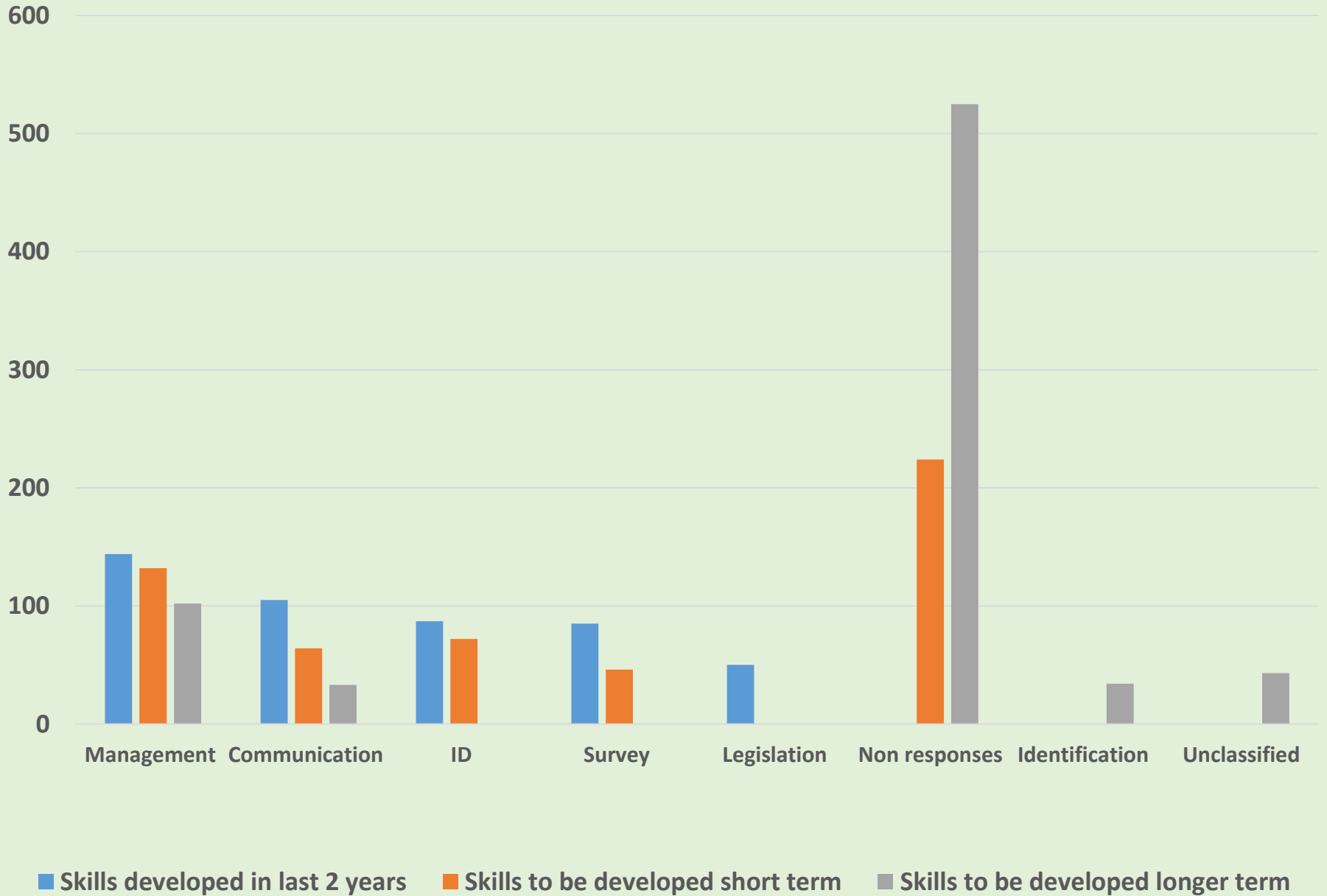
## SECTION 2a: Skills to be developed short term

|                        |     |
|------------------------|-----|
| 1 No response          | 224 |
| 2 Management skills    | 132 |
| 3 ID skills            | 72  |
| 4 Communication skills | 64  |
| 5 Survey skills        | 46  |

## SECTION 2b: Skills to be developed longer term

|                         |     |
|-------------------------|-----|
| 1 No response           | 525 |
| 2 Management skills     | 102 |
| 3 Unclassified          | 43  |
| 4 Identification skills | 34  |
| 5 Communication skills  | 33  |

