

**A TRAINING REPORT
ON
MODULE 1: CONSERVATION BIOLOGY**

**A SHORT COURSE
ON
INVENTORIES AND COLLECTIONS OF BIOLOGICAL SPECIMENS,
AND
THEIR USE IN CONSERVATION AND MANAGEMENT**

UNDER TAKEN IN COLLABORATION WITH

WILDLIFE CONSERVATION SOCIETY-PNG



STRENGTHENING CONSERVATION CAPACITY PROJECT

A Report by Miriam Supuma (WCS) & Tom Pringel (SCCP)

April 24-27, 2006

Acknowledgements

The Strengthening Conservation Capacity Project and the Wildlife Conservation Society – PNG would like to thank everyone who has made this training a success. The organizers of the course would also like to thank all the participants who have made every effort to attend the training program. Thanks also to the Research & Conservation Foundation-Goroka for the use of their training facilities. Above all we would like to thank those who have actually contributed directly or indirectly in the development of the course or module. Most importantly thanks to the Darwin Initiative and the John D & Catherine T MacArthur Foundation for their funding for making possible this training.



Photos of trainees during the training course

Table of Content

Acknowledgement

Introduction

Course Instructors

Materials

Presentation

Exercises

Reference Materials

Course Schedule

Day 1 Theory

Day 1 Practical Exercise/Field Work

Day 2 Theory

Day 2 Practical Exercise/Field Work

Day 3 Theory

Day 3 Practical Exercise/Field Work

Day 4 Essay

Day 4 Feedback on the Training

Table 1: Names of Participants for Module 1 Training Course

Appendix 1: Course Outline

Appendix 2: Pre-course questionnaires

Appendix 3: Course Feedback Form

Introduction

The training on **INVENTORIES AND COLLECTIONS OF BIOLOGICAL SPECIMENS**

was conducted in Goroka, Eastern Highlands Province from the 24th of April to the 27th of April 2006. The training was attended by well over 33 participants from various targeted Government and Non Government Organisations in Papua New Guinea. The course was targeted towards conservation biologist mostly in the fields of data collection, storage and use of biological specimens. The training was funded by the Darwin Initiative and the John D & Catherine T MacArthur Foundation.

The training was developed and conducted by the Wildlife Conservation Society-PNG Program (WCS) in collaboration with the Strengthening Conservation Capacity Project (SCCP) housed at the University of Papua New Guinea through the School of Natural and Physical Science.

The Module 1: Conservation Biology has 11 units in it. The training on **INVENTORIES AND COLLECTIONS OF BIOLOGICAL SPECIMENS** is one of the 11 units in module 1. There are 8 Modules developed through the SCCP. These 8 modules have several units in themselves.

The Module 1 has done extremely well by honoring its commitment in completing the module and is now begin to run the trainings on these key units in Conservation Biology for Strengthening Conservation Capacity in Papua New Guinea.

This course is the first module to be thought under SCCP for capacity building of Papua New Guinean biologist involved in non-government organizations (NGOs) and government departments.

The SCCP is a program jointly undertaken by major conservation organizations from both the government and the non government organizations in PNG. The goal of the project is to enhance conservation capacity in PNG by addressing two main objectives;

- create a training program that is focused on conservation theme(s) to be thought in institution(s)
- promote and enhance collaborative work (or networking) amongst various NGOs in the country and government department to address conservation issues

The Wildlife Conservation Society on the other hand has been operating in the country since 1997. It is actively involved in biological research and in capacity building of young Papua New Guinean biologists. Through joint efforts from these two organizations the course was made possible.

Module 1's theme is "INVENTORIES AND COLLECTIONS OF BIOLOGICAL SPECIMENS, AND THEIR USE IN CONSERVATION AND MANAGEMENT". Invitations were sent to organisations involved in creating, maintaining and managing biological inventories and database, curators of biological specimens, law enforcement agencies, and these who are actively involved with biological research (See Table 1).

The cost of the training was shared between the SCCP and WCS. The SCCP covered the cost for participants travelling from Port Moresby. This includes the cost of airfares, meals and accommodation. The WCS co-funded the cost of meals, accommodation, conference/classroom expenses, instructors fees and overhead costs. The total cost excided well over K28,000.00. The conference took place at the Research and Conservation Foundation (RCF) conference room.

