

EVALUATING TRAINING IMPACTS IN CONSERVATION THROUGH A CASE STUDY IN MAURITIUS

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1 **ABSTRACT**

2 The need for increased monitoring and evaluation within the conservation sector has
3 been well documented; this includes the monitoring and evaluation of training
4 activities. This study evaluates the impacts of a long-term training programme in
5 Mauritius using a questionnaire and semi-structured key informant interviews to
6 develop a theory of change from the perspective of the trainers, and validate it
7 against participants' perceptions of the benefits of training. Findings suggest that an
8 important outcome of training is to increase participants' belief that they can effect
9 change, also called perception of control; this aspect links to an increase in a
10 trainee's practical skills, enabling them to become more effective in their work.
11 However, if a trainee's work environment was negative, the impact of training on
12 practical skills, job performance and perception of control was lower. Neither the
13 acquisition of conservation theory nor the opportunity to network was perceived by
14 participants as improving their conservation performance, despite trainers
15 anticipating that they would be important. Perception of control and work environment
16 should therefore be carefully considered when designing conservation training
17 programmes, and the effectiveness of teaching conservation theory and networking
18 should be further examined.

19
20 **KEYWORDS:** capacity-building, perception of control, theory of change, skills,
21 course, Durrell, evaluation, training
22
23

INTRODUCTION

While multiple authors have cited the importance of evaluation within the conservation sector (e.g. Sutherland et al., 2004; Ferraro & Pattanayak, 2006; Brooks et al., 2009), implementation of project monitoring and evaluation has been far from ubiquitous. Evaluation is essential, providing insight and feedback into existing activities, helping inform future decisions and programme design, and demonstrating success to other professionals and funding bodies (Hatry, 1999; Blann & Light, 2000). Particularly in the conservation sector, where both time and finances are often limited, organisations cannot afford to waste either of these resources on ineffective activities. Evaluation can help direct programmes towards approaches with proven success (Stem et al., 2005).

One activity that would highly benefit from evaluation is training. The ability of conservationists to share their knowledge, expertise and experience effectively with others is imperative to the discipline's success. Training in this sense can be seen as a form of capacity building, which has been called for in nearly every sector of conservation (Missika, 2005; Rodriguez et al., 2006; Clubbe, 2013). Training can help practitioners be more effective, increasing overall impact and improving conservation success by disseminating new techniques and skills (Fien et al., 2001).

An underlying assumption is that training is inherently a 'good thing' which will generate benefits at individual, organisational and/or systemic levels. While there is a great need to evaluate training impacts in conservation, there has been a relative scarcity of such evaluations (Rajeev et al., 2009). By measuring what has been impactful, more effective and tailored courses can be designed and implemented

(Morrison et al., 2013). The few published evaluations have generally centred on formal academic programmes (Muir & Schwartz, 2008), or on environmental education (Thompson et al., 2010; Rakotomamonjy et al., 2015).

The paucity of impact studies is also partially due to the challenging and nuanced nature of training outcomes; attributing change to one intervention or training course is very difficult and sometimes impossible (James, 2001). Both counterfactuals and control groups are extremely challenging, as no two organisations or individuals are identical (James, 2009). Measurement is difficult, as some impacts cannot be quantified (Hailey et al., 2005), and concerns over exposing shortcomings or failures may prevent organisations from undertaking evaluations (Redford & Taber, 2000; Fien et al., 2000). Additionally, because capacity is not static, the timing of the evaluation after the training intervention can greatly affect the results. Individuals learn and retain information at different rates, positions within organisations may contribute to individual capacity, and external conditions may affect capacity independently of an intervention (Simister & Smith, 2010; James, 2009).

Arguably, however, the greatest challenge to understanding the effects of training is a lack of clarity regarding why it is being done in the first place (James, 2009; Kapos et al., 2008). Ideally, intended outcomes should be specified before training activities are undertaken, using an explicit theory of change. Training providers and capacity development organisations alike often lack a clear statement of how their activities will impact recipients (Simister & Smith, 2010), and without this evaluation can become more time-consuming, expensive, and ineffective. Success must be defined in order for it to be measured.

