# Wildlife DNA Forensics Course

# Lecture A4

# Evidence for forensic testing: chain of custody and sample preservation.

No: A4	Lecturer: R. McEwing	Date: 02/08/2010	
Introduction			
Maintaining the Chain of Custody is fundamental to any legal investigation. Only evidence that has been collected, transferred and analyzed in a correct and chronologically manner will be accepted in court. Preserving biological evidence for DNA testing is a straightforward process which is both inexpensive and potentially very valuable to the case.			
Lecture Aims			
<ol> <li>To remind all delegates about the importance of collecting evidence following the basic Chain of Custody rules.</li> </ol>			
2. To lat	provide information on how to collect both wet and o er DNA testing.	dry biological samples for	
3. To th	<ol> <li>To encourage communication between investigators working in the field and their colleagues working in laboratories.</li> </ol>		
Lecture Summary			
• Er	nsure any evidence you collect or direct to be collecte chronological manner.	ed is properly recorded in	
• Re	emind other officers, if they are collecting evidence or member COC issues.	n your behalf, to	
• If	you collect biological evidence it is essential that this curely / appropriately	is stored correctly –	
• Co	ommunicate frequently with your laboratory contact. T storage conditions and information on possible tests	They will give you advice that can be carried out.	
• Do ke	o not be the one who is responsible for the failure of a eping!	a case due to bad record	
Further Reading			
None			





#### Contents.

#### Chain of custody (COC)

- COC applied to field investigator
- COC applied to laboratory

#### Collection of biological evidence

- Health & Safety
- Equipment
- Direct and indirect sample collection
- Wet samples
- Dry samples

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custody, ٠

control, ٠ • transfer, · analysis,

• and disposal of evidence.

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### Chronological recording.

- Custody who has the evidence
- Control who is charge of the evidence
- Transfer who you are giving the evidence to
- Analysis who monitors the evidence during analysis

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#### COC and field investigators.

- Knowledgeable about evidence collection.
- Legalities and practicalities maybe an advisory role.
- Always use an official notebook to record your observations or actions.
- Collect evidence: methodology and relevance
- Submitting the evidence to a laboratory

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### COC and the laboratory

- · Sample receipt
- · Issuing a unique identification number
- Storing the sample
- Examining the evidence
- Altering / destroying the evidence
- Taking a sub sample of the evidence
- · Carrying out a test
- Analyzing the results
- · Reporting the results
- Returning / Storing the evidence

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### Methods of ensuring COC

- Notes contemporaneous
- Evidence bags tamper proof
- · Labels and tags record information, show transfers
- Laboratory forms

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Evidence information		
EVIDENCE         Colspan="2">Colspan="2"         Case #         Date         Time         Date         Case #         Date         Time         Date         Time         Date         Time         Date	<b>E</b> MILLAN MIN	





- Received by
- Date
- Time

Owner-







## Evidence: how / what to collect

- All biological material offers the potential for DNA analysis.
- Biological samples can be taken from animals (direct sampling)
- Biological samples can be taken from non-animal evidence (indirect sampling)

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### Delivering the samples to the lab.

- What the laboratory will expect of you....
  - Prior notice that you will be delivering samples
  - An idea of what kinds of samples you will be bringing
  - Background to the case under investigation (written)
  - Authorization to proceed with testing
  - A reliable contact method to discuss any issues
  - A chain of custody record!

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#### Summary

- Ensure any evidence you collect, or direct to be collected, is properly recorded in a chronological manner.
- Remind other officers, if they are collecting evidence on your behalf, to remember COC issues.
- If you collect biological evidence it is essential that this is stored / maintained correctly – securely / appropriately.
- Communicate frequently with your laboratory contact. They will give you advice on storage conditions and information on possible tests that can be carried out.
- Do not be the one who is responsible for the failure of a case due to bad record keeping!

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