4.2 CASE STUDY 2: KIWI HUI

4.2.1 Introduction

There has been a growing realisation that community groups involved in kiwi management were keen to adopt a best practice approach their work and that it would be useful for DOC to meet regularly with them to discuss kiwi management issues. The first Kiwi Hui was organised in 2003 and the Hui has been an annual event since then.

In this case study, one of the DOC officers responsible for organising the annual Hui was interviewed, along with two of the community representatives attending the Hui.

The role of the Hui is to bring together everyone involved in kiwi management and recovery programmes. Hui are usually the first port of call for newly formed trusts to get the information they need to run kiwi programmes and are therefore critical in transferring information to the community groups and trusts to enable them to run their own kiwi management and recovery programmes.

The Kiwi Hui usually runs over four days, and has different themes for each morning and afternoon session. There are usually three presenters per session, formally presenting for half an hour each. After every talk there is a 5-10-minute programme update from one of the community trusts.

A hui format was selected because there is a strong oral tradition within DOC and it was felt that information could be best passed on by gathering people together for formal sessions and also providing the opportunity for more informal conversations and networking.

The annual Kiwi Hui, along with the Kiwi Best Practice Manual (available from www.savethekiwi.org.nz), are the main ways in which DOC communicates information and technical skills associated with kiwi management to community groups and trusts. Other methods include telephone advice from key DOC staff involved in kiwi management, and by communication between trusts.

Approximately 70 people attended the first Hui in 2003. In 2006, when this case study was carried out, there were 140 people.

The role of DOC staff

The Kiwi Hui is organised by two DOC officers. A mailing list of all previous attendees is kept, and when a new Hui is being planned, an email is sent out to the people on the mailing list asking for expressions of interest in attending, and also asking for topics that they would like the Hui to address. The planning for the Hui is therefore two-way, with community volunteers and DOC staff having the opportunity to request topics that will be useful to them.

A programme is then organised and speakers invited to attend. The organisers aim for a range of speakers from different backgrounds; for example, community members might talk about their experiences developing a trust and raising funds, and researchers might talk about new techniques for kiwi management. Other areas covered in recent Kiwi Hui include egg handling, kiwi first aid, sustainability of programmes, funding of infrastructure and new advances in telemetry. There are also practical sessions; for example, at the 2006 Hui there was a practical transponder insertion exercise using chickens.

Transfer of skills/information

The Hui uses a range of methods to transfer skills and information. These include:

- Formal presentations with question and answer sessions
- Workshops and discussions
- Hands-on demonstrations and practical sessions (tried for the first time at the 2006 Hui)

In addition, skills and information are also exchanged informally through conversations at break times and in the evenings.

Programme evaluation

So far, no formal evaluation of the Hui has been undertaken. However, the organisers do track numbers of people attending the event and seek (informally) both positive and negative feedback from attendees. This feedback is used to design the following year's Hui.

Where is the project now?

One of the respondents in this case study raised concern over the fact that, in recent years, DOC managers have seemed to be reluctant to fund the Kiwi Hui, questioning whether the benefits are worth the costs. However, this respondent (a community group representative) felt that, from a community point of view, the Hui are crucial and that it would be a disaster if they stopped running. The knowledge transfer that takes place with community groups ensures far greater success with kiwi management programmes, and stops local DOC offices from having to repeatedly address the same questions.

4.2.2 Key learnings

This case study confirmed a number of the six key principles for working with communities and sharing conservation skills, in particular:

- Principle 2 Understanding your audience
- Principle 3 Information and knowledge sharing as a collaborative learning process

Principle 4 Using a variety of communication and participation methods

In addition, this case study also highlighted the two other key principles that were identified in Case Study 1:

- The importance of creating opportunities to build social capital
- The importance of DOC staff having key skills and personal attributes

Understanding your audience (Principle 2)

The DOC officer highlighted the importance of targeting information and training so that it is accessible to people from a wide range backgrounds and with different education levels. The organisers are careful to brief presenters on this and request that they avoid or explain any technical terminology. The presenters are also carefully selected for their good presentation skills.

One community representative volunteered that he felt that the format was good and not too formal—'it is pitched at the right level'. This makes it 'accessible to many people at many levels'.

Collaborative learning (Principle 3)

The Kiwi Hui provide a good example of a collaborative learning process. Although there are experts presenting information at the Hui, many of the smaller community groups are also encouraged to give a 10–15-minute presentation on progress or issues within their group. This encourages community groups to reflect on and evaluate their own projects, and then share what they have learnt with a wider audience. Often, a lot of follow-up takes place between people who have made contact with each other at the Hui, which furthers the collaborative learning process.

Both of the community representatives interviewed highlighted the significance of the Hui in providing opportunities for them to have contact with 'top kiwi scientists'—to hear presentations and to be able to ask them questions.

The community representatives felt that while a lot of kiwi research takes place, the findings are not widely communicated—often being transferred only internally within DOC. However, having researchers present at the Hui provides a very effective way for people from community groups to catch up with the latest best practice regarding specific kiwi management issues, as this is changing all the time.

Both community representatives said that the Hui was 'a brilliant way' to get information. It provides a good opportunity to ask questions, 'get into the network' and get the right information, most of which is not available in written form.

Using a variety of communication and participation methods (Principle 4)

The Hui presents an excellent example of the value of using a variety of communication and participation methods. For example, one of the community representatives interviewed said that the mixture of approaches was essential, because different people are comfortable with different formats. 'For example, some people are not comfortable in the public forum where there may be over a hundred people, and might only open up when they're taking blood from a chicken or holding a beer'. This variation in people's learning style preferences was also highlighted by the other community representative interviewed who said that, personally, he preferred the formal presentations as 'you can learn a lot in a short time from the experts'. On the other hand, he did not feel that he got a lot out of the workshops.

Creating opportunities to build social capital

One of the most important learnings from this case study was the potential role that this type of event can have in building social capital. All of the people interviewed raised the importance of the Hui for getting people together to motivate, share experiences and learn from each other and the experts. 'The presentation of information is a good excuse for getting everyone together so that the really important part of exchanging information over a beer can take place'.

This highlights that, apart from providing specific skills or information, one of the most important outcomes of the Hui is building and renewing relationships and networks—keeping the people involved in conservation feeling that they are part of a wider social network; in other words, building the social capital around conservation.

For example, one of the community representatives interviewed commented that it is really good meeting up with people doing similar projects, and learning about approaches that people have found to work and those that do not work. He comes away feeling 'inspired and motivated' through this contact. The other community representative said that the 'big kiwi family approach' was one of the strengths of the Hui. People who work in isolation (and are too busy the rest of the year) get the chance, through the Hui, to meet up with others working on similar programmes. This 'revs you up again', and helps motivate those who are easily isolated from their peers because of the nature and often rural location of their work. He also felt that the Hui was a good way to learn from others and to tell others what you are doing and that it also provides an opportunity to showcase your successful outcomes to the funding organisations who attend.

Another aspect of the Hui process which was seen to build social capital is the acknowledgement given to community groups through this type of event. For example, when inexperienced people present material, they get a standing ovation, which creates a powerful feeling of community support, shared experience and positive acceptance.

The importance of DOC officers having key skills and personal attributes

In this case study, the individual skills and personal attributes of the DOC officer interviewed appeared to contribute significantly to the success of the project, in particular:

- The DOC organiser described himself as the 'glue' bringing the Hui together. To achieve this he aims to be a good listener, to reflect what people say, and to act on what people say they want.
- He also feels that he is good at problem solving and believes that being honest and saying what other people are too afraid to say helps in finding solutions to conflicts or problems.

The officer's communication skills and personal attributes were also discussed by one of the community representatives, who said of the DOC organiser: 'he says what the thinks, rather than what he thinks he should say, which is nice'. The community representative also highlighted that the officer made an effort to know everybody and know about their projects and that his 'taking an interest' in this way can be very encouraging for community groups. The other community representative said the DOC organiser was very proactive and inclusive, and provided good, positive leadership.

4.2.3 Areas for attention

Ensuring there are continued opportunities for small group and oneon-one interaction

The organisers of the Hui recognise that a potential problem with the hui approach is that the number of people attending might put some people off asking questions or presenting information themselves. In fact, one of the community representatives interviewed commented that he is quite shy, and would not want to ask a question in front of everyone in case he 'made a fool of himself'. However, he said this did not matter, because it is always possible to ask questions afterwards. Therefore, as this event grows, it is probably important to ensure that opportunities for one-on-one or small group interactions are retained.

Ensuring that the information presented is balanced

The other community representative said that there was a lot of concentration on hands-on monitoring of kiwi, rather than less labour-intensive hands-off monitoring approaches such as listening surveys. He felt this was because DOC focus on hands-on monitoring, but that this monitoring is often far more expensive than, for example, the trapping programmes which benefit kiwi populations by reducing predator numbers. For community groups with limited resources, it would be helpful if DOC could bear this in mind and be more balanced in the information they present on monitoring, to ensure it covers both hands-on and more economical hands-off monitoring approaches.

4.2.4 Summary—the overall usefulness of this model

Both of the community representatives interviewed, as well as another respondent from the Puketi Trust (Case Study 4), who had also been to this event, were extremely supportive of the Hui as a mechanism for conservation skills and information exchange. They thought the Hui was good for both the range of information provided and the opportunities for information interaction between people working in this area. They particularly highlighted the importance of this event for building networks and relationships and for inspiring and motivating people.

The community representatives felt that, from a community point of view, the Hui are crucial and it would be a disaster if they stopped running. The knowledge transfer that takes place with community groups ensures far greater success with kiwi management programmes, and stops local DOC offices from having to repeatedly address the same questions.

4.3 CASE STUDY 3: TONGARIRO NATURAL HISTORY SOCIETY

4.3.1 Introduction

Tongariro National Park is New Zealand's oldest national park and is located in the centre of the North Island. The Tongariro Natural History Society (TNHS) was set up as a memorial to five people (four of whom were park rangers) who died in a helicopter crash in the area in 1982. In 2000, to give the group more direction, TNHS appointed a full-time salaried volunteer co-ordinator paid for from the Trust's funds. As a result of this appointment and changes that were made subsequently, the group now actively undertakes conservation work in the park. Group members have tended to work on the projects which DOC staff want to have done, but which are not high enough on the DOC priority list to be implemented by DOC itself. Working together, TNHS and the technical advisor from the local DOC office break these projects down into smaller segments which then make good community projects.

For this case study, the DOC technical officer who often works with the TNHS was interviewed, along with the TNHS's director and one of the volunteers who visits the project several times a year from her home on the Coromandel Peninsula.