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75 Here, we evaluate the impact of Durrell Wildlife Conservation Trust's long-term
76 training programme on participants through a case study of the Durrell Conservation
77 Academy's activities in Mauritius. The island of Mauritius has a number of
78 endangered and endemic species within highly degraded habitat. With limited
79 conservation training opportunities locally available, Mauritians must either go abroad
80 for conservation training, or external organisations must provide training on the
81 island. Durrell has been actively training Mauritians since the late 1970s; this long
82 involvement and the diversity of courses on offer provides an excellent case study for
83 evaluating training impacts over time.

84

85 The study's objectives were to evaluate: 1) how Durrell's training for Mauritian
86 conservationists has changed over time, 2) what Durrell and trainees intended to
87 achieve through their training programmes, 3) how these intentions have changed
88 over time, 4) how successful Durrell was in achieving the intended outcomes, 5) the
89 extent to which participants' intended outcomes were achieved, and 6) to synthesise
90 general recommendations for training within the conservation sector.

91

92

93 **METHODS**

94 Mauritius is a developing African country in the Indian Ocean (Mauritius Country
95 Profile, 2015). Home to a variety of endemic plants and animals, Mauritius only has
96 2% of its original forest cover, particularly due to the sugar cane industry. In the late
97 1970s, the Mauritian Wildlife Foundation was created to help combat these threats,

and now has 21 projects on the main island of Mauritius, the island of Rodrigues and several smaller surrounding islands (Mauritian Wildlife Foundation, 2015).

Durrell is an international non-government organisation that has been providing courses to Mauritians since 1977, lasting between one week and three months (Durrell Wildlife Conservation Trust, 2015). In 2013, a permanent international training base was opened in Mauritius to make training more accessible for Mauritian conservationists.

Durrell is a partner of the Mauritian Wildlife Foundation both in field projects and training. While many of their Mauritian trainees are Mauritian Wildlife Foundation employees, they have also trained individuals from the private and government sector. Additionally, dozens of local and overseas PhD students have conducted research in partnership with both organisations, and hundreds of volunteers have participated in conservation work. However, this study only investigates the impact of *formal courses* put on by Durrell, due to the similarities to other training programmes within conservation, the extensive training database, and the ability to compare courses taken and the resulting effects.

METHODOLOGICAL APPROACH

Due to the complex and interacting nature of training impacts, we used both qualitative and quantitative methods, as suggested in both the development and conservation sectors (Stem et al., 2005; Wheeldon, 2010; Simister & Smith, 2010). We used a questionnaire and semi-structured interviews to better understand what the aims of a training programme were and to record impact. Both grounded theory

and most significant change were used to design and analyse the interviews. Grounded theory is a qualitative method for analysing interviews and texts, in which coding is used to systematically gather and analyse data (Bernard, 2011). Grounded theory has been successfully used in a variety of disciplines (Bhandari et al., 2003; Pitney & Ehlers, 2004; Schenk et al., 2007), although its use in conservation is still limited. A 2004 study successfully used grounded theory to analyse the impact of mentorship on university students and to better understand the mentoring process (Pitney & Ehlers, 2004). We utilized grounded theory for this study because there were no specific expectations prior to research and thus themes and an eventual model were allowed to arise from the interviews through coding.

Most significant change is a method that focuses on collecting stories and is particularly useful when impacts are hard to predict and measure. It is an iterative process, whereby stories of change or impact are collected in a participatory process from individuals receiving a capacity building intervention. These stories are chosen not to be representative, but to intentionally seek out interesting or unusual stories, both positive and negative (Davies & Dart, 2005; Simister & Smith, 2010). Most significant change was first utilised in the conservation sector in 2008 in an effort to more holistically assess the impacts of livelihood-based interventions (Wilder & Walpole, 2008).

