Responses to Notification to the Parties No. 2019/070

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China

AC31 Doc. 18.1
Annex 2

The Checklist for Evaluating An Appropriate and Acceptable Destination for Southern White Rhinoceros

Name of Introducer: Number of female: Number of male:

Fundamental needs

- Permits and licenses of animals keeping √
- Qualified veterinary √
- Qualified staffs of animal care ? Persons
- Feasibility of long-term care √

Dietary

- Food and nutritional requirement √
- Access to potable water √
- Diverse ways of providing food and water √

Physical housing

- Qualified design drawing √
- Necessary facilities √
- Indoor size and space, substrate, temperature ? m^2
- Outdoor size, substrate and shelter ? m^2

Care and Health

- Room for sick or debilitated animals √
- Innocuous treatment of feces and urine √
- Health check, birth and death records √
- Environmental enrichment facilities √

Safety and Isolation

- Plan for safe transportation and immobilization √
- Arrangements for quarantine and isolation √
- Emergency plan √

Conservation

- Support In-situ conservation project √
- Breeding programme √
- Public education √

The Checklist for Evaluating An Appropriate and Acceptable Destination for African elephant

Name of Introducer: Female: number age Male: number age

Fundamental needs

- Permits and licenses of animals keeping √
- Qualified veterinary √
- Qualified staffs of animal care ? Persons
- Feasibility of long-term care √

Physical housing

- Qualified design drawing √
- Necessary facilities √
- Indoor size and space, substrate, temperature ? m^2
- Outdoor size, substrate, shelter and playground ? m^2

Safety and Isolation

- Plan for safe transportation and immobilization √
- Arrangements for quarantine and isolation √
- Emergency plan √

Dietary

- Food and nutritional requirement for individuals at different growth stages √
- Access to potable water √
- Diverse ways of providing food and water √

Care and Health

- Room for sick or debilitated animals √
- Innocuous treatment of feces and urine √
- Group composition and training program √
- Health check, birth and death records √
- Environmental enrichment facilities √

Conservation

- Support In-situ conservation project √
- Breeding programme √
- Public education √

If the elephant has to stay in a temporary place for more than three months, in addition to the destination, the temporary place should be evaluated too.

The Checklist for Evaluating House and Care for Living Appendix I Animals

Name of Introducer: Species: Number of female: Number of male:

Fundamental needs

- Permits and licenses of animals keeping √
- Qualified veterinary √
- Qualified staffs of animal care ? Persons
- Feasibility of long-term care √

Dietary

- Species-specific food and nutritional requirement √
- Access to potable water √
- Diverse ways of providing food and water √

Physical housing

- Qualified design drawing √
- Species-specific necessary facilities √
- Indoor size and space, substrate, temperature ? m^2
- Outdoor size, substrate, shelter and other species-specific furnishing ? m^2

Care and Health

- Room for sick or debilitated animals √
- Innocuous treatment of feces and urine √
- Species-specific training √
- Health check, birth and death records √
- Environmental enrichment facilities √

Safety and Isolation

- Plan for safe transportation and immobilization √
- Arrangements for quarantine and isolation √
- Emergency plan √

Conservation

- Breeding Programme √
- Public education √

Exigences minimales concernant la détention d'animaux sauvages (avec ou sans autorisation)

Remarques préliminaires

A. Les surfaces et les volumes indiqués déterminent à chaque fois la taille minimale de l'enclos. Cette taille ne peut pas être réduite, même si le nombre d'animaux détenus est inférieur au nombre (n) figurant sur les tableaux. Les enclos utilisés pour séparer les animaux ne peuvent être utilisés qu'à court terme lorsqu' ils ne remplissent pas entièrement les exigences.

B. Les tableaux mentionnent le nombre maximal d'animaux adultes admis dans l'enclos et les dimensions minimales. Il est permis de détenir en plus les jeunes dans le même enclos. Concernant les reptiles et les amphibiens, la grandeur minimale de l'enclos doit être déterminée en fonction de l'individu de la plus grande taille détenu dans l'enclos. Le reste de la place nécessaire est déterminé en fonction de la taille des autres animaux.

C. Lorsque plusieurs espèces utilisant l'espace de la même manière sont détenues dans le même enclos, le calcul des surfaces et des volumes doit prendre pour référence l'espèce dont les besoins par rapport à la taille de l'enclos sont les plus élevés. Les surfaces et les volumes pour les autres animaux de la même espèce et pour les animaux des autres espèces doivent être ajoutées conformément aux exigences prévues dans la présente annexe «par animal en plus».

D. Lorsque plusieurs espèces utilisant l'espace de manière différente sont détenues dans le même enclos, on peut détenir en plus de l'espèce ayant le plus besoin de volume les autres espèces sans qu'il faille agrandir l'espace.

E. Lorsque des espèces ont des besoins particuliers, p. ex. par rapport à l'humidité de l'air, à la température, à la qualité du sol ou à l'alimentation, il faut tenir compte de ces besoins même si le tableau ne donne aucune indication à ce propos.

F. L'enclos extérieur normalement requis pour une espèce donnée peut être omis si les besoins de l'espèce sont satisfaits d'une autre manière, p. ex. en ouvrant les fenêtres, les portes ou les toits coulissants afin de laisser pénétrer directement la lumière du soleil, pour autant que la température extérieure soit appropriée ou qu'il soit possible d'éclairer les enclos par une lumière artificielle d'un spectre similaire à la lumière du jour. Dans ce cas, les dimensions des enclos intérieurs doivent correspondre au moins aux dimensions des enclos extérieurs ou, si des enclos extérieurs et intérieurs sont prévus, à la surface totale de ceux-ci. Les comportements tels que le fouissement ou l'hibernation dans des cavernes doivent être pris en considération.

G. Les animaleries autorisées conformément à l'art. 122 ne doivent pas obligatoirement comporter un enclos extérieur.

H. Lors de la composition des groupes, il faut tenir compte de manière appropriée – indépendamment des chiffres indiqués dans le tableau – de la structure sociale naturelle de l'espèce.

I. Quels que soient les chiffres indiqués dans le tableau, les enclos doivent être pourvus de zones permettant l'exercice de certaines fonctions propres à l'espèce et de zones ayant un climat approprié à celle-ci. Aménager l'espace de manière optimale pour chaque espèce doit être l'une des préoccupations majeures des responsables.

J. Les enclos doivent être éclairés par la lumière du jour ou une lumière artificielle non papillotante qui présente un spectre lumineux correspond aux besoins de l'espèce. Les animaux nocturnes détenus dans des enclos extérieurs doivent en tout temps avoir la possibilité de trouver un box pour dormir durant la journée.

K. Pour toutes les espèces, également celles qui ne sont pas mentionnées dans la présente annexe, des exigences spécifiques doivent être remplies pour l'alimentation, la structure sociale, le climat, y compris le microclimat, la qualité du sol, les équipements permettant aux animaux de nager ou de se baigner, de creuser le sol et de se retirer et d'autres équipements, tels les séparations et les dispositifs liés au confort de l'animal (p. ex. des arbres à griffer, des souilles). Pour les espèces non mentionnées, l'espace des enclos doit être tel que les structures nécessaires puissent y être disposées de manière judicieuse, afin de répondre aux besoins spécifiques des animaux détenus. Des expertises spécialisées fondées sur des connaissances scientifiques doivent servir de référence.

L. Les modalités de l'alimentation doivent simuler les caractéristiques de la prise de nourriture propres à l'espèce (présentation de la nourriture de manière variée à la fois dans l'espace et dans le temps, respect de la manière qu'a l'animal d'obtenir sa nourriture, de la préparer et prise en compte de la durée de la prise de nourriture).

M. Dans les grands enclos conçus de manière à être semblables au milieu naturel, le bien-être des animaux doit être vérifié en contrôlant à une fréquence suffisante et régulière le fonctionnement des installations et des équipements techniques, y compris les mesures de sécurité empêchant les animaux de s'échapper, en s' assurant que les besoins en termes d'alimentation et de conditions de vie appropriées sont satisfaits et en surveillant les variations de l'effectif.

N. Indépendamment des instructions données de cas en cas dans les tableaux, les animaux doivent être alimentés de telle manière que leurs besoins particuliers puissent être satisfaits dans la mesure qui convient.

O. Dans la conception et la gestion des enclos, il y a lieu d'exploiter les possibilités d'enrichissement du milieu de vie des animaux (p. ex. des stimuli comme des odeurs étrangères, de nouveaux objets à traiter).

P. Indépendamment des instructions données de cas en cas dans les tableaux, les enclos doivent être entretenus et gérés de manière à ce que les besoins particuliers des différentes espèces animales en termes de climat et d'hygiène soient pris en considération dans la mesure qui convient.

Tableau 1

Enclos pour mammifères

Enclos pour mammifères			Pour des groupes jusqu'à n animaux					Par animal en plus[a]		Exigences particulières
			Nombre	Enclos extérieur[a]		Enclos intérieur[a]		extérieur	intérieur	
Espèces animales			(n)	Surface[b] m²	Volume m³	Surface[b] m²	Volume m³	m²	m²	
1	Échidnés	c)	2	–	–	6	–	–	2	1) 6) 11)
2	Couscous, opossums, phalangers	c)e)	2	–	–	6	12	–	2	2) 3) 4)
3	Didelphidés, petites espèces	c)e)	2	–	–	0,5	0,35	–	0,05	2) 3) 4)
4	Kowari	c)e)	2	–	–	1	1,8	–	0,5	2) 3) 4)
5	Phalangers volants de grande taille ou de taille moyenne	c)e)	6	–	–	6	12	–	1	2) 3) 4)
6	Phalangers volants de petite taille	c)e)	6	–	–	3	6	–	0,5	2) 3) 4)
7	Diable de Tasmanie	c)e)	2	20	–	6	–	–	–	1) 3) 4)
8	Wombat	c)e)	2	20	–	20	–	–	–	1) 3) 4)
9	Kangourous arboricoles	c)e)	2	16	40	16	40	4	4	2) 5)
10	Kangourous de petite taille	c)	5	40	–	10	–	4	2	6) 22)
11	Rats-kangourous	c)	2	–	–	8	–	–	2	3) 6)
12	Wallabies de rochers	c)e)	5	150	–	15	–	15	3	2) 7) 8)
13	Wallabies d'Australie et de Nouvelle-Guinée, thylogales	c)	5	250	–	15	–	15	3	7) 8)
14	Kangourous de grande taille	c)e)	5	300	–	20	–	30	4	7)
15	Mégachiroptères de petite taille (p. ex. roussette d'Égypte)	c)	20	–	–	20	50	–	1	9) 10)
16	Mégachiroptères de grande taille	c)	20	–	–	30	90	–	1	9) 10)
17	Chauves-souris	c)	20	–	–	10	20	–	0,2	9) 10) 50)
18	Tupaies	c)	5	–	–	3	6	–	0,5	2) 3) 6) 34) 36)
19	Ouistitis	c)d)	2	–	–	3	6	–	0,5	2) 3) 6) 14) 34) 36)
20	Microcèbes	c)e)	5	–	–	1,5	3	–	0,3	2) 3) 6) 14) 36)
21	Loris, potto de Bosman, potto doré	c)e)	5	–	–	1,5	3	–	0,3	2) 3) 6) 14)
22	Galago de petite taille, Tarsiers, happalémurs, chirogales	c)e) c)e)	5	–	–	3	6	–	0,5	2) 3) 6)14) 34) 36)
23	Tamarins, tamarin de Goeldi	c)d)e)	5	–		3	6	–	0,5	2) 3) 6) 14) 34) 36)
24	Douroucouli	c)d)e)	5	–	–	6	12	–	1	2) 3) 6) 14) 34)
25	Galago géant, titis	c)e)	5	–	–	6	12	–	1	2) 3) 6) 14) 34)
26	Saïmiri Talapoin	c)d)e) c)e)	5	6	15	6	15	1,5	1,5	2) 6) 14)
27	Lémurs, sakis, ouakaris, hurleurs, capucins	c)e)	5	10	30	10	30	2	2	2) 6) 14)

Enclos pour mammifères			Pour des groupes jusqu'à n animaux					Par animal en plus[a]		Exigences particulières
			Nombre	Enclos extérieur[a]		Enclos intérieur[a]		extérieur	intérieur	
Espèces animales			(n)	Surface[b] m²	Volume m³	Surface[b] m²	Volume m³	m²	m²	
28	Cercopithèques, macaques Singe laineux, atèles, semnopithèques de petite taille, varis	c)d)e) c)e)	5	15	45	15	45	3	3	2) 6) 11) 12) 14) Varis: 3)
29	Patas, cercocèbes, babouins, semnopithèques de grande taille (p. ex. colobes), propithèques	c)e) c)e)	5	25	75	25	75	4	4	2) 6) 11) 14)
30	Gibbons	c)e)	3	25	75	25	75	8	8	2) 6) 11) 12) 14) 34)
31	Chimpanzés, orang-outan	c)e)	3	35	140	35	140	8	8	2) 6) 11) 14)
32	Gorille	c)e)	3	50	200	50	200	10	10	2) 6) 11) 14)
33	Tatous de petite taille ou de taille moyenne	c)e)	–	–	–	6	–	–	1,5	1) 3) 51
34	Tamandua	c)e)	2	–	–	12	24	–	4	2) 3) 4) 15) 51)
35	Grand fourmilier	c)e)	2	100	–	12	–	10	6	11) 16) 18)
36	Paresseux	c)e)	2	–	–	10	20	–	2	2) 36)
37	Hérisson, sauf *Erinaceus europaeus*	c)	1	–	–	2	–	–	1	39) 41)
38	Tanrek, espèces de petite taille de moins de 10 cm de longueur	c)	1	–	–	0,5	–	–	0,25	2) 39) 41)
39	Tanrek, espèces de grande taille à partir de 10 cm de longueur	c)	1	–	–	2	–	–	1,0	2) 39) 41)
40	Cobaye/cochon d'Inde *Cavia porcellus*	d)f)g)	2	–	–	0,5	–	–	0,2	39) 41) 45) 47) 54)
41	Hamster *Mesocricetus sp.*	d)	1	–	–	0,18	–	–	0,05	2) 40) 41) 42) 44) 45) 48)
42	Souris *Mus musculus*	d)	2	–	–	0,18	–	–	0,05	2) 39) 41) 42) 44) 45) 47)
43	Gerbille de Mongolie	d)	5	–	–	0,5	–	–	0,05	40) 41) 42) 44) 45) 46) 47)
44	Rat *Rattus norvegicus*	d)	5	–	–	0,5	0,35	–	0,05	39) 41) 42) 44) 45) 47)
45	Dégu		5	–	–	0,5	0,35	–	0,2	40) 41) 44) 45) 46) 47)
46	Chinchilla	d)	2	–	–	0,5	0,75	–	0,2	39) 41) 42) 43) 44) 45) 46) 47)
47	Tamias		1	–	–	0,5	0,75	–	0,2	2) 39) 41) 42) 43) 48) 50)
48	Écureuils terrestres, xérus, spermophiles	c)	5	20	–	–	–	0,6	–	45) 50) couche à creuser de 80 cm
49	Écureuils, *Callosciurus quinquestriatus*	c)	2	8	20	8	20	2	2	2) 3) 4) 17) 19)
50	Écureuils géants, pétauristes de grande taille	c)	2	–	–	16	40	–	3	2) 3) 15) 17) 19)
51	Athérures, trichys	c)e)	2	–	–	5	10	–	2	2) 3) 6) 19)
52	Porcs-épics	c)	2	40	–	20	–	4	3	1) 3) 6) 17) 19)
53	Castor	c)	5	40	–	–	–	4	–	3) 18) 19) 34)
54	Agoutis, pacas, pacarana, acouchis	c)	5	20	–	20	–	2	2	1) 3) 6) 19) 36)
55	Viscache, lièvre sauteur		5	–	–	20	–	–	2	1) 3) 6) 11) 19)