The relationship between DOC and TNHS is covered by a memorandum of understanding. The THNS has its own constitution which contains aims and objectives, and uses this as a guide when deciding what work to undertake. If work proposed by DOC (or others) meets with their aims and objectives, they will usually take it on. Projects are community-led but with expertise provided by DOC. The director indicated that TNHS would not do anything without checking with DOC first, 'as the land belongs to DOC and we don't want to get it wrong'.

The TNHS reports back to DOC on progress with projects, and DOC uses this information to decide whether projects are worthwhile in conservation terms.

The TNHS operates a large volunteer programme, with 40–50 activities planned throughout the year. One of the roles of the TNHS director is to attract volunteers, which she does through various channels. For example, information on the volunteer programme is sent to existing TNHS members, and is also placed in DOC information centres, local backpackers' hostels, and on the TNHS website. The website has started to be very important in attracting longer-term international volunteers, who come for up to six months to stay and work on projects. These long-term volunteers work alongside the local volunteers, but tend to do more jobs that involve multiple days. A significant number of the local volunteers are not, in fact, local—many come regularly (two or three times a year) from all over New Zealand to undertake conservation work. For example, as previously mentioned, one of the community representatives interviewed has been volunteering for the TNHS for around five years, and lives on the Coromandel Peninsula.

The role of DOC

DOC technical officers act as advisors on the different TNHS projects. The DOC officer interviewed in this case study is the 'Technical Support Officer—Flora' (hereafter referred to as 'the DOC officer'). He is working with TNHS on a wetland project. His role is to help TNHS with planning projects, prioritising actions, and reviewing programmes. He also provides technical support and advice and helps to devise programmes for the volunteers.

In 2000, TNHS asked DOC to come up with conservation projects for the Trust to implement. Initially, the DOC officer involved thought each volunteer could take ownership of a small project, but this only worked with one of the projects, because of problems with continuity.

The next strategy used by the DOC officer was to design and plan the Waimarino Wetland Project for TNHS to manage. The project was ready for a volunteer from TNHS to 'pick up and run' with in 2005, for a trial period. The DOC officer felt that the trial was successful and, following on from it, developed an operation plan for TNHS to use during 2006/07, including priorities and when/how/where to complete various tasks.

In terms of conservation skills sharing, DOC staff would either demonstrate the conservation procedure to the TNHS director who would then pass it on to the volunteers, or DOC staff would work with both the director and volunteers at a training session.

Programme evaluation

There did not appear to be any formal evaluation undertaken as part of this project; however, the project was showcased locally and nationally (see below).

Where is the project now?

The project is progressing well. Recently, TNHS was able to showcase the project to representatives of the funders, DOC, the regional council and a neighbouring landowner. This event was organised by the DOC officer. The officer thought the presentation went 'very well'. The project was also showcased to the New Zealand Conservation Authority when they visited the conservancy. They were also impressed by the partnership between TNHS and DOC.

The technical advisor from DOC has started to withdraw his support slowly from the project as TNHS has increased its capacity and ability to undertake the project. Setting up the wetland project as a standalone project to be managed by the TNHS and volunteers is part of this process. However, TNHS and the local DOC office continue to work closely. The offices are closely located, which encourages this process.

4.3.2 Key learnings

Case Study 3 confirmed a number of the six key principles for working with communities and sharing conservation skills, in particular:

- Principle 2 Understanding your audience
- Principle 3 Information and knowledge sharing as a collaborative learning process
- Principle 4 Using a variety of communication and participation methods
- Principle 5 Using best practice group management and communication techniques

In addition, this case study also highlighted the two further key principles also identified in Case Studies 1 and 2:

- The importance of creating opportunities to build social capital
- The importance of DOC staff having key skills and personal attributes

Science for Conservation 287 41

Understanding your audience (Principle 2)

The DOC officer interviewed explained that he has established his own principles for working with volunteers, which are based around keeping volunteers interested and involved, and thinking about the experience from their point of view; i.e. if he were volunteering, what would he want to get out of it? Before he worked for DOC he volunteered himself, and had some amazing experiences. One of his motivations, therefore, is to pass on this positive experience with conservation to the volunteers he is currently working with.

The DOC Officer tries to find out what skills the volunteers have by asking what jobs they do/have done in the past, and then sets out to utilise these skills by assigning tasks appropriately. For example, when making cages to protect certain plants, he sets the process up like a production line, as some people are better at certain stages in the cage making (e.g. men tend to be better at bending the wire, women might be better at tightening the cage at the end), so that everyone is working together efficiently. Or, if people have specialised skills, such as experience in orienteering, he might ask a couple of them to work on developing the map for the project. He feels it is important to pick the right people for the job, and that people get greater enjoyment from working in this way.

The DOC officer also talks to the volunteers during lunchtime to break the ice, and tries hard to get everyone involved, approaching people who are on the sidelines and asking them what they would like to do. He has had some non-English speaking volunteers and he makes a special effort to help them understand the background to the project and to help them join in. He feels this is really important, as he wants people to enjoy the experience and to come back again.

Information and knowledge sharing as a collaborative learning process (Principle 3)

Experiential learning or 'learning by doing' is a key aspect of effective skill sharing in the experience of the DOC officer interviewed, and is one of the key ways in which he passes on information.

For example, he will explain a conservation task and demonstrate it at the same time so people can see exactly what he means, and then he will watch them complete the same task and make sure they are doing it in the right way. In this type of activity, he sees his role as to supervise and encourage participants.

Using a variety of communication methods (Principle 4)

The DOC officer reported that he uses a variety of communication techniques to provide background information on conservation issues, in addition to presenting information orally.

For example, he has used PowerPoint presentations for some projects. For one project, he sent out written information beforehand so that people knew what to expect, as this project required particular levels of endurance and fitness and he needed people to be prepared. He received very positive feedback from the participants, who found it very useful to receive background and preparatory information.

In terms of the communications undertaken by TNHS, the director commented that their website has started to be very important tool for attracting longer-term international volunteers who come and stay for up to six months to work on projects.

Using best practice group management and communication techniques (Principle 5)

The DOC officer in this case discussed a number of group management and communication techniques he finds important for successfully engaging volunteers, including:

- Explaining the background to the work that is needed, e.g. why a certain species is threatened and why it needs to be protected. He believes it is important to explain the conservation objective at the start like this to get buy-in from the volunteers and to motivate them.
- Encouraging two-way communication. As noted by some of the other respondents, the DOC officer highlighted the importance of encouraging people to participate during the information- and skill-sharing activities so that it is more of a discussion than a one-sided presentation. He does this by encouraging people to interrupt if they have questions, rather than waiting until the end of the activity.

Many of these principles were also highlighted by the community volunteer interviewed, who discussed specific training that she had received from DOC on vegetation monitoring. This training involved her going with the DOC technical advisor when he was undertaking vegetation monitoring, to learn the process by watching and helping him. She said he explained a lot of the background first, which she felt was really important, because it 'means you understand what you're doing'. She also found the DOC officer very easy to get along with, as he shared a lot of knowledge, was enthusiastic and a lot of fun to be with.

In terms of her own work, she was also responsible, on occasion, for taking volunteers out on workdays. She tried to emulate the DOC officer's approach by always explaining the background to the activity so that people felt they were learning something. She found that, in general, volunteers were always interested and keen to learn. She also tried to give volunteers a variety of experiences and highlighted that it was important to show them appreciation, as they are giving up their own time to help.

This volunteer also commented that her experience in this project had been very enjoyable, and had definitely improved her knowledge about the conservation issues in the area and what she can do, practically, to improve the situation.

Creating opportunities to build social capital

The importance of building social capital as part of volunteering on conservation projects was also highlighted in this project. For example, the director commented that the conservation outcomes are fantastic, but when people are working together with other people with a common aim, the social aspect can be extremely important. 'For some of the members it is a reason to get up in the morning'. Both community representatives felt that working on the project met their expectations and provided a great experience: 'it is an amazing environment to be in; just beautiful'.

The importance of DOC officers having key skills and personal attributes

As in the previously described case studies, the individual skills and personal attributes of the DOC officer appeared important to the success of this case study, in particular:

- · Being enthusiastic and enjoyable to work with
- Having an extensive knowledge of the background to many conservation issues, and being able to communicate this to volunteers
- Knowing when the group is ready to start managing projects themselves with less input from DOC, and being able to choose and design suitable projects
- Being able to maximise the skills existing within a group of volunteers
- Being able to get everyone involved, and to ensure they have an enjoyable experience

The importance of building trust and relationships

This project also highlighted the importance of DOC building strong relationships and trust in order to have a successful working relationship with a community organisation. The TNHS director commented that 'the wetland project would not have begun if the TSO and Director of Tongariro Natural History Society did not have trust in each other pulling off their part of the project commitments, and Tongariro Natural History Society did not have committed volunteers. In other words, people relationships are crucial in the community conservation projects'.

4.3.3 Areas for attention

Working more closely with local contractors

The DOC technical advisor suggested that TNHS pay the local contractor to supervise volunteers, rather than actually doing the work (weed removal). He believes this is a win-win situation for TNHS and the local contractor.

The local contractor is a specialist and has been working in the area for a long time, plus he will most likely be staying in the area and therefore will have a level of continuity with the project.

Providing a more regular training schedule

The THNS would like to see the training provided by DOC carried out on a more organised basis. At present, the training is reactive; when there is a need for specific work then DOC will train those volunteers that are available, and the training can take place at quite short notice. TNHS would rather have DOC technical staff do more proactive training at regular intervals that could be part of the activity programme throughout the year. However, TNHS are aware that DOC staff are presently so busy that reactive training is likely to be the most realistic option for the foreseeable future.

4.3.4 Summary—the overall usefulness of the model

This model—of having a DOC officer act in an advisory role providing training as required for a community organisation—is similar to the model discussed in Case Study 1. This present case study also supports the usefulness of this model as an effective way of working with communities and to provide conservation information and skills. However, in this case study, working with the TNHS is just one of many tasks the particular DOC officer undertakes, and his involvement is motivated by his personal interest in the project and his wanting to see it succeed. This differs from Case Study 1, where the main part of the DOC officer's role was to work with the community. As such, this case study highlights the importance of the particular skills and attributes of the relevant DOC staff.

Another difference between this case study and the previous two was the TNHS having a paid director who could act as a liason person between DOC and the TNHS. This appeared to work well in this case and perhaps made it easier for volunteers to put forward information and ideas, because the director was able to act as a link between them and DOC. It also made it easier for DOC to pass on information and skills to the community by training the director first—a 'train the trainer' approach. This takes pressure off the DOC officer to some extent, and allows for a sharing of responsibility for conservation skills training.

