This is the outline of the WAZA Animal Welfare Strategy. It covers proposed chapter outlines; a broadly worded WAZA member ‘commitment’ in each section; key points to be addressed in each chapter; and suggested ‘check lists’ for inclusion.

These outlines have been circulated to each author as a guide. Additionally, authors have been asked to identify useful references and case studies:

Purpose: The case study is to demonstrate the provision of innovation to support animal welfare in a member organisation

- Short description of the case (up to 50 words)
- Why is it a good example and what it demonstrated (50 words)
- Photograph or illustration

Feedback, comments or inclusions in track changes are welcome and will be incorporated where possible.

INTRODUCTION

Our commitment is to provide respect and the best welfare for animals in our care, and be a leader, an advocate and an authority on zoo animal welfare; providing zoo environments that focuses on animals’ physiological and behavioral needs.

Key theme: To establish the operational environment for animal welfare for zoos and for WAZA members

Secondary theme: A WAZA Member Commitment on Animal Welfare

Chapter content and points to be included:
1. The emergence of animal welfare as a discipline/scientific area
2. Philosophical issues and ethical bases for zoo animal welfare
3. Distinction between animal ethics and animal welfare
4. The transition of zoo animal welfare and the changing role and purpose of zoos
5. Animals as ‘ambassadors’ for conservation
6. The fundamental duty of care for animals in zoos
7. Oversight of welfare in zoos: Animal Welfare and ethics Committees
8. Professional staff in zoos: keeping staff, veterinary staff; research and science
9. Zoo Associations’ accreditation systems establishing animal welfare regulatory framework supported by legislation
10. WAZA Conservation Strategy as reflecting zoos’ core purpose and animal welfare as core business
11. The WAZA Member Commitment Statement
12. References
WAZA Member Commitment Animal Welfare:
Our commitment is to provide respect and the best care for animals in our care, and be a leader, an advocate and an authority on zoo animal welfare; providing zoo environments that focuses on animals' physiological and behavioral needs. In doing this, WAZA members:

1. Act professionally and in a manner consistent with WAZA values regarding animal care;
2. Comply with local, national standards, laws and international treaties relating to animal care;
3. Treat all animals with respect and with consideration of their welfare;
4. Meet specific animal welfare standards set out by regional associations and WAZA;
5. Base decisions relating to animals in our care on findings of state of the art research and knowledge;
6. Commit to eliminate practices and operations that may cause unnecessary pain and suffering to animals in our care;
7. Build knowledge, respect and understanding of animals; and
8. Commit to achieving positive animal welfare for all animals in our care

CHAPTER 1: ZOO ANIMAL WELFARE IS CORE BUSINESS
(approximately 2000 words)

Our commitment is to positive animal welfare for animals in our care

Key chapter theme: Animal welfare in zoos: setting the position

Chapter content and points to be included:
1. What is animal welfare?
2. What is positive animal welfare?
3. Outline the Five Freedoms and the Five Domains
4. Extension of the Five Domains: a contemporary approach to zoo animal welfare
5. Moving beyond ‘care’ to creating ‘challenges and choices’ for animals
6. Examples/Case studies
7. Summary/conclusion
8. Useful references

Suggested Inclusions:

An animal typically experiences good welfare when healthy, comfortable, well-nourished, safe, able to develop and express species-typical relationships, behaviors, and cognitive abilities, and not suffering from unpleasant states such as pain, fear, or distress. Because physical, mental, and emotional states may be dependent on one another and can vary from day to day, it is important to consider these states in combination with one another over time to provide an assessment of an animal’s overall welfare status. (J Watters; Brookfield Zoo, Gland 2013)

The position for WAZA members will be to reach ‘positive animal welfare’ (as outlined by DJ Mellor in Figure 1). This builds on the work of the 5 Freedoms.
Figure 1. Domains of potential welfare compromise divided into physical/functional and mental components the integrated effects of which give rise to the welfare status of the animal – diagram modified from Mellor, Patterson-Kane & Stafford (2009), Mellor, RSPCA Australia, Scientific Seminar 2013

Additionally, we work towards meeting our animals’ social needs, creating stimulation and ‘choices’. As outlined by the representation below, we move beyond basic care to positive animal welfare.
CHAPTER 2: A LIFE IN THE ZOO