Prior to data collection, protocols were reviewed and approved through the MSc in Conservation Science's formal ethics review procedure. We carried out semi-structured interviews of current and former Durrell staff in the UK and of staff and current training participants in Mauritius. We used these interviews to shape a

questionnaire which was emailed to course participants. Self-assessment was utilised throughout this study as it reflects how recipients view the intervention (Hailey et al., 2005). This increases stakeholder buy-in and makes evaluation a more participatory process (James, 2001). However, there are limitations to self-assessment – information will be inherently biased and subjective, and there is no external reference point (Hailey et al., 2005).

INTERVIEWS

Individuals that have influenced Durrell's training academy were referred to as 'planners'. We interviewed them in order to understand how Durrell's mission in training has evolved, and how they expected training to effect change. Both Mauritian and non-Mauritian individuals who had completed Durrell courses in Mauritius, and Mauritians who had completed a course at Durrell headquarters in Jersey, were referred to as 'participants'. They were interviewed to understand why they attended their courses, what they expected, how satisfied they were, and what their perceptions were of lasting impact from their training. Interviewees were informed as to the purpose of the research, and gave consent for the interview. Participants were interviewed anonymously and confidentially.

Our interviews with planners were used to generate an implied theory of change using grounded theory, depicting how planners thought training would effect change. We utilized Most Significant Change in participant interviews to seek out unique stories of change that illuminated questionnaire design and results, and communicated impacts that are difficult to measure. As per the Most Significant Change approach, we chose stories we found particularly illuminating, rather than

representative, as suggested by Davis and Dart (2005). They were also chosen to highlight the breadth of training impacts, and to illustrate both positive and negative impacts.

QUESTIONNAIRE

Following the interviews, we developed a questionnaire aimed at gathering evidence for the links in the implied theory of change. We used Qualtrics software to administer the questionnaire. The questionnaire was piloted on Masters students at Imperial College London, refined to better represent the Mauritian context and then re-piloted on current Post Graduate Diploma students in Mauritius. Respondents were informed of the aim of the research and assured anonymity and confidentiality for their answers. They were free to withdraw from the online survey at any time.

Survey respondents who had taken more than one course answered questions for each course. Based on the themes brought out in the implied theory of change and participant interviews, the questionnaire explored six elements of training seen as important by both planners and participants: Perception of Control, Career Effects, Work Environment, Networking, Practical Skills and Theory (Table 1).

We aggregated the responses to the relevant questions to produce a score for each category (Table 1). Cronbach's alpha test was used to determine the reliability of this aggregation, in terms of the consistency of responses to different elements of the score; the higher the alpha value, the more reliable the scale, with 1 meaning that all elements making up the score are showing the same results, and zero that they are all different (de Vaus, 2013). 'Career effects' had an alpha of 0.85, 'practical skills'

0.83, 'perception of control' 0.83, and 'work environment' 0.81. These high alpha values verified that aggregation was appropriate (Bernard, 2011). We therefore calculated scores for each participant by coding the Likert questions on a one to five scale and then summing. All questions were weighted equally. Scores for the networking category were calculated by summing the number of students and staff the respondent was still in contact with.

In order to determine the validity of the implied theory of change, the connections between elements were tested for significant relationships. The expectation was that elements which were connected in the implied theory of change should have a significant positive relationship between their scores. Spearman's rank correlation coefficient was used to determine if there were any significant associations between respondent scores (Table 2). Summary statistics were performed in Microsoft Excel, while Spearman's rank correlation coefficient was undertaken using R 3.0.1.

DATA COLLECTION

Ten Planners were interviewed and asked about their recollections of the aims of the training programme during their involvement, ranging from 1961 to 2015.