In terms of how the society works with DOC, the DOC officer commented that while TNHS had been reliant on him in the past to provide support on workdays, he now felt that they could become more self managing. Earlier on, he tried to encourage TNHS to work more independently by coming up with conservation projects for them to implement, where each volunteer could take ownership of a small project. However, this only worked with one of the projects. Because most of the volunteers are not local, this means it is hard to have continuity, and this could be why the ownership idea did not work. Now, the DOC officer is trying to provide guidance that the TNHS can 'pick up and run' with through the Waimarino Wetland Project.

These comments raise some interesting questions about the need for DOC to be clear about the nature and length of their involvement with communities and to ensure they plan an 'exit strategy' when both parties feel it is appropriate to hand over more responsibility to the community.

4.4 CASE STUDY 4: OTAMATUNA MAINLAND ISLAND PROJECT/PUKETI FOREST TRUST

4.4.1 Introduction

The Otamatuna Mainland Island is one of five core areas in the Te Urewera Mainland Island project. These core areas are where continuous intensive control of other animal pests in addition to possums is undertaken. The Te Urewera Mainland Island was implemented in the northern end of the Te Urewera National Park, in the central North Island, in 1996. The park is unique in that it contains the full complement of North Island native forest birds apart from weka. (see www.doc.govt.nz Conservation > Land + Freshwater > Conservation on land > Mainland islands A-Z > Te Urewera Mainland Island (viewed 6 May 2008)). Te Urewera National Park holds the largest managed population of kokako (Callaeas cinerea)

in New Zealand. The Otamatuna core area, the largest of the five core areas, has a remarkable population of kokako—in 1994 there were 8 pairs; there are now more than 90 pairs.

The Puketi Forest is an ancient kauri forest located in Northland. The Puketi Forest Trust was formed in 2003 and aims to to restore Puketi to a complete living forest essential to spiritual, cultural, historic, economic, and social well-being of communities, and maintain it for future generations. Central to the restoration project is long-term pest and weed control. This involves reducing predators to a level where they no longer threaten bird populations, and preventing colonisation by exotic weeds (see www.doc.govt.nz > Parks + recreation > Places to visit > Northland > Bay of Islands > Puketi + Omahuta Forests and www.doc.govt.nz > Getting involved > In your community > Community conservation projects > Northland > Puketi Forest Trust (viewed 6 May 2008).

Interviews for this case study were held with a DOC officer from the Opotiki Area Office of Bay of Plenty Conservancy (Programme Manager—Biodiversity Threats), who offers site visits to the Otamatuna Mainland Island project, and two members of the organising committee of the Puketi Forest Trust. The Trust members have visited the Otamatuna site and worked with the DOC officer in setting up their own trapping system for Puketi Forest.

The DOC officer interviewed for this case study offers site visits to Otamatuna (the core area of the Northern Te Ureweras mainland island project) to community groups. On the site visits, he demonstrates a trapping technique he has spent 5 years developing on this site, so that pests such as rats (which harm native bird life) can be controlled without the use of poisons.

The trapping technique has been successful, with the number of kokako on this site having increased from 8 to more than 90 pairs in the last 10 years.

The trapping technique was developed to provide an alternative poison-free method of pest control. This is significant, given the controversy over the use of poisons such as 1080 within many communities and with iwi.

The site visits consist of an overnight (or longer) trip to the site. The DOC officer either walks with the visitors to the DOC hut located on site, or, if the visitors are older, flies them there by helicopter. If they walk there, he shows them the traps on the way, and talks to them about the project and how it works. The visitors then stay the night in the hut, and discuss issues to do with the project, and what their ideas are for their own areas. In the morning, they walk around the tracks and get an idea of the layout of the traps. The DOC officer supplements this site visit with on-going advice and help via telephone calls and emails.

This case study looked at how the Puketi Forest Trust, which is one of the community groups that have participated in this demonstration, had become involved in this programme. Two members of the Trust participated in the demonstration, along with their pest control contractor. The two Trust members were interviewed.

Programme evaluation

No formal evaluation has been done of the site visit programme; however, the DOC officer does have a follow-up discussion with people who have visited, to see how they are progressing, and gets any feedback at this time.

4.4.2 Key learnings

This case study confirmed several of the six key principles for working with communities and sharing conservation skills, in particular:

Principle 2 Understanding your audience

Principle 4 Using a variety of communication and participation methods

In addition, it highlighted one of the other key learnings identified in the three previous case studies:

• The importance of DOC staff having key skills and personal attributes

Understanding your audience (Principle 2) and using a variety of communication and participation methods (Principle 4)

The DOC officer feels that the best feature of the site visit/demonstration approach is that community members who participate leave inspired and motivated by what they have seen. This is because it gives them a real-life example of how their own vision—to return the bush to its natural state by controlling pests—can be achieved.

He believes that it is really important for people to spend the night on site, as 'in the morning the dawn chorus is spectacular with kokako jumping around and this can be very inspirational for visitors, and can help them understand that what they want to do is actually achievable'. He feels that this type of approach is successful because, by the time they leave, participants are inspired and 'fired up' about what can be achieved and can take this message back to their communities.

The importance of this approach was echoed by the community representatives interviewed. Both visited the site, along with the Trust's trapping co-ordinator. One of the community representatives commented that his visit was very useful and quite inspiring, as this mainland island restoration project was a lot further down the track than their project. He said it was good to see that the method worked, especially when a lot of people had said to him that the approach would not work, that predator control by trapping could not be done. The other community representative said the visit was a 'fantastic experience, really inspiring'. They stayed the night in the hut and the dawn chorus was amazing. They came away really motivated about what could be achieved. He also feels he has learnt a lot on the job, and the DOC officer has spent 'hours and hours' on the telephone and sent through useful written information, where this is available.

The importance of DOC officers having key skills and personal attributes

This case study also demonstrates the importance of DOC staff having key skills and personal attributes. Firstly, the DOC officer in this case demonstrated significant expertise that the community group could tap into. One of the community representatives commented about the DOC officer: 'no-one knows more about rats'. He is the acknowledged expert.

Secondly, the DOC officer demonstrated a high level of enthusiasm and dedication to helping community groups achieve their goals. This was demonstrated by the comments from the community representatives on how much support and time

the DOC officer had given them over the phone and by email and through an early site visit to help them lay out the trap lines. This included support both in terms of expertise, and keeping the group motivated and inspired to achieve their goals. The community representatives interviewed highlighted how this level of commitment and positive support contrasted with other experiences they had had with DOC staff who, they felt, could sometimes be obstructionist and difficult.

4.4.3 Areas for attention

Targeted workshops and talks

Based on his experience with working with communities and transferring skills and information, the DOC Officer has found that targeted workshops for community volunteers are an effective approach. In his experience, people are very hungry for knowledge. He has given talks to groups, and found this can also work well, although there are limitations to the amount of information you can present. However you can always leave them with a contact number and locations of other sources of information. He feels that DOC could be more proactive in organising local workshops.

Improved written information

The DOC officer interviewed feels that DOC needs to improve the written information that they have available for the community. There is best practice information on the DOC Intranet for all sorts of conservation methods, but this is quite deliberately focussed on DOC staff and not designed or intended for the community to use. He spends a lot of time giving out the same information by telephone (e.g. trap supplier details), and it would save a lot of time if DOC developed some 'how to'-style leaflets or booklets. Some are available (e.g. from the National Possum Control Agency), and Darren Peters (DOC National Predator Officer) has set up a website for stoat control, but the DOC Officer believes that a more comprehensive approach is needed.

4.4.4 Summary—the overall usefulness of this model

Site visits to the Otamatuna mainland island project in the Urewera Ranges to observe the effectiveness of a good trapping system in protecting native birdlife appears to be a very useful way of showing community volunteers what can be achieved. Both community representatives found this experience motivating and inspirational. The site visit also helps community representatives to understand how the trapping system works and is operated. This understanding can then be applied to the design and management of their own systems.

The ongoing support provided by the DOC officer (who developed the trapping system) in the form of telephone conversations and visits to their site, were also reported to be invaluable.

In terms of conservation outcomes, the trapping model that has been used in Puketi Forest is based on the DOC officer's experience in the Urewera Ranges. The Puketi Trust has been trapping mustelids and feral cats over an area of 5000 ha, primarily aimed at kiwi (*Apteryx* sp.) protection. The Trust also has a core area of 400 ha where 1500 rat traps have been installed. Since the Trust started trapping, they have reversed the decline in kiwi numbers in the area of the forest they are working in, and small birds in particular have really benefited. The

community representatives commented that the 'difference is amazing in terms of the amount of birdlife and birdsong now in this area'.

Overall, the site visit/demonstration approach appears to be a very successful model for conservation skills transfer because of its ability to inspire and motivate people by demonstrating to them what success looks like and how it can be achieved. However, it is important that any site visit is backed up by on-going advice and support. The skills and personal characteristics of the DOC officer also appear to be important to the success of this type of approach.

4.5 SUMMARY OF CASE STUDY FINDINGS

The findings of the four case studies strongly support the principles identified in the literature review, but also highlight two further principles—the importance of DOC staff having the right skills and attitudes and the importance of providing opportunities to build social capital in communities. The case studies showed that there is no one preferred method or technique for sharing conservation skills with communities. Rather, there are a range of approaches or models DOC can use when working with communities to share conservation skills. Which model or approach is most appropriate will depend on the project context, including local community needs, the nature of the DOC-community relationship, the context of the project (DOC-led or community-led), DOC resources available, as well as a number of other factors.

4.6 ACTION RESEARCH

The purpose of the action research phase of the project was to work with DOC to interpret the findings from the case studies and literature review and to identify the actions required to enable DOC to respond to the results.

4.6.1 Internal DOC workshop

The first part of the action research was an internal workshop with DOC staff from around the country who had an interest or expertise in conservation skills sharing. The purpose of the first workshop was to present the findings of the literature review and case studies, and to discuss what the research findings mean for DOC in terms of sharing skills and knowledge. Overall, there was broad support for the findings from the literature review and there was active discussion of the draft key areas for attention and possible actions that were presented to the group. The workshop participants particularly identified with the concepts of experiential and collaborative learning, and that it is important to have fun. There was also support for the draft recommendations identified.

Some of the key points raised in the group discussion are as follows:

Models for working with communities

- All the six key principles identified are needed, but how you use the principles will vary across projects.
- Following the principle of collaborative learning will change the way that DOC works.