Enclos pour mammifères			Pour des groupes jusqu'à n animaux					Par animal en plus[a]		Exigences particulières
			Nombre	Enclos extérieur[a]		Enclos intérieur[a]		extérieur	intérieur	
Espèces animales			(n)	Surface[b] m²	Volume m³	Surface[b] m²	Volume m³	m²	m²	
56	Marmottes	c)	6	150	–	–	–	10	–	1) 49) 50)
57	Chien de prairie	c)	10	40	–	–	–	2	–	1) 49) 50)
58	Capybara	c)	5	150	–	20	–	10	2,5	6) 18) 19)
59	Rat musqué	c)	2	4	–	–	–	1	–	1) 3) 18) 19)
60	Ragondins (forme sauvage)	c)	2	10	–	–	–	1	–	3) 18) 19)
61	Coendou, porc-épic nord-américain	c)	2	10	30	–	–	4	–	2) 8) 19)
62	Rat pilori, rat typique, plagiodonte d'Haïti, hutia	c)	2	–	–	5	10	–	1,5	1) 2) 3) 6) 19)
63	Maras	c)	2	40	–	–	–	4	–	1) 3) 6) 19)
64	Lièvres	c)	2	150	–	–	–	4	–	3) 6)
65	Lapins sauvages, pikas	c)	5	30	–	–	–	3	–	1) 6) 49)
66	Fennec	c)	2	20	–	4	–	2	2	1) 3) 11) 36)
67	Renards de taille moyenne (p. ex. renard des sables, renard polaire, renard corsac, renard véloce), octocyon, chien viverin	c)	2	40	–	8	–	4	1	1) 3) 6) 8) 11)
68	Speothos	c)e)	4	40	–	12	–	4	1	1) 3) 6) 11) 18) 34)
69	Renard commun, renard gris, dusicyons	c)	2	100	–	–	–	10	–	1) 3) 6) 11)
70	Chacals, coyotes, cuon	c)	4	150	–	–	–	15	–	3) 6) 34) 11)
71	Loup à crinière	c)e)	2	200	–	2 par animal	–	20	2	1) 3) 6) 8) 11) 34)
72	Loup, lycaon	c)	4	400	–	4 par animal	–	20	–	1) 3) 6) 8) 11)
73	Ours malais	c)e)	2	100	–		–	20	4	1) 2) 11) 14) 18) 21)
74	Autres ours, panda géant	c)e)	2	150	–	–	–	20	–	1) 2) 11) 14) 18) 21) 22)
75	Ours polaire	c)e)	1	120	–	8	–	–	–	2) 4) 14) 18)
76	Petit panda, raton laveur	c)e)	2	20	–	8	16	4	2	2) 3) ratons laveurs: 18)
77	Kinkajou, bassaris	c)	2	–	–	16	40	–	2	2) 3) 6)
78	Coatis	c)	2	30	90	20	60	3	3	2) 3)
79	Belettes de petite taille	c)	2	8	–	–	–	–	–	3) 4)
80	Belettes de grande taille	c)	2	12	–	–	–	–	–	3) 4)
81	Putois, vison sauvage, furets	c)	2	15	–	–	–	1	–	3) 4) 18)
82	Furets (en tant qu'animal de compagnie avec sorties temporaires dans l'appartement)	c)	2	–	–	4	2,4	–	0,5	3) 14) 16) 55)
83	Martres arboricoles	c)	2	16	40	0	0	–	–	2) 4) 17) 21)
84	Tayra	c)e)	2	16	40	16	40	4	4	2) 3) 17)
85	Glouton	c)e)	2	120	–		–	–	–	1) 2) 4) 21)

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			Nombre	Enclos extérieur[a]		Enclos intérieur[a]		extérieur	intérieur	
Espèces animales			(n)	Surface[b] m²	Volume m³	Surface[b] m²	Volume m³	m²	m²	
86	Moufette	c)e)	2	12	–	12	–	2	2	1) 3) 6) 17) pour quelques espèces: 18)
87	Blaireau	c)	2	100	–	30	–	4	4	1) 3) 4) 17)
88	Loutre naine	c)	2	20	–	6	–	3	2	6) 15) 18)
89	Loutre de rivière, loutre à joues blanches	c)	2	40	–	–	–	–	–	4) 6) 15) 18)
90	Loutre géante	c)	2	80	–	24	–	10	4	6), 15) 18)
91	Loutre de mer	c)	2	10	–	–	–	3	–	6) 18)
92	Mangouste naine	c)	6	20	–	10	–	2	2	1) 3) 15)
93	Suricate, mangouste rayée, mangouste fauve	c)	6	20	–	10	–	2	2	1) 3) 15) 20)
94	Autres mangoustes	c)	2	20	–	20	–	5	3	1) 3) 15) 17) 20) Ichneumon des marais: 18)
95	Chat à pieds noirs, chat léopard du Bengale, chat rougeâtre, manul, viverridés arboricoles	c)	2	16	40	16	40	4	3	2) 4) 6) 11) 15) 17) 21) 23) 52), 53)
96	Fossa, binturong, civette, chat sauvage, chat des marais, jaguarond	c)	2	40	120	20	50	5	4	2) 4) 6) 11) 15) 17) 21) 23) chat pêcheur, chat à tête plate: 18) 52) 53)
97	Serval, félidés de taille moyenne, panthère nébuleuse, lynx	c)	2	30	75	20	50	10	10	2) 4) 6) 11) 15) 21) 23) 52) 53)
98	Jaguar, léopard, puma, panthère des neiges	c)e)	2	50	150	25	75	15	12	2) 4) 6) 11) 15) 21) 23) 52) 53) jaguar: 18)
99	Lion, tigre	c)e)	2	80	240	30	90	20	15	2) 4) 6) 11) 15) 21) 23) 52) 53) tigre: 18)
100	Guépard	c)e)	2	200	–	–	–	20	–	2) 4) 6) 11) 15) 21) 52) 53)
101	Protèle	c)e)	2	100	–	12 par animal	–	10	6	1) 11) 21)
102	Hyènes	c)e)	2	200	–		–	20	–	1) 6) 11) 21) 53)
103	Oryctérope	c)e)	2	40	–		–		5	1) 3)
104	Daman	c)	5	16	40	16	40	3	3	2) 8) 36)
105	Éléphants femelles	c)e)	3	500	–	15 par animal	–	100	–	24) 25) 52)
106	Éléphants mâles	c)e)	1	150	–	2×30 par animal	–	100	–	24) 25) 52) deux box
107	Femelles de zèbres de Grévy et d'hémiones	c)e)	5	500	–	8 par animal	–	–	–	8) 25) 26) 52)
108	Mâles de zèbres de Grévy et d'hémiones	c)e)	1	150	–	8	–	–	–	8) 25) 26) 52)
109	Zèbre de Grant, âne sauvage	c)e)	5	500	–	8 par animal	–	80	–	8) 25) 26) 27)52)
110	Zèbre des montagnes et cheval de Przewalski	c)e)	5	1000	–	8 par animal	–	100	–	8) 25) 26) 27) 52)
111	Tapirs	c)e)	2	200	–	15 par animal	–	50	–	24) 25) 28)

Enclos pour mammifères			Pour des groupes jusqu'à n animaux					Par animal en plus[a]		Exigences particulières
			Nombre	Enclos extérieur[a]		Enclos intérieur[a]		extérieur	intérieur	
Espèces animales			(n)	Surface[b] m²	Volume m³	Surface[b] m²	Volume m³	m²	m²	
112	Rhinocéros	c)e)	2	500	–	25 par animal	–	150	–	4) à l'exception du rhinocéros blanc 11) 24) 25) 29) 38)
113	Sanglier nain	c)e)	2	30	–	4	–	10	–	25) 27) 29)
114	Autres suidés sauvages	c)e)	2	100	–	4	–	20	–	8) 17) 25) 27) 29)
115	Pécaris	c)e)	4	80	–	3	–	10	–	25) 29)
116	Hippopotame nain	c)e)	2	100	–	10 par animal	–	–	–	4) 24) 29)
117	Hippopotame	c)e)	2	250	–	40 par animal	–	50	10	24)
118	Guanaco, vigogne	c)	6	300	–	2 par animal	–	50	–	8)
119	Chameau, dromadaire	c)	3	300	–	8 par animal	–	50	–	8) 27)
120	Chevrotain d'Asie	c)	2	20	–	6	–	–	2	6)
121	Chevrotain aquatique	c)e)	2	40	–	8	–	12	2	6) 18)
122	Cervidés de petite taille (poudou, hydropotes, muntjac)	c)	4	150	–	3 par animal	–	10	–	6) 8) 30) 52)
123	Chevreuil	c)	2	500	–	–	–	150	–	6) 8) 30) 52)
124	Cervidés de taille moyenne (p. ex. sika, daim)	c)	8	500	–	4 par animal	–	60	–	8) 27) 29) à l'exception du daim 30) 31) 52)
125	Cervidés de grande taille (barashinga, sambar, cerf des marais, renne, milu)*	c)	6	800	–	6 par animal	–	80	–	8) 18) à l'exception du renne 27) 29) à l'exception du renne 30) 31) 52)
126	Élan	c)	3	800	–	–	–	80	–	8) 18) 28) 31) 32) 52)
127	Okapi	c)e)	2	300	–	15 par animal	–	100	–	4) 26) 52)
128	Girafe	c)e)	4	500	–	25 par animal	–	100	–	33) 52) mâle: 26)
129	Céphalophes de petite taille et de taille moyenne, dik-diks, antilopes naines	c)e)	2	50	–	3 par animal	–	20	–	4) 6) 52)
130	Raphicère champêtre, raphicère du Cap, oréotrague	c)e)	2	50	–	3 par animal	–	20	–	6) 52) oréotrague: 2)
131	Oribi, Beira	c)e)	4	100	–	3 par animal	–	15	–	6) 52)
132	Céphalophes de grande taille	c)e)	2	100	–	4 par animal	–	–	–	4) 6) 52)
133	Gazelles (y compris antidorcas, cervicapre, impala)	c)e)	10	500	–	4 par animal	–	40	–	6) 8) 27) 52)
134	Gérénuk, gazelle de Clarke, antilope-chèvre américaine, saiga et autres antilopes de taille moyenne	c)e)	6	500	–	5 par animal	–	50	–	6) 8) 27) 52)
135	Antilopes de grande taille, bœufs musqués, bison d'Europe, bison d'Amérique, autres bovins sauvages	c)e)	5	500	–	8 par animal	–	80	–	8) 11) 25) 27) 31) 32) 52)
136	Chamois, goral, capricorne, chèvre des Montagnes Rocheuses, takin	c)e)	4	400	–	4 par animal	–	50	–	2) 6) 8) 28)

Enclos pour mammifères			Pour des groupes jusqu'à n animaux					Par animal en plus[a]		Exigences particulières
			Nombre	Enclos extérieur[a]		Enclos intérieur[a]		extérieur	intérieur	
Espèces animales			(n)	Surface[b] m²	Volume m³	Surface[b] m²	Volume m³	m²	m²	
137	Mouflon et autres ovins sauvages	c)	10	500	–	2 par animal	–	50	–	2) 8) 52) autres ovins sauvages: 27)
138	Caprins sauvages, bharal, aoudad	c)	10	500	–	2 par animal	–	50	–	2) 8) 27) 52)

Notes du tableau 1 (mammifères)

a) Lorsque les dimensions minimales sont indiquées en termes de surface de base et de volume, la hauteur doit atteindre, sauf mention contraire, au moins 80 % du quotient volume/surface de base. Si le tableau fixe des exigences par animal supplémentaire, le volume doit être augmenté dans la même proportion que la surface de base.

b) Dans les cas où le tableau 3 prévoit des dimensions minimales pour les bassins, la surface exigée doit être ajoutée aux surfaces figurant sur le tableau 1.

c) Une autorisation au sens de l'art. 89 est obligatoire pour détenir ces animaux à titre privé.

d) Dans les animaleries de laboratoire autorisées, les animaux doivent être détenus au moins conformément aux exigences de l'annexe 3.

e) Les présentes dimensions minimales s'appliquent uniquement aux infrastructures existant le 1er septembre 2008. Lorsque les installations sont nouvellement aménagées, il y a lieu de tenir compte des dernières connaissances en la matière pour fixer les dimensions minimales.

f) Les surfaces surélevées sur lesquelles les animaux peuvent se déplacer peuvent être prises en compte jusqu'à leur tiers dans le calcul de la surface minimale requise.

g) Pour les jeunes cochons d'Inde (<700 g), la surface supplémentaire à partir du 3e animal est de 0,1 m² par animal.