Our commitment is to positive welfare for animals in our care throughout all the stages of their lives

Key chapter theme: An animal's life in a zoo – life stages and events

Chapter content and points to be included:

1. Purpose and intent of the modern zoo – transition of zoos over time
2. What is the ‘role’ of animals in the zoo – zoos as the ‘shop front’ for conservation; zoo animals as 'ambassadors for their wild cousins'
3. Perceptions of animals in zoos – ‘Wild’ animals versus ‘domestic' animals/pets – representation of zoo animals with respect and dignity as a basic premise
4. The responsibilities of Zoo managers in determining and overseeing animals’ lives and the paramount importance of high quality staff, evidenced based decision-making and strong procedures in zoo management
5. High scrutiny on mega-fauna (Great Apes; Elephants) but importance across all species
6. Operating environments of zoos – ensuring safety and welfare – cages vs naturalistic exhibits
7. Animal acquisition and deposition
8. Animal traders – ethical and welfare concerns
10. Intervention in birthing
11. Hand-rearing – risks and longer term implications
12. Modification of natural behaviours in zoos – eg pinioning
13. Animal transport procedures
15. Standards and welfare of receiving zoos
16. ‘Feeding on’ – ethics and welfare
17. Management of terminal and geriatric animals
18. Zoo environment and managing pests in the zoo
19. Case study - you can suggest - or use one from workshop list attached
20. Summary/conclusion
21. Useful references

Here are some key questions which comprise a useful checklist:

Questions and Checklist

- Is your zoo’s compliance with the breeding recommendations from regional and global species managers high? If not, what are the impediments to your compliance with the recommendations? Can you address the situation?
- Do you have clear decision making around animal breeding events, management and dispersal of young?
- Do you have in place a framework for managing aged and disabled animals?
- Do you regularly review your internal practices around non-essential medical intervention for animals in your care?
- Do your exhibits cater for the ‘whole of life’ of the animal being held?
- Are you confident that animals which come into your zoo are from reputable organisations and are not sourced from the wild or create an increased demand for wildlife inconsistent with zoos’ conservation purpose?
• Are you confident that the organisations where animals in your care are sent have acceptable animal welfare standards? Can you assist receiving zoos to upgrade their facilities and expertise?
• Are you confident that ‘pests’ in the zoo (rodents etc) are managed consistent with the most up to date welfare methods?

CHAPTER 3: BREEDING PROGRAMS

Our commitment is to zoo breeding programs which achieve conservation outcomes and incorporate positive animal welfare

Key chapter theme: The welfare issues which arise in managing zoo breeding programs and links to achieving conservation of wildlife

Chapter content and points to be included:

1. The intent of breeding animals in a modern zoo environment
2. Breeding for display in zoos and (vs?) conservation breeding (can they be the same thing?)
3. Trend to change our animal zoo collections to reflect global conservation priorities - zoos as conservation breeding centres
4. Commitment to not take from the wild unless sanctioned for conservation purposes (for breed for release programs, etc)
5. Species management: regional and global programs; how they work and why
6. The concept and imperative of ‘sustainable’ collections
7. Staff in zoos needing to understand and participate in species management
8. Regional associations as coordinating and assisting with managing zoo animal populations
9. The importance of animal records to ensure good breeding outcomes and conservation breeding (role of ZIMS and ISIS)
10. Assisted reproduction
11. How zoos manage ‘surplus’ animals and need for ‘culling’ to ensure sustainable collections
12. Non-genitally viable animals – management responses and welfare considerations
13. Euthanasia; why it’s at times necessary; and animal welfare issues which may arise (example lone primates)
14. Provision of multi enclosures off exhibit to manage ‘surplus’ animals; zoos having areas for aged non-breeding animals rather than euthanasia – this as a viable option
15. Breeding for release as an animal welfare imperative (refer chapter on conservation and welfare)
16. Challenges in ‘training’ animals for release in terms of perceptions of welfare;
17. Future of zoo animal breeding for conservation - ‘one plan’ approach – the continuum of zoo breeding programs in the context of species extinctions
18. Using breeding events and your animals to promote and build awareness of species conservation and biodiversity decline
19. Case study - you can suggest - or use one from workshop list attached
20. Summary/conclusion
21. Useful references