# Skills



So it is **transferable skills** that are important

Management and communication skills are clearly of most concern

The figures are for aggregated responses

With agreement of TECDC the next step was to dis-aggregate the responses in the management and communication categories to provide more detail

# MANAGEMENT SKILLS

MANAGEMENT ALL SECTIONS

TOTAL

**MANAGEMENT ALL SECTIONS**

**TOTAL**

Project management

Leadership 20

Project management 17

Managing change 16

102

Buisness management

Habitat management 9

Management plans 9

Managing people 9

87

Management 4

Leadership

Livestock Management 3

Management- self 3

Mentoring 2

78

Managing people

Volunteer management 2

Risk management 1

41

Habitat management

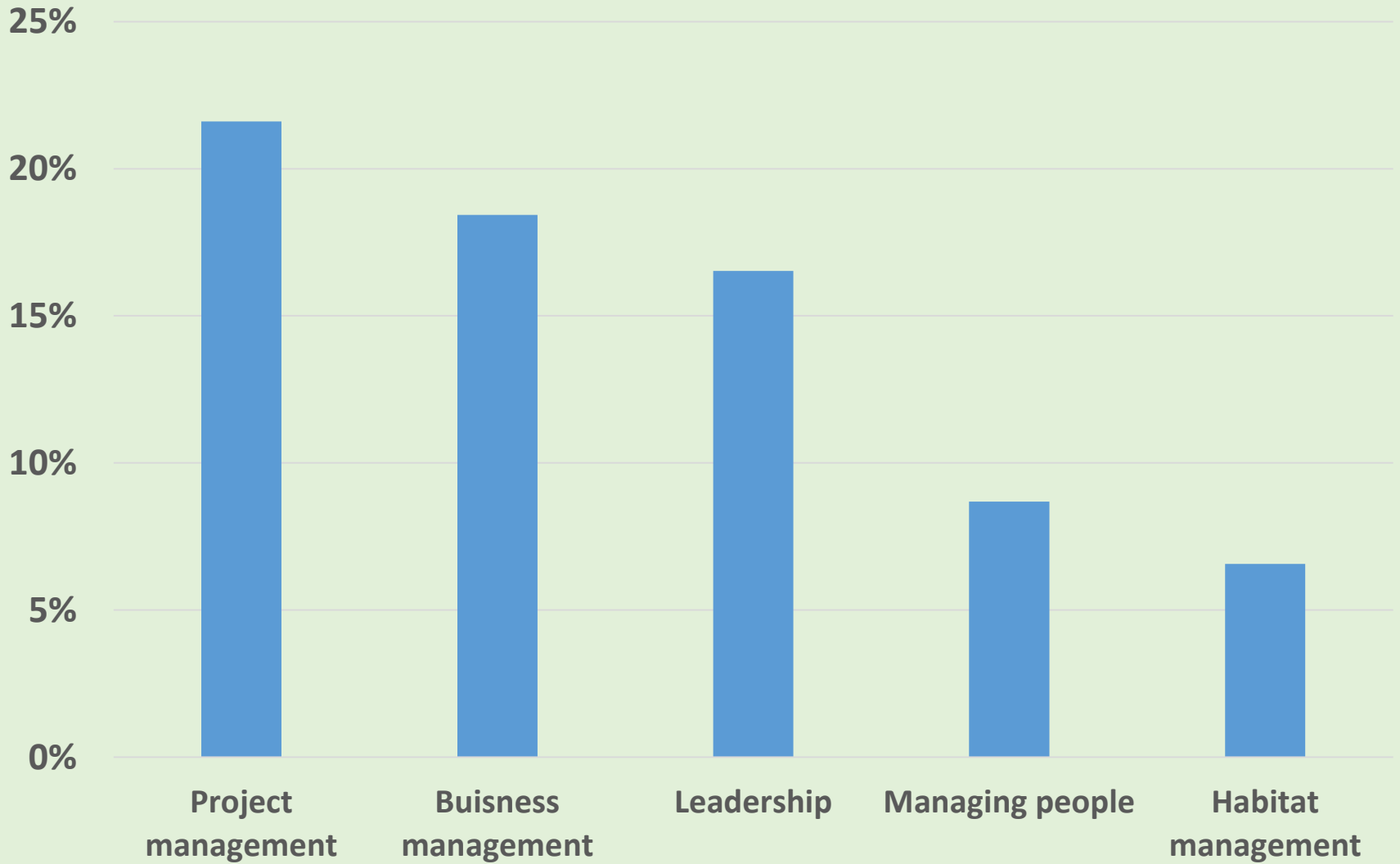
31

Quoting 1

Species management 1

# Top 5 chosen skills

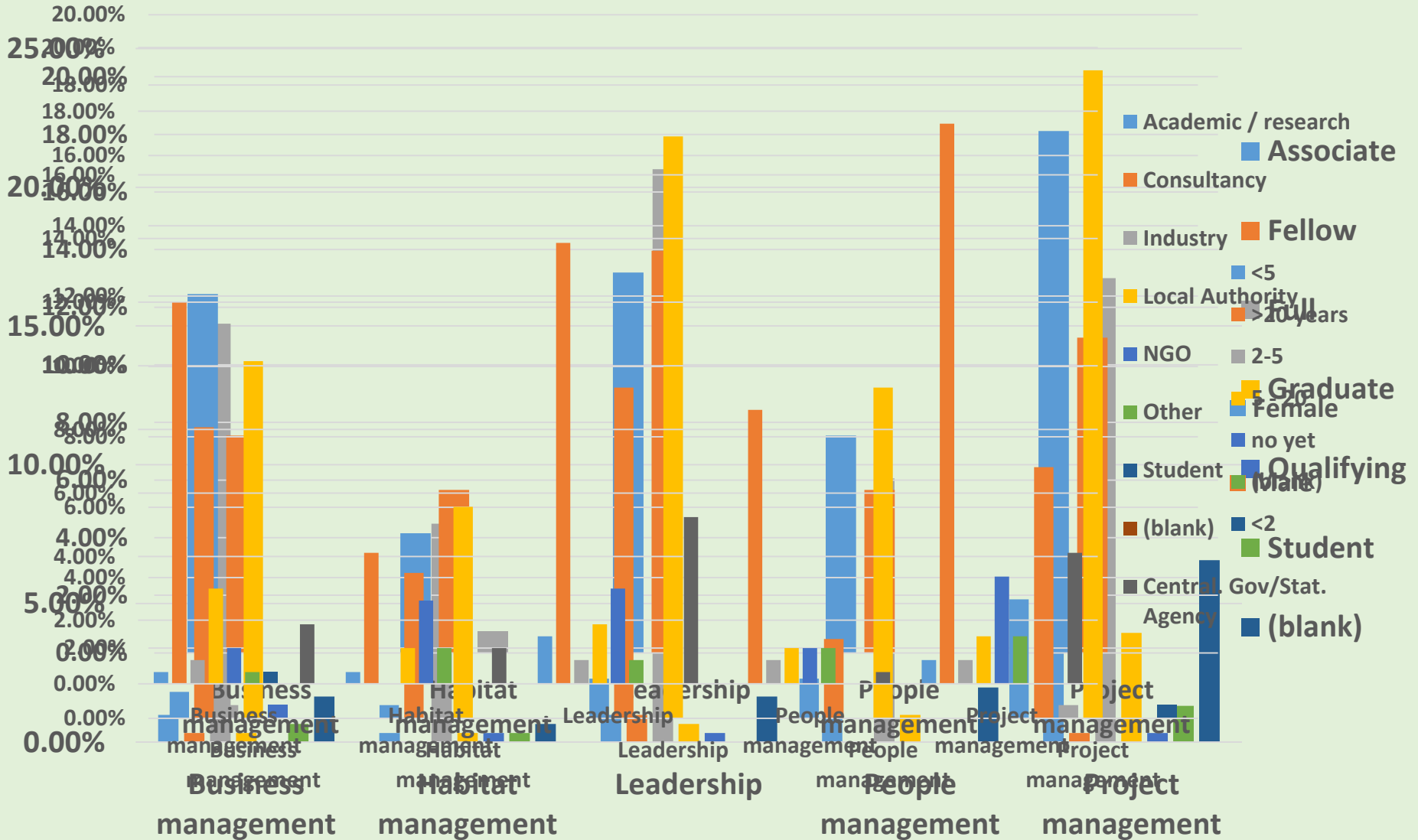
## Principal management skills (n=472)





