

# Harvests of Titi By Rakiura Māori

## Rakiura Titi Islands Committee

### Context

This research programme addresses a complex ecological problem - the sustainability of the harvest of titi (muttonbirds) from the Rakiura Islands. This harvest is one of the few remaining native wildlife harvests managed entirely by Māori; in this case, the Rakiura Māori. One of the scientific goals of the programme is to predict whether the current titi harvest is sustainable. This is important to Rakiura Māori for several reasons:

- Titi harvesting is a culturally important activity to Rakiura Māori because it contributes to social cohesion and a sense of group identity;
- Titi are a keystone species, so protecting bird numbers will indirectly benefit a range of ecosystems, both in the open ocean and within the titi breeding grounds on the Rakiura Islands; and
- There are economic benefits associated with a thriving harvesting industry.

One stated objective of the research programme is "to honour the Treaty of Waitangi and Tikanga Māori in the way that the research is conducted, interpreted and communicated." This has resulted in a research partnership between university-based researchers (from the University of Otago) and the Rakiura Māori community. The research programme is directed by Rakiura Māori through the Rakiura Titi Islands Committee. This bicultural model for directing and implementing research has been in place since 1994, when the ten-year research programme was first set up. The scientific goals for the research were jointly decided at that time by a process involving the university based team, the Rakiura Island Committee, as well as the Rakiura Māori community as a whole through participation in two hui. The partnership model is not without its costs: for example, the extra time for consultation and information sharing can place a considerable burden on both the Rakiura Committee members and the university based researchers. However, both research partners believe that the partnership is essential for the research to be able to proceed.

One important research goal is to use the titi harvest as a case study to compare the different research approaches of traditional Māori knowledge (Matauranga), environmental stewardship (kaitiakitanga) and ecological science. An understanding of how traditional Māori methods and philosophies of sustainable resource management can best be blended with ecological science will have a wider applicability to other natural resource management problems in New Zealand.

The direct beneficiaries of the conservation outcomes from the programme are Rakiura Māori, but as implied above, there are also wider benefits to other groups interested in sustainable resource management. These include other Māori, central and local government (e.g., Ministry for the Environment, Department of Conservation, regional/local councils) and other stakeholders, such as Fish and Game. These users will also benefit from the best practice lessons learned regarding blending of Māori methods and philosophies with ecological science and the co-management model applied by the research team.

### Outcomes:

The main research outcomes from the programme are:

1. The programme is a successful example of a bicultural model for directing and implementing research;
2. Increased understanding of the most beneficial ways to blend Māturanga, kaitiātikanga and ecological science approaches for research outcomes;
3. New knowledge, databases, and tools to inform titi harvest management decision-making;
4. Increasing acceptance by the Rakiura community that sustainability is a serious issue that needs to be addressed;
5. Capability building within the university-based team and the Rakiura Māori community.

#### Bicultural model:

This is an interesting example of a joint research partnership between a Māori community and a university-based research group. The model has received international attention and interest and could usefully be applied to other bicultural research programmes.

One particularly innovative aspect of this model is the cultural safety contract drawn up between Rakiura Māori and the University of Otago team to safeguard the Maturanga and ecological science gathered by the research project. The contract outlines ethical expectations of both parties and contains some rules that guide the partnership, e.g., ownership of intellectual property rights. Another key aspect of the contract is that it clearly delineates between the autonomy of Rakiura Māori as managers of the titi resource and the university researchers as advisors to the Rakiura Māori Committee.

#### New knowledge tools and databases:

The programme is close to the end of its initial ten-year lifespan, at which time the research team will deliver a draft management plan that outlines options for sustainable harvesting. At that stage the research is expected to have identified the most likely threats to bird numbers and will be able to address the different ways in which the bird population may best be monitored in the future. There have been several intermediate research results towards this goal. Some examples include:

- Development of computer models that predict harvest impacts and testing of those predictions with data collected in the programme. Climate models will provide predictions of the rate of change of bird numbers at different sites and monitoring of the bird population will test the short-term model predictions. If accurate, these predictions will be extrapolated to longer term predictions and will be used to explore other impacts, such as changes in fisheries by-catch. One of the most important outcomes from the models have been the identification of key parameters that need to be understood and monitored in order to provide accurate predictions;
- Databases: Annual measurements of survival rates, breeding rates, harvest rates and practices, as well as other relevant data are being recorded at both harvested and unharvested sites. These data will be used to understand and test model predictions. One significant finding from the study is that birders tend to select heavier than average birds-this has implications for future harvest as heavier birds have an increased chance of successful breeding;
- Maturanga has been recorded from experienced birders, three of whom have since died. The team have made 20 audiotaped oral histories of

kaumata who have shared knowledge about practices, conservation philosophies and stewardship.

- Climate-related patterns in titi harvest rates: Birders' diaries have been analysed for trends in harvest rates and practices. Analysis of a 20-year plus record of harvest information from a birder's diary led to the very significant discovery of a strong link between titi harvest rates and ENSO weather patterns. This statistical analysis was corroborated by birders' traditional knowledge regarding long-term trends in titi abundance. Other diaries and data sources are being examined to confirm the large-scale nature of this finding.