Exigences particulières

1) Prévoir des possibilités de creuser le sol.
2) Prévoir des possibilités de grimper, sur des branches ou des rochers selon l'espèce. Le diamètre des branches doit correspondre aux organes de préhension des animaux.
3) Box pour dormir. Ceux-ci doivent être installés au niveau du sol ou en hauteur selon l'espèce. Des box individuels doivent être prévus pour les espèces dont les animaux sont par moments non sociables.
4) Détention individuelle, par couples ou en groupe suivant l'espèce, l'enclos pouvant être subdivisé. Des enclos supplémentaires doivent être prévus si le nombre d'animaux est plus élevé.
5) Des enclos extérieurs doivent être prévus pour les espèces de plus grande taille vivant plutôt au sol (*doriani, inustus*, kangourou de Lumholtz).
6) Écrans, possibilités d'évitement et de retrait.
7) Espace intérieur/étable structurés par des cloisons.
8) Espèces résistant au froid de l'hiver: prévoir un abri naturel ou artificiel offrant suffisamment de places à tous les animaux; espèces sensibles au froid: prévoir un enclos intérieur ou une étable conforme aux indications du tableau.
9) Prévoir des possibilités de s'agripper au plafond ou dans le tiers supérieur de l'enclos; pour les cavernicoles, prévoir une caisse pour dormir ouverte à l'avant.
10) Diversifier les emplacements où l'animal s'alimente, en offrant également la possibilité à l'animal de les atteindre en y grimpant.
11) Prévoir des possibilités de séparation ou d'isolement. Pour les espèces sociables, un contact visuel doit être possible entre les animaux.
12) L'enclos intérieur n'est pas nécessaire pour les magots, les macaques du Tibet, les macaques du Japon et les geladas; une hutte isolée de protection suffit. En été, il en va de même pour les autres espèces détenues en plein air.
13) Box pour dormir pouvant être subdivisés pour les groupes et les individus.
14) Permettre aux animaux de s'occuper en mettant différents objets adaptés à l'espèce à leur disposition, p. ex. des cordes permettant de se balancer, de la paille et des fûts en plastique, et en cachant de manière variée la nourriture en différents endroits. Les primates doivent être incités à l'exploration par des stimuli supplémentaires dans leur environnement.
15) Prévoir, suivant l'espèce animale, des surfaces surélevées pour se coucher (p. ex. tamandua, écureuil géant, félidés) ou un observatoire (loutre, mangouste, etc.).
16) Prévoir des possibilités de creuser et de fouiller le sol.
17) Enclos intérieurs ou extérieurs. Si les enclos extérieurs sont prévus pour des espèces sensibles au froid, un local intérieur que l'on peut chauffer est en outre requis.
18) Prévoir des possibilités de se baigner. Si des bassins avec des dimensions minimales sont requis, voir en outre le tableau 3.
19) Mettre régulièrement à disposition des branches pour l'entretien des dents et l'occupation des animaux.
20) Enclos extérieur avec un diffuseur de chaleur.
21) Box individuel pour chaque animal. Surface au sol: carnassiers de petite taille 0,5 à 1 m^2; glouton, lynx, serval, félidés de taille moyenne, puma, panthère nébuleuse 1,5 m^2; félidés de grande taille, guépard 2,5 m^2, ours malais, hyène, protèle 4 m^2, ours, grand panda 6 m^2.
22) S'il s'agit de sols laissés à l'état naturel: 50 m^2 pour les kangourous de petite taille et 1000 m^2 pour les ours.
23) Un local intérieur est requis uniquement pour les espèces (ou les sous-espèces) sensibles au froid; dans les autres cas, box isolé pour dormir, pour chaque animal adulte, qui soit conforme aux exigences particulières du chiffre 21.
24) Prévoir une possibilité de se baigner ou de se doucher toute l'année pour les éléphants et les rhinocéros asiatiques. Bassin à l'intérieur et à l'extérieur pour les tapirs, les hippopotames et les hippopotames nains. Les dimensions des bassins extérieurs figurent au tableau 3.
25) Donner à l'animal la possibilité de se gratter, en installant p. ex. des troncs d'arbre ou des rochers, et prévoir un bain de sable ou une souille pour les soins de sa peau.
26) Box individuels. Pour les espèces sociables, un contact visuel doit être possible entre les animaux se trouvant dans les box individuels. Pour les espèces sensibles au froid, les box doivent être chauffés.
27) Prévoir, selon l'espèce, la possibilité de séparer les mâles ou des possibilités de fuite pour les femelles et les jeunes animaux.
28) Les sols à l'extérieur doivent être mous (gazon, morceaux d'écorces).
29) Souille, sauf pour les daims et les rennes. Prévoir, pour les suidés, des possibilités de se vautrer dans la souille et de fouir le sol.
30) Arbres contre lesquels les cervidés peuvent frotter leurs bois, branches.

31) La surface vaut pour les enclos aménagés partiellement en dur. Lorsque les enclos sont constitués de sol naturel uniquement, les dimensions doivent être triplées et les enclos doivent pouvoir être subdivisés.

32) Prévoir des troncs d'arbre permettant aux bœufs musqués de s'occuper.

33) Prévoir en plus une véranda ou un enclos intérieur de 80 m^2.

34) Couple monogame avec descendants subadultes tolérés.

35) Abri ou local de stabulation; en cas de détention dans des box individuels, la surface doit être triplée.

36) Si un enclos extérieur est à disposition, un accès permanent à un enclos intérieur doit être garanti.

37) Femelles en détention commune; les animaux ne doivent être enchaînés que sur une courte durée pour des raisons de sécurité, pour l'entraînement, le soin des pieds ou un traitement vétérinaire.

38) Structure molle et souple du sol avec une zone marécageuse, permettant un accès permanent à l'eau.

39) Litière appropriée.

40) Litière appropriée permettant aux animaux d'y creuser – pour les hamsters: profondeur de 15 cm; pour les gerbilles: profondeur de 25 cm; pour les dégus: profondeur de 30 cm.

41) Une ou plusieurs possibilités de retrait où tous les animaux trouvent de la place. Pour les chinchillas, il y a lieu de prévoir une possibilité de retrait en hauteur.

42) Mettre à disposition du matériel approprié pour faire un nid.

43) Prévoir à plusieurs niveaux des planches pour s'asseoir.

44) Fourrage à structure grossière, tels que du foin ou de la paille; mélanges de graines pour les hamsters et les souris.

45) Objets à ronger, tels que du bois tendre ou des branches fraîchement coupées.

46) Bain de sable.

47) Les animaux doivent être détenus par groupes d'au moins deux individus.

48) Un individu peut être détenu seul dans un enclos. Ne sont pas concernés les animaux des espèces sociables.

49) Enclos externes qui permettent aux animaux de creuser des terriers.

50) Des dispositions appropriées doivent être prises sur le plan du climat, pour permettre l'hibernation aux espèces qui en ont besoin.

51) Les délimitations des enclos et les séparations ne doivent pas être en grillage.

52) Le sol de l'enclos doit présenter en sa surface des structures favorables à l'état des pieds et, le cas échéant, du pelage. Prévoir pour les félins des installations approriées supplémentaires permettant l'usure des griffes.

53) Les aliments doivent être présentés de telle manière que l'animal soit incité à fournir un effort pour les obtenir.

54) Fourrage de structure grossière, tels que du foin ou de la paille, et fourrage riche en vitamine C.

55) Il est également possible de prévoir des étages, à condition que la surface de base minimale soit respectée. La hauteur de l'espace intérieur utilisable entre le sol et le premier étage doit alors correspondre au moins à la longueur du corps d'un animal adulte (sans la queue).[1]

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1 Erratum du 27 déc. 2013 (RO **2013** 5575).

Tableau 2

Enclos pour oiseaux

Enclos pour oiseaux			Pour des groupes jusqu'à n animaux				Par animal en plus[a]		Intérieur	Exigences particulières
			Nombre	Enclos extérieur	Volières[b]		Enclos extérieur	Volières[b]	par animal[c]	
Espèces animales			(n)	Surface[d] m²	Surface[d] m²	Volume m³	Surface m²	Surface m²	Surface m²	
1	Autruche africaine	e)	2 3	1100 1600	–	–	200 f, 800 m	–	6	1) 3) 24)
2	Nandous	e)	6	500	–	–	50	–	–	1) 3) 24)
3	Casoars	e)	2	300	–	–	–	–	10	2) 3) 4) 24) 26)
4	Émeu	e)	2	500	–	–	100	–	–	1) 3) 24) 25) 26)
5	Manchots de grande taille (à partir du manchot papou)	e)g)	12	100	45	90	3	–	3	6) 7)
6	Manchots de petite taille et manchot d'Adélie	e)g)	12	60	45	90	2	–	2	6) 7) 17)
7	Pélicans	e)	4	60	–	–	10	–	3	7) 8) 12)
8	Cormorans, anhingas	e)g)	6	40	20	50	2	3	–	7) 9) 10)
9	Bec-en-sabot	e)g)	2	100	–	–	50	–	6	7)
10	Jabiru, cigogne géante, marabouts, héron Goliath	e)g)	2	200	80	320	50	20	5	7) 12)
11	Cigognes de taille moyenne et de petite taille	e)	2	100	100	500	10	10	1	7) 10) 11)
12	Hérons de grande taille (héron cendré)	e)	6	100	100	500	5	3	1	7) 10) 11)
13	Hérons de taille moyenne (hérons garde-bœufs)	e)	6	–	40	160	–	2	0,5	7) 10) 11)
14	Ombrette	e)	6	–	40	160	–	5	2	4) 7) 8) 10) 11)
15	Ibis, ibis chauve, spatules	e)	12	–	40	160	–	2	0,5	7) 10) 11)
16	Butor étoilé	e)	2	–	20	50	–	2	2	4) 7) 8) 10) 11)
17	Hérons de petite taille (butor nain)	e)	2	–	10	25	–	–	–	4) 7) 9) 10)
18	Flamants	e)	20	250	–	–	5	–	1	7) 8) 12)
19	Grues de grande taille (grues cendrées)	e)	2	300	–	–	150	–	6	11) 12) 14)
20	Grues de petite taille (demoiselles de Numidie)	e)	2	200	–	–	100	–	2	11) 12) 14)
21	Aigles et vautours de grande taille	e)	2	–	60	240	–	15	4	10) 11) 13) 14) 15)
22	Aigles de petite taille (aigle botté), balbuzards pêcheurs, éperviers de grande taille, buses, milans, vautours de petite taille, circinés	e)	2	–	30	90	–	10	2	10) 11) 13) 14) 15)
23	Faucons de grande taille (faucon pèlerin, gerfaut)	e)	2	–	20	60	–	4	2	4) 10) 11) 13) 14) 15)
24	Faucons de taille moyenne (hobereau), éperviers de petite taille (épervier d'Europe)	e)	2	–	15	40	–	2	1	4) 10) 11) 13) 14) 15)
25	Faucons nains	e)	2	–	10	20	–	0,5	–	4) 9) 10) 13) 14) 15)

Enclos pour oiseaux			Pour des groupes jusqu'à n animaux				Par animal en plus[a]		Intérieur	Exigences particulières
			Nombre	Enclos extérieur	Volières[b]		Enclos extérieur	Volières[b]	par animal[c]	
Espèces animales			(n)	Surface[d] m²	Surface[d] m²	Volume m³	Surface m²	Surface m²	Surface m²	
26	Strigidés de grande taille (hibou grand-duc)	e)	2	–	30	90	–	6	3	4) 10) 11) 13) 14) 15)
27	Strigidés de taille moyenne (chouette effraie)	e)	2	–	20	40	–	3	2	4) 10) 11) 13) 14) 15)
28	Strigidés de petite taille (chouette chevêche)	e)	2	–	10	20	–	1	1	4) 9) 10) 13) 14) 15)
29	Cailles *Coturnix japonica*	h)	6	–	0,5	0,25	–	0,045	–	19) 22) 23) 27)
30	Psittacidés de grande taille (aras et cacatoès)	e)f)	2	–	10	30	–	1	–	5) 14) 16) 18) 19) 20) 22)
31	Oiseaux jusqu'à la taille des perroquets gris de grande taille (grandes perruches et perroquets)		2	–	0,7	0,84	–	0,1	–	14) 18) 19) 20) 21) 22)
32	Oiseaux jusqu'à la taille des perruches calopsittes (perruches de taille moyenne)		6	–	0,5	0,3	–	0,05	–	14) 18) 19) 20) 21) 22)
33	Oiseaux jusqu'à la taille des inséparables (canaris, passereaux, petites perruches, inséparables)		4	–	0,24	0,12	–	0,05	–	14) 19) 20) 21) 22) psittacidés: 18)
34	Limicoles	e)	8	–	20	40	–	1	0,5	7) 11)
35	Labbes, goélands	e)	6	30	60	240	2	2	–	7)
36	Mouettes	e)	10	–	60	240	–	1	–	7)
37	Engoulevents, caprimulgiformes	e)	2	–	20	40	–	1	–	4) 9) 10)
38	Colibris, nectariniidés	e)	2	–	3	6	–	1	–	4) 10) 14) 16)
39	Quetzal, trogons	e)	2	–	20	60	–	4	–	10) 14)
40	Calaos de grande taille	e)	2	–	20	60	–	–	–	10) 14)
41	Paradisiers	e)	2	–	20	60	–	4	–	4) 10) 14)

Notes du tableau 2 (oiseaux)

a) Si la colonne «Par animal en plus» ne contient pas d'indication, il n'est en principe pas permis de détenir plus de n animaux.

b) Lorsque les dimensions minimales sont indiquées en termes de surface de base et de volume, la hauteur doit atteindre, sauf mention contraire, au moins 80 % du quotient volume/surface de base. Si le tableau fixe des exigences par animal supplémentaire, le volume doit être augmenté dans la même proportion que la surface de base.

c) Dans tous les enclos, la surface au sol doit être de 4 m^2 au minimum.

d) Dans les cas où le tableau 4 prévoit des dimensions minimales pour les bassins, la surface exigée doit être ajoutée aux surfaces figurant sur le tableau 2.

e) Une autorisation au sens de l'art. 89 est obligatoire pour détenir ces animaux à titre privé.

f) Les aras de grande taille: *Anodorhynchus hyacinthinus, Anodorhynchus leari, Ara ambigua, Ara ararauna, Ara caninde, Ara chloroptera, Ara macao, Ara militaris, Ara rubrogenys, Cyanopsitta spixii.*

Les cacatoès de grande taille: *Cacatua alba, Cacatua galerita, Cacatua moluccensis, Cacatua ophthalmica, Calyptorhynchus funereus, Calyptorhynchus lathami, Calyptorhynchus magnificus, Probosciger aterrimus.*

g) Les présentes dimensions minimales s'appliquent uniquement aux infrastructures existant le 1er septembre 2008. Lorsque les installations sont nouvellement aménagées, il y a lieu de tenir compte des dernières connaissances en la matière pour fixer les dimensions minimales.

h) Les exigences minimales selon les chiffres 31 ou 32 doivent être remplies, selon la taille, pour les espèces de cailles autres que la caille de l'espèce *Coturnix Japonica*.

Exigences particulières

1) Bain de sable.

2) Les enclos doivent pouvoir être reliés entre eux.

3) Le local intérieur peut être remplacé par un abri ou une stabulation. Celle-ci doit permettre à tous les animaux d'y trouver place en même temps, rester sèche et présenter une aire de repos protégée du vent.

4) Aménager des possibilités de se cacher convenant à l'espèce – roseaux, buissons, cavités dans le sol ou dans un tronc d'arbre, etc.

5) Enclos intérieur; enclos extérieur facultatif. Si l'enclos extérieur est accessible en permanence, les dimensions de celui-ci peuvent être prises en compte à raison d'un tiers au plus dans le calcul des dimensions de l'enclos intérieur.

6) Détention à l'intérieur et à l'extérieur. Détention d'espèces antarctiques et subantarctiques en été: enclos intérieurs toujours climatisés; en hiver: accès à des enclos extérieurs ou promenades («parades des manchots»).