# Who has identified these skills?

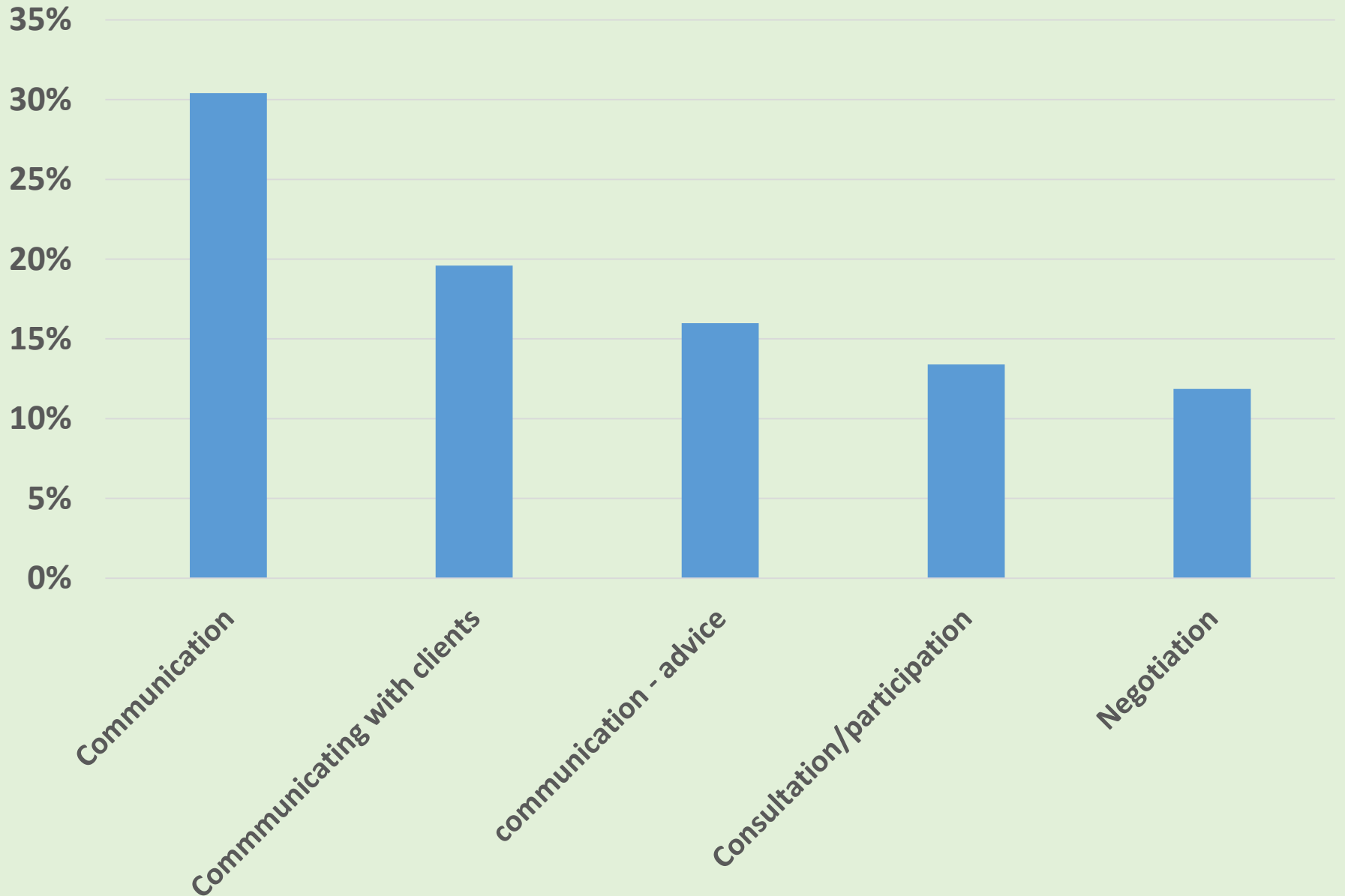
Members of the groups by cross-section (2015)



# COMUNICATION SKILLS

| Communication ALL SECTIONS |                            | TOTAL |
|----------------------------|----------------------------|-------|
| Communication ALL SECTIONS | TOTAL                      |       |
| Communication              | Consultation/participation | 6     |
|                            | Communicating with clients | 5     |
| Communning with clients    | Communication - advice     | 3     |
|                            | Presentations              | 3     |
| communication - advice     | Media training             | 2     |
|                            | Negotiation                | 2     |
| Consultation/participation |                            | 26    |
| Negotiation                |                            | 23    |

