



Forensic Investigation of Wildlife Crime

Scottish Institute for Policing Research One Day Conference in conjunction with Partnership against Wildlife Crime (Scotland)

13th December 2007 in the Collins Suit, University of Strathclyde

Opening: Professor James Fraser, Centre for Forensic Science, University of Strathclyde

- Welcome
- Focus of meeting: **forensic aspects of wildlife crime**
- SPIR:
 - New, less than a year old
 - Formed and funded by the Scottish Funding Council and ACPOS
 - Aims to develop evidence based policy and practice
 - Arrange meetings that 'make a difference'
 - Small meeting with the 'right people' all personally invited
- Jim Govan, Adrian Linacre and Joe Connelly responsible for the meeting
- What is the landscape of forensic aspects of wildlife crime investigation at the moment in all dimensions?
 - Big/small issues
 - Environmental and wildlife crime not in the same league as regular forensic science

First presentation: Iain MacLeod, ACPOS

- Talked about significant challenges with frank discussions
- Within ACPOS:
 - Need to focus spending
 - 3 part for ACPOS
 - Management
 - Wildlife crime

- Uniforms and protective equipment
 - Meaningful research
 - wildlife crime → level of problem → research
- 4 forces with full time wildlife crime officers and 4 without
- Important themes:
 - Generally, no witness(es) to speak (or who are willing)
 - No victim who can tell what happened
- **COST!!!! ← MAJOR ISSUE!!!!**
 - Determines what is examined
 - Not ideal, but reality
- Advances in all aspects of Forensic science, becomes more efficient
- Types of cases:
 - High profile → eagles
 - Others → badgers, can involve serious organised crime
- Need improved information sharing
- Thematic Review to be published in the New Year

Second presentation: Alan Stewart, Tayside Police

- Questions: about what to look for, what to collect with respect to evidence and what are the limits of forensic science
- Issues where dealing with wildlife crime and missing things which can be analysed with forensic science
- Poisoning cases:
 - Bait such as rabbit carcass found regularly
 - Is human DNA present and detectable on butchered rabbit?
 - What is the cost of these tests and who would sanction payment?
 - If the tests are conducted what is the chance of securing a conviction?
- What types of samples should officers be collecting?
- Fingerprints from eggs? DNA (both avian and human)?
- Does DNA cost the same as standard DNA tests?
- Where would it be possible to get offender's DNA from? Examples of these include:
 - Eggs?
 - Stones under which an object is found?
 - Traps and snares?
 - What parts would be best to sample?
 - Trees where a hole has been drilled?
 - Shells (from opening them)?
- Degradation of DNA in outdoor environments – how quickly do they need to be examined?
- Other types of protection for i.e. eggs in a nest:
 - Smart water placed at possible scenes for suspects to get on themselves

- Bread laced with ethylene glycol or aspirin
 - Find a cheap place to analyse
 - SPSA can't trace aspirin
- Can other animal DNA be identified from dog stomach contents?
 - Faeces?
- Footprints for dog? Can they be compared and if so who can do this?

Discussion

- Ethylene glycol
 - Poison of choice for killing cats
 - Easy to get
 - Legal to possess
 - Sweet taste (alcohol based)
 - Need urine sample (kidneys) and can detect crystals
- Health and safety around pesticides
- Contamination issues for ethylene glycol
 - Circumstances and pathology
- DNA
 - Can get off stones
 - Length of time important
 - Can get DNA but increases contamination
 - No systematic knowledge of how long after deposition DNA can be recovered
 - LCN (£3,000) v. Wildlife DNA (???)
 - Which will be successful?
 - Wildlife DNA should be in line with standard human DNA testing providing tests have been established

Third Presentation: Alison Reeves, University of Dundee

- Research funded by the Carnegie Trust
- Perception of wildlife crime across Scotland
- Resource based – how is it used and abused
 - How do criminals use resources?
- First issue:
 - Resources
 - Limited
 - Not all 8 forces have a full time wildlife officer
 - Time – thin resources
- Marginalization of wildlife crime
 - Not core or mainstream business
 - Bottom of list of priorities

- External challenges
 - Social perspective of wildlife crime
 - Criminals are not preserved as being criminal
 - Deep rooted in culture so they are not perceived as criminal acts
 - i.e. try to kill eagles because legends say they lift lambs and babies
 - so people see no problem with them being killed
 - How can we convince people these legends aren't true? Part of a long term educational process.
- Officers feel they are at the frontline of reshaping attitudes
- Definition of wildlife crime:
 - There is a lack of a definition
 - Any action against current legislation
 - House of Commons is concerned
- Feeds into issues of policing
- Partnership with police requires trust.
- Who is the enemy?
- Wildlife tourism brings in big money.
- Criminal Justice System
 - Perceived leniency of sentences for some types of crimes
 - Fiscal service
 - Get conviction but get cases thrown out for various reasons
 - 1st offence
 - Not a big deal
 - But could be involved with other, serious, types of crime
 - i.e. drug trafficking.