### **Capability Building:**

The programme actively encourages the development of Māori research capability. This is, in fact, considered to be a very important outcome from the ten-year programme. Some ways in which the programme has built human capability include:

- The programme uses Māori researchers, students and field workers. The programme averages two PhD students per year and two of these PhD students in the past two years have been Māori. In the last three years there have also been three Masters students (one Māori) and two summer students (both Māori). This is a positive educational result from a programme with relatively modest funding (\$200k pa).
- Rakiura Māori have been meaningfully involved in this programme from the inception. Knowledge sharing between the university-based team and the Rakiura Māori Committee, in particular, has enhanced understanding of the science and Matauranga associated with this programme for all parties. For example, Committee members have been exposed to scientific activities, such as attendance at international workshops, and the university-based team have learnt about kaitiakitanga and Matauranga from the Committee members;
- There is a strong focus on communicating the research results to the Rakiura Māori community, so that they are well informed to make consensus-based decisions regarding the titi harvest. Attendance of the research team at hui and workshops and publication of the Titi Times are some of the ways in which the research is communicated to the community as a whole.
- The Titi Times is an important vehicle for communicating the research outcomes and raising the level of awareness of a wide range of stakeholders. It reaches approximately 500 Rakiura Māori homes and another 400 or so stakeholders, including resource management agencies, researchers and policy makers.

### **Users' perspective of the Titi research programme**

The Foundation commissioned a report to review in more detail the benefits arising from the Titi research programme from the perspective of users of the research results. This report is shown below:

Case Study: Kia Mau Te Titi Mo Ake Tonu Atu (Keep The Titi Forever) Research Project

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## Introduction

Co-management can be defined as "power-sharing in the exercise of resource management between a mainstream government or academic agency and a community or organization of stakeholders" (Pinkerton 1992). Better environmental, economic, social, cultural, and justice outcomes are expected from strong co-management partnerships (Moller 1996, Taiepa et al. 1997). However, appropriate socio-political conditions are essential for co-management efforts to succeed. The Kia Mau Te Titi Mo Ake Tonu Atu (Keep The Titi Forever) Research Project between the Rakiura Titi Islands Committee (herein referred to as the "Committee"), the Rakiura muttonbirders (herein referred to as the "birders"), and the University of Otago's Department of Zoology (herein referred to as the "University") was extensively reviewed to identify issues and benefits emerging from the collaborative partnership based on the experiences of Committee members. Also, the effectiveness of the research process was assessed. Interviews were conducted with 8 of the 10 Committee members, and 23 birders randomly selected from the Rakiura community. To be eligible birders had to be 20 years or older and have birded 3 out of the past 5 muttonbirding seasons (1997-2001).

## Effectiveness of the collaborative partnership

Committee members defined co-management as a 50:50 partnership operating under the guiding principles of the Treaty of Waitangi with equal input and joint decision-making from each party. Goals should be clearly defined and knowledge shared in an open and honest relationship. Some Committee members commented that the partnership was initially one-sided with the University generally guiding the research. This was attributed to the technical nature of the science and the unfamiliar concepts associated with the research. Most members stated their satisfaction with the current relationship because it allows for full participation by all involved. The University mostly sets the agenda for meetings and facilitates discussions. However, decision-making power rests solely with the Committee as kaitiaki (guardians) of the titi and islands. On occasion difficult issues are presented to birders at public meetings for a decision. The present arrangement is perceived as collaborative because the University is given every opportunity to present requests and ideas to the Committee and influence their decision. Greater communication from the University was suggested as a potential improvement, although the majority of Committee members commented on the large volume of reading already required to stay informed. The ability of some members to remain conversant is occasionally hindered by alternate work commitments and their ability to understand research results. Many of the Committee thought meetings should be more frequent and conducted separate from other Committee agendas. The partnership's effectiveness is evident in the manner the two parties can discuss and resolve sensitive issues through compromise. For example, access onto islands in the rahui (temporary access ban) period (1 June to 14 March) was resolved by allowing the University to survey a restricted number of unharvested islands, rather than harvested islands, during this time. Also, the ability for the 2 parties to accept reasoning behind requests and decisions demonstrates the efficacy of this relationship. A request by the University to assess the accuracy of the burrowscope through the excavation of breeding burrows was denied because the method was considered invasive, a violation of the island's mauri (life force), and offensive to the beneficiaries' tipuna

(ancestors). Also, the procedure was deemed a violation of the birder's whanaungatanga (relationship) with the titi and the island.

#### Relationship between parties

The Committee was evenly split regarding their attitudes towards the turnover of staff within the University team. Half of the Committee felt there was a high turnover in field staff and the team lacked employee continuity. The remainder believed the turnover was acceptable because field staff were not part of the decision-making and many were volunteers. For the majority, the permanence of a small core group from the University meant the institutional memory of the project was intact and communication was predominantly through a few known individuals. Without the stabilizing effect of this core group the high turnover in other staff members may not have been so easily tolerated.

