Summary overview:

Standardised Equine-Based Welfare Assessment Tool (SEBWAT)

Purpose and description

The purpose of SEBWAT is to provide an overview of the general welfare condition of working equine animals, both individually and cumulatively. 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	Age Sex Species Work type
Behavioural parameters	Response to observer approach Response to chin contact	General attitude Tail tuck (donkeys)
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
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 lower limbs Hobbling lesions Interference lesions	Hoof shape Hoof quality Frog condition

Uses

SEBWAT data can be utilised in a variety of ways, dependent upon the purpose and objectives of welfare assessment, the nature of information required from the equine population, and intended audience. The table below provides examples of potential uses of SEBWAT data, and ways in which resultant information can be applied within the Brooke context. Alternative applications may be relevant for different contexts.

Use of data	Application of findings
Identify the nature of welfare issues in equine populations	There is variation in welfare problems in different working equine contexts. Identifying those in a given population informs decision-making as to which project activities, implementing staff or partner organisations will be most appropriate to address the problems.
Identify the prevalence of	With SEBWAT, all animals are assessed in a standardised manner, therefore data can be analysed cumulatively and used to calculate prevalence of

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different welfare issues in equine populations	welfare issues in a given population, which enables welfare issue prioritisation.
Compare welfare status between different locations or groups	The standardised nature of SEBWAT enables comparisons and bench-marking between different locations. Relative welfare strengths and weaknesses at different locations can be ascertained, enabling project activities to be tailored accordingly. This can also direct further investigation into risk factors for poor welfare, and identification of positive welfare practices.
Identify groups of animals in greatest welfare need	The collection of descriptive information (e.g. work type, sex, species, location) in addition to welfare measures permits data analysis according to these variables and indications of potential risk factors to be extracted from this data. Identification of high risk groups enables project activities to be targeted towards animals in greatest need.
Identify seasonal variation in welfare issues	Collecting SEBWAT data at different times of year enables identification of variation in welfare according to climatic or work season, enabling project activities to be tailored accordingly.
Provide a welfare baseline for a project	Collecting SEBWAT data at the beginning of a project provides baseline information on the current welfare status of the equine population and facilitates monitoring through subsequent re-assessment. The standardised nature of the SEBWAT enables comparisons to be made between datasets collected at different times.
Provide a means of monitoring animal-based impact of project activities	Re-assessment of the equine population can be conducted at various stages throughout the project for monitoring purposes. Data can be compared with the baseline in order to: - Identify whether desired positive welfare changes have been achieved and to what extent - Identify unintended negative consequences of project activities - Identify unexpected positive consequences of project activities - Assess progress towards achieving targets
Re-assess for evaluation purposes	Re-assessment can be conducted at the end of a project or phase to contribute to project evaluation (endline data).
Generate animal-based targets	SEBWAT parameters can be used as indicators for performance targets for projects.
Generate animal-based exit criteria	SEBWAT parameters can be used as criteria for determining the time of exit/discontinuation of a project. Subsequently, periodic re-assessment can be implemented to monitor the extent to which welfare changes are sustained following exit. This can help inform whether threshold exit criteria were appropriate.
Consolidate with information from other sources	SEBWAT data can be triangulated with that from other sources, e.g. resource, environmental, and human-based measures. This supports assessment of the extent to which perceived change in these components translates into welfare change, thus validating the validity of this welfare information.