## Principal communication skills





# Section 3: DRIVERS

| DRIVER 1   |    | DRIVER 2                        |    | DRIVER 3                        |     |
|--|----|---------------------------------|----|---------------------------------|-----|
| Personal Aspiration                                  | 90 | No Response                     | 90 | No Response                     | 120 |
| No Response  | 78 | Employer's Need                 | 41 | Personal Aspiration             | 40  |
| Changing legislation/policy                          | 61 | Changing legislation/policy     | 46 | Unclassified                    | 36  |
| Employer's Need                                      | 30 | Personal Aspiration             | 36 | Employer's Need                 | 28  |
| Personal Aspiration                                  | 90 | No Response                     | 90 | No Response                     | 120 |
| Unclassified   | 28 | Unclassified                    | 35 | Changing legislation/policy     | 30  |
| No Response  | 78 | Employer's Need                 | 41 | Personal Aspiration             | 40  |
| Changing Technology                                  | 78 | Employer's Need                 | 41 | Personal Aspiration             | 40  |
| Business Plan  | 6  | Business Plan                   | 14 | Improve Quality                 | 12  |
| Changing legislation/policy to get new/different job | 61 | Changing legislation/policy     | 46 | Unclassified                    | 36  |
| Employer's Need                                      | 30 | Client Need                     | 11 | to get new/different job        | 9   |
| Employer's Need                                      | 30 | Personal Aspiration             | 36 | Employer's Need                 | 28  |
| Redundancy   | 3  | Changing market/competitiveness | 7  | Changing market/competitiveness | 7   |
| Unclassified   | 20 | Unclassified                    | 35 | Changing legislation/policy     | 30  |
| Improve Quality                                      | 3  | Improve Quality                 | 7  | Money                           | 6   |
| Client Need  | 3  | to get new/different job        | 6  | Business Plan                   | 5   |
| Stay in Business                                     | 2  | Change in guidance              | 5  | Change in Role                  | 4   |
| Decrease in Resources                                | 2  | Change in Role                  | 5  | Decrease in Resources           | 2   |
| Curiosity  | 2  | Stress                          | 1  | Redundancy                      | 2   |
| New Projects   | 1  |                                 |    | Surveys                         | 2   |
| IT   | 1  |                                 |    |                                 |     |
| Changing Lifestyles                                  | 1  |                                 |    |                                 |     |
| Competency   | 1  |                                 |    |                                 |     |
| Changing market/competitiveness                      | 1  |                                 |    |                                 |     |

Adding change in legislation/policy with Brexit:

D1: 61    D2: 46    D3:30

## **The Conference Workshops:**

We are hoping to get your help to gather more data and inform CIEEM's response to the Skills Gap initiative

**There are four tasks - and limited time**

**So we'd really appreciate it if you could**

**focus on the specific questions asked**

If you have any additional comments please email

[d.bartlett@gre.ac.uk](mailto:d.bartlett@gre.ac.uk)

**Thank you**

# The posters used to structure workshops

## Task 1 10minutes

1. Was the rank for **communication skills** a surprise to you?
2. Were you well enough prepared with respect to **communication skills** during your education?
3. How much support did you get in developing these skills in the early stages of your career?
4. Is there anything else that should be part of basic training?
5. Or should **communication skills** be an add on during career progression?

## Task 2 20minutes

1. What **management skills** did you have when you completed education?
2. Was this enough for your first job or would anything else have been helpful?
3. What are the **essential management skills** for:  
A habitat/species adviser / senior habitat/species adviser  
A land manager  
A policy adviser / A senior policy adviser  
A local authority ecologist  
  
An assistant ecologist  
A junior ecologist  
Senior ecologist  
Principal ecologist
4. How should these skills be acquired?

## Task 3 5minutes

1. Are there any other key skills you feel you will be needing in the near future?
2. Why? (what is the driver for acquiring these new skills)

## Task 4 10 minutes

**Which of the follow skills do you think you will need to develop ?**

1. ID skills
2. Survey methods
3. Technology
4. Legislation
5. Data management

### **WHY?**

Personal Aspiration  
Employer's Need  
Changing legislation/policy/BREXIT  
Changing Technology  
Client Need  
Career progression

# TASK 1 communication skills

## **1.1 Was the rank of communication skills a surprise?**

Not very surprised

Was this due to the bias in the survey group?