7) Pour les bassins, voir tableau 4. Un bassin approprié est également requis pour les espèces ne figurant pas dans le tableau 4.

8) Aménager des possibilités de se baigner également dans l'enclos intérieur.

9) Suivant l'espèce, il s'agit d'enclos extérieurs ou intérieurs.

10) Aménager des possibilités de se percher.

11) Espèces sensibles au froid: un local intérieur doit être à disposition.

12) L'enclos intérieur doit être en communication directe avec l'enclos extérieur.

13) Les rapaces diurnes et nocturnes ne peuvent être détenus à la chaîne que dans des établissements de détention non accessibles au public. Les rapaces dans les fauconneries doivent avoir régulièrement et suffisamment l'occasion de voler librement.

14) Prévoir des possibilités de se baigner.

15) Les volières doivent être installées de telle façon que les oiseaux ne soient pas dérangés par le public.

16) Si deux oiseaux sont détenus ensemble, l'enclos doit pouvoir être subdivisé en cas de besoin.

17) Pendant l'hiver, il faut pouvoir détenir les jeunes manchots à l'abri du gel.

18) Prévoir beaucoup de branches naturelles permettant aux animaux de ronger et de grimper.

19) Les animaux doivent être détenus par groupes d'au moins deux individus.

20) Divers perchoirs, souples, de différentes épaisseurs et de différentes orientations doivent être installés dans l'enclos pour le structurer. Un tiers du volume doit rester libre de toute structure.

21) Dans les enclos inférieurs à 2 m^2, le rapport entre la longueur et largeur, en relation à la surface minimale, doit être de 2:1 au plus.

22) Du sable convenant à son absorption par des oiseaux doit être mis à disposition.

23) Pour les jeunes cailles du Japon (de l'espèce *Coturnix Japonica*), prévoir la surface suivante par animal: jusqu'à 14 jours inclus: 100 cm^2; jusqu'à 41 jours inclus: 300 cm^2. Au cours des deux premières semaines de vie, les poussins peuvent être détenus sur un sol entièrement grillagé, à condition que celui-ci soit en partie recouvert d'un matériau non glissant pour les animaux, sur lequel de la nourriture peut être distribuée.

24) À partir du troisième mois de vie, prévoir un libre accès à une aire de sortie ou à un herbage pendant toute l'année.

25) À partir du troisième mois de vie, aménager dans l'enclos une possibilité de se baigner dans de l'eau.

26) L'enclos doit pouvoir être subdivisé, de sorte qu'il soit possible de séparer temporairement le coq des poules. La zone délimitée doit être d'au moins 100 m^2.

27) À partir de la 3^e semaine de vie, la part grillagée du sol de l'enclos où la hauteur minimale est atteinte ne doit pas excéder 50 % de la surface. Au moins la moitié de la surface totale doit être recouverte d'une litière appropriée (p. ex. balles de céréales, sciure de bois). L'enclos doit présenter des possibilités de prendre un bain de poussière, suffisamment de cachettes, et, pour les cailles pondeuses, la possibilité de pondre dans un nid ou une cachette sans être dérangées. Les nids doivent avoir au moins une hauteur de 16 cm et une aire de 20×20 cm. Ils doivent être partiellement couverts et pourvus d'une litière dont le matériau est approprié. Pour les groupes de plus de 10 cailles, il faut prévoir au moins 2 équipements d'alimentation et d'abreuvement par enclos.

Tableau 3

Bassins pour mammifères

Bassins pour mammifères		Pour des groupes jusqu'à n animaux			Par animal en plus[a)]	Exigences particulières
Espèces animales		Nombre (n)	Surface m²	Profondeur m	Surface m²	
1	Vison (forme sauvage), putois	2	1	0,2	–	
2	Ragondin	2	2	0,5	–	
3	Castor	5	30	0,8	–	6)
4	Capybara	5	6	0,5	1	7)
5	Loutre naine	2	10	0,5	2	
6	Loutre de rivière, loutre à joues blanches	2	20	0,8	–	
7	Loutre de mer	2	60	2	25	
8	Ours, à l'exception des ours malais[b)]	2	50	1	2	
9	Ours blanc[b)]	1	400	2	20	
10	Rhinocéros d'Asie[b)]	2	10	1	5	
11	Hippopotame nain[b)]	2	20	0,8	–	
12	Hippopotame[b)]	2	30	1,5	8	
13	Tapirs[b)]	2	10	0,8	–	
14	Siréniens[b)]	2	80	2	20	
15	Phoques	5	80	2	10	1)
16	Lions de mer, otaries à fourrure	5	150	3	15	1)
17	Éléphants de mer, morse[b)]	3	250	10	40	1)
18	Dauphins, marsouins[b)]	5	800	5	50	2) 3) 4)
19	Dauphins de rivière asiatiques[b)]	4	400	4	25	2) 5)
20	Dauphins de rivière sud-américains[b)]	4	400	4	30	2) 5)
21	Orque, béluga, globicéphale noir[b)]	2	2000	10	150	2) 4) 5)

Notes du tableau 3 (bassins pour mammifères)

a) Le volume doit être augmenté dans les mêmes proportions que la surface.

b) Les présentes dimensions minimales s'appliquent uniquement aux infrastructures existant le 1er septembre 2008. Lorsque les installations sont nouvellement aménagées, il y a lieu de tenir compte des dernières connaissances en la matière pour fixer les dimensions minimales.

Exigences particulières

1) Les dimensions indiquées ne sont applicables qu'aux bassins. Une partie de terrain appropriée est requise en plus. Dimensions minimales par animal: phoque: 10 m^2; lion de mer, otarie à fourrure, éléphant de mer, morse: 15 m^2.

2) Puissance de filtrage de l'eau: l'installation doit permettre de renouveler le volume total de l'eau en quatre heures au maximum.

3) Y compris un bassin accessoire de 150 m^2 et de 3,5 m de profondeur avec possibilité d'un approvisionnement indépendant en eau et un bassin de séparation des animaux.

4) Eau salée.

5) Y compris un bassin accessoire et un bassin de séparation des animaux; au moins un bassin de séparation des animaux doit être muni d'un approvisionnement indépendant en eau.

6) Le bassin doit être structuré avec du bois que le castor peut couper. Le bois doit être régulièrement renouvelé.

7) L'enclos intérieur doit aussi être équipé d'un bassin.

Tableau 4

Bassins pour oiseaux

Bassins pour oiseaux		Pour des groupes jusqu'à n animaux			Par animal en plus	Exigences particulières
Espèces animales		Nombre (n)	Surface m²	Profondeur m	Surface m²	
1	Manchots de grande taille (à partir du manchot papou)[a)]	12	15	2	1	1)
2	Manchots d'Adélie[a)]	12	15	2	1	1)
3	Manchots de petite taille[a)]	12	15	1	0,5	1)
4	Pélicans	4	50	0,75	5	
5	Cormorans, anhingas	6	40	1,25	1	
6	Flamants	20	100	–	0,5	2)
7	Limicoles	8	6	–	–	2)
8	Goélands	6	12	–	–	
9	Mouettes	12	6	–	–	

Notes du tableau 4 (bassins pour oiseaux)

a) Les présentes dimensions minimales s'appliquent uniquement aux infrastructures existant le 1er septembre 2008. Lorsque les installations sont nouvellement aménagées, il y a lieu de tenir compte des dernières connaissances en la matière pour fixer les dimensions minimales.

Exigences particulières

1) Bassin à bords abrupts avec des sorties.

2) Profondeur variable avec haut-fond.

Reptiles

Remarques préliminaires

A. En raison notamment des différences de taille parfois considérables entre les animaux adultes et les jeunes, les dimensions des enclos doivent être proportionnées à la longueur du corps de l'individu détenu. Par «longueur du corps» on entend pour les sauriens et les crocodiles la longueur de la tête et du tronc, pour les tortues la longueur de la carapace (mesurée en ligne droite) et pour les serpents la longueur totale. Les dimensions de l'enclos sont indiquées dans le tableau en unités de mesure LC «Longueur du corps». Si plusieurs animaux de tailles différentes sont détenus ensemble, c'est la longueur du corps de l'individu le plus grand qui doit être prise comme unité de mesure pour calculer les dimensions de l'enclos conformément au tableau. S'il résulte du calcul effectué une hauteur requise de plus de 2,2 m, la hauteur peut être réduite à 2,2 m pour des raisons pratiques. Dans ce cas, la surface de l'enclos doit être augmentée proportionnellement, de telle manière que le volume minimal de l'enclos soit respecté.

B. On tiendra compte des besoins de chaque espèce animale quant à la température (ectothermie), à l'humidité de l'air et à la lumière. Les informations précises sont disponibles dans la littérature terraristique et dans les fiches thématiques de l'OSAV.

C. La question de la sécurité doit être dûment prise en considération dans la conception et la gestion des enclos de reptiles offensifs (p. ex. tortues serpentines et tortues alligator), de reptiles venimeux (p. ex. hélodermes et serpents venimeux), de boïdés de grande taille et de lézards de grande taille. Les enclos doivent être équipés de fermetures de sécurité (serrures, verrous, etc.). Dans les établissements accessibles au public, les enclos doivent être pourvus de vitres de sécurité et de refuges ou d'équipements permettant d'enfermer les animaux.

D. Les enclos peuvent être temporairement plus petits pour une quarantaine, le traitement d'une maladie ou à la suite d'un accident, à des fins d'accoutumance, de reproduction, d'élevage des jeunes, ou durant les périodes de léthargie due à l'hiver ou au froid ou les périodes d'estivation.

E. La profondeur indiquée est celle où le bassin est le plus profond. Pour certaines espèces, le bassin doit en outre présenter par endroits une surface plane immergée moins profonde.

Tableau 5

Reptiles

Enclos pour reptiles			Pour des groupes jusqu'à n animaux				Par animal en plus		Exigences particulières
			Nombre	Terrain	Bassin		Enclos	Terrain	Bassin	
Espèces animales			(n)	Surface[b] LC	Surface[b] LC	Profondeur LC	Hauteur LC	Surface LC	Surface LC	
	Tortues terrestres (Testudinidés *[Testudinidae]*)									
1	Tortues géantes des Galapagos et des Seychelles (*Chelonoidis nigra. Dipsochelys* spp.)	a)	2	8×4	–	–	–	2×2	–	1) 2) 3) 5) 6) 7) 12) 26)
2	Tortue sillonnée (*Geochelone* [*Centrochelys*] *sulcata*)	a)	2	8×4	–	–	–	2×2	–	1) 3) 5) 6) 7) 9) 12) 26)
3	Tortues terrestres tropicales et subtropicales (*Astrochelys* spp., *Chelonoidis carbonaria, C. chilensis, C. denticulata, Chersina angulata, Geochelone elegans, G. platynota, Gopherus* spp., *Homopus* spp., *Indotestudo* spp., *Kinixys* spp., *Malacochersus tornieri, Manouria* spp., *Psammobates* spp., *Pyxis* spp., *Stigmochelys pardalis, Testudo kleinmanni*)		2	8×4	–	–	–	2×2	–	5) 9) 12) certaines espèces: 1) 3) 7) 26)
4	Tortues terrestres d'Europe (*Testudo graeca, T. hermanni, T. marginata, T. horsfieldii*)		2	8×4	–	–	–	2×2	–	1) 4) 5) 7) 9) 26)
	Tortues alligators (Chelydridés, *[Chelydridae]*)									
5	Tortue alligator (*Macroclemys temminckii*)	a)	2	–	4×3	1	–	–	2×2	3) 5) 9) 12) 18) 21)
5a	Tortue serpentine (*Chelydra* spp.)	a)	2	2×2	4×3	1	–	–	2×2	3) 5) 9) 12) 18) certaines espèces 4)
	Tortues à carapace molle (Trionychidés *[Trionychidae]*)									
6	Tortues à carapace molle de grande taille (*Amyda cartilaginea, Aspideretes nigricans, Chitra* spp., *Pelochelys* spp., *Rafetus* spp., *Trionyx triunguis*)	a)	2	2×2	5×3	2	–	–	2×2	3) 5) 7) 9) 18)
7	Tortues à carapace molle de taille moyenne et de petite taille (*Amydia* spp. [sauf *A. cartilaginea*], *Apalone* spp., *Cyclanorbis* spp., *Cycloderma* spp., *Dogaia subplana, Lissemys* spp., *Nilssonia* spp., *Palea steindachneri, Pelodiscus* spp.)		2	2×2	5×3	2	–	–	2×2	3) 5) 7) 9) 18) certaines espèces 4)

Enclos pour reptiles			Pour des groupes jusqu'à n animaux					Par animal en plus		Exigences particulières
			Nombre	Terrain	Bassin		Enclos	Terrain	Bassin	
Espèces animales			(n)	Surface[b] LC	Surface[b] LC	Profondeur LC	Hauteur LC	Surface LC	Surface LC	
	Kinosternoidea									
8	Kinosternidés (*Kinosternidea*) (*Claudius angustatus, Dermatemys mawii, Kinosternon* spp., *Staurotypus sarvinii, Sternotherus* spp.)		2	2×2	4×3	1	–	1×1	2×2	3) 5) 9) certaines espèces: 4) 26)
	Tortues d'eau douce Eurasienne (*Geoemydidae*)									
8a	Tortues d'eau douce eurasiennes de grande taille (*Batagur borneensis, Orlitia borneensis*)	a)	2	2×2	5×3	2	–	1×1	3×1	3) 5) 18)
	Émydidés (*Emydidae*)									
9	Tortues d'ornement et tortues peintes (*Actinemys marmorata, Chrysemys* spp., *Clemmys guttata, Deirochelys* spp., *Emydoidea blandingii, Emys* spp., *Glyptemys* spp., *Graptemys* spp., *Malaclemys terrapin, Pseudemys* spp., *Trachemys* spp.)		2	2×2	5×3	2	–	1×1	2×2	3) 5) 9) 18) 26) certaines espèces: 4)
9a	Tortues-boîtes (*Terrapene* spp.)		2	8×4	–	–	–	2×2	–	1) 4) 5) 7) 9) 26)
	Pleurodires (*Pleurodira*)									
10	Pélomédusidés (*Pelomedusidae*) (*Pelomedusa* spp., *Pelusios* spp.)	a)	2	2×2	4×2	1	–	1×1	1×1	3) 5) 9) 18) 26)
11	Tortues à cou de serpent (*Chelidae*) (*Acanthochelys* spp., *Chelodina* spp., *Chelus fimbriata, Elseya* spp., *Elusor macrurus, Emydura* spp., *Hydromedusa* spp., *Mesoclemmys* spp., *Myuchelys* spp., *Phrynops* spp., *Platemys platycephala, Pseudemydura umbrina, Rheodytes leukops, Rhinemys rufipes*)	a)	2	2×2	5×3	2	–	–	2×2	3) 5) 9) 18) 26)
12	Podocnémidés (*Podocnemidae*) de grande taille Podocnémide élargie (*Podocnemis expansa*)	a)	2	2×2	4×2	1	–	–	1×1	3) 5) 9) 18) 26)
12a	Podocnémidés (*Podocnemidae*) de taille moyenne et petite (*Erymnochelys madagascariensis, Peltocephalus dumeriliana, Podocnemis* spp. [excepté *P. expansa*])		2	2×2	4×2	1	–	–	1×1	3) 5) 9) 26)