- It is important to look at the bigger picture of what sort of relationship DOC wants to have with the community.
- There was general agreement with the findings of the research that there is not one preferred method or technique for sharing scientific and other conservation skills with communities but, rather, a number of models that can be used.
- Case study models may reflect different points in a spectrum.
- Different project stages may require different models. A goal may be to increase the self-sufficiency of community conservation work, in which case a strategy to achieve that should be agreed between parties and all of the appropriate skills transferred.

DOC structure/skills

Even with really motivated staff, there can be improvements in the way knowledge is transferred.

- · Often success is based on key individuals driving things along.
- It is important that all DOC staff have skills to work with communities, not just certain staff.
- There are support systems for DOC for staff working with communities—such as the community relations network—however, there is still a disconnection between networks (e.g. between biodiversity and community staff). Internal information sharing needs to tap into a range of networks.
- A lot of discussion took place about who should be doing the communication with communities. In some cases, working with communities is taken up by community relations staff, or by technical staff. Ideally, community groups want technical people who are good at communicating. Overall, it needs to be recognised that community members value people's technical skills, attitudes, and enthusiasm. It is not only about having the specialist communications person, but also the technical person, supported by the right networks. A key question is whether DOC's technical staff have adequate support for working with communities. Generally, there was agreement that it is better for all DOC staff to have a range of skills (including ensuring that technical staff are also good at communication), rather than relying on specialist communication staff.
- It is important to ensure that job descriptions ask for the right attributes to support working with communities, and that these attributes are part of performance appraisals.
- There was recognition that 'From seed to success' (DOC 2003b) is an important training resource that should be made available to all DOC staff.
- There is still concern that some people within DOC do not see the need for DOC to be involved with communities. In addition, some DOC staff believe that communities cannot do conservation work to the right standard. Community conservation involves a teaching role—it takes time to teach volunteers new to conservation how to be involved effectively. Success should not only be measured by how well a job is being done, but by what people in the group have learnt in the process.

Methods and tools for communication

- The Internet was seen as a valuable source of information, but too great a reliance on it runs the risk of DOC becoming faceless
- Bringing everyone together to share their varied perspectives is really important, and can offer significant advantages over many separate meetings, e.g. with Iwi and other stakeholders

Relationship-building and collaborations

- It is important to start relationship-building early, especially with Tangata Whenua. DOC needs to recognise that project timeframes can be long.
- The collaborative approach is also important, as community groups can also teach DOC a lot.
- Some community groups do not want DOC to be involved. It may be useful for DOC staff to contact those groups to better understand the issues that exist and look for opportunities to work through them.

The importance of planning and evaluation

- There is a need to improve project planning.
- It was recognised that projects often start with a 'hiss and a roar', then falter. Strategic planning is then carried out, and the project takes off again. It was agreed that better planning at the start of project is necessary to avoid projects falling apart half way through.
- Participants recognised the importance of DOC and community groups reaching an early agreement on the outcomes for the project and how they would work together. The 'From seed to success' manual (DOC 2003b) has recently been updated to reflect the importance of prioritisation.
- It was agreed that not all community groups undertake planning. Some participants asked if there is an opportunity for DOC to provide proactive training opportunities for communities (but not in lieu of working with communities). This is done by DOC in some areas but is not done nationally on a consistent basis.
- Effective evaluation requires all parties to participate voluntarily and the community needs to be part of deciding the objectives for evaluation and the methods used for collecting data.

What skills/information do communities need?

- Communities need a range of skills, not just those related to conservation. For example, for projects to be successful, participants require skills in project planning, leadership and fundraising. It is also important to recognise that work with communities is likely to involve different phases, all of which have different skill-transfer requirements.
- How to set up a trust is a particular area where it would be helpful for DOC to
 make information available to community groups. This may be a simple matter
 of referring groups to existing information provided by other agencies.

Science for Conservation 287 51

Recognising the social outcomes of DOC's work with communities

There was discussion around the theme of social capital building. It was thought
that this was something that is poorly acknowledged and valued within DOC.
There was general support for the findings from the research that more value
should be placed on the role DOC has in building community capacity and
'social capital' in its support for community conservation work.

4.6.2 Kiwi Hui workshop

As for the internal DOC workshop, the purpose of the Kiwi Hui workshop was to present findings from the literature review and case studies and to discuss what the research findings mean for DOC in terms of sharing skills and knowledge and, more broadly, for how DOC works with communities. However, this workshop involved a range of participants from the Kiwi Hui, including DOC staff, community Trust representatives, paid conservation workers and volunteers.

Workshop discussion

After the presentation of the workshop findings, respondents were asked to reflect on:

- What works well? e.g.
 - Other examples of successful models for conservation skill sharing
 - Other principles for DOC supporting communities to build conservation skills
- What could be improved?
 - Suggestions for ways of improving how DOC works with/supports communities to build conservation skills

While we attempted to focus people's discussion as far as possible on 'what works well', including successful models for conservation skills sharing, most of the discussion focused on personal experiences, both positive and negative, that Hui participants had experienced working with DOC.

The following is a summary of the points raised by participants in this workshop. The implications of the points will be discussed further in Section 5.

A number of Hui participants from the community shared examples of successful experiences they had had working with DOC. These reflected the importance of the personal dedication of the DOC staff involved in helping the community conservation workers, in terms of sharing expertise, providing resources, and creating opportunities to learn through mentoring-type approaches. A key theme here was the importance of respecting and nurturing community skills and expertise in a way that leads to community conservation workers gaining more independence and responsibility and the ability to share in or sometimes take over the decision-making. As one participant commented, 'it is not just about people getting skills, but also letting people use them'. The Port Charles, Coromandel, Brown Teal protection programme was given as an example of a project that was originally led by DOC, but which is now run successfully by the landowners. Another example of a successful community project was Bushy Park near Wanganui.

The role of community-based conservation projects in building communities and 'investing in the future' and 'building a foundation so that the work will last generations not just a few flitting years' was also raised, and the Waipoua Forest Trust was given as a successful example. This reinforces the principle of building social capital that was identified in the case studies.

Several people raised the issue that sharing skills and expertise goes two ways and gave examples of situations where DOC staff had approached them for their expertise and/or local knowledge. An example was DOC going to members of the Ornithological Society to learn how to handle birds. There needs to be greater recognition that conservation skills sharing is a two-way process.

Perhaps the largest amount of discussion focused on people's personal challenges working with DOC on conservation projects. However, given the number of positive experiences that were shared by many people, this did not appear to reflect an overall negative view of DOC. Rather, participants saw the workshop forum as an opportunity to raise some of their concerns in a constructive way.

A major frustration was the 'red-tape' and bureaucracy encountered when dealing with DOC; for example, in trying to get assistance or gaining permits for projects (particular examples cited included OSH requirements and the bureaucracy involved in kiwi transfers). Another was a perceived lack of cooperation demonstrated by some DOC staff. For example, one participant referred to DOC as the conservation 'bottleneck' because legislation means that everything has to go through DOC. As a result 'if someone is busy or lazy, you can't get progress'. Another participant described the process of getting permits as 'hitting their heads against a brick wall'. Another person provided an example of having to go to the Conservation Minister because of frustrations they were having with some DOC staff. There was a real concern that these delays and frustrations can have a substantial impact on communities' support for and enthusiasm in doing conservation work.

On the other hand, other community and DOC participants provided another perspective, citing reasons for the need for DOC to behave cautiously with its decisions, including the Cave Creek tragedy, as well as the risks associated with some activities. For example, if bird translocations go wrong, there could be serious negative outcomes on the bird populations involved. It was also pointed out by one participant that sometimes community groups can be impatient and 'if anything goes wrong, it is DOC who will carry the can'. They felt that both DOC and community conservationists need to work through these issues better and avoid conflict.

A suggestion that arose out of this discussion was that DOC needs to appoint a senior person for community groups to go to if they are having problems. Furthermore, information on who to contact when problems arise needs to be widely advertised. However, it was also pointed out that there are already people in DOC that community groups can contact, such as the Area Manager and Community Relations Manager.

A related issue was the lack of DOC resources and time available for working with communities in some areas. One person stated, in relation to building up the volunteer base (discussed in more detail below), that there are already too

many people wanting to help DOC who can't because of the lack of resources for working with communities. A couple of participants made comments about the fact that communities are demanding more from DOC and that DOC needs to allocate more time for staff to work with community groups.

Another issue that was discussed was the problem of DOC having a bad image and bad relationship with communities and key groups, including landowners, in some parts of the country. This was mostly due to actions taken by DOC under other responsibilities that might be seen as taking away economic opportunities, or curbing resource use or personal freedoms. Positive examples of where DOC staff had become part of the community through volunteering in their own time and becoming active in community networks were given as examples of what DOC staff should be doing in these smaller communities.

Another theme that arose during the discussion was the need for DOC to do better accounting of the conservation outcomes that are achieved by the community so that more value is placed on community efforts. Several examples of successful community projects were raised (e.g. Bushy Park). It was pointed out that there are more people in the community doing conservation work than there are staff in DOC. DOC needs to work better with these resources and recognise their value.

Another discussion took place around the need to pay attention to the replacement of existing volunteers. Several people pointed out how many conservation volunteers are older or from overseas and that some conservation areas have very weak or non-existent volunteer programmes.

One participant, who was formerly a teacher, discussed the lack of an environmental education syllabus in schools and why it was necessary, therefore, for both DOC and community conservation groups to work with schools to ensure the conservation message gets passed on, as 'this is where we change behaviours'. She suggested that many local school teachers would welcome working with conservation groups on an environmental education programme, though it is important to contact principals first and allow enough time for things to be assimilated into the curriculum. An example of a successful environmental education programme on Aroha Island, Northland, was provided.

Another participant talked about generating excitement about conservation in the wider community by using local stores, pubs etc. to contact different societal groups, and that a wider variety of people are now becoming involved in conservation.

A related issue was the need for DOC to be more visible in communities. It was commented that many DOC offices are 'tucked away down back streets'. The positive example of the new DOC Visitor Centre in central Wellington, which has high visibility, was noted.

Feedback form

In addition to recording notes from the workshop discussion, we gave a questionnaire 'feedback form' to all Kiwi Hui participants. The questionnaire had two purposes—to collect data for this research and information that would assist in planning next year's Hui, thus implementing the principle of continuous learning through monitoring and evaluation.

The respondents to the feedback form included people who described themselves as: 'DOC staff' (24), 'other paid conservation worker' (13), 'volunteer' (14); and 'other' (13), including people from kiwi captive-rearing facilities, community trusts, Iwi, trap manufacturers and other technology developers.