16 Participants were interviewed, having participated in courses ranging from 1977 to 2014; 13 were Mauritian and three were international. 98 questionnaires were emailed to Mauritian nationals who had participated in one or more Durrell courses over the period 1977 to 2014 in Jersey or elsewhere, and other nationalities who had taken Durrell courses in Mauritius from 1991 to 2014. Of these, 54 individuals returned completed questionnaires (55%), providing 75 individual course assessments. 57% of respondents were Mauritian and 43% were international.

223

224 **RESULTS**

225 **DID TRAINEES GET WHAT THEY WANTED?**

226 Trainees were asked what they initially hoped to gain from their course, and then
227 whether they perceived they had attained that. The majority of respondents received
228 what they hoped to gain, with the exception of preparation for a new role; 53% of
229 respondents who hoped to improve their career prospects did not feel their course
230 had prepared them for a new role in their career. Overall, however, respondents
231 perceived that they were getting what they wanted (Figure 1).

232

233 A Mauritian participant explains why they felt a ten-day course focusing on island
234 species conservation was so beneficial for networking:

235 *“Probably I wouldn’t at that time have thought about that, but you have participants*
236 *from different places, like governments... you get ideas and things together, and*
237 *there’s so many sides you can get from others because everybody will kind of share*
238 *things from what they’re experiencing.”*

239

240 Perception of Control can generally be defined as a trainee’s belief that they can
241 effect change in their professional lives. Attending early in their conservation career,
242 one participant describes their experience on the three-month Durrell Endangered
243 Species Management course in Jersey:

244 *“For me that was the turning point... That was the real spark. It was there that I kind of*
245 *fully comprehended what I was doing... And also, you come from a country like*
246 *Mauritius, you think you are one of those isolated islands you know that nobody*
247 *knows of. ...and you kind of say, ‘Well, what we’re doing here is not isolated, its*

248 *actually quite important, and people recognise it, the work that we do.’ ... I really felt I*
249 *could do more. I should do more.”*

250

251 Another participant describes their improved confidence in communication:

252 *“I was very afraid, talking in front of people, doing a presentation, I was so petrified,*
253 *and then going there I did several presentations, I was more confident.... When*
254 *somebody’s coming here I can talk to him...have better communication. And also*
255 *when there is a new staff coming here I know how to talk to [them], if there’s*
256 *something wrong, I know...how to say it is wrong. Not, “It is wrong!” No, I know how*
257 *to talk about that.”*

258

259 One participant describes why they attended the DESMAN course:

260 *“I [didn’t] want to end up in conservation stuck at the same place because of a*
261 *qualification that prevented progress...I didn’t have any qualification in conservation.”*

262

263 Another participant describes their disappointment in career progression following the
264 course:

265 *“After I came back, I was hoping that I would be promoted or I would change projects*
266 *or something, but nothing happened. I was quite disappointed. Because for me, it*
267 *was like I had achieved something ... and I thought I would be, like have some more*
268 *responsibility, doing something different or apply what I’ve learned, but nothing*
269 *happened. I was very disappointed.”*

270

271 The first Durrell trainee describes their career path following training in Jersey:

272 *"So that's how in 1976 they advertised - the government of Mauritius - advertised the*
 273 *scholarship for Wildlife Preservation Trust at the zoo. At that time I was teaching, I*
 274 *was an education officer, teaching biology up to high school certificate level... and I*
 275 *stayed, you know, almost 10 months in Jersey.... The ministry created what they*
 276 *called a conservation unit [in 1990]. Established a conservation unit, just*
 277 *administratively, and I was asked to lead that.... This is when I proposed the creation*
 278 *of the National Park... in June 1994 the park was created, was officially established,*
 279 *and I was appointed in August 1994 as the first director of National Parks... I'm happy*
 280 *that I've had a good career, thanks to the training, initial training I got."*