Enclos pour reptiles			Pour des groupes jusqu'à n animaux					Par animal en plus		Exigences particulières
			Nombre	Terrain	Bassin		Enclos	Terrain	Bassin	
Espèces animales			(n)	Surface[b] LC	Surface[b] LC	Profondeur LC	Hauteur LC	Surface LC	Surface LC	
	Caméléons (Chaméléonidés *[Chamaeleonidae]*)									
13	Caméléons vrais arboricoles (*Brady-podion* spp., *Chamaeleo* spp. [sauf *C. namaquensis*], *Calumma* spp., *Furcifer* spp., *Kinyongia* spp., *Nadzikambia* spp.)	a)	1	5×3	–	–	5	2×2	–	selon l'espèce: 1) 3) 4) 5) 8) 9) 13) 15) 26)
14	Caméléon vrai terrestre (*Chamaeleo namaquensis*)	a)	1	6×4	–	–	3	2×2	–	1) 3) 4) 5) 9) 13) 15) 26)
15	Caméléons terrestres (*Brookesia* spp., *Rhampholeon* spp., *Rieppeleon* spp.)	a)	1	6×4	–	–	4	2×2	–	3) 5) 9) 15)
	Iguanes (Iguanidés, [*Iguanidae*])									
16	Iguanes verts (*Iguana* spp.)	a)	2	4×3	–	–	4	2×2	–	2) 3) 5) 8) 9) 12) 26)
17	Iguanes terricoles de grande taille (au terme de leur croissance: > 1 m longueur totale) (*Conolophus* spp., *Ctenosaura acanthura, C. pectinata, C. similis, Cyclura* spp.)	a)	2	5×4	–	–	2	2×2	–	3) 5) 7) 8) 9) 12) 26)
17a	Anolis (*Anolis* spp.)		2	6×6	–	–	8	2×2	–	3) 5) 8) 9) 26)
	Agames (Agamidés [*Agamidae*])									
18	Hydrosaures (*Hydrosaurus* spp.)	a)	2	5×3	4×2	1	5	2×2	–	3) 5) 8) 9) 26)
19	Dragons d'eau (*Physignatus* spp.)		2	5×3	2×2	1	5	2×2	–	3) 5) 8) 9) 26)
20	Agames barbus (*Pogona* spp.)		2	5×4	–	–	4	2×2	–	3) 5) 8) 9) 26) certaines espèces: 4) 13)
21	*Calotes* spp.		2	5×4	–	–	5	2×2	–	3) 5) 8) 9) 26)
22	Agames à tête ongulée (*Gonocephalus* spp.)		2	5×4	–	–	5	2×2	–	3) 5) 8) 9) 26)
23	Fouette-queues (*Uromastyx* spp.)		2	5×4	–	–	3	2×2	–	3) 4) 5) 7) 9) 26)
23a	Dragons volants (*Draco* spp.)	a)	2	20×8	–	–	20	8×4		3) 5) 8) 9) 25) 26)
23b	Diable cornu (*Moloch horridus*)	a)	2	6×4	–	–	3	2×2		3) 5) 9) 25) 26)
	Lézards (Lacertidés [*Lacertidae*])									
24	Lézards des souches. lézards verts. lézards des îles Canaries (*Lacerta* spp., *Gallotia* spp.)		2	6×~~4~~	—	—	4	2×2	–	3) 5) 9) 26) certaines espèces: 4) 13)
24a	Petits lézards communs (*Podarcis* spp.)		2	8×4	–	–	6	2×2	–	5) 8) 9) 26)
25	Lézards vivipares et *Alavroides* (*Zootoca vivipara, Algyroides* spp.)		2	8×4	–	–	4	2×2	–	3) 13) certaines espèces: 1) 4) 5) 9) 26)

Enclos pour reptiles			Pour des groupes jusqu'à n animaux					Par animal en plus		Exigences particulières
			Nombre	Terrain	Bassin		Enclos	Terrain	Bassin	
Espèces animales			(n)	Surface[b] LC	Surface[b] LC	Profondeur LC	Hauteur LC	Surface LC	Surface LC	
	Tégus ou téjus (Teiidés [*Teiidae*], *Tejus*])									
26	Dracènes et lézard-caïman (*Dracaena* spp., *Crocodilurus* spp.)	a)	2	3×3	2×2	0,5	3	1×1	–	3) 5) 8) 9) 12) 18) 25) 26)
27	Tégus (*Tupinambis* spp.)	a)	2	5×3	–	–	3	2×2	–	3) 5) 7) 9) 12) 26) certaines espèces: 4)
	Scinques (Scincidés [*Scincidae*])									
28	Scinque à queue tronquée et scinque à langue bleue (*Tiliqua* spp.)		2	7×4	—	—	3	2×2	–	3) 4) 5) 9) 26)
28a	Scinques terricoles de petite taille et de taille moyenne (*Eumeces* spp., *Mabouya* spp., *Trachylepis* spp.)		2	7×4	–	–	3	2×2	–	3) 5) 7) 9) certaines espèces: 26)
29	Scinque à queue préhensile des Îles Salomon (*Corucia zebrata*)		2	5×3	–	–	5	2×2	–	3) 5) 8) 9)
	Geckos (*Gekkota*)									
30	Espèces de geckos nocturnes et aériennes (*Diplodactylus* spp. [certaines espèces], *Hemidactylus* spp., *Oedura* spp., *Tarentola* spp., *Uroplates* spp.)		2	6×2	–	–	8	2×2	–	3) 5) 8) 9) certaines espèces: 4)
31	Espèces de geckos nocturnes et terricoles (*Coleonyx* spp., *Diplodactylus* spp. [certaines espèces], *Eublepharis* spp., *Nephrurus* spp.)		2	6×6	–	–	2	2×2	–	3) 5) 9) certaines espèces: 4) 7)
32	Espèces diurnes de geckos (*Gonatodes* spp., *Lygodactylus* spp., *Phelsuma* spp.)		2	6×6	–	–	8	2×2	–	3) 5) 8) 9) 26)
	Cordyles (Cordylidés [*Cordylidae*])									
33	Cordyles (*Cordylus* spp., *Hemicordylus* spp., *Pseudocordylus* spp.)		2	5×3	–	–	4	2×2	–	3) 5) 9) 26) certaines espèces: 4) 8) 13)
33a	Lézards des rochers (*Platysaurus* spp.)		2	8×2	–	–	5	2×1	–	3) 8) 9) 26) certaines espèces: 4) 5) 13)
34	Zonures géants (*Cordylus giganteus*)		2	5×3	–	–	3	2×2	–	3) 4) 5) 7) 9) 26)
	Hélodermes (*Heloderma*)									
35	Hélo derme granuleux (*Heloderma horridum*)	a)	2	4×3	–	–	3	2×2	–	3) 4) 5) 7) 9) 12) 26)
35a	Lézard perlé (*Heloderma suspectum*)	a)	2	4×3	–	–	2	2×2	–	3) 5) 7) 9) 12) 26)

Enclos pour reptiles			Pour des groupes jusqu'à n animaux					Par animal en plus		Exigences particulières
			Nombre	Terrain	Bassin		Enclos	Terrain	Bassin	
Espèces animales			(n)	Surface[b)] LC	Surface[b)] LC	Profondeur LC	Hauteur LC	Surface LC	Surface LC	
	Varans (Varanidés [*Varanidae*])									
36	Varans terricoles de grande taille provenant des régions arides[2]	a)	2	5×3	–	–	2	2×2	–	3) 5) 9) 12) 26) certaines espèces: 4) 6) 7) 8)
37	Varans terricoles de grande taille provenant des régions semi-arides à humides (*Varanus bengalensis, V. komodoensis, V. nebulosus*)	a)	2	5×3	–	–	2	2×2	–	2) 3) 5) 6) certaines espèces: 7) 8) 9) 12) 26)
38	Varans arboricoles de grande taille provenant des régions humides[3]	a)	2	5×2	–	–	5	2×2	–	2) 3) 5) 6) 8) 9) 12) 26)
39	Varans semi-aquatiques de grande taille[4]	a)	2	5×3	2×2	0,5	2	2×2	1×1	2) 3) 5) 6) 8) 9) 12) 18) 26)
40	Varan aquatique de Mertens (*Varanus mertensi*)	a)	2	2×2	3×2	0,5	2	1×1	1×1	2) 3) 5) 8) 9) 12) 18) 26)
41	Varans herbivores de grande taille (*Varanus mabitang, V. olivaceus*)	a)	2	5×3	–	–	5	2×2	–	2) 3) 5) 6) 8) 9) 12) 25) 26)
	Pythons (Pythonidés [*Pythonidae*]) et boas (Boïdés [*Boidae*])									
42	Boïdés de grande taille[5]	a)	2	1×0,5	–	–	0,75	0,2×0,2	–	2) 3) 5) 10) 12) certaines espèces: 4)
43	Anacondas (*Eunectes* spp.)	a)	2	1×0,5	1×0,5	0,2	0,75	0,2×0,2	0,1×0,1	2) 3) 5) 12) 17) 18)
43a	Pythons et boas de petite taille et de taille moyenne (p. ex. *Boa constrictor, Epicrates cenchria, Morelia spilota, Python curtus, P. regius*)		2	1×0,5	–	–	0,75	0,5×0,2	–	3) 5) 9) certaines espèces: 2) 8)
43b	Python vert arboricole australien et boas (*Morelia viridis*, *Corallus* spp.)		2	1×0,5	–	–	0,75	0,5×0,2	–	3) 5) 8)
	Couleuvres vraies (Colubridés [*Colubridae*])									
44	Couleuvres aquatiques d'Asie orientale (*Rhabdophis* spp.)	a)	2	1×0,5	0,5×0,5	0,2	0,5	0,5×0,1	0,5×0,1	3) 5) 8) 11) 12) certaines espèces: 4)
45	Couleuvres de Ceylan (*Balanophis* spp.)	a)	2	1×0,5	–	–	0,5	0,5×0,2	–	3) 5) 11) 12)
46	Colubridés dangereux (*Boiga dendrophila, B. blandingii, Dispholidus typus, Thelotornis* spp.)	a)	2	1×0,5	–	–	0,7	0,5×0,2	–	3) 5) 9) 11) 12) certaines espèces: 8) 23) 26)

2 *Varanus albigularis, V. exanthematicus, V. giganteus, V. gouldii, V. griseus, V. nesterovi. V. panoptes, V. rosenbergi, V. spenceri, V. varius, V. yemenensis*.
3 *Varanus caerulivirens, V. cerambonensis, V. doreanus, V. dumerilii, V. finschi, V. indicus, V. jobiensis, V. juxtindicus, V. macraei, V. melinus, V. obor, V. rudicollis, V. salvadorii, V. spinulosus, V. yuwonoi.*
4 *Varanus bangonorum,V. cumingi, V. dalubhasa, V. marmoratus, V. niloticus, V. nuchalis, V. ornatus, V. palawanensis, V. rasmusseni, V. salvator, V. togianus.*
5 *Epicrates angulifer, Liasis olivaceus, L. oenpelliensis, L. papuanus, Morelia amethistina, M. boeleni, Python molurus, P. nat alensis, P. reticulatus, P. sebae.*

Enclos pour reptiles			Pour des groupes jusqu'à n animaux					Par animal en plus		Exigences particulières
			Nombre	Terrain	Bassin		Enclos	Terrain	Bassin	
Espèces animales			(n)	Surface[b] LC	Surface[b] LC	Profondeur LC	Hauteur LC	Surface LC	Surface LC	
	Élapidés (*Elapidae*)									
47	Élapidés terricoles (p. ex. *Acanthophis* spp., *Aspidelaps* spp., *Naja* spp., *Pseudechis* spp.)	a)	2	1×0,5	–	–	0,5	0,5×0,2	–	3) 5) 11) 12) 23)
48	Élapidés arboricoles (*Dendroaspis* spp. [excepté *D. polylepis*], *Pseudohaje goldii*)	a)	2	1×0,5	–	–	0,7	0,5×0,2	–	3) 5) 8) 11) 12) 14) 23)
49	Élapidés de très grande taille (*Dendroaspis polylepis, Oxyuranus* spp.)	a)	2	1×0,5	–	–	0,5	0,5×0,2	–	3) 5) 8) 11) 12) 14) 23)
50	Cobra royal (*Ophiophagus hannah*)	a)	2	1×0,5	–	–	0,5	0,5×0,2	–	3) 5) 9) 11) 12) 14) 23) 25)
51	Cobra d'eau (*Boulengerina annulata*)	a)	2	0,5×0,3	1×0,5	0,4	0,5	0,5×0,1	0,5×0,1	3) 5) 9) 11) 12) 17) 23)
52	Tricots rayés (serpents marins) (*Laticauda* spp.)	a)	2	–	2×1,5	0,7	–	–	1×1	5) 12) 18) 20) 23) certaines espèces: 21)
53	Serpent marin noir et jaune (*Pelamis* spp.)	a)	2	–	2×1	0,5	–	–	1×1	5) 12) 18) 19) 20) 22) 23)
	Vipères (Vipéridés [*Viperidae*])									
54	Vipères fouisseuses (*Atractaspididae* spp., *Homoroselaps* spp.)	a)	2	1×0,5	–	–	0,5	0,5×0,2	–	5) 7) 9) 12) 23)
55	Vipéridés et crotalidés terricoles sans les espèces à déplacement par déroulement latéral	a)	2	1×0,5	–	–	0,5	0,5×0,2	–	3) 5) 11) 12) 23) certaines espèces: 4) 13) 26)
56	Vipéridés et crotalidés à déplacement par déroulement latéral[6]	a)	2	1,5×0,5	–	–	0,5	0,5×0,2	–	3) 5) 11) 12) 23) 24) certaines espèces: 4)
57	Vipéridés et crotalidés arboricoles	a)	2	1×0,5	–	–	0,7	0,5×0,2	–	3) 5) 8) 12) 23) certaines espèces: 13)
58	Mocassin d'eau (*Agkistrodon piscivorus*)	a)	2	0,5×0,5	0,5×0,5	0,1	0,5	0,5×0,1	0,5×0,1	3) 4) 5) 11) 12) 23)
	Crocodiliens (*Crocodylia*)									
59	Crocodiles[7]	a)	1	4×2	4×2	0,5	0,5	2×2	2×2	2) 3) 5) 6) 12) 18) 26) tous les jeunes et les adultes de certaines espèces: 11)
	Rhynchocéphales (*Rhynchocephalia*)									
60	Sphénodons ou tuataras (*Sphenodon* spp.)	a)	2	4×3	2×1	0,4	0,5	4×3	–	3) 5) 7) 9) 16)

Notes du tableau 5 (reptiles)

a) Une autorisation au sens de l'art. 89 est obligatoire pour détenir ces animaux à titre privé.