The syllabus (See Appendix 1) taught during the course focused on taxonomy, proper inventories and database of biological specimens, and the laws governing taxonomy and conservation in the country.

This is a non technical Report. All the presentation, lectures, exercise and literatures is available on CD and can be taken from the training coordinators.

Conservation Biology Training Report

Course Instructors

The instructors for the course were:

1. Dr Andrew L. Mack Co-Director of WCS
2. Dr Leo Salas (WCS/CI)
3. Mr Arison Arihafa (WCS)
4. Mr Katayo Sagata (WCS)
5. Ms Miriam Supuma (WCS)

Materials

The materials used for teaching over the 4 day training were:

- Handouts, laboratory equipments used in biological specimen collection and identification
- Laptops Computers and multimedia
- White board, white board markers and erasers
- Lecture pads
- Samples of documents and specimens
- Butchers Paper

Presentation

The presentations were conducted through the following process:

- Lectures; Class & Lecture interaction; group work, discussions and group presentation, power point presentation

The power point presentation includes the following:

- Introduction – SCCP vision, mission, goal and objectives
- Botanical Collection (lecture)
- Indispensable Data (lecture)
- Reference Collection (lecture)
- Species Protection and Collection (lecture)
- Genetic & Taxonomy (lecture)
- Insect Collection (lecture)
- Linean Classification (lecture)
- Work & Use of Collection (lecture)

Note all this presentation have been burnt onto CD and given to trainees. All the documents from the training are available on CD.

Exercise

The exercise undertaken during the course includes the following:

- Building a Taxonomy
- Law Review Explanation
- Taxonomic Key Exercise
- Original Sources Taxonomy

Reference Material

- CITIES Appendies (pdf)
- Collection data on the internet-wheeler 2004 (pdf)
- Collection data on the internet-winker 1999 (pdf)
- Collection & Species decline (pdf)
- Genetic & Phenetic – classification (pdf)
- Landscape Genetic (pdf)
- Morphology DNA-Taxonomy 1, 2, 3, 4 and 5 (pdf)

Conservation Biology Training Report

- Reference about collection and specimens for better conservation (pdf)
- Roles of Collection 1, 2, 3, 4 and 5 (pdf)
- Cites species –exel worksheet
- Evolution – Mark Ridley (pdf)
- Genetic & Botany (pdf)
- March of the weevil's (pdf)
- Norris & Musser (pdf)
- Redlist Animal Exel Worksheet (pdf)
- Reference about Species Concept (pdf)
- The Fauna (Protection & Control) Act 1966 (pdf)
- The International Trade Act 1979 (pdf)

Note: Other literatures not included here are available on CD including the pdf documents stated above and the rest of what has been used or generated during the training

Course Schedule

Pre- course Questionnaire

Prior to the course, participants were given a pre-course questionnaire (See Appendix 2) to fill and hand back to the instructors. The questionnaire was designed to evaluate the extent of knowledge participants had about certain topics related to the theme of the conference. Furthermore, it enabled the participants to express areas in their knowledge in which they needed to improve on. The pre-course questionnaires also gave the instructors an idea about the range of knowledge that participants had. Most importantly,, since the training is the first of its kind, feedback from the questionnaire will enable organisers in the future to make improvements.

The course had two components; theory and practical (See topics in syllabus Appendix 1).

DAY 1: Monday 24th April 2006
--

Theory

The first day lectures introduced the basics of species concepts (evolutionary species concept, morphological species concept, biological species concept, and phylogenetic species concept). Dr Andrew Mack also pointed out the strength and weakness of the various concepts and how using one concept might affect conservation planning and management.

The next lectures that followed were on proper collection of plants by Mr Arison Arihafa and insects by Mr Katayo Sagata. The lectures emphasised on proper collection methods, labelling, field notes, preservation techniques, and proper storage. Good collections can also have other uses in the future.