When considering your zoo breeding programs, here are some key questions which comprise a useful checklist:
Questions and Checklist
• Do you have clear breeding plans in place which are managed and agreed prior to a breeding event?
• Are there opportunities to better link with wildlife conservation programs with the breeding activities at your zoo?
• How do you manage euthanasia in your organisation? Is there a clear policy outlining roles and responsibilities and instances when euthanasia can be used?
• Do your team understand the philosophy and approach of your organisation in this area?
• Are your staff active in species management and linked in with regional associations on species management?
• Is your record keeping in animal breeding all up to date and communicated through ISIS, ZIMS or other similar cooperative programs?
• Do you need to plan for future holding areas or do you need to partner with other organisations to accommodate aged animals or animals not required for breeding?
• Are you breeding this animal confident that your organisation can provide for its offspring?

CHAPTER 4: ENRICHMENT AS WELFARE IN ACTION

Our commitment is to provide stimulation and choice to animals in our care, supporting positive animal welfare

Key chapter theme: Ways animal enrichment can be used to promote zoo animal welfare, including the challenges and successes

Chapter content and points to be included:

1. What is animal enrichment?
2. Animal enrichment aiming to physically and mentally stimulate – ie addressing mental and physical health which is primary to positive animal welfare
3. Providing ‘challenges and choices’ for animals through enrichment
4. Enrichment through feeding and feeding techniques– other enrichment
5. Science and research underpinning animal enrichment
6. Predictive Theory in Animal Enrichment (J Watters 2009)
7. Sentience and species awareness and enrichment approaches
8. Building enrichment into exhibit design. modifications or exhibit re-design
9. Use of live food to promote animal health –welfare concerns?
10. Training and conditioning of animals what are to be released to the wild
11. Specific enrichment strategies: puzzle feeders, water spouts, scatter feeding
12. Educating visitors about animal enrichment
13. Measuring the effectiveness of enrichment
14. Case study - you can suggest - or use one from workshop list attached
15. Summary/conclusion
16. Useful references

When considering animal enrichment, here are some key questions which comprise a useful checklist:
Questions and Checklist
• Is the animal expressing stereotypic pacing, swaying or repetitive behaviour?
• Do you have an enrichment program or activities to assist to address unnatural animal behaviours?
• Do you regularly review and change animal enrichment activities?
• Are there different ways to provide foods which would encourage natural behaviours? ie scatter feeds; feeding at different times of the day; ‘working’ for food through enrichment activities

CHAPTER 5: ANIMAL EXHIBITS AND ENCLOSURE DESIGN

Our commitment is to have animal exhibits and enclosures that meet the physical and psychological needs of our animals

Key chapter theme: Discussion of how exhibit design is key to meeting animal welfare needs; establishing concept of ‘welfare aware design’; good welfare design doesn’t need to be costly; outlining general design criteria (and checklist) for exhibit design and construction which maximises animal welfare.

Chapter content and points to be included:
22. Balancing visitor wants and animal need – it is fundamental for zoos to integrate animal requirements and achieve the best animal welfare
23. Zoos hold a huge variation of species with different needs
24. Basic needs of many species are relatively well understood and can be incorporated into design
25. Importance of continual research on species to underpin and be incorporated in design and to factor an ability to change exhibit designs easily and without too much cost
26. Creating a ‘welfare aware design’ as a first principle – it doesn’t need to be costly
27. Incorporation of species’ specific animal enrichment in exhibit design
28. Need to fully understand species’ need and sometimes even the individual animal when designing, as an individual may be long-lived, ie elephants, reptile species
29. Importance of designing exhibits to incorporate essential veterinary interventions, breeding events, keeper access
30. Off-exhibit holding areas are also required to incorporate welfare aware design
31. Feature check list in a box (as below – you can add to it)
32. Case study - you can suggest - or use one from workshop list attached
33. Summary/conclusion
34. Useful references

When considering exhibit design, here are some key questions which comprise a useful checklist for best animal welfare exhibit design:

Questions and Checklist
• Is this a social or lone species? Is this reflected in the design?
• What are its feeding requirements?
• What is the climate of the home range of the species and how do we replicate this? Have we incorporated the range of climatic change?
• What behaviours should we expect and have we designed for these?
• Does the enclosure have the space to allow the natural locomotion and behaviours of the species?
• Are resting places incorporated in to the exhibit and retreat areas?
• Are there opportunities for animals to access sunlight or the outdoors?
• Is the exhibit area away from unnecessary disturbance, noises and lights, etc?
• How can we manage health and enable veterinary care with minimal disturbance; promote good health and natural behaviours?
• Do we need complementary enclosures or facilities to be constructed concurrently in order to accommodate future breeding or fracturing of a social group?
Should the animals of the same species be kept separately or together? Do we need to incorporate design to enable animals to be brought together for breeding? Does the exhibit incorporate future breeding?

