

AUDIO PRESERVATION & DOCUMENTATION: TECHNICAL ASPECTS

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Audio preservation - principles

- Preservation: "the totality of things necessary to ensure the permanent accessibility – forever – of an audiovisual document with the maximum integrity"
 - Analogue : copy to better quality formats
 - Digital: ensure bit accurate transfers
- Make backup copies
- Store backups separately
- Store at low humidity (<40% RH), low temperature (18 °C)
- Ensure proper handling, especially of older formats
- Carrier decay and technology obsolescence cannot be prevented
- periodic migration of audio data is necessary and must be planned

Audio carriers - rapid obsolescence

- phonograph & gramophone - from 1877 **obsolete**
- wire recorder - 1930s **obsolete**
- analogue open-spool tape - 1950s **obsolescent**
- compact cassette - 1963 **obsolescent**
- Betamax on Sony PCM F1 - 1980 **obsolete**
- DAT - 1987 **obsolete**
- MiniDisc – 1992
- CD-R – 1980s
- HDD – 1980s

Analogue storage

- Analogue tape used for over 50 years
 - Quarter-inch, standard-play at 19 or 38 cm/s play speed
- Now obsolete: no manufacturers of machines or media
- In fact carrier preservation in the long term is futile

Magnetic Tape



digitisation

- Essential for analogue
 - All analogue formats now obsolete
 - But keep originals
 - Quality of AD converter is important

- Useful publications:

–International Association of Sound & Audio-Visual Archives IASA-TC03: “The Safeguarding of the Audio Heritage: Ethics, Principles and Preservation Strategy” (2001) <http://www.iasa-web.org/iasa0013.htm>

–IASA-TC04: “Guidelines on the Production and Preservation of Digital Audio Objects” (2004)

–NIST Special Publication 500-252: “Care and Handling of CDs and DVDs – A Guide for Librarians and Archivists” (2003)

Digitisation: target carriers

- CD-DA (Red Book, 44.1 kHz, 16-bit, 2 channel) on recordable CD (CD-R)
 - Use 2 copies on different brands
 - Disc checking necessary

- Digital files on CD-R or recordable DVD (DVD-R)
 - Use 2 copies on different brands
 - Disc checking

- Hard disc drives HDD or tape (AIT etc)
 - May be part of digital mass storage system (DMSS)

- DMSS with near-line, online, offline components

Digitisation: formats

- Avoid proprietary formats
- IASA-TC04 recommendations:
 - Sample rate 96 kHz (or higher according to signal)
 - Bit depth (“word length”) 24 bit
 - WAV or broadcast WAV
 - PCM (uncompressed)
 - 24bit/96kHz = 0.97 GB/hour
- MP3 etc useful only as temporary browser/preview version

DOCUMENTATION: “METADATA”

Metadata

- Good documentation adds value to a sound specimen
 - No metadata – a “sound effect”
 - Minimum metadata – the same recording is transformed into valuable scientific data
 - Rich metadata – the recording can be used for more kinds of study, including research not anticipated at the time of recording
- Minimum metadata: technical, administrative, descriptive
- Links to digital file via a UID

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record 1 of 74 for search "mp3{856} and strigidae"

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India

Athene blewitti : Forest Owlet - Strigidae

Electronic access: [Listen](#) (at British Library only)

Collection title: Forest Owlet 02/26

Species heading: Athene blewitti : Forest Owlet - Strigidae

Original species: Forest Owlet Athene blewitti

Wildlife ref. no.: 63005

Sound category: song

Behavioural notes: in response to playback

Recording notes: recording speed too fast? same locality as site of rediscovery in 1997

Playback mode: mono

Habitat type: tropical deciduous dry forest

Recording date: 2002.05.31

Country: India

Region: Maharastra

Locality: near Shahada (21 47'N, 074 28'E, altitude 500 metres)

Field recording equi: Sennheiser microphone, Sony cassette recorder, 4.75 cms

Item copyright: private (RESTRICTED)

Item duration: 6'05"

Sound quality code: B-

Sound quality note: noisy

FIND FORMAT: [W1CDR0001155](#)

FIND FORMAT: [W2CDR0001155](#)

Holdings

RECORDING

Copies Material Location

W1CDR0001155 BD6

1 RECORDING SoundServer copied from a collection item

Metadata for avian recordings

Kettle, R. & Vielliard, J. 1991. Documentation standards for wildlife sound recordings. *Bioacoustics* 3: 235–238.

- Recordist
- Field recorder, microphone, parabola, recording format and settings
- Date and time
- Location (including altitude)
- Habitat
- Weather conditions
- Species name
- Number, age and sex
- Visual identification?
- Type of Sound (song, call, stridulation, echolocation, etc)
- Behavioural observations, including whether playback used
- Temperature (for invertebrates, amphibians)
- Distance from subject