282 **VALIDITY OF THE IMPLIED THEORY OF CHANGE**

283 No explicit theory of change was found in Durrell's internal literature, so the implied
 284 theory of change was constructed from planner interviews. We found that Planners
 285 believed that if trainees were taught practical skills and theory, and were exposed to
 286 networking with other students, this would lead to an increased belief that they could
 287 affect change (perception of control), which would lead to them performing their jobs
 288 better and moving to new roles, affecting the overall performance of their
 289 organization, and ultimately saving species from extinction. The 'core' of the implied
 290 theory of change, centring on personal effects that lead to external change, has been
 291 a part of the ethos of the training programme consistently since the 1970s, and in fact
 292 since Gerald Durrell first envisioned the training component of Durrell's work (Figure
 293 2).

294
 295 Based on the results from the questionnaire and participant interviews, the validity of
 296 the implied theory of change was tested, both for individual elements and the

linkages between elements (Figure 2). Both perception of control and work environment scores had significantly positive correlations with practical skills, career effects, and with each other (Table 2). Neither theory nor networking scores were significantly correlated with any other score.

All elements of the implied theory of change were positive, showing that a majority of respondents perceived an increase in their capacity. The connection between the theory block and any other section was not supported, however, nor was the connection between networking and perception of control.

DISCUSSION

This study provides new evidence on both the intentions behind, and the perceived impacts of, a long-term conservation training programme. The intentions of both Durrell and trainees changed surprisingly little over time, although they broadened to some extent (objectives 1 and 3). Both Durrell and trainees desired practical skills, theory, improved perception of control, improved career prospects and to influence work environments (objective 2). Both Durrell and trainees overall achieved their intended outcomes of training, with the exception of preparation for new roles in their career (objectives 4 and 5). These objectives are explored in more detail below, as well as general recommendations for the sector (objective 6).

IMPLIED THEORY OF CHANGE

Although the implied theory of change has been fairly consistent over time, a limitation must be acknowledged; while a planner may have mentioned several topics, their personal emphasis is not depicted. Also the theory is based on hindsight;

planners' perceptions may have shifted over time. Therefore, the implied theory of change may appear more consistent over time than it was in reality. The lack of contemporaneous documentation means that it is not possible to validate impressions of the planners about what their aims were at the time.

The positive evaluations of the impact of training from respondents affirms that in general the individual sections of the implied theory of change are logical, achievable and potentially replicable by other organisations. Despite not having a theory of change beforehand as suggested by Simister and Smith (2010), Durrell was still successful overall in achieving their desired impacts. This is encouraging, as many organisations have undertaken capacity building activities without an expressed theory of change (Kapos et al., 2008; James, 2009). This study demonstrates that it is possible to construct a theory of change post-hoc to be used in monitoring and evaluation.

The lack of a significant association between a respondent's gain in practical skills and being more effective in their job, despite both of these having significant correlations with perception of control, is telling. This implies that practical skills must feed into perception of control before effectiveness at work will be influenced, as implied by the theory of change. This highlights the importance of perception of control as a critical step in maximising the impact of training.

The concept that improved theory leads to more effective individuals is not supported by this study. This is corroborated by participant interviews; many explained that the courses did not necessarily change their actions, but helped them understand the

theory behind them. Theory may still be a key aspect of training, but to believe it is changing performance at work appears misleading. Similarly, networking may be an intended outcome, but it should not be expected to influence other effects of the course. Despite many interviewed participants mentioning that they enjoyed meeting the other course participants, there was no significant correlation between networking scores and any other element. This study therefore does not support Morrison et al.'s (2013) implication that networking leads to greater collaboration. However, it is possible that networking has affected participants in other ways, such as exposing them to new ideas, cultures, and contexts. It should also be noted that networking was not a taught aspect of courses; planners hoped that networking would happen organically, but teaching trainees how to network effectively may change these results. Networking is also more complex than simply counting the number of individuals trainees are still in contact with, and a more nuanced look at this may be beneficial in future.