Between 3pm to 4pm, Dr Leo Salas lectured on type specimen. These are specimens that have been first discovered and are used as model of the species with description based on taxonomy. Dr Salas elaborated on the importance of having a classification system which one uses when naming a new species. Examples of this were given about taxonomies used which caused difficulty in relation to some conservation laws/Acts. Following his lecture was a talk on the importance of having a reference collection, the importance of museums, herbariums, and collections stored in repositories. This lecture outlined the process for field collection, their importance to research and taxonomy and the keys used to identify species (dichotomous key). Sometimes the use of morphological character alone is not enough and researchers tend to use both Cladistics and taxonomy to verify a taxon.

Practical Exercise/ Field Work

In the afternoon after lunch, participants were given a practical exercise. This involved the option of collecting plant or an insect specimen and to use the techniques that were given in the morning lectures.

Conservation Biology Training Report

Techniques to be used were outlined in the lecture earlier on in the morning; proper labelling of specimen, field notes, and method of storage of specimen.

DAY 2: Tuesday 25th April 2006

Theory

In the morning Dr Andrew Mack spoke about PNG species legislations: International Trade Act and the Fauna Control Act. He highlighted on global and national policies, international treaties and bodies governing proper conservation and management of taxons. The need for institutions within a country (also country to country) to share policies is important. Example given was the import and export of specimens and also on how trade will affect trade of forestry and fisheries products.

Concerns that Dr Mack pointed were on invasive species, environmental pests and threats that currently exist due to less effective law enforcement systems and manpower and funding to do monitoring. He also talked about IUCN and the various criteria to classify species and the variables used to place a species into a particular category. Species lists/criteria should be continuously updated with mechanisms for reviewing changing information.

Dr Salas followed with a talk on indispensable collection data for conservation. This was similar to the lecture given by Miriam Supuma on Monday afternoon except in more detailed.

Dr Salas pointed out the importance for good data for conservation planning purposes. Conservation managers and policy makers need to know location of centres of high biodiversity and this can only come about if there are enough researchers in PNG doing surveys/research. Sadly, even if there are enough researchers, there are still other factors that hinder this. Some include, funding, lack of/limited technical expertise, rough terrain, shifting priorities in conservation, etc. However, for research that are currently present and on going, good quality data is very important. The more information collected and entered on labels and field note books the higher the quality of data. Good collections/data can be used for a number of studies; DNA analysis, dynamics of populations, understanding evolutionary paths and differences between populations and many more. There are no limits to the ways in which a good data collection can be used and the results that can be obtained from them.



Photo: Dr. Leo A Salas giving a lecture

Practical Exercise/ Field Work

(a) Selection/assignment of CITES or Fauna Control Act lists and explanation of final paper

After Dr Mack's lecture on conservation laws, students were asked to choose one of the two Fauna (Protection & Control) Act 1966 and International Trade (Fauna & Flora) Act 1979 and to write a short essays about that they think authorities in PNG should do to better enforce the Act and how they review the Acts and update them with current knowledge on taxonomy.

(b) Use of Dichotomous Key to identify specimen

Students used available dichotomous keys to identify their collections. Mr Arison Arihafa and Mr Katayo Sagata lead this activity respectively. They were to refer to their field notes, description of the species and use the key to narrow down to a taxon. The steps in which they took were also recorded. Once completed,

Conservation Biology Training Report

the students handed the assignments (i.e. plant/insect with labels, field notes, steps used to narrow down to taxon) to the instructors for grading.

(c) Students divide into groups to generate a hierarchical classification of “samples” provided

Dr Salas handed out samples of a random data collection done in PNG. This collection had some missing data of description of certain plants species. Students used the characters that were available (e.g. flower colour, fruit colour, pistil length, locality, distribution etc.) to do a taxonomic hierarchy of classification using the various species concepts lectured on Monday and summarise their finding on a table format. Also, they were to draw a dichotomous key using the character traits and as a bonus do a cladogram. Students also discussed from the data present about the distribution of the species and their conservation implication.

DAY 3: Wednesday 26th April 2006

Theory

The day started off with a lecture from Dr Mack on the work of museums, herbaria and collections. In his lecture Dr Mack explained the importance of having repositories of data collected. Some of the key functions of such collections include documentation of biodiversities, morphology and physiology of specimens made available for people doing research, for phylogenetic study purposes, systematics, biogeography, and delineating boundaries between taxon. Some of the important functions of museums and herbaria pointed out include training centres for future taxonomist, clearing houses for information and permanent repositories. Such institutions need to be consistently maintained and improved as they are an important source of information.