Most of the Committee thought the current relationship with the University was affable and personable enough to allow for an effective cohesive working relationship, although some acknowledged initially it was quite tense and formal. There was uncertainty at the outset from the Committee and Rakiura people regarding control of the research. Trust and confidence has increased as understanding of the project has developed. However, small proportion of the Committee felt it was better to keep the relationship at a professional level, stating an inbuilt distrust of "the system" based on a history of past wrongs by euro-centric agencies.

#### Benefits arising from the partnership

Both tangible and intangible economic, social, political and scientific benefits have arisen from this collaborative research partnership. On average the Committee receives between 8-10% of the project's annual PGSF budget as a directorship fee. This pūtea (fund) has allowed Committee members to attend and present at international and national hui and conferences relevant to the research. It has provided the financial means to build capacity within the Committee. Attending conferences and hui has increased the member's understanding of western science and how it operates, of issues related to the work, and of similar research projects and partnerships operating around the world. None of the Committee are paid for time spent reading the large quantity of research related material and attending the 4-5 meetings or hui with the University each year.

Since the beginning of the research in 1994, 10 Rakiura Māori have been employed and/or trained within the research effort, although many on the Committee felt their people have under utilized the opportunity. A small proportion of the Committee believe there should be greater opportunity for Rakiura Māori to be involved and that both the University and the Committee should be doing more to define and promote the research and encourage participation. More indirect forms of capacity building have gradually been expanding within the general muttonbirding populace. The expansion of the research onto different islands has meant greater involvement by the birders, more birders becoming aware of the research, increased understanding of what the research is trying to achieve, and a greater sense of ownership and responsibility of the research at the local level. An increase in offers of advice, time, and long-term records (birder diaries) has also indicated a changing attitude and greater acceptance of the research by birders.

From interviews with the birders 87% felt the research should be occurring. Of the 3 birders that answered in the negative sense, 1 answered "no" although in later

discussions acknowledged that the research was useful and needed, 1 stated they "did not know" if it should be happening, and 1 did not give a reply. Of greater concern was the lack of understanding of the research by the birders. When asked, 14% felt they understood "a lot", 55% thought they understood "some", 27% very little, and 5% "none" (n= 22). Reasons given for the lack of understanding were: (i) not receiving the Titi Times newsletter; (ii) not reading the Titi Times newsletter; (iii) technical nature of results and methodologies in the Titi Times; (iv) the inability of the birder to attend public meetings when the research is discussed and presented; (v) not having personal hands-on experience with the research; (vi) limited effort on the birder's behalf to seek out information regarding the research; (vii) the research was not of interest to the individual and; (viii) fear of the outcomes from the research (n= 14). Some of the most popular methods suggested by the birder's to increase their understanding were greater presentation of research progress at public meetings, the simplification of information and greater circulation of results, and personal hands-on experience with the research. When queried about what the birders felt they would like to see changed about the research 11 did not reply, 2 thought they did not know enough to offer advice, 7 felt no change was required, 2 suggested changes, and 1 did not address the question. The changes involved relocation of the research to another island at the end of the 10 year contract and greater focus by the research on titi feeding habits and impacts affecting titi survival at sea.

Some Committee members voiced their preference for a Rakiura scientist to be conducting the research, although most acknowledged the benefits that have arisen from using the present system. Members felt the scientific and traditional knowledge (TK) systems complemented and assisted each other to identify trends within, and influences affecting the resource. Scientific outcomes have been able to support some TK constructs and identify anomalies outside of the TK sphere. The Committee feel themselves and the birders have learnt a lot from the process. The use of an external research body (i.e. the University) has given the project a degree of independence in the "eyes" of the wider scientific community and preservationist lobby. This increases the likelihood the results would be accepted as unbiased, than if Rakiura alone conducted the research.

All the Committee members interviewed recognised their status as kaitiaki. The majority felt there was recognition of kaitiakitanga (guardianship) by the core group within the University's research team, although it may come slowly at first. Committee members deemed kaitiakitanga a responsibility or obligation, rather than a privilege. Fulfilling the role of kaitiaki and practicing tikanga contributed to the spiritual wellbeing for some members. Also, it provided a sense of connection to their tipuna or family that could not be present, and to the bird and islands. Acknowledgment of the Committee's kaitiaki status by the University provides a protocol for other resource based collaborative partnerships to model themselves on. All the Committee believed the establishment of the partnership was essential for the research to proceed. Although initially it may have slowed the process of the research, ultimately the work could not have occurred without it.

#### References:

Moller, H. (1996). Customary use of indigenous wildlife - Towards a bicultural approach to conserving New Zealand's biodiversity. Pp. 89 - 125 In: McFagen, B. and Simpson, P. (comp.). Biodiversity: Papers from a seminar series on Biodiversity, hosted by Science & Research Division, Dept. of Conservation, Wellington 14 June - 26 July 1994.

Pinkerton, E.W. (1992). Translating legal rights in management practice. Overcoming barriers to the exercise of co-management. *Human Organization*, 51(4): 330-341.

Taiepa, T.; Lyver, P.; Horsley, P.; Davis, J.; Bragg, M.; Moller, H. (1997). Co-management of New Zealand's Conservation Estate by Māori and Pakeha: a review. *Environmental Conservation*, 24(3): 236 - 250.