The questionnaire asked respondents about:

- · Their reasons for attending the Kiwi Hui
- The usefulness of the sessions that they attended
- · The sessions that they found most useful
- · The overall usefulness of the Hui
- The most valuable aspects of the Hui
- The overall styles of information/training that were preferred
- Any suggestions for how DOC can improve the sharing of conservation skills with volunteers and communities

Two additional questions were included about requirements for future hui.

The results of the questionnaire are summarised under the following three subsections.

Reasons for attending

Respondents were asked to indicate, in response to an open-ended question, their main reasons for attending the Hui. The most commonly cited reasons included:

- · Getting updates on other projects, learning about the 'big picture'
- Learning new techniques, getting new ideas, learning about 'new developments' and 'new technology'
- Finding out about the latest research
- Networking with people, meeting others working in the area, learning from others, making contacts
- Inspiration, connecting with like-minded people
- Sharing information with others
- Representing their group, collecting information to take back and share with others in their community project
- · Discussing current issues with others

Usefulness of the Hui

The respondents were asked to rate the overall usefulness of the Kiwi Hui as well as the usefulness of the different sessions that they attended on a scale from 1 (not useful) to 5 (very useful). The average score for the usefulness of the Hui 'overall' was 4.3, indicating that, on the whole, people found the event very useful.

The average scores were also high for all the individual sessions, with individuals' different interests reflected in the different score ranks:

- Session 1: 4.3
- Session 2: 4.0
- Session 3: 3.7
- Session 4: 3.8

In addition to being asked about the individual sessions, respondents were also asked the following question: 'thinking about the entire two days you spent at the Hui, not just the formal sessions, what aspects of the Hui did you find most valuable?' This question was specifically designed to examine the value of both the formal and open time parts of the Hui.

As expected, based on the case study results, most respondents (45 out of a total of 64) indicated the 'time to network' or time for informal discussion as one of the most valuable aspects or (more commonly) the most valuable aspect of the Kiwi Hui for them. The importance of providing time for networking was also reflected in some of the suggestions for changes or improvements.

Reflecting the findings from the case study interviews, one respondent said: '[one] of the most valuable aspects of this Hui is that it re-energises me. I spend most of the year working alone—it's good to see the big picture once in a while'. This indicates that the networking opportunity provided by the Kiwi Hui has motivational and morale-building as well as practical benefits for conservation workers.

Preferences for different skill-sharing activities

Respondents were asked to rate, on a scale from 1 (don't like that much) to 2 (pretty good) to 3 (excellent, like a lot), six different methods for sharing conservation information. Respondents only rated those styles that they had an opinion about. The results are presented in Table 3.

Demonstrations received the highest score, followed by presentations/talks, but all the methods, except supervised work, were rated above average.

TABLE 3. PREFERENCES FOR SKILL-SHARING METHODS.

METHOD	NUMBER OF RESPONDENTS*	AVERAGE SCCORE [†]
Presentations/talks	64	2.4
Demonstrations	60	2.6
Workshop discussions	63	2.2
Case studies	60	2.3
Site visit	53	2.3
Supervised work	48	1.9

^{*} Out of 64 who indicated method.

^{† 1:} don't like that much; 2: pretty good; 3: excellent, like a lot.

5. Discussion and conclusions

This section provides an overview of the results of the research in light of the six principles identified in the literature review. It also discusses the two other key principles which emerged from the research, as well as a number of issues or 'areas for attention' that were raised in the course of the research.

This discussion includes findings related to the case studies, as well as other comments made by various respondents in the course of the case study interviews and in the action research workshops.

Overall, the findings strongly support the six principles identified in the literature. In particular, they reinforce the point made at that start of the literature review that:

Supporting communities to develop the skills they need to carry out conservation work is more than just finding the best way to 'teach' skills or to impart scientific or technical information. It is about finding the most effective ways to work with communities to enable and encourage: participation, commitment, learning, and capacity-building.

The results show that there is no one preferred method or technique for sharing conservation skills with communities; rather, there are a number of principles that should be followed. The case studies highlighted a range of approaches or models for DOC working with communities in order to share conservation skills. Which model or approach is most appropriate will depend on the project context, including local community needs, the nature of the DOC-community relationship, the context of the project (DOC-led or community-led), DOC resources available, and a number of other factors.

The discussions from the internal workshop added to this finding the idea that different project stages may require different models. In some projects, a goal may be to increase the self-sufficiency of community conservation work, in which case a strategy to achieve that should be agreed between parties and all of the required skills transferred (including management skills such as project management, fundraising, etc.).

The importance of transferring not only skills but also responsibility, wherever possible, is strongly supported by the comments from several community participants. However, as raised in the Kiwi Hui workshop, there are still issues of risk that need to be closely managed by DOC, as DOC will ultimately be held responsible if things go wrong.

Science for Conservation 287 57

5.1 HOW DID THE FINDINGS REFLECT THE BEST PRACTICE PRINCIPLES IDENTIFIED IN THE LITERATURE?

5.1.1 Principle 1: The importance of careful planning and setting clear objectives

The first principle for effectively supporting communities to develop skills to carry out conservation work is the importance of careful planning and setting clear objectives. This principle is applicable for both:

- The development of specific educational and skill-development activities
- The process for working with communities on conservation projects

The issue of careful planning of skill-development activities did not receive attention from any of the DOC officers in the case studies. However, the importance of undertaking thorough background research on communities was highlighted in Case Sudy 1 (Lake Alexandrina). The DOC officer in this study also discussed how one of the areas of training he provided to the community group was project management, also identified as a need under this heading.

Furthermore, two DOC officers talked about the importance of having clear goals when working with communities. One felt that DOC needs to be clear about what it wants to achieve, so that the community can be steered towards something achievable in conservation terms. The other felt it was important, when facilitating the setting up of groups, to go in with no expectations. His view was that volunteers should be encouraged by DOC staff in whatever they want to achieve, even if it does not fit in exactly with DOC objectives.

The question of how much pre-planning DOC should do when working with communities was also reflected in comments made by community representatives, with concern expressed about some DOC officers trying to exert too much control over planning and not letting community groups have a say in setting goals, even when projects involved community group money.

There was a contrast in this respect between Case Study 3 (TNHS) and Case Study 4 (Puketi Forest Trust). The community representatives interviewed from TNHS reported quite a top-down approach to planning and decision making, with DOC making most of the decisions and TNHS happy with this arrangement, as DOC are seen as the experts and the work is taking place on their land. However, in Case Study 4, the community group found it hard to get DOC to let them take more responsibility for decision making and planning, which they had been keen to do. Clearly, the influence of different personalities comes into play, but it is worth recognising that DOC needs to be flexible and responsive to the varying requirements of different community groups. This issue is also discussed under the themes of 'the importance of DOC officers having key skills and personal attributes', and the key area for attention 'how DOC and communities work together'.

The limited discussion on project planning in the case studies does not mean that this is not an important principle. Rather, it may highlight an area of weakness in DOC's work with communities. This was raised as an issue in the internal workshop held in Wellington (section 4.6.1)

5.1.2 Principle 2: Understanding your audience

The second principle identified from the literature review was the importance of understanding your audience. This includes understanding what motivates people and what people want to know, and the different ways in which people learn.

The importance of understanding your audience was raised in all four of the case studies. The DOC officers involved in these all emphasised the importance of understanding how to motivate and inspire volunteers. In Case Study 1 (Lake Alexandrina), the officer focused on providing a social element to the work days and ensuring that people felt valued, encouraged and appreciated. He also strove to model enthusiasm. The officer in Case Study 3 (TNHS Trust) described a similar approach to trying to create a positive experience for volunteers.

The importance of having a 'social element' to conservation work was also emphasised in Case Study 2 (Kiwi Hui), where the respondents noted that the informal social networking that occurred at this event was as important for motivating people as the more formal skill-sharing activities. Case Study 4 (Puketi Forest Trust) emphasised the powerful inspiration and motivation that can come from seeing what a successful outcome looks like.

The officer in Case Study 1 emphasised the importance of finding out what people want to learn. Case Study 2, in particular, confirmed how people vary in the learning styles they prefer, and the importance of providing for this.

5.1.3 Principle 3: Information and knowledge sharing as a collaborative learning process

Principle 3—Information and knowledge sharing as a collaborative learning process—was a broad principle that covered a number of themes, including the importance of experiential approaches (learning by doing), two-way collaborative learning approaches (learning together or from each other), as well as the importance of developing effective collaborative relationships (working together) for building capacity for conservation work within communities.

Case Study 2 (Kiwi Hui) provided a useful illustration of the value of collaborative learning (learning together or from each other). In this model of conservation skill sharing, DOC experts, other scientists and community-based conservation practitioners are all placed on equal footing in an interactive environment that encourages respect for and sharing of all forms of expertise and experience.

The importance of encouraging a two-way information flow was also discussed by the DOC officers in Case Study 1 (Lake Alexandrina) and Case Study 3 (TNHS Trust).

The importance of experiential learning (learning by doing) was also evident in the case studies (particularly Case Studies 1 and 3, which relied heavily on demonstration and supervision as the primary skill-sharing techniques.

Despite some use of collaborative processes in the case study projects, it is important to note that collaborative learning and practice has yet to become established in DOC. Collaborative processes reflect a new way of thinking about generating information, sharing information, and learning. Incorporating collaborative approaches into processes has implications for how DOC conducts

community programmes. According to the collaborative model, both 'problems' and 'answers' are identified through a collaborative process of information exchange, within which scientific information is only one part. This contrasts with the traditional linear model of information exchange, where information on the 'problems' and the 'answers' is delivered from the 'experts' to the community. Furthermore, in this model, the process of creating information is integrated into the process of acting on the problem. This makes the stage of 'sharing scientific skills and knowledge', as conceptualised in this research project, difficult to distinguish and disentangle from the broader issue of how to work with communities to undertake conservation work, as the process of undertaking the work is part of the overall learning cycle.

5.1.4 Principle 4: Using a variety of communication and participation methods

Principle 4 outlined the importance of:

- Using a variety of techniques for sharing information with communities
- · Maximising the use of person-to-person information sharing

This principle was supported by the case study findings. All of the case studies strongly supported the importance of face-to-face and personal support for developing conservation skills and providing the emotional support necessary to keep volunteers motivated.