Discussion

- 2 officers full time on such an important issue
 - Environment, tourism, etc.
 - Low priority
 - How do we convince more resources needed?
 - 85% budget is on crimes against people
- Recently there has been a tangible support from the Minister
- But if there are no more resources available then it is necessary to:
 - Get smarter with partners
 - More innovative
 - Make use of the Nature and Wildlife Crime Unit as it is based in Scotland
- In many respects we have the resources but lack of joined up thinking
- There are 8 forces in Scotland
 - Only 2 with full time wildlife officers
 - Need 6 more officers so that each force will have one full time wildlife officer
- One officer per force is not a huge resource

- In forces were there is a full time officer for the last 18-24 months a large amount was achieved with one officer!

Fourth Presentation: Ian Knox, Metropolitan Police Service

- From the Wildlife Crime Unit based in London
 - 4 people
 - 2 police
 - 2 civilian
- 32 borough officers
 - The work is in addition to normal duties and largely voluntary
- there are peregrine falcons in London so local issues are important
- Deals with tigers, rhino, elephant products seized in London and at one of the airports
- Major CITES species identified at the airports
- Deal with operation CHARM (<http://www.operationcharm.org/>)
- People are anxious to learn
 - TCM leaflet has been downloaded 120,000 times
- Now looking at timber and exotic fish
- Need to be aware that science is keeping up
 - One test available
 - Can more be developed?
- Endangered species not live animals
 - Shatoosh shawls
 - TCM
- **Lack of knowledge of tests!**
 - There is no time to find out about them!
 - Need to have a database of tests
- Don't want to use the tests if the packaging claims that the product contains an endangered species
 - Illegal just to say that the product contains endangered species
 - But manufacturers are getting smart and are leaving the names off the packages
- TCM
 - Which Appendix is it from?
 - Need to show which species it is
 - Where it originated for some
- **MORE TESTS ARE NEEDED!!!!**
 - Otherwise the law is unenforceable
- Skins
 - Confirm
 - 2 – 3 min test?
- Ivory

- How old is it?
- Tests need to be
 - Cheap
 - Quick
 - Reliable
 - Expert
 - Secure

Discussion

- Other Species
 - Wood
 - Not enough time and not enough specialists
 - CD ROM of tree identification is available from Germany
- There is a general perception of a lack of communication

Fifth Presentation: Tom Dysart, Procurator Fiscal, Dumfries and Galloway

- The UK has the strongest wildlife crime legislation in the world
- Scotland has the strongest in the UK
- Challenge → Enforcement
- High priority
 - Debate in the Scottish Parliament on the 4th of October
 - Review of the system
- Need corroborating evidence ← requirement
- Public Interest Test
 - Listed in prosecution Code
 - The nature and gravity of the offence
 - The impact of the offence
 - The motive for the crime
 - Mitigating circumstances
 - The risk of further offending
 - Public concern
- Police are tasked with frontline response and resources
- Not the same support for wildlife crime
- % of wildlife cases for different types of crimes
 - 25-30 % poaching
 - > 10 % badgers
 - 20 % hunting with dogs
 - 50 % bird crime (egg stealing and killing of birds)
 - 5 % other
- Scots Criminal Law
 - Presumption of innocence

- No onus on defence
- Admissibility of evidence
 - Only if fairly obtained
 - Productions
- Assess the evidence
 - 2004: specialist wildlife crime officers
 - Local contacts to receive reports
- Departmental guidance – take cases to court
- Specialists – consult and provide advice
- Wildlife crime prosecution forum
 - Identify issues and make recommendations for improvements
- Local contacts
- **Communication is KEY!!!** Crucial to success.
- Important for them to capture criminality and convey to court
- There is a problem with aiding the court to understand the nature of the crimes because the crimes are infrequent
- There are a range of criminal activities:
 - Raptors – directed crime
 - Wild plants – inadvertent crime
 - Habitat destruction
- Motive
 - Misguided views of sport
 - Perceptions of predation
 - Financial
 - Development
 - Trade
 - Collectors
- Challenges:
 - most wildlife crime occurs in remote places
 - Risk of not being detected
 - offender rarely caught in the act
 - response will be resource intensive
- Wildlife Officers skill set:
 - basic knowledge
 - forensic knowledge - SOCO
 - access to expertise
 - detective skills
- evidence needs to be recovered – proper crime scene management
- need to identify target animal – forensic evidence
 - i.e. how do we know animal has been harassed?
 - it is necessary to prove that any act was intentional