CAREER EFFECTS AND WORK ENVIRONMENT

Of the specific increases in capacity trainees desired (Figure 1), career progression had the largest dissatisfaction, with 53% of trainees who desired improved career prospects feeling the course did not prepare them for a new role. However, whether this is considered a success or not depends on the training provider's emphasis, priorities and expectations. The career Story of Change also illuminates an aspect of this; in some cases, there is nowhere to 'move up' to. A trainee may feel more capable, have more skills, better knowledge of theory and be better at their job, but the opportunity to progress within their organization or preferred country may not be available. Additionally, the assumption is that desiring 'greater career prospects'

would indicate a desire for a new role in some way; this may not be true for all participants, as some may feel that while their position has not changed their prospects have, indeed, improved. In the future, satisfaction with career prospects should be more specifically investigated.

Due to work environment scores having significant interactions with perception of control, career effects, and practical skills, the importance and influence of the environment for the impact of training deserves serious consideration, as is already suggested in the literature (Barrett et al., 2001; Missika, 2005). Work environment is a difficult aspect to grapple with; in a positive environment the course can have effects through managers' and colleagues' interest, giving talks, and being given opportunities to use skills gained from the course. If the work environment is negative, it largely becomes an externality, dampening the other course effects without being influenced itself. Work environments, while clearly extremely important, are often beyond the scope and control of the course. Investigating ways to better prepare individuals for returning to negative work environments should therefore be seriously considered, as this will affect nearly all other impacts of the course.

Both career progression and work environment highlight the tension between training focused on the individual and training focused on the organization. If training is intended to primarily influence an organization, trainees should be currently employed within an organization which is willing to support them upon their return, and should be poised to impact that organization. Individuals that are on the cusp of career advancement could be identified and specifically trained. If, however, individuals are the primary focus of training, then training providers need to devise

methods of supporting the individual, who may be returning to a negative or difficult work environment but who, with proper support, may have high potential for effecting change either there or in another organisation. A focus either on individuals or organizations will impact course design and monitoring and evaluation; this should ideally be specified prior to training.

IMPACT ON DURRELL CONSERVATION ACADEMY

Following this research, Durrell has developed a forward-looking theory of change which draws on many of the findings in this research, in particular the impact on perceptions of control. Going forward they will refer to this theory of change to help inform the training developed and what is tracked in terms of impacts. Additionally, this work has been an impetus for a programme within Durrell to develop training impact indicators to add to the existing Durrell Index, which is currently focussed on species conservation impacts. These indicators and the thinking behind them will be published online, so as to contribute to the broader understanding of impact measurement within the sector.

METHODS EMPLOYED IN THE STUDY

This mixed-methods approach to evaluating training in conservation was relatively quick and low-cost and yet gave illuminating insights. There are limitations; the self-assessment of participants is inherently biased and difficult to triangulate, and with such little literature to corroborate what planners recall about their intentions we cannot know if our reconstructed theory of change is fully accurate. In the future, collecting data from the colleagues of training participants may add robustness and provide further insights about how training affected their capacity. However, the mix

of questionnaires and interviews with both the providers and recipients of training helped to flesh out a broader story of impact, allowed us to evaluate Durrell's perceived intentions both statistically and through stories, and ultimately gave direction and focus to the training programme. We feel that this combination of methods is easily replicable for evaluating other capacity building programmes.

This study demonstrates that even if conservation activities are already underway, it is still possible to construct a theory of change to guide monitoring and evaluation. Additionally, this study highlights the importance of the work environment trainees return to, and the way this interacts with other course effects. Training providers must consider how to address this or risk wasting their resources. Lastly, this study shows that the effect on trainees' perception of control is not a pleasant side effect, but rather an integral and vital effect of training. Skills and theory alone do not suffice. Conservation practitioners' motivation and confidence is vital, and training can transform their belief that they can make a difference. As challenges in the sector rise, it becomes increasingly important that conservationists believe they can positively impact the world around them.