Following Dr Mack’s lecture was the last lecture on genetics and taxonomy by Dr Salas. Dr Salas pointed gave an insight into the new techniques used by scientist for species and conservation. The study of genetic has played a revolutionary role in understanding evolution and relatedness of organisms. DNA studies have also helped scientists the variation between and within organism.

He also pointed out that these days they are repositories/banks for genes (Gene Bank) made available for researches to access without having to go and collect data out in the field. Also museums where collections are kept can be used to extract DNA material for analysis.

The use of DNA is important for taxonomist to understand a number of things in nature; phenotypic variation, ecological and evolutionary process, limits to gene flow, population dynamic etc.



Photo: Students using Dichotomous Key to identify plant specimen

Practical Exercise/ Field Exercise

(a) Work on specimen collection

Students were given some time to complete their work on specimen collections and hand in to Katayo Sagata and Arison Arihafa for grading.

(b) After the completion of the above exercise, students discussed the exercise they did on the hierarchical classification using the random generated data.

All answers and discussion varied. Some people had only four species, another group had 10, one had eight, and another seven. It was obvious from the exercise that depending on the taxonomy used, people can come up with a variety of taxons which may be the same as the other except in may be lumped with other species (confusing). This exercised indicated that in order for taxonomist to understand what species one is referring to, he/she has to indicate the taxonomy one is referring to for identifying species. This exercise also indicated that conservation laws may not help protect (or vice versa) the taxons that really need to be protected.

DAY 4: Thursday 27th April 2006

Students work on their final paper (Essay on one of the conservation Acts and how best to enforce it) with tutoring from instructors. Paper submitted to instructors by the end of the day for grading.

Students also had an excursion to the JR McCarthy Museum (around 2pm) to see the set up of the museum and as a way of comparing what was learnt in classroom to the real experience.

Feedback Sheets

Students were given a sheet with questionnaires. The purpose of this was to get their opinion on how they thought the course at fared and whether they were improvements that were needed.

Feedback Assessment

This is a general evaluation statement from the information gathered from the course feedback form (See Appendix 3). The feedback form will be sent to the trainers or instructors to assess the technical bit. This something that the instructors would possible validate and improve on.

Even though less than half of the participants completed the feed back-form, majority of the participants have expressed satisfaction of the training. The training was rated excellent by the majority of the class. However most of the participants felt that some of the trainees had vast experiences in their field of expertise; during the lectures examples could have also been sought from the trainees. Some thought the days could have been started with a recaption of what was learned the previous day whiles linking it to the next day's lectures. **Majority of the class thought there should have been more group discussion and presentation in some of the exercise. This would have allowed some trainees to share their experiences. For example DEC could have highlighted their experience – the strengths and weakness in collecting and identifying species or enforcing the relevant acts of parliament.** Time management wasn't good enough. It has been hinted that proper time table could have been drafted for the training. Food was rated excellent.

DAY 5: Friday 28th April 2006

Students depart.

Table 1: Names of Participants for Module 1 Training Course.