CHAPTER 6: ANIMAL HEALTH

Our commitment is that zoo animal health is managed by properly trained professional staff

Key chapter theme: The role of animal health professionals and veterinarians in zoos and aquariums; in preventative health care, nutrition, daily management, surgical or other intervention, disease management and in overseeing the welfare aged animals

Chapter content and points to be included:
35. Good animal health and positive animal welfare – the links
36. Managing and diagnosis of wild animal health – the challenges
37. Large collections require on-site properly trained veterinarians
38. Zoo preventative health programs
39. Use of anaesthesia: risks and benefits
40. Operant conditioning to prevent intervention for routine health checks and minor treatments
41. Design of veterinary facilities for positive welfare
42. Facilities/infrastructure at exhibits to support health checks and veterinary procedures
43. Collaboration between veterinarians, keepers and others in monitoring animal health
44. Veterinary oversight of animal diets and nutrition
45. Veterinarians access to up-to-date knowledge and networks on disease and animal health
46. Zoonosis, quarantine and bio-security
47. Maintaining and accessing data on individual animal and at species level
48. Health data as a monitoring tool to indicate poor welfare
49. Euthanasia methods
50. Processes for caring for aged and disabled animals
51. Veterinary facilities open to the public – use of veterinarians as educators
52. Case study - you can suggest - or use one from workshop list attached
53. Summary/conclusion
54. Useful references

When considering animal health, here are some key questions which comprise a useful checklist for meeting positive animal welfare in animal health:

Questions and Checklist
• Do you have access to high quality veterinary care to manage animal health?
• Is there a preventative health program in place for animals in your care?
• Is there a zoo veterinary network available so your veterinarians can access other professional knowledge about health, nutrition and disease?
• Are records kept to note changes in animal condition and to monitor the health of animals over time?
• Is your team equipped to respond to outbreak of disease such as avian flu? Do you have an emergency disease management plan, quarantine plans, plans for zoonosis management and managing bio-security?
• Is your team linked to research and science networks to ensure that up-to-date knowledge is applied?
• Do you have agreed procedures and polices for the use of euthanasia for animals in your care and for other animals brought to your facility? Are they based on the most up-to-date knowledge of the affected species?
• Do you have an agreed protocol for managing aged or ill animals to ensure that suffering is minimised?
• How does your veterinary facility infrastructure/hospital best meet the welfare of the species being cared for?

ANIMAL OBSERVATION CHECK-LIST
Animal health is a vital aspect of the assessment of animal welfare. A simple checklist can assist in gauging animal health:
• Does the animal appear to be in good physical health?
• Does it appear well-fed and in good body condition?
• Do records indicate evidence of welfare or health problems?
• Is there any aggression between animals causing health concerns and how is this being managed?
• Are the physical and dietary needs of the animal being met?

CHAPTER 7: MONITORING WELFARE

Our commitment is to monitor the welfare state of animals in our care in order to provide them the best possible care

Key chapter theme: The use of welfare indicators are central to understanding and achieving positive animal welfare

Chapter content and points to be included:
1. How can we monitor animal welfare?
2. Animal welfare indicators- what are they?
3. Understanding the species and the animal
4. Physiological monitoring
5. Stress hormones
6. Clinical monitoring
7. Immunological responses
8. Behavioural monitoring
9. Group interactions and injury
10. Life expectancies
11. Rearing young
12. Reproduction
13. Sleep patterns
14. Working with peers and professional groups to improve monitoring methods
15. Case study - you can suggest - or use one from workshop list attached
16. Summary/conclusion
17. Useful references

When considering monitoring animal welfare, here are some key questions which comprise a useful checklist:

Questions and Checklist
• Are your staff trained to observe welfare of animals in their care?
• Do staff report daily on the condition of animals, physiologically, behaviourally and in terms of health?
• Are records kept to support staff observations?
• Do you have agreed processes for monitoring the welfare of animals in your care?
• Are there research activities or opportunities which you could introduce to improve your capacity to monitor animal welfare?
• What is the role of external organisations in monitoring animal welfare? Eg do you have an animal welfare and ethics committee that could assist?
• Are you accredited by your local regional association?
• Could you effectively link with other zoos to review operations in a specific area?