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AUTHOR CONTRIBUTIONS

B.S., J.C. and E.J.M. designed the study. B.S. conducted the interviews and the data analysis, and J.C. and E.J.M. provided supervision, guidance and support.

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588 **BIOGRAPHICAL SKETCHES**

589 B. Sawrey is particularly interested in how leadership affects conservation outcomes
 590 and the intersection of conservation and religious organisations.

591 J. Copsey has been working in the field of biodiversity conservation training and
 592 education for over 17 years. His current research interests concern human

593 motivations for natural resource use, conservation management and leadership and
594 how we understand and measure capacity building efforts.
595 E.J. Milner-Gulland is the Tasso Leventis Professor of Biodiversity and leads the
596 Interdisciplinary Centre for Conservation Science at Oxford University. Her website is
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TABLES

TABLE 1 An overview of the main elements of training addressed in the questionnaire, why they were chosen, any references to support their inclusion and the questions used to generate scores for them.

Topic	Why it was Included	References	Questions
Perception of Control	Conservation can be a discouraging field, and the education sector has shown the importance of promoting 'self-efficacy' in students.	Azjen, 1985 Cleary, 2009 Fien et al., 2001 McCreedy and Dierking, 2013	How did the course affect your: • Motivation • Confidence • Ability to make a difference in conservation • Ability to practically contribute to conservation • Ability to engage in critical thinking
Career Effects	Improving trainees' work performance and preparing them for career advancement was mentioned in both Planner and Participant interviews.	Newing, 2010 Participant Interviews Planner Interviews	• Did the course prepare you for a new role? • Would you have progressed at the same rate without the course? • Do you use the skills you gained regularly? • Would you recommend to a co-worker?
Work Environment	Follow-up and the work environment trainees return to was mentioned in both the literature and in Planner interviews. Work environments may affect the impact of courses.	Barrett et al., 2001 OECD, 2006 Planner Interviews	• Was your manager interested in what you had learned? • Were your colleagues interested in what you had learned? • Were you asked to give talks at work? • Does your manager give you opportunities to use the skills you gained?
Networking	DWCT courses are international and have guest lecturers, and networking can be very useful for collaboration. Many Participants mentioned the impact of meeting other professionals.	Morrison et al., 2013 Participant Interviews Simonetti, 1998	• How many course staff are you still in contact with? • How many fellow students are you still in contact with?
Practical Skills	Many Planners emphasised wanting courses to be practical and to give conservation skills to trainees. This was also mentioned by Participants.	Morrison et al., 2013 Participant Interviews Planner Interviews Salafsky et al., 2008	• How did the course affect your ability to: • Control invasive species • Restore habitat • Participate in ex-situ conservation • Reintroduce species
Theory	Teaching trainees the theory behind what they are doing was mentioned as important by both Planners and Participants.	Participant Interviews Planner Interviews	How did the course affect your: • Personal understanding of conservation theory

TABLE 2 Significant and non-significant correlations between scores from the questionnaire (Spearman's rank correlation), where 0 indicates non-significant correlation at $P>0.05$. + $p<0.05$, ++ $p<0.01$, +++ $p<0.001$

	Practical Skills	Perception of Control	Work Environment	Career Effects	Theory	Networking
Practical Skills						
Perception of Control	+					
Work Environment	++	++				
Career Effects	0	+++	++			
Theory	0	0	0	0		
Networking	0	0	0	0	0	

FIGURE 1 Of trainees that desired a specific element of their capacity to be built, the proportion who did and did not perceive they had received that from a given course (n=75).

FIGURE 2 Visual representation of the iTOC. The colour of the box indicates how many planners mentioned this element (as shown in 'Key') (n=10).

FIGURE 3 Implied Theory of Change, with each box representing the degree to which that aspect was actually enhanced by the training, according to questionnaire data, and which connections between aspects of the iTOC are quantitatively supported (based on the results shown in Table 2).





