Summary overview:

Standardised Equine Based Welfare Assessment Tool
(SEBWAT)

Purpose and description

The purpose of the tool is to provide an overview of the general welfare condition of working equine animals, both individually and cumulatively at a group level. The tool comprises 40 animal-based measures of relevance to working equine welfare, and some additional data identifiers. These are summarised in the table below.

Category	Measures
Identifiers and descriptive information	Date and time of assessment Assessor identification Animal identification Owner identification Location Work type of animal Species Sex
Behavioural parameters	Response to observer approach Response to chin contact Tail tuck reaction (donkeys only) General attitude
General health parameters	Eye condition Mucous membrane colour Nasal discharge Respiratory noise Diarrhoea Ectoparasites Body condition score
Lesions on defined body areas	Lips Head/ears Neck Breast/shoulders Fore limbs Knee Withers/spine Ribs/flank Girth/belly Hindquarters Hind limbs Tail/tail base Genital/rectal

A. Brown June 2012

Deliberately induced conditions	Tail mutilation Ear mutilation Muzzle mutilation Firing lesions
Pain-related parameters	Response to spinal contact Gait
Hoof and limb parameters	Swelling of fetlocks, tendons and ligaments of lower limbs Hobbling lesions Interference lesions Hoof shape Hoof quality Frog condition

Uses

There are a variety of ways in which data generated from the SEBWAT can be utilised, dependent upon the purpose and objectives of welfare assessment, and the nature of the information that is required in relation to the equine population of interest. The same data can be employed in different ways for different audiences. For example, SEBWAT-generated information can be utilised at the level of project implementation to direct frontline activities, and the same information can be packaged for use at an organisational governance level for higher-level reporting as a means of demonstrating organisational impact and accountability. The table below details examples of potential uses of the tool, and ways in which information from the tool can be applied within the Brooke programmatic context. Alternative applications may be relevant for different contexts.

Use of data	Application of findings
Identify the nature of welfare issues occurring within an equine population	There is some variation in the welfare problems which occur in different working equine contexts. Identifying the welfare issues in a given population can inform decision-making as to the types of project activities that will be most relevant to address the problems. This in turn may guide the selection of appropriate implementing staff or partner organisations.
Identify the prevalence of different welfare issues within an equine population	Using the SEBWAT, all animals are assessed in the same manner against the same scoring criteria, therefore data can be analysed cumulatively and used to calculate the relative prevalence of welfare issues within the sample population. This can assist with issue prioritisation.
Compare welfare status between different locations or communities of interest	The standardised nature of the SEBWAT enables valid comparisons and bench-marking between different locations. This may help direct further investigation into risk factors for poor welfare (such as owner demographic, socio-economic status, work type etc). Relative welfare strengths and weaknesses at different locations can be ascertained, enabling project activities to be tailored according to the localised needs. Identification of strengths in some aspects of welfare, and the reasons for these, could lead to transferral of desirable practices and systems to other locations.

Identify which groups of equine animals suffer poorest welfare	The collection of descriptive information alongside the welfare measures permits analysis of the data according to these variables (e.g. work type, sex, species, location) to identify whether particular groups of animals are at greater risk of poor welfare than others. Indications of some potential risk factors can also be extracted from this data. Identification of high risk groups enables project activities to be targeted towards the animals in greatest need, and resources allocated accordingly.
Identify seasonal variation in welfare issues	Conducting welfare assessment at different times of year enables identification of variation in welfare status or specific welfare issues according to changes in climatic or work season, thus enabling project activities to be tailored accordingly.
Provide a welfare baseline for a project	Conducting welfare assessment at the beginning of a project or activity provides baseline information on the current welfare status of the equine population. Generation of a comprehensive baseline facilitates subsequent monitoring through re-assessment of the same criteria. The standardised nature of the SEBWAT enables valid comparisons to be made between datasets collected at different times.
Provide a means of monitoring the animal-based impact of project activities	Re-assessment of the animals can be conducted at various stages throughout the project for monitoring purposes. Data can be compared with the baseline in order to: - identify whether the desired positive welfare changes are being achieved and to what extent - identify any unintended negative consequences of project activities - identify any unexpected positive consequences of project activities - assess progress towards achieving pre-defined targets
Re-assess for evaluation purposes	Re-assessment of the animals can be conducted at the end of a project or phase to provide the animal-focussed component of a project evaluation (endline data).
Generate animal-based targets	Selected measures within the SEBWAT can be used as indicators for performance targets for equine welfare projects.
Generate animal-based exit criteria	Selected measures within the SEBWAT can be used as welfare-related criteria for determining the time of exit from a community. Subsequent to scaling down of project activities, periodic re-assessment can be implemented to determine whether sustainable improvement in welfare was achieved, or whether a decline in the status of the selected welfare-related criteria occurs following exit. This may also provide information as to whether the threshold exit criteria were appropriate.
Consolidate with information from other sources	The animal-based data obtained from the SEBWAT can be used to gauge the extent to which perceived or reported changes in owner knowledge and practices related to equine management have translated into changes in welfare. In this way, the SEBWAT can provide a means of validating the reliability of welfare information obtained from animal owners. Data from the SEBWAT can be triangulated with information from other sources, such as resource, environmental, and human-based measures pertinent to working equine welfare.