Training

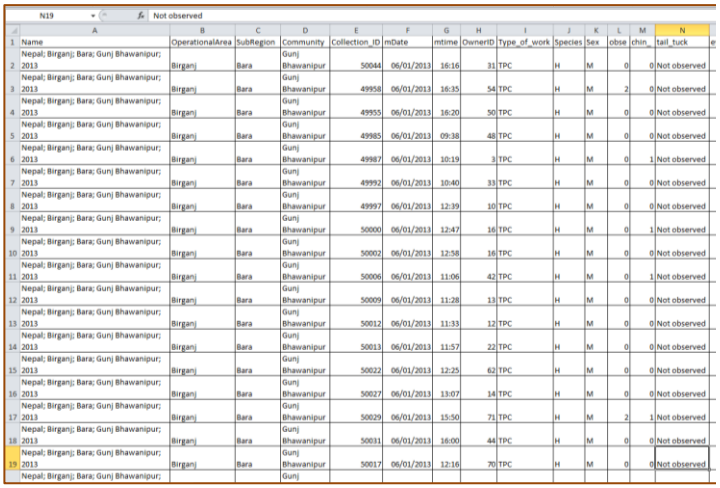
- SEBWAT assessors complete a 10-day training course, culminating in a written theory examination and a practical standardisation test on 20-30 animals. Trainees must attain 70% in the former and 80% in the latter to qualify.
- Training also encompasses equine welfare, behaviour and handling, to ensure capability to collect data without compromising equine welfare or human safety.
- Assessors are encouraged to refer to the SEBWAT guidance notes, which contain detailed descriptions and photographs of all assessment protocol and scoring criteria, during data collection. These are intended for use only by those who have undertaken formal SEBWAT training, and alone do not constitute an adequate substitute.
- Assessors conduct periodic re-standardisation with a central trainer to maintain consistency.

Data collection

- Data are collected by pairs of SEBWAT assessors; typically one examines the animal and the other verifies and records the scores. Assessors are advised to rotate roles after every five animals to reduce fatigue and encourage optimum concentration and focus.
- Animals are restrained using a correctly-fitted head-collar or halter, and controlled by an experience handler.
- SEBWAT takes 5-10 minutes per animal, and is conducted at the place of work or accommodation. Harnessing is removed whenever possible - animals may be assessed in harness if necessary, but not if bearing a load.
- Consent is obtained from owners/users and the purpose and nature of data collection explained. On completion, assessors provide advice on any treatment, follow-up and preventative action the animal requires.

Data handling

- Data are entered into a purpose-built in-house database, either manually if collected on paper, or 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 quality control and correction or errors as necessary.
- In-built data analysis tools enable easy manipulation, for example, generation of spreadsheet summaries of selected datasets, filtration of records according to various criteria, and download/export of raw data for statistical analyses.