6 *Bitis peringueyi, B. schneideri, Cerastes* spp., *Crotalus cerastes, Eristicophis macmahoni, Pseudocerastes persicus.*

7 *Alligator* spp., *Caiman* spp., *Crocodylus* spp., *Gavialis* spp., *Mecistops* spp., *Melanosuchus* spp., *Osteolaemus* spp., *Paleosuchus* spp., *Tomistoma* spp.

b) Les chiffres indiqués prescrivent non seulement la surface qui résulte de leur multiplication mais aussi le rapport à respecter entre la longueur et la largeur de la surface minimale.

Exigences particulières

1) Aménager en plus des possibilités de sorties en plein air pour autant que les conditions météorologiques le permettent.
2) Certaines espèces doivent pouvoir se baigner dans un bassin pouvant être chauffé et ayant une grandeur suffisante; cette exigence est également applicable aux enclos de séparation des animaux.
3) La température doit répondre aux besoins des animaux. Une petite partie de l'enclos doit être maintenue à une température plus élevée et, suivant l'espèce, une source de chaleur doit être à la disposition pour de chaque animal afin qu'il puisse s'exposer individuellement au rayonnement, sauf en cas de détention en plein air.
4) Le climat doit être régulé tout au long de l'année de manière à permettre les périodes de léthargie due à l'hiver ou au froid ou les périodes d'estivation des animaux de toutes les classes d'âge.
5) Les structures sociales doivent être respectées. Dans certaines circonstances, les animaux doivent être détenus individuellement.
6) Pour toutes les tortues géantes, les tortues sillonnées, les tortues à carapace molle, les varans et les crocodiles: si plusieurs animaux sont détenus dans le même enclos, celui-ci doit, en cas de besoin, pouvoir être subdivisé ou des enclos appropriés permettant de séparer les animaux doivent être mis à disposition.
7) Le sol doit être pourvu par endroits d'un substrat qui peut être creusé, permettant aux animaux d'adopter le comportement de fouissage et, suivant l'espèce, de se retirer.
8) Tous les enclos doivent comporter, selon l'espèce, des possibilités de grimper horizontalement et/ou verticalement, tels que des arbres, des branches d'une épaisseur égale à celle du corps de l'animal ou des parois de rocher.
9) Aménager des possibilités de se cacher.
10) Aménager des aires de repos surélevées.
11) Installer des cachettes (terriers, creux d'arbres, caisson avec ouverture, tuyau en liège ou autres) où les animaux peuvent néanmoins être observés.
12) Construction solide de l'enclos (terrarium).
13) Un net rafraîchissement doit être provoqué au cours de la nuit.
14) Un caisson dont l'ouverture peut être actionnée de l'extérieur ou une autre possibilité de séparation doit être à disposition même en cas de détention individuelle.
15) L'enclos doit être bien aéré; il doit comporter au moins deux parois avec du treillis.
16) Une climatisation doit être à disposition, y compris pour le bassin.
17) La profondeur du bassin peut être limitée à 0,6 m quand bien même le résultat purement mathématique donnerait une valeur plus élevée.
18) Installation de filtrage de dimension suffisante.
19) Les coins de l'aquarium doivent être arrondis. Idéalement, le bassin devrait être ovale ou cylindrique.
20) L'aquarium doit être recouvert de manière à empêcher toute fuite.
21) Aquarium d'eau douce, d'eau saumâtre ou d'eau salée, suivant l'espèce, avec une petite partie de terre ferme.
22) Détention dans un aquarium d'eau de mer sans terre ferme.
23) Si un anti-venin (sérum) est disponible pour l'espèce concernée, en garder en réserve ou en garantir l'obtention facile par affiliation à une société stockant des sérums.
24) Les animaux de certaines espèces doivent disposer d'emplacements de sable fin, sans poussière et de consistance meuble dans lequel ils peuvent s'enterrer.
25) La preuve doit être apportée que les animaux peuvent se procurer suffisamment de nourriture conforme à leur espèce.
26) Pour certaines espèces diurnes, il faut utiliser des lampes claires (HQL, HQI ou autres lampes comparables) permettant aux animaux de se réchauffer localement, sauf si les animaux sont détenus en plein air ou dans des enclos avec ensoleillement direct. L'utilisation exclusive de chauffage au sol ou de lampes infra-rouge n'est pas admise.

Tableau 6

Amphibiens

Remarques préliminaires

A. En raison notamment des différences de taille parfois considérables entre les animaux adultes et les jeunes, les dimensions des enclos doivent être proportionnées à la longueur du corps de l'individu détenu. Les dimensions de l'enclos, qui résultent de l'addition des surfaces individuelles pour chaque animal, sont indiquées dans le tableau en unités de mesure LC «Longueur du corps». Par «longueur du corps», on entend la longueur totale pour les anoures et la longueur de la tête et du tronc pour les urodèles.

B. Les besoins de chaque espèce animale en termes de température et d'humidité de l'air (ectothermie) doivent être respectés.

C. Les aliments mis à la disposition des larves d'amphibiens doivent être composés, selon l'espèce, d'ingrédients d'origine végétale ou animale.

D. Les aliments des amphibiens après métamorphose (jeunes et adultes) doivent être composés essentiellement d'animaux fourrage entiers. Les animaux fourrage doivent être de bonne qualité et éventuellement enrichis de vitamines et de sels minéraux. Ils doivent pouvoir être absorbés en entier.

Amphibiens

Enclos pour amphibiens		Pour des groupes jusqu'à n animaux[a]					Par animal en plus		Exigences particulières
		Nombre	Terrain	Bassin		Enclos	Terrain	Bassin	
Espèces animales		(n)	Surface[d] LC	Surface[d] LC	Profondeur LC	Hauteur[b] LC	Surface LC	Surface LC	
	Hylidés (*Hylidae*), Hyperoliidés (*Hyperoliidae*), Cératophryidés (*Ceratophrydae*) et Rhacophoridés (*Rhacophoridae*)								
1	Grenouilles en provenance de zones tempérées (*Hyla arborea, H. cinerea, H. meridionalis, Rhacophorus dennysi*)	2	10×5	–	–	10	2×2	–	1) 3) certaines espèces: 2) 4) 6) 7)
2	Grenouilles non terricoles en provenance de zones tropicales et subptropicales (*Agalychnis* spp., *Hyperolius* spp., *Dendropsophus* spp., *Trachycephalus* spp., *Polypedates* spp.)	2	10×5	–	–	10	2×2	–	1) 2) 3) certaines espèces: 5) 7) 9)
2a	Grenouilles terricoles en provenance de zones tropicales et subptropicales (p. ex.. *Ceratophrys* spp., *Hypsiboas* spp.)	2	10×5	–	–	4	2×2	–	1) 3) 8) certaines espèces: 7) 9)
	Dendrobatidés (*Dendrobatidae*)								
3	Dendrobatidés terricoles	2	25×15	—	—	8	15×2	—	1) 3) 7) 9)
4	Dendrobatidés arboricoles	2	20×10	—	—	25	10×2	–	1) 2) 3) 4) 9) certaines espèces: 5) 7)
	Pipidés (*Pipidae*)								
5	Xénopes et pipidés des eaux tropicales (*Pipa* spp., *Xenopus* spp.)	2	–	6×4	4	–	–	2×2	1) 10)
5a	Grenouilles naines africaines (*Hymenochirus* spp.)	2	–	12×6	8	–	–	6×3	1) 10)
	Grenouilles vraies (Ranidés [*Ranidae*])								
6	Grenouilles d'eau (*Lithobates* spp., *Pelophylax* spp.)	2	6×4	10×5	2	5	2×2	2×1	1) 3) certaines espèces: 6)
	Crapauds (Bufonidés [*Bufonidae*])								
7	Crapauds en provenance de zones tempérées (p. ex.. *Bufo bufo, B. viridis, B. calamita*)	2	6×4	—	—	4	2×2	—	1) 3) 6) certaines espèces: 2) 7)
8	Crapauds en provenance de zones tropicales et subtropicales (par ex. *Bufo alvarius, B. guttatus, B. mauretanicus, B. marinus, B. pardalis*)	2	6×4	—	—	4	2×2	—	1) 3) 7) certaines espèces: 8)
9	Crapauds arboricoles (*Pedostibes* spp.)	2	6×4	–	–	8	2×2	–	1) 2) 3) 4) 7)
	Salamandridés (*Salamandridae*)								
10	Salamandre terrestre (*Salamandra* spp.)	2	10×4	–	–	4	2×2	–	1) 3) certaines espèces: 6) 7) 9)

Enclos pour amphibiens		Pour des groupes jusqu'à n animaux[a]					Par animal en plus		Exigences particulières
		Nombre	Terrain	Bassin		Enclos	Terrain	Bassin	
Espèces animales		(n)	Surface[d] LC	Surface[d] LC	Profondeur LC	Hauteur[b] LC	Surface LC	Surface LC	
11	Tritons (*Pachytriton* spp., *Taricha* spp., *Triturus* spp.)	2	8×4	10×4	4	4	2×2	3×3	1) 3) 11) certaines espèces: 7) 9)
	Salamandre géante et ménopome (Cryptobranchidés [*Cryptobranchidae*])								
12	Salamandre géante, ménopome (*Andrias* spp., *Cryptobranchus alleganiensis*) c)	1	–	3×2	0,5	–	–	3×2	3) 10) 12)
	Ambystomatidés (*Ambystomatidae*)								
13	Axolotl et autres formes néoténiques, salamandres molles entièrement aquatiques (*Ambystoma* spp. [formes néoténiques uniquement])	2	–	4×2	2	–	–	1×1	1) 3) 10) 12)
13a	Salamandres maculées, salamandres tigrées (*Ambystoma* spp.[à l'exception des formes néoténiques])	2	10×4	–	–	4	2×2	–	1) 3) certaines espèces: 6) 7) 9) 11)
	Sirènes (Sirenidés [*Sirenidae*])								
14	Sirènes (*Siren* spp., *Pseudobranchus* spp.)	2	–	4×2	2	–	–	1×1	1) 3) 10) 12)

Notes du tableau 6 (amphibiens)

a) Les enclos peuvent être temporairement plus petits pour une quarantaine, le traitement de maladies ou suite à un accident, ou encore à des fins d'accoutumance, de reproduction, d'élevage des jeunes et d'hivernation.

b) L'indication correspond à la hauteur moyenne de l'enclos; celui-ci peut être plus ou moins haut par endroits.

c) Une autorisation au sens de l'art. 89 est obligatoire pour détenir ces animaux à titre privé.

d) Les chiffres indiqués prescrivent non seulement la surface qui résulte de leur multiplication mais aussi le rapport à respecter entre la longueur et la largeur de la surface minimale.

Exigences particulières

1) Deux animaux peuvent être détenus ensemble; la détention par paire n'est cependant pas nécessaire. Si les animaux sont d'espèces solitaires, deux animaux sociables peuvent être détenus dans un enclos de taille minimale.

2) L'enclos doit être pourvu d'éléments permettant à l'animal de grimper, tels que plantes, branches ou bouts d'écorce.

3) L'enclos doit présenter des possibilités de se cacher, tels que des cavernes, des fissures ou du feuillage.

4) L'enclos doit être pourvu de plantes vertes, sur lesquelles les animaux peuvent se tenir.

5) L'enclos doit être pourvu de broméliacées ou de plantes vertes présentant une structure en entonnoir comparable.

6) Les animaux doivent pouvoir entrer en léthargie due à l'hiver ou au froid dans un substrat meuble, se prêtant à être creusé.

7) Une cuvette, un récipient d'eau, des plantes contenant de l'eau (p. ex. broméliacées) ou un cours d'eau doivent être à disposition.
8) Le sol de l'enclos doit être constitué d'un substrat meuble, se prêtant à être creusé, afin que les animaux puissent se retirer pour l'estivation.
9) Taux d'humidité élevé de l'air.
10) L'enclos doit être muni d'un bac d'eau répondant aux besoins des animaux qui vivent essentiellement dans l'eau et d'une cachette.
11) Climat saisonnier avec de grandes variations. Provoquer une forte chute de température durant la nuit.
12) Filtre ou arrivée d'eau fraîche.

MANUAL FOR LIVE SALE, CAPTURE AND TRANSLOCATION OF WILDLIFE IN ZIMBABWE

Elephant holding facilities and cages at Umtshibi Game Capture Unit

ZIMBABWE PARKS AND WILDLIFE MANAGEMENT AUTHORITY

2017

Introduction

The sale, capture and translocation of wildlife within and outside Zimbabwe is provided for within the Zimbabwe Policy for Wildlife and procedure for wildlife capture and translocation outside Parks and Wildlife Estate Zimbabwe. Government views the capture and translocation of wildlife as a management tool and as one way in which Protected Areas can contribute to conservation and economic development in Zimbabwe.

Wildlife translocations are intended to yield measurable conservation benefits at the levels of a population, species or ecosystem, and not only provide benefit to translocated individuals. Wildlife translocations are an effective conservation tool in Zimbabwe which are done after an assessment of conservation benefits against the costs and risks of both the translocation and alternative conservation actions.

1.0 Reasons for live wildlife sales

Translocations of wildlife are carried out for various purposes which include:

1.1 Management of problem animals
1.2 Population reduction in numbers for ecological reasons and in Zimbabwe, translocation of wildlife is preferred as opposed to culling.
1.3 Sustainable offtakes of wildlife in cropping operations for socio-economic benefits
1.4 Live sales for export market in order for the country to derive revenue for conservation purposes
1.5 Captive management for research, recreation, education and as pets.
1.6 Increasing populations, i.e. where an existing population is significantly below carrying capacity and reintroductions will assist in the recovery of the population.
1.7 Re-establishing populations of locally extinct species
1.8 Establishing new wildlife parks according to approved area management plans.