CHAPTER 8: ENGAGING WITH VISITORS

Our commitment is to engage visitors in conservation while ensuring that any animal interactions in our zoos promote positive animal welfare

Key chapter theme: The impacts of visitors and the management of interactive visitor-animal experiences should not compromise animal welfare

Chapter content and points to be included:

55. Why zoos use visitor-animal interactions; rationale and purpose
56. Recent social and education research on the power of animal interactions in engaging visitors to support wildlife conservation
57. Recent research on stress levels of animals in shows
58. The types of interactions and experiences in zoos – a continuum from passive observation to ‘petting’ situations. The importance of animal welfare assessments of impacts, quality of life assessments and always ensuring positive welfare as a primary criterion
59. Safety standards in special experiences – staff, visitor and animal
60. Disease transmission risks – human-animal and animal-human
61. Petting zoo experiences: use of ‘domestic’ animals rather than zoo or wild animals
62. Shows and Demonstrations (including bird shows, marine mammals) species suitability; positive operant training practices; preferred use of rehabilitated animals which cannot be released back to the wild. Using conservation messages in presentations
63. Behind the Scenes experiences – a great visitor experience and an insight into zoo operations; opening up your zoo practices for scrutiny
64. Hand-raising for animal interactions – how far do we take the notion of animals as ‘ambassadors’ for conservation?; which species are suitable?; applying quality of life indicators prior to hand-raising or allowing ‘petting’ experiences;
65. Use of external welfare and ethics committees to assist zoos with making decisions; whole of life animal impacts in hand-raised animals; the danger of animal ‘imprinting’; aged animals post presentations
66. Ongoing welfare reviews, staff training and expertise to ensure positive welfare impacts
67. Case study - you can suggest - or use one from workshop list attached
68. Summary/conclusion
69. Useful references

When considering the use of zoo animal interaction with visitors, here are some questions which comprise a useful checklist for meeting best animal welfare:

Questions and Checklist

• Have your animal-visitor interactions been assessed as suitable for the species being used? What criteria have been used?
• Do you have an assessment process in place prior to commencing a new animal-visitor experience to ensure that animal welfare standards are addressed?
• Is the assessment process based in species knowledge and up-to-date research of the species?
• Are all safety and health matters addressed, including the possibility of zoonotic diseases and airborne disease (ie in primates)?
• Is there an ongoing review process to ensure welfare issues do not arise over time for the animals being used?
• Is the health of the animals being used for interactions being regularly health checked and monitored?
• Are your staff skilled to pick up changes in the health and demeanour of the animals used in interactions with visitors?
• What happens to animals should they be withdrawn from animal interactions? If an animal is ‘imprinted’, can you continue to provide quality care and welfare for that animal?
• Do your presentations or experiences involving zoo animals have informed conservation messages; education and science based information and acknowledge the animals with dignity and respect?

CHAPTER 9: CONSERVATION AND WELFARE

Our commitment is to ensuring that our work in animal conservation incorporates positive animal welfare

Key chapter theme: Our work in wildlife conservation and with conservation partners incorporates positive animal welfare

Chapter content and points to be included:

70. Zoos work in wildlife conservation in-situ and in conservation research to further wildlife conservation and habitat protection
71. ‘Conservation welfare’ as a concept - incorporating positive animal welfare to achieve conservation ie zoos need good demonstrated animal welfare to get our conservation message through to visitors
72. Wildlife conservation is a welfare imperative (Parquet and Darimont)
73. Intensive Management and the One Plan approach – where animal welfare sits with this conservation approach
74. Zoos welfare and husbandry knowledge benefitting conservation eg release to the wild projects, conservation medicine projects (ie amphibian ark)
75. Working with conservation partners on wildlife conservation
76. Adding value through zoos’ knowledge in animal welfare and husbandry
77. Case study - you can suggest - or use one from workshop list attached
78. Summary/conclusion
79. Useful references