No.	Name of Participant	Institution	Position/ Job title	Contact Phone No.	E-mail address
1	Arison ARIHAF A	WCS - Goroka	Intern Biologist	732 3836	aarihafa@global.net.pg
2	Anthony PARAK	JK MacCarthy Museum - Gka		732 1502	
3	Eunice DUS	WCS - Goroka	Honors Student	732 3836	edus@global.net.pg
4	Susan TOMDA	WCS - Goroka	Honors Student	732 3836	stomda@global.net.pg
5	Kore TAU	WCS - Goroka	Honors Student	732 3836	ktau@global.net.pg
6	Roy BANKA	FRI - Lae	Botanist	472 4188	rbanka@fri.pngfa.gov.pg
7	Billy BAU	FRI - Lae	Botanist	472 4188	bbau@fri.pngfa.gov.pg
8	John DOBUNABA	FRI - Lae	Entomologist	472 4188	jdobunaba@fri.pngfa.gov.pg
9	Oliver PAUL	FRI - Lae	Botanist	472 4188	opaul@fri.pngfa.gov.pg
10	Darren BITO	BRC - Madang	Entomologist	853 3258	darrenbito@datec.net.pg
11	Leontine BAJE	BRC - Madang	Honors Student	853 3258	lbaje@datec.net.pg
12	Kanawi CHAMILOU	BRC - Madang	Honors Student	853 3258	chamilou@datec.net.pg
13	Leo LEGRA	WCS - Goroka	Intern Biologist	732 3836	llegra@global.net.pg
14	Emie RIESE	RCF - Goroka		732 3211	
15	Rex YAGI	JK MacCarthy Museum- Goroka	Technical officer	732 1502	
16	Dr Leo SALAS	CI/WCS – Port Moresby	Ecologist	323 1532	lsalas@global.net.pg
17	Dr Andrew MACK	WCS - Goroka	Co-Director of WCS -Eco	732 3836	amack@global.net.pg
18	Katayo SAGATA	WCS - Goroka	Entomologist	732 3836	Ksagata@global.net.pg
19	Miriam SUPUMA	WCS - Goroka	Biologist	732 3836	msupuma@global.net.pg
20	Mellie SAMSON	WCS - Goroka	Honors Student	732 3836	msamson@global.net.pg
21	Chris DAHL	WCS - Goroka	Honors Student	732 3836	cdahl@global.net.pg
22	Vidiro GEI	WCS - Goroka	Botanist	732 3836	vgei@global.net.pg
23	Enock KALEDIMIMO	WCS - Goroka	Honors Student	732 3836	ekaledimimo@global.net.pg
24	Diatpain WARAKAI	WCS - Goroka	Honors Student	732 3836	dwarakai@global.net.pg
25	Muse OPIANG	WCS - Goroka	Biologist	732 3836	mopiang@global.net.pg
26	Paul IGAG	WCS - Goroka	Biologist	732 3836	pigag@global.net.pg
27	James SABI	DEC - Port Moresby	Ecologist	323 0279	P O Box 6601, BOROKO
28	Barbara ROY	DEC – Port Moresby	Inspection officer	323 0279	odir@daltron.com.pg
29	Paulus KULMOI	DEC – Port Moresby	Ecologist	323 0279	
30	Tom PRINGEL	UPNG – Port Moresby	SCCP co-ordinator	326 7225	tpringel@upng.ac.pg
31	Celestine AHO	Part time WCS - Goroka		732 3312	
32	Sharon AGOVAUA	NARI-Port Moresby	Entomologist	321 0218	
33	Miriam Tama	NARI – Port Moresby	Entomologist	321 0218	

APPENDIX 1

A SHORT COURSE ON: INVENTORIES AND COLLECTIONS OF BIOLOGICAL SPECIMENS, AND THEIR USE IN CONSERVATION AND MANAGEMENT

The University of Papua New Guinea & The Wildlife Conservation Society
Strengthening Conservation Capacity Program
April 24-27, 2006

Overview

The purpose of this course is to introduce participants to the basic data and materials used to catalogue species, such as species lists, biodiversity inventories, and systematic collections (museums and herbaria); these data are used for a variety of purposes, including: conservation planning, resource management and legal matters. The Wildlife Conservation Society is interested in increasing awareness of the importance of having well maintained and catalogued collections of specimens and organized data, and their practical applications for conservation, research and law enforcement. This course is intended to assist all those persons and institutions involved in inventorying biodiversity, managing collections, and assisting law enforcement agencies with the import/export of biological specimens.

Contents

The following concepts will be covered in this course:

- Different species concepts used by biologists – the Biological Species Concept
- Linnean classification system, holotypes and paratypes
- Indispensable data that should be recorded
- Reference collections, vouchers and dichotomous keys
- Genetics and taxonomy
- The work of museums and herbaria
- Collections and the law: CITES and the Fauna Control Act list of protected species of PNG
- How bioprospecting differs from basic research

Practical exercises

Students will conduct field and lab exercises:

- Botanical and entomological collection of one or several specimens, with discussion of preparation techniques, labelling and data to be recorded.
- Identification of specimens with a key (computerized versus dichotomous keys) and consultation with WCS's herbarium and database
- In groups, students will develop a hierarchical classification of "samples of species" provided by the instructors, and then they will make a conservation appraisal; additional information will be given afterwards for a revision of the taxonomies proposed by the students, with implications for conservation and the law.