Other useful techniques highlighted by the case studies included:

- Demonstrations—DOC staff explaining and then demonstrating a skill to small groups of volunteers in conjunction with workdays is perhaps the most common approach used for conservation skills transfer and is generally very successful.
- *Workshops* were seen as a useful way of encouraging interaction between DOC and community members and between different community groups.
- *Site visits* can be an effective way of teaching conservation skills and inspiring and motivating community people, as illustrated by Case Study 4 (Puketi Forest Trust).
- *Presentations and talks* to groups were seen to work well, although there are limitations to the amount of information that can be presented.
- Written information was considered to be a useful supplementary tool for transferring information in some instances; however, concern was raised about the complexity and usefulness of some of the current materials. There is scope for provision of additional materials, e.g. 'how to' guides.
- *The Internet* did not play a major part in skills transfer in any of the case studies examined, but was seen as a useful way to attract volunteers. The potential for the internet is not adequately covered by the case studies examined. One of the community representatives mentioned that DOC has a good internal Intranet resource and it would be helpful to have something similar that community groups could access.

Case Studies 2 (Kiwi Hui) and 4 (Puketi Forest Trust) also highlighted the importance of techniques which enable knowledge sharing between projects and showcasing of success (either on or off site). These techniques were seen by community participants as crucial in their ability to motivate and inspire

community volunteers about what was achievable, giving them a sense of belonging to a bigger family of practitioners. On-site demonstrations were particularly good for engaging all the senses—allowing visitors to see, hear, smell and experience what a restored environment can be like.

5.1.5 Principle 5: Using best practice group management and communication techniques

The fifth principle identified in the literature was the importance of using best practice group management and communication techniques. Specific skills that are useful in working with groups that have been identified in the literature include:

- Telling important stories
- Forming the group
- · Being responsive
- · Modelling enthusiasm and commitment
- · Informing—passing on the facts
- · Coaching—passing on the skills

The case study results strongly supported the importance of these skills to successfully working with community groups. They did this by providing positive examples of the skills in practice. In particular, the DOC officers in Case Studies 1 and 3 discussed the importance of:

- 1. Providing community volunteers with information on the background to the conservation issues and why what they were doing was important
- 2. Showing personal enthusiasm for the project and the work that needed to be done, working with the group to identify achievable steps
- Coaching the participants so that they gained the skills necessary to eventually be self-sufficient

The importance of being well organised was also raised.

However, negative examples of where these skills were not demonstrated by DOC staff were also discussed. One DOC officer noted that not being organised when people arrive for a workday indicates a lack of respect for those volunteering their time. People want to get straight into the work, and do not want to wait while DOC staff sort out equipment. He felt that DOC staff should try hard to prepare the day before, although he also recognised that they are sometimes very busy, which can make it hard for them to be prepared in time.

The importance of practicing these skills was also raised by one community representative who commented that it is really important for DOC to show their appreciation to volunteers, as people are giving up their time. DOC staff can demonstrate appreciation by regularly thanking people, and trying to give them what they want (such as a variety of experiences) and enabling them to learn by giving good explanations.

Another community representative commented that giving thanks and acknowledgement is an area that some DOC staff needed to work on, saying that DOC could work more effectively with community groups if they gave more support. This means moral as well as financial support. This aspect can sometimes be overlooked by DOC, but is very important to community groups.

Science for Conservation 287 61

5.1.6 Principle 6: The importance of continuous learning through monitoring and evaluation

None of the case studies reported having done any formal programme evaluation apart from recording outputs (such as the number of people involved), and DOC staff listening to and making some effort to act on both the positive and negative feedback that people might make about a programme or event. Within DOC, there seems to be a reliance on using output measures (such as number of people involved) as surrogate measures of success; however, this is bad practice. In order to understand the effectiveness of a project, it is necessary to measure outcomes. Outcomes can include both conservation outcomes (pests eradicated, for example) and social outcomes for the communities involved (such as increased social capital). Measuring outcomes is also necessary for integrating a continuous learning approach into these programmes and transferring lessons between programmes.

5.2 OTHER KEY PRINCIPLES IDENTIFIED IN THE RESEARCH

In addition to the original six principles that were identified in the literature review, a further two principles emerged:

- · The importance of DOC staff having key skills and personal attributes
- The importance of creating opportunities to build social capital

While these were covered to a certain degree in Principle 5, their importance in the case studies indicates that they warrant special attention, and should be included as further principles (Principles 7 and 8).

5.2.1 Principle 7: The importance of DOC staff having key skills and personal attributes

A key theme identified in all of the case studies and in the action research (internal and Kiwi Hui workshops) was the importance of DOC staff having certain skills and personal attributes.

In terms of key skills, several of the case studies highlighted the value of staff having expertise in the conservation issues being addressed. Having this expertise meant that DOC officers were able to provide enough background information to enable volunteers to understand why the issues were important and the best ways of addressing them. Having expertise (or not) also appeared to affect the esteem in which the officer was held.

For example, one of the community respondents commented that if staff working with volunteers do not have sufficient scientific knowledge, i.e. understanding of 'the big picture', then it can be hard for them to carry out the important step of explaining the background of the work being done to volunteers. The quality of the volunteers' experience is negatively affected by this lack of knowledge.

The case studies also highlighted the need for DOC staff to have communication and relationship-building skills. Several of the community respondents raised points related to the nature of relationships between DOC staff and community representatives (Section 4).

This theme was also raised in the action research component of this study (Section 4.6.2), where the issue of a 'split' between DOC community relations and biodiversity staff was raised as a challenge that needed to be addressed in working with communities.

5.2.2 Principle 8: Creating opportunities to build social capital

The second key theme that arose from the case studies and action research (that was not adequately addressed in the six key principles identified in the literature survey) was the importance of creating opportunities to build social capital as part of working with communities to build their conservation skills. For the purposes of this discussion, social capital is defined as:

... the attitude, spirit and willingness of people to engage in collective and civic activities and the value of social networks that people can draw on to solve common problems. The benefits of social capital flow from the trust, reciprocity, information, and cooperation associated with social networks. Over time, social capital builds what may be termed as social infrastructure^[2].

For example, in Case Study 1 (Lake Alexandrina), the importance of the workdays used in this project for building networks within the community was discussed. This network building was facilitated by having a social aspect incorporated at the end of the workdays to enable people to get to know each other. This case illustrates the importance of building these new community networks of people interested in conservation, and then providing them with the skills to form an organisation or trust and to organise and conduct conservation projects. This ensures the sustainability of a community conservation project and allows DOC to gradually move from the role of leader to that of partner or, further, to an 'asneeded' advisor. The importance of the social aspect of community conservation projects, including the ability to meet and work with 'like-minded' people was also raised in Case Study 3 (TNHS Trust).

On a much larger scale, the Kiwi Hui (Case Study 2 and action research workshop) provided an example of the importance of creating social networks between projects in order to raise the overall social capital needed to better-address conservation issues within New Zealand. The results from this case study highlighted the value that community-based people, in particular, place on the role of networks between practitioners and groups for keeping people informed, motivated and inspired. Attendees at this event created a compelling picture of the importance of the event to them in 'recharging their batteries', providing inspiration and making them feel that they were part of a bigger movement—'the kiwi family'.

The importance of creating opportunities for networking for the building of social capital is well-known within the grass roots environmental movement, as well as in other social movements, who recognise the value of social networks for building people's commitment to a movement and their motivation to participate.

Science for Conservation 287 63

² Adapted form definitions provided in 'What is social capital?' (www.masternewmedia. org/2004/05/06/what is social capital.htm (viewed 6 May 2008)).

During both the internal DOC and Kiwi Hui action workshop discussions, the issue of whether the Kiwi Hui model should be extended to other species recovery programmes was raised and has been added to the list of actions that require further investigation.

In addition, from some of the comments made by respondents in this research, it appears that the social outcomes of conservation with communities work are sometimes undervalued by DOC and, potentially, the wider community. Therefore, we also suggest that further work be carried out on DOC's role in building social capital within communities.

5.3 KEY AREAS FOR ATTENTION

The following sections summarise the key themes that arose in the course of the research in relation to areas that need attention or improvement in order to improve how DOC works with communities on conservation.

5.3.1 Improving project planning and evaluation

A key area for attention raised in the DOC internal workshop was the need to improve project planning on community conservation projects. It was recognised that projects often start with a 'hiss and a roar', then falter because there is no project plan. A parallel issue raised in both workshops was the need for DOC and community groups to reach early agreement on how they will work together and the usefulness of their developing a memorandum of understanding (MOU).

A linked issue is the need to improve programme evaluation. None of the case studies examined had undertaken any formal evaluation and it is clear from the literature that evaluation is a key step in any continuous learning process.

5.3.2 How DOC and communities work together

All four case studies demonstrated the importance of DOC building strong relationships and trust in order to have successful working relationships with community organisations. The significance of this principle was stated most clearly by the TNHS director, who commented:

The wetland project would not have begun if the [DOC] TSO and [the] Director of Tongariro Natural History Society did not have trust in each other pulling off their part of the project commitments ... people relationships are crucial in the community conservation projects.

However, along with the numerous stories of success highlighted in the case studies and workshop discussions, a number of frustrating experiences were also raised. These can be categorised under three key themes:

- 1. The perceived 'bureaucratic' nature of DOC
- 2. DOC not having a good reputation in some small communities, which makes its working with communities on conservation projects difficult
- 3. How DOC and communities share responsibility within projects

The first theme related to the perceived 'bureaucratic' nature of DOC. For example, one community representative interviewed discussed how he contacted DOC because a group he was involved with was interested in translocating birds into the group's mainland-island-style project area. He told the story of how DOC had asked them to fill in a large application form, which involved a lot of background work, such as finding a source population, estimating its size, and monitoring both the source and sink populations after the translocations. DOC offered assistance to catch and move birds on the day; however, the group was hoping for more involvement and help from DOC. Overall, because of the application requirements and because he felt they were given 'a relatively lukewarm reception from DOC', the group gave up on the idea.

Several other stories of frustration with the 'bureaucracy' encountered when working with DOC were also expressed at the Kiwi Hui. However, other community and DOC participants at this event provided another perspective, citing reasons why DOC needs to be cautious with its decisions. These include the Cave Creek tragedy, as well as the risks associated with some activities (such as bird translocation) which, if they go wrong, could have serious negative outcomes on the bird populations involved. It was also pointed out that 'if anything goes wrong DOC will carry the can'.

Overall, it appears that there are differing perspectives on this issue and there is perhaps a lack of understanding between the two parties (DOC and community groups) of the reasons behind each party's position. Therefore, there needs to be greater attention to ensuring good communication between DOC and community groups, including a willingness to listen to and try to understand each other's needs, aspirations and constraints; and to identify mutually agreeable solutions.