When considering conservation and animal welfare, here are some key questions which comprise a useful checklist:
Questions and Checklist
• Are the animals in conservation projects which your zoo supports in positive animal welfare situations?
• Do your conservation partners require support to ensure that their work supports animal welfare?
• Do you undertake reviews of zoo supported conservation projects to ensure that animals in the projects meet animal welfare standards?
• If you undertake breed for release programs, do the conditions for animals in these programs achieve positive animal welfare?
• Are your staff working in the field trained in animal welfare of the species with which they are working?
• In the capture of wild animals in zoo conservation projects or zoo supported conservation projects for health checks or similar, are staff adequately trained to meet the animals’ welfare needs?
• Are the holding areas, enclosures and containment areas meeting the welfare of the animals held?

CHAPTER 10: RESEARCH AND SCIENCE

Our commitment is to a scientific and evidence based approach to animal welfare and to ensuring that research activities always incorporate animal welfare concerns

Key chapter theme: Ensuring animal welfare in zoo research activities and supporting a science and research base to our zoo animal welfare

Chapter content and points to be included:
1. Integrated research activities and science as a central aspects of modern zoos in decision-making and development of policy and procedures
2. Use of zoo animals for scientific purposes
3. Zoo animals in human health research
4. Purposes and intent of zoo research
5. Invasive research
6. The role of observational research and its welfare impacts
7. Conditions for holding animals for research
8. Training of science and research staff
9. Compliance in use of research animals in jurisdictions- zoo research, ethics and welfare committees
10. Case study - you can suggest - or use one from workshop list attached
11. Summary/conclusion
12. Useful references

When considering research and science, here are some key questions which comprise a useful checklist for meeting best animal welfare:

Questions and Checklist

• Are your research areas subject to same level of welfare focus as other animals in the zoo?
• Do your back-of-house and research area animal holding areas meet good animal welfare standards?
• Are your research staff trained to observe welfare of animals in their care?
• Are the animals in research projects which you support in positive animal welfare situations?
• Do your research partners require support to ensure that their work supports animal welfare?
• Do you have a welfare committee overseeing the research activities of your zoo?
• If so, does the committee have external members?
• Are there research activities or opportunities which you could introduce to improve your capacity to monitor animal welfare?
• Do you regularly review your policies and procedures based on the most recent scientific findings?

CHAPTER 11: PARTNERSHIPS IN ANIMAL WELFARE

Our commitment is to work collaboratively and openly in animal welfare to highlight and improve the lives of zoo animals

Key chapter theme: Zoos should work in partnership with NGOs and other interest groups to benefit zoo animal welfare

Chapter content and points to be included:
1. Partnering is a core activity and methodology of the modern zoo (refer WZACS)
2. Partnerships build our effectiveness and understanding of animal welfare (eg research collaborations with universities)
3. The complex and at times confrontational operational environment: Animal rights, animal welfare NGOs and others
4. Relationships with NGOs that do not believe in zoos
5. The need to be open and accountable in animal welfare and zoo operations
6. Communication with the public about zoo work and animal welfare
7. Work of zoo veterinary clinics in partnering on wildlife supporting animal welfare
8. The benefits of individual Zoo Animal Welfare Charters/Statements
9. Animal welfare committees with external membership (including NGOs)
10. Mentoring substandard zoos: staff exchanges, swapping animal protocols, SOPs, providing professional support, funding, etc
11. Case study - (1) or (11) from workshop list attached or one of your choice
12. Summary/conclusion
13. Useful references

When considering partnerships in animal welfare, here are some key questions which comprise a useful checklist:

Questions and Checklist
• Do your zoo partnerships support positive animal welfare?
• Do you work effectively with NGOs? Are there ways you could work more effectively?
• Are there opportunities for your zoo to work with colleague zoos to help improve their animal welfare standards?
• Do your professional staff, such as veterinarians, research staff and animal staff provide advice to people outside the zoo on animal health and welfare? Could they do more?
• Do you have an animal welfare statement or charter in your zoo which outlines your commitments to zoo animal welfare?
• Do you promote your organisation as supporting positive animal welfare?
• Do you measure community perceptions of your animal welfare performance?