Final paper

Students will present a final paper commenting on either the CITES list of species for PNG, or the Fauna Control Act list of protected species. In this paper, students should discuss how easy it is to identify the listed species in either of these legal instruments, what information is lacking for the proper enforcement of these laws, and suggestions to acquire the desired information. Students should also elaborate on how collections and data sharing may assist conservation and should draw from lessons learned from the hierarchical classification exercise.

Grading

Grading will be done only for the purpose of obtaining feedback on the material and means of delivery.

Conservation Biology Training Report

The collection field exercise serves only to provide material for the lab exercise of identifying a species with a dichotomous key. The exercise on identification is used to bring to the attention of the students two points: 1) the difficulty of the task, and 2) the key information that must be collected with each sample (which is very important for those conducting inventories or managing collections). Thus, the grading of this exercise will be based solely on the proper documentation of the collection with the required information. This amounts to 25% of the grade.

The exercise of creating a hierarchical classification is intended for the students to understand that the criteria to determine two specimens as different species are fluid and sometimes arbitrary, and thus taxonomies adopted by scientists must be clearly specified. These taxonomies should make biological and biogeographic sense (and even genetic sense). Collection location information sometimes can be crucial for proper classification, with legal and economic consequences. These classifications and taxonomies are constantly changing, so the law and conservation appraisals must change as well. Students must submit a short essay about the exercise in which they explain how classifications are made in general and how they made their specific classifications, the importance of collection information, and the legal consequences. Students will be graded based on their understanding of how classifications are made and their justification of their own classifications with regards to taxonomy, biology and biogeography, their explanation of the importance of collection information, and their explanation of the consequences for conservation, amounting to 35% of the grade.

The final paper, on CITES or the Fauna Control Act, will be graded on contents and will amount to 45% of the total course grade. This paper should draw from the lessons of the classification exercise. Students must comment on the law itself, how it is structured and how does that agree with scientific methods (or not), how CITES or the Fauna Act agree or not with the scientific method, how classifications are important for the legislation you chose to discuss, how well PNG is prepared for executing these laws and what is needed for proper enforcement.

Agenda

Monday 24, morning

Introductions

General introduction/ Lecture on species concepts (by Debra Wright)

Lecture on how to do proper botanical collections (by Arison Arihafa)

Lecture on how to do proper entomological collections (by Katayo Sagata)

Field exercise – collections done by students in nearby woods

Monday 24, afternoon

Students prepare collections

Lecture on Linnean classification, holotypes and paratypes (by Leo Salas)

Lecture on reference collections, vouchers and dichotomous keys (by Miriam Supuma)

Tuesday 25, morning

Lecture on PNG species legislations: International Trade Act and the Fauna Control Act (by Andy Mack)

Lecture on indispensable collection data for conservation (by Leo Salas)

Selection/assignment of CITES or Fauna Control Act lists and explanation of final paper

Tuesday 25, afternoon

Lab exercise – students use available keys to identify their collections as best as possible (Arison Arihafa and Katayo Sagata to lead)

Lab exercise – students divide into groups to generate a hierarchical classification of “samples” provided (Leo Salas to lead)

Wednesday 26, morning

Lecture on the work at museums, herbaria and collections (by Andrew Mack)

Lecture on genetics and taxonomy (by Leo Salas)

Conservation Biology Training Report

Lab exercise - Students prepare their collection identifications (Arison Arihafa and Katayo Sagata to lead)

Wednesday 26, afternoon

Students hand in collections and identifications (graded by Arison & Katayo)

Presentations by student groups on their classifications (all instructors to participate) – presentations by means of a flip chart (to be taped to wall for discussion later)

Lab discussion – classification, taxonomy, biology and biogeography (the example of the cotton boll weevil and the example of *Phalanger mimicus*)

Thursday 27, whole day

Students work on their final paper with tutoring from instructors.