2.0 Procedure for live wildlife sales and movements

2.1 Written expression of interest from applicant/client specifying species, sex ages of wildlife, and reasons of wanting the animals.
2.2 Assessment by PWMA (Facilities and capacity of personnel to look after the animals) and report with recommendations.
2.3 Commercial Services negotiate terms and conditions for live animals sales within Parks Estate
2.4 Live animal sales in private land to be guided by Statutory Instrument 26 of 1998.
2.5 Assessment report and terms and condition for the live sale submitted to Directorate for consideration
2.6 Directorate recommends live wildlife sale to the Board
2.7 Board recommends to Minister for approval by Minister of Environment, Water and Climate
2.8 Parks and Wildlife Management Authority (PWMA) to sign MOU with receiving country/organization/individual
2.9 Local capture and movement permit processed by PWMA and Ministry of Agriculture and Mechanization
2.10 Processing of import and export permit
2.11 Receiving property to construct facilities/structures for specific animals to be received before animals to be captured. Facilities to be inspected and approved before capture begins by the assessment team.
2.12 Capture to be carried out only by registered personnel. Personnel to be registered by the Veterinary Council of Zimbabwe and the PWMA
2.13 Capture of wildlife subject to veterinary requirements of receiving country there could be need for quarantine of wildlife for testing of diseases
2.14 Transportation to be guided by national and international guidelines(IUCN, CITES, IATA) basis for introduction and reintroduction of wildlife
2.15 Transportation equipment to be specific for each species
2.16 Animal welfare issues to guide the capture and movement of wildlife

3.0 Guidelines for live wildlife capture and translocation

The following are the guidelines and procedures to be followed during wildlife sale, capture and translocation exercises for both local and foreign destinations;

3.1 Authorization

3.1.1 All applications for wildlife capture and translocations must be submitted in writing to the Director General of Parks and Wildlife Management Authority.

3.1.2 An ecological assessment on both the receiving and source properties should be carried out by a team of ecologists and a report produced recommending the approval of the capture and translocation. This should cover ecological, social and economic impacts as well as come up with recommendations on the receiving site before capturing of the animals is done. At the source property, an ecological assessment look at whether there is a sufficient wildlife population of the species to be captured and translocated, whether the quota is sustainable for the populations and also looks into the management system in terms of issues such as fire, water and habitat management. The receiving property is also assessed for issues such as security and ability to cater for the animal's welfare.

3.1.3 A valid dangerous drugs licence must be submitted to the Parks and Wildlife Management Authority prior to the approval of wildlife capture and translocation exercise.

3.1.4 All capture and translocation of wildlife for export markets must be authorized by the Minister of Environment, Water and Climate.

3.1.5 All capture and translocation of wildlife for local markets should be authorized by the Director General.

3.2 Capture

3.2.1 PWMA Capture Unit to undertake any capture after issuance of the capture permit by the PWMA.

3.2.2 Licensed company/individuals for capture should maintain a register for operations undertaken. Register shall record the following information date, locality, nature of operation, species, number capture, sexes of animal captured, deaths in the course of capture, deaths following capture while in custody of operator, notes on operation and signature of independent assessor.

3.2.3 Capture and translocation team must be led by holders of a valid Dangerous Drugs license issued by the Ministry of Agriculture Mechanization and Irrigation Development or a qualified veterinarian and supervised by Parks

personnel. Thus all capture has to be done in the presence of Parks personnel irrespective of land tenure type.

3.2.4 All capture companies must be registered with the PWMA.

3.2.5 All capture and translocation of wildlife should only be done during the capture season which is 1 of March to 31st of September of each year.

3.2.6 All capture of wildlife done by Parks on private land and on parks estate for private individuals must be done on a commercial basis according to gazette fees. Only Problem animal control is done on a cost recovery basis.

3.2.7 Captive team should be adequately equipped including kits to monitoring animal blood, oxygen, heart beat

3.3. Quarantine at source

All wildlife to be transported over long distance, for prolonged periods, or to a different habitat to one from which there were captured needs to be boma trained until they have tamed down and become accustomed to the sights, sounds and smells associated with human activity. This usually takes between 4-8 weeks depending with the species.

1. Holding facilities/boma should be constructed after approval of the capture permit.

2. Holding facilities/boma minimum requirements to be stipulated in the assessment report for each specific animal to be captured

3.4. Transportation

3.4.1 Parks and Veterinary personnel to accompany the animals during translocation.

3.4.2 PWMA translocation permit should be issued before any wildlife is moved.

3.4.3 Local veterinary office in the district of capture should issue movement permits for all wildlife after seeing the PWMA movement permit prior to translocation.

3.4.4 Export and Import of wildlife will be done in accordance with the provisions of Convention in International Trade of Endangered Species of Wild Fauna and Flora (CITES).

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3.4.5 Transportation/shipping of wildlife will be done in line with IATA Live Animal Regulations and IUCN Guidelines for Reintroductions and other Conservation Translocations

3.5 Quarantine on receiving site

3.5.1 A team consisting Parks operations, Investigations, Veterinary Services and ZNSPCA personnel should inspect holding facilities, condition of animals during quarantine period, crates and mode of transport before and after they are airlifted.

3.5.2 Interested parties such ZNSPCA, IUCN, JOC, WWF will be free to inspect wildlife in bomas and cages (holding facility) as and when necessary.

3.5.3 Facilities should be constructed before capture operations have been sorted

3.6 Release and Monitoring

3.6.1 The capture and translocation team should be given at least 2 weeks as period of monitoring the release site and condition of animals translocated. The costs will be borne by the recipient of the applicant.

3.6.2 Periodic compliance inspections by PWMA should be carried out on receiving sites.

3.6.3 Animals should be gradually released into the new area and may be collared or marked for monitoring purposes.

4.0 Checklist of Permits and other documents required

In source country

1. CITES export permit- issued by the exporting country under CITES regulations
2. CITES import permit- Issued by importing country under CITES regulation
3. Capture permit- Issued by Parks and Wildlife Management Authority to capture wild animals according to the Parks and Wildlife Act Chapter 20:14

4. Translocation permit- Issued by Parks and Wildlife Management Authority to move animals from the field to holding facilities and from holding facilities to release site or to the airport.

5. Veterinary movement permit is a sanitary certificate that the animals being moved or exported are disease free. It is issued by Ministry of Agriculture.

6. CD1 form- to show that the money used to purchase the animals came through the banking system. It is issued by commercial Banks.

7. Form 47- to declare foreign currency being brought into the country and shows that the money used to purchase the animals was not brought through the banking system but in person. It is issued by ZIMRA.

8. Bill of quantities- specifying the type, numbers and weight of goods being exported. Issued by Shipping Agent.

9. ZiMRA Bill of Entry Form 21 or Customs entry form is issued by ZIMRA. It is a legal document to show that the goods that are going out of the country where is shows if taxes have been paid, if any, and it verifies all paper work required when exporting goods.

10. Security declaration form is issued by a handling company at the airport e.g. AGS and NHS as an affidavit that the goods being exported are correct. It is issued by the handling company at the airport like AGS and NHS.

11. Shippers' instruction is issued by a company handling the goods at the airport showing the type, and quantities of the goods.

12. Bill of laden is given when goods are being transported by water. It gives type, numbers and weight of the goods.

13. Mawb is issued by Airline. It is like ticket for the goods being airlifted.

14. Certificate of origin- Is shows that the animals originated from Zimbabwe. It is issued by the Zimbabwe Commerce of Zimbabwe Chamber of Commerce upon production of ZiMRA Bill of Entry Form 21.

15. Proof of payment- acceptable proof

5.0 Animal Welfare

The Five Freedoms of Animal Welfare

1. Provision of food & water
2. Suitable environment
3. Animal health management
4. Opportunity to express most natural behaviour
5. Protection from fear & distress

The five freedoms as mentioned above are a basic set of principles that are internationally recognised in all aspects of animal welfare. They have been used as a basis for many codes of conduct, welfare acts and general management manuals for animals in captivity. The basis of all captive animal management in Zimbabwe should be founded on these principles and then expanded on where possible, for the enhancement of the welfare of animals held at any facility.

1. Provision of food & water

- All animals should receive the ***appropriate*** diet for their species, which is of nutritive value and of sufficient quantity.
- Water must be given daily in sufficient quantity and in clean containers. Water must be available for the animals at all times throughout the day and night.

2. Suitable environment

- Animals in outdoor enclosures must be provided with correct shelter, from sun, rain and wind. Enclosures must allow the animals to react normally under a flight or escape situation.

- Careful consideration must be taken with regards to vegetation within the animal's enclosure. All enclosures must have a 'safe' place where the animal can hide from the public and out of view. Harmful vegetation must be removed as well as any vegetation which may interfere with the electric fencing.
- Enclosures must be cleaned daily of manure and left over food, and the water supply must be fresh at all times.
- Enclosures must be suitably constructed with security of the animal and the viewer/general public, taken into consideration.

3. Animal health management

- Routine observation of all captive animals:
- The condition, health and behaviour of each animal must be observed twice daily, especially in the event that animals are left unattended in their enclosures overnight.
- Should an animal be distressed, sick or injured they must receive immediate attention and treatment.

Enclosures

- Enclosures must be designed with the specific species requirement in mind.
- The size of the enclosure is very important; it is particularly noted that enclosures that are too small lead to a host of psychological issues.
- Trees inside the enclosure or near the enclosure must be checked and frequently maintained so as not to provide an escape route. If the animals' natural activity is within the treetops then trees must be made available within the enclosures, but sufficiently far enough from the enclosure fence. Logs and items of interest, such as water features etc. must also be introduced into the animals enclosure.
- Distance or barriers between animals and public must be sufficient to minimise transmission of disease or potential pathogens.
- Enclosures must not be overcrowded and consideration must be given to correct male / female ratios. If breeding is not intended, or permits have not been issued correctly for the permission of breeding, then males and females must be housed in separate enclosures.
- Enclosures for different species should be designed within an appropriate proximity to one another to reduce stress. Also, antagonistic species should not be housed adjacent to each other. i.e. hyena and lions should not be enclosed directly next to one another

Veterinary Management

Each animal must have veterinary records kept, which is maintained under the supervision of a veterinarian.

The responsibilities of the supervising Veterinarian are as follows:

1. Treatment of sick animals
2. Administration of vaccines

3. Parasite control (internal & external)
4. Post mortem examinations of animals should they die
5. Supervision of quarantine premise
6. Nutrition and the animals diet
7. Euthanasing an animal which is un-treatable

4. **Opportunity to express most normal behaviour**

- Captive breeding of wild animals should be encouraged only if there is a long-term policy for that species and an insitu project to return them to the wild.
- Accommodation of animals should be as natural as possible so as to meet the physiological and psychological needs of the animal.
- Enclosures must have the correct bedding material, burrows, nesting boxes, pools, sub-strates and vegetation and other enrichment materials designed to aid and encourage normal behaviour patterns and to stop abnormal behaviour. Facilities must take into account growth in the animals and must be capable of providing adequately for their needs at all stages of their development.
- Social animals should be kept in a social environment with other animals.

5. Protection from fear & distress

- Animals must be handled by appropriate, qualified personel. Handling must be done with care to protect the well being of the animal, avoiding unnecessary discomfort, stress or physical harm.
- If public are allowed to touch the animals it must be for a restricted period of time so as not to cause any discomfort to the animals.

AAP Minimum Husbandry Guidelines

Chimpanzee, *Pan troglodytes*

Foraging & Feeding	
Theoretical conclusion	→ Biological need to vary in food items. → Ethological need to perform foraging behaviour (searching/working for food).
Foraging opportunity	- Food is offered dispersed, ensuring that all animals in the group can eat. - Meals are presented in various ways (e.g. hidden, in food puzzles). - Fresh browse is fed multiple times a week if available.
Frequency	Feeding at least twice a day.
Other remarks	Food and water must be offered at multiple locations to ensure low-ranking individuals have adequate access to water/food sources. Cultivated fruits contain more sugars and less fibre compared to wild fruits. Therefore, not too much fruit should be fed, 5 to maximum 25% of the total weight of the diet.
Social interaction	
Theoretical conclusion	→ Ethological need for social contact with conspecifics. → Managerial need for gradual introductions of unfamiliar conspecifics.
Group structure (sexe, age)	Social housing with conspecifics: at least 2, but preferably ≥4 individuals per group. Possible social structures: 1. multi-male/multi-female, with ♂♂ < ♀♀. 2. one male/multi-female group. 3. single sex group.
Group management	- There must be at least 2 indoor and 1 outdoor enclosure. - If animals are locked in the inside enclosures, there must be at least 2 hatches between the indoor enclosures.
Social introductions (hatches, acquaintance)	- There must be a possibility to have visual & protected contact (animals). - There must be a possibility to interfere during the physical phase (caretakers). - There must be escape routes available, i.e. animals should always be able to get away in a safe manner.
Other remarks	All-male groups should preferably not have visual contact with females. Regular observations of social groups is advised to find out whether (individuals in) the group is(/are) functioning well.

	Social introductions must be carefully considered, according to appropriate techniques.
Environment	
Theoretical conclusion	→ Biological need to perform natural locomotion behaviour (e.g. climbing). → Biological need for shelter from sun/rain/wind/cold. → Ethological need for hiding/retreat (from conspecifics and from humans).
Accessible space (indoor m^2, outdoor m^2, height)	A space as large as possible to maintain natural locomotion and foraging, **at least**: <u>Indoor</u> 160 m^2 per 1-2 animals, 4m high + 20 m^2 per extra individual for 1-8 additional animals. + 40 m^2 per extra individual for nine and more additional animals. <u>Outdoor</u> 160 m^2 per 1-2 animals, 4m high + 25 m^2 per extra individual for 1-8 additional animals. + 40 m^2 per extra individual for nine and more additional animals. Outdoor enclosure accessible at least 6 hours per day.
Environmental parameters	- Temperature indoor enclosure at least 16°C. - Above 30°C cooling (e.g. fan/air conditioning, shallow pool, mist, sprinklers) is provided. - Optimal indoor humidity 30%-70%. - Preferably natural lighting indoors.
Structural elements (does furnishing meet behavioural needs such as locomotion pattern)	- Climbing structures with horizontal perching areas, varying in size and height, that allow for resting, eating, and social behaviour (providing space for several animals at a time). - Materials to play or swing. - Optimal use of enclosure height must be ensured.
Visual barriers	Multiple out of sight areas so the animals can retreat from each other, from neighbouring animals and/or from humans.
Resting areas	- The number of resting areas depends on group size: 1-3 animals: 1 per animal >3 animals: #animals / 2 (round up) - At least one resting area must be large enough for the entire group. - Materials for buildings nests (e.g. branches, straw, shredded paper, blankets) must be available.
Shelters	- The number of sheltered areas depends on group size: 1-3 animals: 1 shelter area per animal >3 animals: #shelter = (#animals/3) + 1 (round up)

	- In the outdoor enclosure(s) shelter areas must provide shade and protection against rain/wind.
Substrate	Floor with natural substrate like grass or soil, or bedding material, like bark mulch, wood chips, leaf litter, wood wool, straw, hay, shredded paper or wood shavings.
Escape routes	2 hatches between enclosures must be available. Escape routes must be available, i.e. animals should always be able to get away in a safe manner.
Other remarks	The environment must be safe for all individuals living in it; e.g. no sharp edges which can cause wounds, spaces need to be small (or large enough) so body parts cannot get stuck, structures need to be solid/connected securely ('chimp proof') so nothing will disintegrate. Make sure electricity, lights etc cannot be reached by the chimpanzees, as they will break it.
Behaviour management	
Theoretical conclusion	→ Ethological need to perform exploratory behaviour. → Managerial need for approaching/handling/shifting/separating animals.
Enrichment frequency	Enrichment preferably every day, at least every other day.
Animal training	Animals are trained using positive reinforcement to reduce stress for transportation or medical treatments.
Catch & restraint	Advisable to have a possibility to connect transport box or tunnel to enclosure in order to be able to train animals.
Other remarks	Enrichment should be alternated and temporarily removed in order to stay interesting to the animals.
Safety	
Theoretical conclusion	→ Managerial need for safety procedures (protection of animals and people).
Preventing escape	- Enclosures surrounded by a fence/wall/moat. - Open top enclosures with a wall (e.g. from glass, metal, wire mesh, concrete) that must not be climbable. - A water moat wide enough so the animals cannot jump over, and deep enough so they cannot walk through. A water moat must always be accompanied by an extra electric fence system. - An emergency power system must be in place when using electric fencing. - Doors/hatches are visible from the location of operation. - Doors/hatches are equipped with a double lock system. - There are at least 2 doors between the enclosure and public area.
Safety measures (public)	Stand-off barrier to avoid contact with the actual enclosure (unless closed wall).
Safety measures (caretakers)	- Enclosures are designed for proper and safe cleaning. - At places where keepers operate hatches/doors, a barrier is used to prevent the risk of chimpanzees grabbing staff. - Hatches/doors are remotely operable.