	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Name	OperationalArea	SubRegion	Community	Collection_ID	mDate	mtime	OwnerID	Type_of_work	Species	Sex	obse	chin_	tail_tuck
2	Nepal; Birganj; Bara; Gunj Bhawanipur; 2013	Birganj	Bara	Gunj Bhawanipur	50044	06/01/2013	16:16	31	TPC	H	M	0	0	Not observed
3	Nepal; Birganj; Bara; Gunj Bhawanipur; 2013	Birganj	Bara	Gunj Bhawanipur	49958	06/01/2013	16:35	54	TPC	H	M	2	0	Not observed
4	Nepal; Birganj; Bara; Gunj Bhawanipur; 2013	Birganj	Bara	Gunj Bhawanipur	49955	06/01/2013	16:20	50	TPC	H	M	0	0	Not observed
5	Nepal; Birganj; Bara; Gunj Bhawanipur; 2013	Birganj	Bara	Gunj Bhawanipur	49985	06/01/2013	09:38	48	TPC	H	M	0	0	Not observed
6	Nepal; Birganj; Bara; Gunj Bhawanipur; 2013	Birganj	Bara	Gunj Bhawanipur	49987	06/01/2013	10:19	3	TPC	H	M	0	1	Not observed
7	Nepal; Birganj; Bara; Gunj Bhawanipur; 2013	Birganj	Bara	Gunj Bhawanipur	49992	06/01/2013	10:40	33	TPC	H	M	0	0	Not observed
8	Nepal; Birganj; Bara; Gunj Bhawanipur; 2013	Birganj	Bara	Gunj Bhawanipur	49997	06/01/2013	12:39	10	TPC	H	M	0	0	Not observed
9	Nepal; Birganj; Bara; Gunj Bhawanipur; 2013	Birganj	Bara	Gunj Bhawanipur	50000	06/01/2013	12:47	16	TPC	H	M	0	1	Not observed
10	Nepal; Birganj; Bara; Gunj Bhawanipur; 2013	Birganj	Bara	Gunj Bhawanipur	50002	06/01/2013	12:58	16	TPC	H	M	0	0	Not observed
11	Nepal; Birganj; Bara; Gunj Bhawanipur; 2013	Birganj	Bara	Gunj Bhawanipur	50006	06/01/2013	11:06	42	TPC	H	M	0	1	Not observed
12	Nepal; Birganj; Bara; Gunj Bhawanipur; 2013	Birganj	Bara	Gunj Bhawanipur	50009	06/01/2013	11:28	13	TPC	H	M	0	0	Not observed
13	Nepal; Birganj; Bara; Gunj Bhawanipur; 2013	Birganj	Bara	Gunj Bhawanipur	50012	06/01/2013	11:33	12	TPC	H	M	0	0	Not observed
14	Nepal; Birganj; Bara; Gunj Bhawanipur; 2013	Birganj	Bara	Gunj Bhawanipur	50013	06/01/2013	11:57	22	TPC	H	M	0	0	Not observed
15	Nepal; Birganj; Bara; Gunj Bhawanipur; 2013	Birganj	Bara	Gunj Bhawanipur	50022	06/01/2013	12:25	62	TPC	H	M	0	0	Not observed
16	Nepal; Birganj; Bara; Gunj Bhawanipur; 2013	Birganj	Bara	Gunj Bhawanipur	50027	06/01/2013	13:07	14	TPC	H	M	0	0	Not observed
17	Nepal; Birganj; Bara; Gunj Bhawanipur; 2013	Birganj	Bara	Gunj Bhawanipur	50029	06/01/2013	15:50	71	TPC	H	M	2	1	Not observed
18	Nepal; Birganj; Bara; Gunj Bhawanipur; 2013	Birganj	Bara	Gunj Bhawanipur	50031	06/01/2013	16:00	44	TPC	H	M	0	0	Not observed
19	Nepal; Birganj; Bara; Gunj Bhawanipur; 2013	Birganj	Bara	Gunj Bhawanipur	50017	06/01/2013	12:16	70	TPC	H	M	0	0	Not observed
	Nepal; Birganj; Bara; Gunj Bhawanipur;			Gunj										

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Strengths	Limitations
- Provides indication of general welfare status of the animal/population. - Animal-based measures are more likely to provide an accurate reflection of the true welfare state of the animal than resource, environmental or human-based measures; less dependence upon assumptions. - Low intra- and inter-observer variability due to comprehensive training. - Standardisation; ability to compare and collate between different locations and over time. - Explicit definition of scoring criteria reduces scope for observer bias. - Speed of assessment is quick (5-10 minutes per animal) therefore minimal disruption to owners/users, animals and other programmatic activities. - Data collection is minimally invasive to the animal. - Brooke control over data collection, storage and analysis processes; can be tailored to suit individual programme needs. High standards of animal handling and data quality are assured. - Data analysis possible on various levels; flexibility to meet differentiated reporting requirements. - Causation of welfare problems can often be simultaneously identified during data collection due to thorough examination by knowledgeable assessors. - Opportunity for individual feedback to owners/users. - No requirement for veterinary knowledge; based on observable symptoms, not diagnosis.	- Requirement for training, standardisation and periodic re-standardisation; data only collected by trained assessors. - Data interpretation requires knowledge of scoring criteria, or advice from trained assessors; must be translated into lay terms for untrained audiences. - Time required for data handling particularly with manual data entry methods. - Risk of human error during data entry (reduced with digital methods). - Requirement for numeracy and computer literacy of those handling data. - Does not capture specific diagnoses or details of individual cases; does not replace veterinary examination. - Does not capture every possible welfare issue; only those reliably assessed via this methodology. - Does not capture information about causation (although can often be identified by assessors based on observations). - Owners/users are not directly involved in data collection. - Data collection is physically demanding; assessors must be able and willing to handle a variety of equids in uncomfortable or unpleasant conditions.

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