Paper submitted to instructors by the end of the day

Friday 28 – students depart

APPENDIX 2

STRENGTHENING CONSERVATION CAPACITY PROGRAM

The University of Papua New Guinea & The Wildlife Conservation Society
Module 1: Conservation Biology

A short course on:
INVENTORIES AND COLLECTIONS OF BIOLOGICAL SPECIMENS,
AND THEIR USE IN CONSERVATION AND MANAGEMENT
Goroka, April 24-27, 2006

Pre-course questionnaire

The following questionnaire is intended to establish a baseline of your knowledge on the subjects we will cover in this course. This questionnaire will be repeated at the end of the course. It will help us understand how effective the program was. Additionally, another questionnaire will gather your comments on what we should improve on and how.

You are our “guinea pigs” for testing out the contents and teaching materials and techniques of this Unit. The questions below do not have a “right answer”, so please feel free to tell us what you know. Please note, we are not asking that you write your name; we prefer to keep answers honest and anonymous.

1) What do you expect to learn from this training course?

2) What gaps in your knowledge would you like to improve on for your own work, that are related to taxonomies, species identification, species conservation laws, or collection management?

3) Have you had prior training on taxonomies, inventories or collections management, or enforcement of species conservation laws in PNG? Please tell us.

4) Can you give a definition of biological "species"?

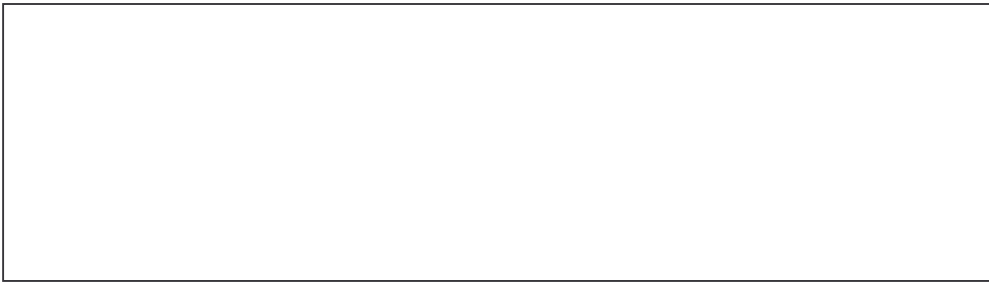
5) Do you think it is important to maintain collections, and why?

6) What kind of data do you think is important for biological collections and why?

7) How do you think revisions of taxonomies can affect conservation efforts in PNG?

8) Are collections important for law enforcement? If yes, why?

9) What things do you think are needed for the proper enforcement of species conservation laws of PNG?



APPENDIX 3

STRENGTHENING CONSERVATION CAPACITY PROGRAM

The University of Papua New Guinea & The Wildlife Conservation Society
Module 1: Conservation Biology

A short course on:
INVENTORIES AND COLLECTIONS OF BIOLOGICAL SPECIMENS,
AND THEIR USE IN CONSERVATION AND MANAGEMENT
Goroka, April 24-27, 2006

Course Feedback Form

Please provide comments and any necessary input where applicable and submit directly to the Project Coordinator. *Your honest feedback will assist us to improve the trainings in SCCP.*

Course/Module Name	
Trainer/Instructor	
Student Name	
Date	

1. What is your over all rating for the training course? *(Please tick the appropriate box)*

Excellent	
Very Good	
Good	
Not Good enough	

2. **If the training course was not to your expectation** please state the reason as to why it was not to your expectation. Also state how we could improve the training course? *(Please write your answers in bullet points in the box provided, you can write on a separate sheet if necessary)*

REASONS WHY THE COURSE DID NOT MEET MY EXPECTATION

HOW TO IMPROVE THE COURSE

3. Where there any gap(s) or overlap(s) in the flow of training information?

State here (in bullet point) where you found the **overlap** in the flow of training information.

State here (in bullet point) where you found the **gaps** in the flow of information; if necessary or possible supplement any information that you would like us to consider inserting into the existing training document.

4A. Please list the things you like (a) or (b) dislike about the way the training was structured and conducted?

4B. Are there any suggestion on how we could improve the way we structure and conduct the training?

5. Any other comments, suggestions or input that you wish to make regarding any thing about the training course? If yes! State what they are.