## **1.2 were you well enough prepared with respect to communication skills in your education?**

General consensus that this is a difficult skill to teach

The majority felt unprepared

## **1.3 how much support did you get in developing these skills in the early stages of your career?**

Majority view: there was a lack of support although this depended on the work place; agencies and graduate schemes were felt to do this well

Skills learnt best by doing; learning on the job



## **1.4 is there anything else that should be part of basic training?**

Report writing

Presentations

Working with data

Workplace communication

Media skills

How to deal with awkward clients

## **1.5 should communication skills be an add on during career progression ?**

Consensus that we are all learning throughout out our careers

# TASK 2 management skills

## **2.1 what management skills did you have when you completed education?**

Time management, deadlines (self management)

## **2.2 was this enough for your first job or would anything else have been helpful?**

Not enough – although it depends on the role

## **2.3 what are the essential management skills .....**

Time management, people management for coordinating projects, understanding of finances

## **2.4 how should these skills be acquired?**

Project management at university (make this ex- rather than implicit and highlight on cvs), no ideal way to suit everyone, workplace/peer mentoring

# TASK 3

## **3.1 are there any key skills you feel you will be needing in the near future?**

ID, field skills, GIS, habitat ecology, new technology, data management, survey methods,

## **3.2 Why?**

Changing policy and legislation, competitive markets, changing technology, personal aspirations

# Task 4

## 4.1 which of the following skills do you think you will need to develop in the near future?

|                      |    |
|----------------------|----|
| Technology           | 58 |
| ID skills            | 55 |
| Survey methods       | 51 |
| Legislation & policy | 48 |
| Data management      | 45 |

## 4.2 Why?

|                                    |    |
|------------------------------------|----|
| Changing Technology                | 49 |
| Personal aspiration                | 47 |
| Changing legislation/policy/BREXIT | 44 |
| Employer's need                    | 31 |
| Career progression                 | 33 |
| Client need                        | 22 |

# BIAS

- not all respondents completed Section 4.
- not possible to differentiate skills required by early career ecologists and environmental managers
- established professionals made up the bulk of respondents
- The conference attendees were similarly biased
  - 167 people attended
  - 138 were CIEEM members 97 (70%) were full or fellows

# but was it really biased?

|                                  |            |
|----------------------------------|------------|
| Retired:                         | 61         |
| Fellow:                          | 51         |
| Full:                            | 3045       |
| Associate:                       | 548        |
| <b>Graduate:</b>                 | <b>851</b> |
| <b>Student (non-accredited):</b> | <b>340</b> |
| Student (accredited):            | 78         |
| Qualifying:                      | 115        |

Total members: 5089 **about a fifth early career**  
**(retention stats would be interesting)**

# What was the required outcome?

- 1) To identify any current gaps in skills provision
- 2) Horizon scan to ensure that the profession was responsive to changes in demand

Robust results should inform:

- Content of CIEEM accredited programmes
- CIEEM training programme.



# Did this initiative achieve this?

We found:

- Concern about soft skills
- Conference respondents felt unprepared for work on graduation

(coincidence with STEM study)

- There is a reluctance to complete long surveys

# How can this be improved?

## **Developing a strategic approach**

TEDEC should define the aim of the SGP more precisely

do we want to know what training members have undertaken ?

are planning ?

or is it to identify what the profession needs to maintain its position in

the changing policy/workplace environment?

# Using a questionnaire

**robust, representative, repeatable .....**

- Get profile data first - what is the minimum required?
- Ask about change in role BEFORE asking future skills requirement
- targeting different membership grades would simplify analysis simpler, even if the questions asked were the same.
- responses should be randomly selected to ensure proportional representation OR identify issues for specific groups.
- Incentives - as well as a clear and concise questionnaire – would increase response rate (draw for a free place at a CIEEM training course?).

# Other ways to get data

## Event Evaluations

- Add a question about plans for further training

## Early career ecologists and environmental managers

- Potentials of upgrade form to ask how prepared they felt for work

## Employers

- Survey those advertising jobs by SSI phone call
- Identify specific areas difficult to recruit.