Implementation

Training

Before collecting data with the SEBWAT, potential Brooke welfare assessors must undergo and pass a 10-day training course. Competence in theoretical knowledge and understanding of the scoring criteria within the tool is assessed via a written theory examination, and ability to collect data accurately according to the specified protocol is evaluated through a practical standardisation test on 20 – 30 animals. Trainees must attain a minimum of 70% in the theory examination and 80% standardisation in order to successfully pass the course. This level of training and assessment promotes a good level of standardisation, thus increasing reliability of data collected. The course also encompasses training in equine welfare, behaviour and handling, thus ensuring that welfare assessors are capable of collecting data in a manner which is safe to the animals, themselves and others in the vicinity; and that animal welfare is not compromised during the data collection process. Welfare assessors are encouraged to refer to the SEBWAT guidance notes, which contain thorough descriptions and photographs of the assessment protocol and scoring criteria for all measures, during data collection to assist with the judgement of difficult conditions. The guidance notes are intended for use only by those who have undertaken formal training in the SEBWAT, and alone do not constitute an adequate substitute to practical training.

Data collection

The tool is implemented in practice by pairs of trained welfare assessors working together, assisted by an animal handler. During data collection, one assessor examines the animal, and the other records the assigned scores onto the data sheet. Roles are typically rotated after every five animals to reduce fatigue and encourage optimum concentration and focus. Informed consent is obtained from the animal owners prior to commencing the assessment, and the purpose and nature of the data collection process is explained. Animals are restrained using a correctly-fitted head-collar or halter, and controlled by an assistant experienced in handling equine animals. The assessment typically takes no more than 10 minutes per animal to conduct, and can be performed at the animal's place of work or accommodation. Harnessing is removed if possible - animals can be assessed with harness if necessary, but will not be assessed if bearing a load.

Data handling

Subsequent to collection, data is entered onto a purpose-built database (managed in-house by the Brooke), either manually if collected on paper, or alternatively uploaded electronically if a digital recording device was used. Double checking the accuracy of data transfer occurs at the time of entry/upload, and is followed by triple checking a sample of records for the purposes of quality control. Any identified errors are corrected prior to proceeding with data analysis. The database system contains incorporated tools to assist users with data analysis - for example, a spreadsheet summary of data for any selected dataset can be easily generated. Records within the database can also be filtered according to a variety of criteria, and raw data can be exported in a format which facilitates more detailed analysis and input into statistical programmes.

Strengths

- The tool provides a summary of the general welfare state of the animal/population.
- Animal-based measures provide a view of welfare from the animal's perspective. Information collected directly from the animal gives the most reliable representation of its welfare state and extent of coping with its environment.
- Animal-based measures are closer to the animal than resource, environmental or human-based measures; therefore are more likely to provide an accurate reflection of the true welfare state of the animal. Alternative sources of information have greater dependence upon assumptions that welfare will be good if certain provisions are made, or negative conditions avoided. Such assumptions are avoided through the use of animal-based measures.
- Formal training and standardisation between trained welfare assessors leads to low intra- and inter-observer variability, therefore greater repeatability.
- Formal training and standardisation of welfare assessors means that all animals are assessed in the same way which enables comparison of all data on the same basis, and collective analysis of all data.
- Explicit definition of scoring criteria reduces scope for observer bias.
- In practice, assessment of each animal is relatively quick, therefore there is scope to sample a reasonably large number of animals without significant disruption to usual programmatic activities. Large sample sizes provide more reliable data.
- Data collection is minimally invasive to the animal.
- Data collection is minimally disruptive to the animal owner, requiring very little time and effort from them.
- The Brooke has full control over the data collection and analysis processes. These can be tailored to suit individual programme needs, and the Brooke's standards of animal handling and data quality control can be assured throughout the process.
- Data can be analysed on many different levels – there is flexibility to suit varying organisational requirements.
- In practice, through the process of closely examining the animal during welfare assessment, the causes of the welfare problems observed on the animal can often be simultaneously identified at the time of collecting the data. This information can helpful in determining approaches to address the welfare problems, in combination with information from other sources.

Limitations

- There is requirement for training and standardisation; data can only be collected by trained welfare assessors.
- There is requirement for periodic standardisation of trained welfare assessors to maintain a low level of intra- and inter-observer variability.
- Interpretation of data requires knowledge of the scoring systems, or advice from trained welfare assessors. Results must be translated into layman's terms for untrained audiences.
- Time is required for data handling subsequent to the period of data collection.
- There is risk of human error during data entry. (This is reduced when the digital recording device is used.)
- Numeracy and computer literacy of welfare assessors must be adequate to conduct data entry and analysis tasks accurately.

A. Brown June 2012

- Data does not provide detailed information on specific welfare issues or individual cases; instead a general overview is obtained.
- Welfare assessors do not record diagnoses; data is based on observable symptoms, not specific veterinary diagnosis.
- Not every possible welfare issue is captured within the tool.
- Detailed information about causation of welfare problems is not included in the tool (although likely causal factors can often be easily identified through observation by welfare assessors during the data collection process and discussion with owners).
- Animal owners are not directly involved in the data collection process.
- The data collection process is physically demanding. Welfare assessors must be willing and able to undertake physical work with animals in environmental conditions which may be uncomfortable or unpleasant.

Contact for further information

Please direct questions, comments or requests for further information to the Brooke's Welfare Assessment Advisor, Ashleigh Brown (*ashleigh.brown@thebrooke.org*).