Discussion

- Keep a wide picture of the type of crime
- Consequences of what is happening
- Poison baits prosecuted not under wildlife crime but under misconduct
- Need focus in cases
 - Don't want to throw every charge you can think of at the accused

Sixth Presentation: Rob Ogden, PAW Forensic Working Group

- PAW coordinates UK approach to wildlife crime
- Enforcing legislation
- Casework:
 - What species is this?
 - Are these parts from the same animal/plant?
 - What part of the world did this come from?
 - How old is this?
- Paw will only cover biological material
- Good example of PAW in action is badger baiting
 - Keen on prosecuting and the Billington case was described as a prime example
 - Also soil and pollen analysis can be undertaken if relevant to the investigation
- Captive versus wild caught bird
 - Parentage claims
 - DNA profiling
 - This is the most often question asked
- Forensic Working Group (FWG)
 - Listens to questions
 - Needed tests
 - Put together DNA sampling kits (£15 – and can be refilled)
- Want to liaise with wildlife crime officers
 - Rapid response
- On call to give advice
- **CASH!!** This is a constant problem
 - Hampered by costs
 - Created Forensic Analysis Fund (This is the First Announcement)
 - Will pay 50 % of cost of tests
 - Should allow rapid release of cash
- Training
 - Research and development
 - DNA profiling of birds
 - 6 species so far
 - Identify false claims of breeding
 - Verify family relationships and individuals
 - Badgers

- DNA profiling test now available
 - Bears
 - Presumptive test available
 - Needs DNA backup
 - Timber
 - Ramin identification is a priority
 - Survey work
 - Bush meats
- Cases fail through lack of communication
- How can we ensure message of DNA
 - Database – similar to the human one
 - Species Identification Database already exists
 - Individual
 - no Badger database
 - can only compare 2 samples for match or exclusion
 - need reference samples

Discussion

- funding
 - how fast can funding be obtained?
 - Mechanism to link into it.
 - Not used yet
 - Access through wildlife crime unit
 - Explain case
 - What is it needed for
 - WCU will contact PAW and will make decision based on priority
 - Shouldn't take more than a week
 - Chris Kerr is the main person
 - Stephanie Pendry is the contact through the FWG and TRAFFIC
- Take DNA evidence and store it
- Spread the word about the funding
- Release guidance in terms of process
 - This is available and will be circulated
- What types of samples should be taken for DNA?
- Make people aware of not destroying potential evidence
 - Storage

Seventh Presentation: Hal Thompson, University of Glasgow Veterinary School

- Pathologist – examine dead animals
- Funding via biopsy samples
- Post mortem

- No Charge so make use of him
- Human anatomy is well understood but animals come in all shapes and sizes
- Example of a case in Glasgow:
 - Wildlife crime meets mindless violence
 - Evidence to indicate that a pair of swans was battered to death
 - On examination determined they were shot with expensive guns due to the difficult shot through the eyes
 - No convictions
- What does the law expect?
 - Same system for humans is not available
- Anderson v. Laverock
 - Defence entitled to examine object
 - This is not always taken up but it does pose a serious issue of the difficulty in keeping samples
- No storage for dead bodies
- No one says where you can dispose of the bodies when you do keep them
- Where else can you get an animal post-mortem?
 - Not many places do it
- Hardest part is looking at others work
- Who pays?

Final Presentation: Adrian Linacre, Centre for Forensic Science, University of Strathclyde

- Role of forensic science – there are a number of tests available but it cannot work miracles
- Simple skills like microscopy can be an excellent screening method – links in with the tests required by Ian Knox
- Sometimes there is no need to go straight to expensive tests like DNA
- Lack of communication leads to more than one organisation developing a test to answer the same question
 - Example of shahtoosh where two different DNA tests have been developed
- There are a range of DNA tests available to answer specific questions but it is a matter of communication
- Needs advice from those who investigate such crimes to report that types of tests that are needed
 - Example is the test for bear species that needs to identify subspecies to adhere to legislation that lists specific species

Discussion

- The case examples shown by Alan Stewart at the start of the meeting were gone through again with comment from Adrian Linacre and Jim Govan on the type of test that could be conducted and the possibility for success

- This highlighted the meeting of minds between those that are at the front end of the investigation and those at the laboratory/analytical end.

Overall Discussion, Professor Jim Fraser

- The meeting highlighted many of the problems encountered when trying to prosecute wildlife offences
- Not the ideal way as there are gaps in the following
 - Research
 - Skills
 - Training
 - Communication
- Positives
 - There were answers to the questions but it is a matter of finding the people who have the questions and getting them in contact
- Social background
 - Law and perceive as crime
 - Economic issues
 - Legal issues
 - Procurator fiscal decides if it's a crime
 - If there is evidence
- Contamination and storage
- SIPR facilitation role