A second issue was some general concern expressed in the interviews and workshops that DOC does not have a good image in some communities and this makes work on conservation with communities programmes difficult. In these cases, public attitudes reflect the multiplicity of DOC's roles, which include administration, enforcement and advocacy. Actions taken by DOC relating to one of its responsibilities can interfere with its ability to to do things in other areas. However, it was also noted that by becoming active members of the community, DOC staff have been able to work successfully in some small communities.

Overall, it appears that DOC staff in small communities (where they have multiple roles) face particular challenges. Actions to improve this situation that could be investigated include ensuring that job descriptions clearly articulate the skills required for these types of positions, including good facilitation, mediation and community-building skills; and making sure that new staff taking up positions in small communities are made aware of the unique challenges they face and are given special training and mentoring.

The next major theme was how DOC and communities share responsibility for projects. On the one hand, some community group respondents felt that DOC was not giving them enough responsibility and was holding on too tightly to the control of projects. For example, one of the community respondents said that he felt it would help if the local DOC office would give their Trust more responsibility. He agreed DOC should still have some control, but felt that (in his case) DOC was 'reluctant to hand over the keys', and this creates barriers to the two organisations working together effectively.

One of the community representatives expressed the view that, in any shared project, taking over the decision-making process can happen because of the distance between people in the partnership, and it can be necessary to do this with 'day-to-day' issues, so that projects can make progress. It can also depend on the personalities of DOC staff—some are very easy to work with, others less so. He commented, though, that 'it's a two-way street, and relationships are formed in two directions'.

On the other hand, a DOC officer who works with community groups reported that he found it difficult to get the community organisations to take on more responsibility and felt that they were too dependent on him.

Another DOC officer gave examples of ways of sharing responsibility with communities which he believed represented good practice in supporting the community to undertake conservation work. These included:

- Where DOC is leading the project (i.e. it is DOC's work), and the community are supporting DOC, then there should always be a competent DOC person supervising practical work, making sure it is being done correctly.
- Where it is a community conservation project, then DOC's role should be greater in the early stages—helping the community group get financing and to draw up a plan and passing on any conservation skills—then stepping back and offering support when needed. He thought a good example of this was work DOC staff were doing in Taupo to control pests with traps. Some of the local residents started showing an interest, and DOC asked them if they wanted to put down some of the traps in people's back gardens. This worked well, and the residents then said they would be happy to take the whole project on. Initially, DOC gave a lot of support in terms of training, advice, and so on, but now the group is self-funding, runs the project, and has been very successful in controlling pests.

One of the community respondents said it is important when working with DOC to have an MOU in place, as it makes the work more 'official', meaning that DOC can redirect resources and include the work in their business planning.

The importance of ensuring that the roles of DOC and the community group are clearly stated and regularly reviewed was highlighted in Principle 1—the importance of careful planning. This area probably requires greater attention within DOC than it presently receives and reflects the findings of early research on DOC practice (Bell 2003).

In addition, the use of collaborative learning and management approaches (Principle 3) for building stronger relationships between DOC and community groups should be explored. The evidence from the literature indicates that collaborative approaches are more likely to result in community support for conservation programmes (as well as maximising learning opportunities for both the community group and the government department involved) than approaches that do not provide for community participation.

Finally, as was highlighted above (especially section 4.6.1), a goal in some projects should be increasing the self-sufficiency of community conservation work. This should include identifying training needs and developing strategies for sharing all necessary skills. It also means identifying a strategy to move the relationship between DOC and the community group from one of a DOC-managed volunteer programme, to an active collaboration, then to a true partnership, and sometimes further, to an independent community-led initiative.

5.3.3 DOC staff skills and personal attributes

The importance of DOC having key skills and personal attributes was raised in the case studies and added as a key principle for sharing skills with communities. However, it is also a key area for attention by DOC, based on some of the concerns raised by respondents in the case studies and workshops.

While most DOC staff were seen to be knowledgeable, helpful and supportive towards conservation with communities work, some stories of bad experiences were also shared. For example, one respondent talked about experiences he had had with certain DOC staff being protectionist about the conservation work 'in their patch'. They possibly saw volunteers as taking away their work. He felt that this type of person would prefer a 'closed shop' rather than sharing the work between DOC and the community.

Some of the interviewees also discussed their ideas for solutions. One community respondent felt that DOC staff generally needed more training on how to work with communities. Another community respondent suggested that it would be good if the community groups were given a 'third person' within DOC to go to if they had problems with local offices or individuals so that DOC can investigate these sort of problems. A similar suggestion was made by a couple of community people at the Kiwi Hui.

Our research provides evidence that training more DOC staff in key skills (such as the training provided through the 'From seed to success' programme) is needed to improve skills sharing and work with communities.

In terms of the second point raised above, while there are some channels that community members can already use to raise concerns (for example, by discussing them with the local Community Relations Manager, Area Manager and/or Conservator), the process at present is not clear. A clearly communicated process for conflict resolution needs to be implemented. Contact details for a senior manager that community members can contact if they are having difficulties with a local DOC staff person need to be provided.

5.3.4 Resources provided for conservation with communities

Several community people and some DOC staff expressed concern that staff are often over-stretched and some conservancies lack resources for working with communities. This is particularly the case for biodiversity staff, whose expertise is often highly valued by community groups.

Overall, there is evidence that DOC staff in some regions are unable to meet the increasing community demands for their time. As an organisation, DOC needs to better measure the value added by conservation with communities work (in terms of both conservation and broader social outcomes) and consider if and how it can increase or more efficiently distribute resources to this area of work.

Two DOC officers provided ideas on ways in which DOC could provide greater (and more efficient) support for the community. These included:

- Providing more volunteer programmes, so there are more opportunities for people to get involved.
- Being more proactive in organising local workshops and skill-sharing activities, rather than being reactive only.

- Providing better-written resources for communities, including:
 - 'How to' leaflets/booklets/packs, to reduce the amount of time some DOC staff spend giving out the same information by telephone. Some resources are already available (e.g. from the National Possum Control Agency and the website set up by DOC's National Predator Officer). However, a more comprehensive approach is needed.
 - An overall improvement in the written information available for the community. There is best practice information on the DOC Intranet for all sorts of conservation methods, but this is for DOC staff and is not in an appropriate format for the community to use, apart from the fact that the DOC intranet is not available to the public.
 - The volunteer booklet is very complicated for what it achieves and should be more focused.

One community representative also commented that there is a 'huge amount of information in the department and it is great that DOC staff will hand it over when asked, it is a pity though that it is not more accessible, for example through a website'.

The necessity for more and better information to support conservation skills development, as well as methods to make accessing and sharing information easier, needs to be explored.

6. Recommendations

There are a number of potential actions that should be explored to build on the best practice principles for working with communities that have been identified in this study, and to address the challenges to working with communities that were also identified. In particular:

- DOC staff should receive more training in the skills required for working with communities, including:
 - Project planning and evaluation
 - Communication and relationship-building skills
 - Different techniques for working with communities
 - Different models for working with communities

Such training could be done through an expanded roll-out of DOC's 'From seed to success' programme, and consideration should be given to including community groups as well as DOC staff.

- All staff who work with communities, not just community relations staff, should have access to the above training opportunities, as well as internal support networks.
- Key skills and personal attributes that support working with communities should be added to DOC job descriptions and performance appraisals.
- More resources (including technical staff time) should be provided for community conservation programmes.

- Greater opportunities for community building across all areas of conservation work (e.g. Kiwi Hui, awards, showcasing³) should be provided.
- Further research and evaluation of DOC's role in building social capital within communities, (including networks and skill bases) is required.
- Better accounting systems are needed so that the value of conservation work undertaken by communities can be measured.
- Improved information resources for community projects are needed. Such resources might include:
 - An information portal for community conservation projects where community members can access information in one place. This could include opportunities to share stories and ask questions, and should have links to training opportunities.
 - A training calendar providing opportunities for community conservation groups and volunteers to access training opportunities.
 - Updated print resources.
 - Training in a variety of skill areas in addition to traditional conservation skills (e.g. fundraising ⁴, project management, setting up trusts, recruitment, and advocacy).

Development of such a portal needs to be carried out collaboratively between DOC and key community organisations.

- A process for conflict resolution is needed. It would be helpful if this included
 details of a senior manager that community members could contact if they
 were having difficulties with a local DOC staff member.
- More work with schools is needed (by both DOC and community groups) to ensure that there are replacements for the current crop of adult conservation volunteers, to broaden community support for conservation, and to improve behaviour that can have an effect on conservation values (e.g. controlling pets).
- DOC and community groups need to improve project planning and evaluation. For example, participatory monitoring and evaluation should be used to explore the success of different conservation methods, and the techniques required to achieve and maximise their conservation and social outcomes.

Science for Conservation 287 69

See Queensland Government (2004) guide to community engagement showcasing events for further information: http://www.getinvolved.qld.gov.au/share_your_knowledge/resources/documents/pdf/guide_showcasing.pdf (viewed 6 May 2008).

⁴ An example fundraising seminar was discussed at the Kiwi Hui.

7. References

- Allen, W.; Bosch, O.; Kilvington, M.; Oliver, J.; Gilbert, M. 2001. Benefits of collaborative learning for environmental management: applying the Integrated Systems for Knowledge Management approach to support animal pest control. *Environmental Management* 27(2): 215–223.
- Allen, W.J.; Kilvington, M.J. 1999. Why involving people is important: the forgotten part of environmental information system management. In: Proceedings of 2nd International Conference on Multiple Objective Decision Support Systems for Land, Water and Environmental Management (MODSS '99). Brisbane, Australia.
- Allen, W.; Kilvington, M. 2002. Sustainable development extension. Ministry of Agriculture and Forestry, Wellington, New Zealand.
- Andrew, J.; Breckwoldt, R.; Crombie, A.; Aslin, H.; Kelly, D.; Holmes, T. 2005. Fostering involvement how to improve participation in learning. Rural Industries Research and Development Corporation, Kingston, Australian Capital Territory, Australia.
- Bell, K. 2003. Assessing the benefits for conservation of volunteer involvement in conservation activities. Science for Conservation 223. Department of Conservation, Wellington, New Zealand. 56 p.
- Campbell, L.; Vainio-Matilla, A. 2003. Participatory development and community-based conservation: opportunities missed for lessons learned? *Human Ecology: an Interdisciplinary Journal* 31(3): 417–438.
- Carr, A. 1995. Innovation of diffusion: Landcare and information exchange. Rural Society 5(2): 56-66.
- Cary, J.; Webb, T. 2001. Landcare in Australia: community participation and land management. *Journal of Soil and Water Conservation* 56(4): 274–278.
- Culen, G.; Volk, T. 2000. Effects of an extended case study on environmental behavior and associated variables in seventh and eighth grade students. *The Journal of Environmental Education* 31(2): 9–15.
- Curtis, A. 1998. Agency-community partnership in landcare: lessons for state sponsored citizen resource management. *Environmental Management* 22(4): 563–574.
- DOC (Department of Conservation) 2003a. Conservation with Communities Strategy: working together for conservation. Department of Conservation, Wellington, New Zealand. (Available from www.doc.govt.nz Publications > About DOC > Role > Policies + Plans > Conservation with Communities Strategy)
- DOC (Department of Conservation) 2003b. From seed to success. Ruia te kākano, kohia te kai rangatira. Guidelines for community conservation partnerships. Department of Conservation, Wellington, New Zealand.
- DOC (Department of Conservation) 2006. Statement of Intent 2006-2009. (Available from www.doc.govt.nz Publications > About DOC > Archive > Statement of Intent > Statement of Intent 2006-2009).
- Findsen, B. 1996. Pp. 263–273 in Benseman, J.; Findsen, B.; Scott, M. (Eds): The fourth sector: adult and community education in Aotearoa/New Zealand. The Dunmore Printing Company Ltd, Palmerston North, New Zealand.
- Fitzgerald, G. 1999. Community involvement in conservation management issues. *DOC Technical Series 21*. Department of Conservation, Wellington, New Zealand. 59 p.
- Forgie, V.; Horsley, P.; Johnston, J. 2001. Facilitating community-based conservation initiatives. Science for Conservation 169. Department of Conservation, Wellington, New Zealand. 76 p.
- Gooch, M. 2003. Voices of the volunteers: conceptions of catchment volunteers in coastal Queensland, Australia. Coastal CRC 'Respect, Reflect, React' Symposium.
- Gooch, M. 2004. Volunteering in catchment management groups: empowering the volunteer. Australian Geographer 35(2): 193–208.

- Jacobson, S.K. 1999. Communication skills for conservation professionals, Island Press, Washington D.C., USA. 382 p.
- James, B. 2001a. Understanding the conservation expectations of Aucklanders. Science for Conservation 172. Department of Conservation, Wellington, New Zealand. 36 p.
- James, B. 2001b. A performance monitoring framework for conservation advocacy. *DOC Technical Series 25*. Department of Conservation, Wellington, New Zealand. 24 p.
- Lambert, J.; Elix, J. 2003. Reshaping rural extension: new players—new roles. In APEN 2003 Forum, Hobart. Available from: www.regional.org.au/au/apen/2003/refereed/047lambertjelixj. httm#TopOfPage (viewed 6 May 2008).
- Moyo, E.; Hagmann, J. 2000. Facilitating competence development to put learning process approaches into practice in rural extension. *FAO. Human resources in agricultural and rural development 2000*: 143-157.
- Mills, C. 1996: Pp. 285–296 in Benseman, J.; Findsen, B.; Scott, M. (Eds): The fourth sector: adult and community education in Aotearoa/New Zealand. The Dunmore Printing Company Ltd, Palmerston North, New Zealand.
- Mordock, K.; Krasny, M. 2001. Participatory action research: a theoretical and practical framework for EE. The Journal of Environmental Education 32(3): 15–20.
- Orr, D.W. 1992. Ecological literacy: education and the transition to a postmodern world. State University of New York Press, Albany, New York, USA.
- People Science and Policy Ltd and Taylor Nelson Sofres 2002. Dialogue with the public: practical guidelines. Research Councils UK and the Office of Science and Technology, London, UK.
- Ringer, M.; O'Brien, M. 1997. Building relationships with participants in Department of Conservation programmes: effective management of experiential groups in the outdoors. DOC Technical Series 12. Department of Conservation, Wellington, New Zealand. 28 p.
- Volk, T.; Cheak, M. 2003. The effects of an environmental education program on students, parents and community. The Journal of Environmental Education 34(4): 12–25.
- Webb, C.; Lettice, F.; Lemon, M. 2006. Facilitating learning and innovation in organizations using complexity science principles. *ECO* 8(1): 30-41.
- Weigold, M. 2001. Communicating science. A review of the literature. *Science Communication* 23(2): 164-193.
- Wilson, C. 2005. Developing effective partnerships between the Department of Conservation and community groups. *Science for Conservation 248*, Department of Conservation, Wellington, New Zealand. 54 p.
- Wondolleck, J.M.; Yaffee, S.L. 2000. Making collaboration work: lessons from innovation in natural resource management. Island Press, Washington D.C., USA.

8. Acknowledgements

We would like to thank all the people that have helped with this study. This includes all the people interviewed for the case studies, as well as those who participated in the workshop in Wellington and the workshop held at the Kiwi Hui. We would especially like to thank the Kiwi Hui organiser, Paul Jansen, for his input into and help with this research.

From the Opus team, we would like to thank Sarah Weller for her help with the interviews and analysis of the case studies.

Science for Conservation 287 7 1

Appendix 1

INDICATORS FOR EVALUATING INFORMATION-AND KNOWLEDGE-SHARING ACTIVITIES

CRITICAL SUCCESS FACTORS/PROCESS PERFORMANCE CRITERIA	INDICATORS	DATA SOURCE
Information provided to the participants was appropriate, adequate and effective	Participants' perception of: How easy the information provided was to understand The suitability of the length of the information The relevancy of the information The adequacy of the information in terms of the type/detail provided The accuracy/credibility/trustworthiness of the information How well the information added to their understanding of the subject Sample of target audience who report having received the information Information provided in all languages of key stakeholders	 Participant questionnaire Participant interviews Survey of target audience Document analysis
Information provided in a timely manner	Information provided according to organisational standards or project milestones	Document analysis
Presenters appropriate	Participants' perception of: The usefulness of the information presented How interesting and informative the speakers were	Participant questionnaire Participant interviews
The style of activity was appropriate for the audience	Participants' preference for: • The style of presentation (e.g. presentation, demonstration etc.)	Participant questionnaire Participant interviews
OUTCOME PERFORMANCE CRITERIA	INDICATORS	DATA SOURCE
The activity resulted in increased knowledge about X	 Participants' perception of: What they learnt from the activity Their awareness of X being raised as a result of the information Their understanding of X being raised as a result of the information Before and after testing of participants' (or target audience's) awareness/understanding 	Participant questionnaire Before and after survey of target audience
The activity resulted in increased support for conservation programmes	 Participants' perception of: Their support for a particular conservation issue being raised as a result of the activity Participants' reporting of support for a particular conservation issue before and after activity 	Participant questionnaire Before and after survey of target audience
The activity resulted in increased action to support conservation	 Participants' self reporting of changes to their behaviour Before and after testing of participants' (or target audience's) behaviour 	Participant questionnaire Before and after survey of target audience

Appendix 2

INTERVIEW QUESTIONS—DOC STAFF AND VOLUNTEERS

A2.1 DOC staff

Questions about the overall community conservation project

- 1. Could you tell us a little bit about the project, including:
 - The (conservation) purpose of the project
 - the role of DOC staff in the project
 - the role of community volunteers/organisations in the project
 - the role of other organisations in the project (e.g. local government/other agencies/private sponsors etc.)
- 2. Can you describe the history of the project, especially how you worked with community members to plan and develop the project?

For example:

- How the project started?
- How DOC and the community got involved in the first place?
- · How were objectives decided?
- · When were objectives decided?
- Who was involved in deciding objectives/priorities?
- How was the 'action plan', including roles and responsibilities, developed?

Questions about conservation knowledge- and skill-sharing aspects of the project

- 3. What role did knowledge/skill sharing (involving DOC staff) have in the project? including:
 - Did you have any training on information/skill sharing?
 - What were the objectives for knowledge/skill sharing (what information/skills were you trying to teach/share/develop)?
 - Who was the 'target audience'?
 - How did you decide what the key requirements for knowledge/skill sharing were (for example: audience needs, project needs)?
 - Who was involved in making these decisions?
- 4. What approach(es) did you use to share information/skills, including:
 - Which methods, techniques or tools did you use for information/ skills sharing? (For example: group exercises, demonstrations, written information etc.)
 - Why did you choose this approach? (for example, appropriateness for audience/preference for technique, past experience etc.)
 - What (if any) role did 'learning by doing' (experiential learning) have in the project?

- What (if any) role did discussion and sharing of personal or local experience/ knowledge between community participants and DOC staff have in the project?
- Who was involved in making these decisions?
- 5. Have you done any formal or informal evaluations (e.g. group debriefs) of your conservation project, including:
 - How have you involved the community volunteers in this process?
 - Have you specifically discussed any issues related to information and skills sharing?

Your evaluation of the project

6. Thinking about the project and, in particular, thinking about the role of information and skill sharing within the project and DOC's role in supporting communities to develop skills to carry out conservation work,

please tell us:

- · what you think worked best
- · what you think could have been done better
- what were the main challenges (factors outside of your control)

Sharing your experience

7. From your experience with this and other projects, what do you think are the best ways for DOC to support communities to carry out conservation work (monitoring, pest control, restoration etc), particular in relation to sharing information and skills?

For example: important principles/lessons/techniques for information and skills sharing.

A2.2 Interview questions—volunteers

- 1. How long have you been involved in the project and what have you been involved in (including project planning and management as well as on-the-ground activities)?
- 2. What initially got you interested in taking part in the project?
- 3. Did your experience working on this project meet your expectations?
- 4. Overall, did you find it an enjoyable experience?
- 5. Has taking part in the project helped you learn more about:
 - the conservation issues facing the area?
 - how you could practically make a difference to improve the situation?
- 6. Thinking about the project and, in particular, thinking about (if not addressed above)
 - volunteers putting forward information, ideas or issues
 - how information and conservation skills were passed on to volunteers from DOC

Please tell us what you think worked well and what you think could have been done better.

- 7. Overall, what were the best aspects of working on this project for you?
- 8. Overall, what would have improved the experience?

What are the most effective ways to share conservation skills with communities?

One of the main ways DOC can support community conservation initiatives is by sharing conservation skills and knowledge. This study explores New Zealand and international research to identify the current 'best practice' for conservation skills training and capacity development. Four case studies identified as 'success stories' of DOC working with communities are analysed in light of the literature to determine the key principles for building conservation skills within communities. Two action research forums identified ways information and skills sharing between DOC and community organisations could be improved.

Johnson, A; Wouters, M. 2008: Strengthening community capacity to undertake conservation work: sharing conservation skills and knowledge. *Science for Conservation 287*. 74 p.