Veterinary issues	Chimpanzees are susceptible to many human diseases. Infectious diseases can be transmitted from humans to chimpanzees and the other way around.
Other remarks	Chimpanzees are excellent escape artists. Make sure their possibilities to use trees/structures/hills to extend their jumping heights or lengths are limited. Highly tensile electric fencing can be used as supporting barrier, but cannot be used as primary barrier. When an artificial rock wall is used as a barrier, ensure that the surface does not provide escape routes. Water moats must have a shallow end at the side of the enclosure, so animals will be able to climb back in the enclosure when they ended up in the water, to reduce the risk of drowning.

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AAP Minimum Husbandry Guidelines

Barbary macaque, *Macaca sylvanus*

Foraging & Feeding	
Theoretical conclusion	→ Biological need to vary in food items. → Ethological need to express natural foraging behaviour.
Foraging opportunity	- Food is offered dispersed, ensuring that all animals in the group can eat. - Meals are presented in various ways (e.g. hidden, in food puzzles). - Fresh browse is fed multiple times a week if available.
Frequency	Feeding at least twice a day.
Other remarks	Food and water must be offered at multiple locations to ensure low-ranking individuals have adequate access to water/food sources.
Social interaction	
Theoretical conclusion	→ Ethological need for social contact with conspecifics. → Managerial need for gradual introductions of unfamiliar conspecifics.
Group structure (sexe, age)	Social housing with conspecifics: at least 2, but preferably ≥4 individuals per group. Possible social structures: 1. multi-male/multi-female, with ♂♂ = ♀♀ or ♂♂ < ♀♀. 2. one male/multi-female. 3. single sex group.
Group management	- The enclosure must have at least 2 compartments to shift or separate animals. - Number of hatches between enclosures depend on group size: 1-4 animals: 1 hatch ≥5 animals: 2 hatches
Social introductions (hatches, acquaintance)	- There must be a possibility to have visual & protected contact (animals). - There must be a possibility to interfere during the physical phase (caretakers). - There must be escape routes available, i.e. animals should always be able to get away in a safe manner.
Other remarks	All-male groups should preferably not have visual contact with females. In the wild males aged 3-8 yrs change groups when forced out by adults.

	Regular observations of social groups is advised to find out whether (individuals in) the group is(/are) functioning well. Social introductions must be carefully considered, according to appropriate techniques.
Environment	
Theoretical conclusion	→ Biological need to perform natural locomotion behaviour (e.g. climbing). → Biological need for shelter from sun/rain/wind. → Ethological need for hiding/retreat (from conspecifics, humans, loud noises, etc).
Accessible space (indoor m^2, outdoor m^2, height)	A space as large as possible to maintain natural locomotion and foraging, **at least**: <u>Total required space</u> 35 m^2 per 1-2 animals, 3 m high + 12 m^2 per extra individual. Divided over outside and possible inside enclosures. At least half of the space must always be accessible. The total amount of space should be accessible at least 6 hours per day. <u>Indoor</u> optional, if applicable: 15 m^2 per 1-2 animals, 3 m high + 6 m^2 per extra individual. Maximum of 10 animals.*
Environmental parameters	- Above 30°C cooling (e.g. fan/air conditioning, shallow pool, mist, sprinklers) is provided. - Optimal indoor humidity 40%-70%. - Preferably natural lighting indoors.
Structural elements (does furnishing meet behavioural needs such as locomotion pattern)	- Climbing structures with horizontal perching areas, varying in size and height, that allow for resting, eating, and social behaviour (providing space for several animals at a time). - Materials to play or swing must be available. - Optimal use of enclosure height must be ensured.
Visual barriers	Multiple out of sight areas so the animals can retreat from each other, neighbouring animals and/or humans.
Resting areas	- The number of resting areas depends on group size: 1-3 animals: 1 per animal >3 animals: #animals / 2 (round up) - At least one resting area must be large enough for the entire group.
Shelters	- In the outdoor enclosure(s) shelters must provide shade and protection against rain/wind. - At least one shelter should be large enough for the entire group. - The number of shelters depends on group size: 1-3 animals: 1 per animal

	4-6 animals: 3 shelters >6 animals: #animals / 2 (round up)
Substrate	Floor with natural substrate like grass or soil, or bedding material, like bark mulch, wood chips, leaf litter, wood wool, straw, hay, shredded paper or wood shavings.
Escape routes	- With a group of ≥5 animals at least 2 hatches between enclosures must be available. - Escape routes must be available, i.e. animals should always be able to get away in a safe manner.
Other remarks	The environment must be safe for all individuals living in it; e.g. no sharp edges which can cause wounds, spaces need to be small (or large enough) so body parts cannot get stuck, structures need to be solid/connected securely so nothing will disintegrate.
Behaviour management	
Theoretical conclusion	→ Ethological need to perform play behaviour in young/subadult individuals. → Ethological need to perform exploratory behaviour. → Managerial need for approaching/handling/shifting/separating animals.
Enrichment frequency	- Offer enrichment; frequency depending on enclosure type and group size. - Offer elements to stimulate play behaviour.
Animal training	Preferably animals are trained using positive reinforcement to reduce stress for transportation or medical treatments.
Catch & restraint	Advisable to have a possibility to connect a transport box or tunnel to the enclosure in order to be able to train and catch animals.
Other remarks	Enrichment should be alternated and temporarily removed in order to stay interesting to the animals.
Safety	
Theoretical conclusion	→ Managerial need for safety procedures (protection of animals and people).
Preventing escape	- Enclosures surrounded by a fence/wall/moat. - Open top enclosures with a fence with an insurmountable upper side plus electric wiring. - Fencing securely anchored. - A dry moat with a height or depth of at least 3,5 m in combination with an insurmountable barrier. - A water moat with a width of ≥4,5 m and depth of ≥1 m in combination with an insurmountable outer barrier. - An emergency power system must be in place when using electric fencing. - Doors/hatches must be visible from the location of operation.
Safety measures (public)	Stand-off barrier to avoid contact with the actual enclosure (unless closed wall).
Safety measures (caretakers)	- Enclosures are designed for proper and safe cleaning. - At places where keepers operate hatches/doors, a barrier is used to prevent the risk of primates grabbing staff.
Veterinary issues	Macaques may be carrier of zoonotic pathogens dangerous to humans.

Other remarks	Highly tensile electric fencing can be used as supporting barrier, but cannot be used as primary barrier. When an artificial rock wall is used as a barrier, ensure that the surface does not provide escape routes. When having a dry moat a means is provided to escape back to the enclosure when animals fall into the moat. At the same time prevent animals to approach the outer edge (e.g. fence, wall, hedges). Water moats must have a shallow bank zone on the side of the enclosure, so animals will be able to climb back in the enclosure when ended up in the water.

* in case of more than the stated number of animals consultation with the specialists team is necessary

Dear Johannes, Dear Karen,

By means of this email we would like to respond to your request for information related to Decisions 18.152 and 18.154 on the Definition of 'appropriate and acceptable destinations'.

The European Association of Zoos and Aquaria (EAZA) is the largest regional accreditation-based zoo and aquarium association in the world. It unites 422 Member institutions in 48 countries in Europe (including in 26 EU Member States), in Western Asia and beyond. Formed in 1992, it facilitates cooperation within the EAZA community towards the goals of education, research and conservation. The cornerstone of our Members' cooperation are the EAZA Ex Situ Programmes (EEPs) for more than 400 species. These scientifically managed and non-commercial joint population management programmes aim towards achieving and maintaining healthy populations of individuals with positive animal welfare. As part of the Regional Collection Planning (RCP) process, species specialists from EAZA's 42 Taxon Advisory Groups (TAGs) set species-specific and tailor-made conservation roles for our EEPs. These are based on the IUCN Guidelines on the Use of Ex situ Management for Species Conservation.

With regards to Decision 18.152 we would like to bring to your attention our "EAZA Standards for the Accommodation and Care of Animals in Zoos and Aquaria". The is one of the leading documents in EAZA that is binding for our Members, and to this end is used during our cyclical accreditation inspections.

Furthermore we would like to point you to our EAZA Best Practice Guidelines page for more species-specific guidance. You will note that in the mammal section we have species-specific guidelines for 3 species of rhino, including (southern) white rhinoceros. Our Best Practice Guidelines for Elephants are under review and are expected to be uploaded later this month or early May. These will be added to this same page on our website.

We would recommend to use these links on your website, rather than using the actual documents as to ensure you always guide Party's and other organisations to the latest version of these documents.

Our 42 Taxon Advisory Groups and our EAZA Ex situ Programmes (e.g. for white rhino and African elephant) are happy to provide further advice or be involved with follow up questions or activities related to the Decision.

We do also have a number of relevant documents relating to Decision 18.155 and look to you for advice whether you'd like to receive these as well?

All the best, Danny

Kind regards,
Danny de Man
Deputy Executive Director & Director Conservation and Population Management

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Fondation Franz Weber, David Sheperd Wildlife Foundation
and Humane Society International

Species-specific guidance for African elephants

Response to the request from CITES Secretariat on
Implementation of Decision 18.155 on
Definition of 'appropriate and acceptable destinations'

prepared by
W Keith Lindsay

on behalf of

Fondation Franz Weber
David Shepherd Wildlife Foundation
Human Society International

1 Introduction

This document is a response to the request from the CITES Secretariat on Implementation of Decision 18.155 on the Definition of 'appropriate and acceptable destinations'. It examines the biological needs and current "best practice" standards for elephants in captivity and concludes that the conditions in any *ex situ* destination for live African elephants:

1. should be fully equivalent to their social and ecological environment in their wild, native ecosystems.
2. are those involving the least disruption to social groupings and natural, normal behaviour, which are found only *in situ* locations in their natural and historical range.

If an *ex situ* destination is unable to meet the conditions of this proposed guidance then the only appropriate and acceptable destination would be an *in situ* location within the species' natural and historical range.

2 CITES process on guidance for conditions of captivity

Although some Parties and NGOs contend that CITES is primarily – or only – concerned with the extinction risk for endangered species and that it should retain this limited focus, there has been a gradual but steady trend towards recognition of the need for humane treatment of individual animals and species as a whole.

2.1 Definition of terminology: Suitably equipped to house and care for

Consideration for the welfare of live animals subject to international trade is enshrined in the original text of the CITES Convention, signed in 1973. The requirement for export of live specimens of Appendix I species clearly requires under Article III.2.c, that "*a Management Authority of the State of export is satisfied that any living specimen will be so prepared and shipped as to minimize the risk of injury, damage to health or cruel treatment*". Additionally, it stipulates, under Articles III.3.b, that "a *Scientific Authority of the State of import is satisfied that the proposed recipient of a living specimen is suitably equipped to house and care for it*". and under Article III.5.b, that "*a Management Authority of the State of introduction is satisfied that the proposed recipient of a living specimen is suitably equipped to house and care for it*".

This wording established from the outset the commitment that the capture and transport of animals from the wild should respect welfare concerns and that the ultimate destination of a live animal should provide living conditions that ensure their well-being. As the Convention is a treaty between sovereign governments, the responsibility for making these determinations has been vested in the relevant national authorities of the exporting and recipient countries. Thus the government agency acting as Scientific Authority is empowered to make the judgment on the ability of a destination within its borders to provide satisfactory care facilities for an imported wild animal. However, the Convention did not provide either general or specific guidance for Scientific Authorities to make this determination, and thus the conditions of wildlife in captivity have been seen to vary widely from country to country.

Under pressure from public sentiment within several countries, their respective associations of zoos and aquaria have developed sets of standards to guide their member institutions on the minimum acceptable conditions for keeping of wild animals. Some of these are listed below.

2.2 Definition of terminology: Appropriate and acceptable destination

The CITES Convention provides fewer safeguards for trade in live specimens of Appendix II species. The only condition listed in the Convention text is Article IV.2.c, which – like Article III.2.c – requires the Management Authority of the State of export to be *"satisfied that any living specimen will be so prepared and shipped as to minimize the risk of injury, damage to health or cruel treatment*". There is no provision concerning the conditions of captivity at the destination end for Appendix II species.

Concern over 'appropriate and acceptable destinations' was first expressed in 1994 at CoP9 when South Africa proposed to transfer its population of white rhinoceroses to Appendix II to allow trade in live specimens. The term was introduced to prevent trade in rhinoceros horn being re-opened. The same phrase was subsequently used in an annotation in relation to trade in live African elephants from Botswana, Namibia and Zimbabwe at CoP10 in 1997.

At CoP11 in 2000, the text of a draft resolution on Definition of the term 'appropriate and acceptable destinations' was proposed by Kenya and presented in CoP11 Doc. 26. This resolution called, for the first time:
"*a) that, where the term 'appropriate and acceptable destinations' appears in an annotation to the listing of a species in Appendix II of the Convention with reference to the export of live animals, this term shall be defined to mean destinations where animals will be:*
i) humanely treated;
ii) free to exhibit a normal range behaviour, including social behaviour; and
iii) able to contribute to the conservation of their species in the wild, including a likely possibility of successful breeding;
b) that, if a number of potential destinations are available, priority should be given to destinations in range States where the animals can live in a wild or semi-wild state".

The Resolution was not adopted, but in Res. Conf. 11.20 it was agreed:
"*that, where the term 'appropriate and acceptable destinations' appears in an annotation to the listing of a species in Appendix II of the Convention with reference to the export or international trade of live animals, this term shall be defined to mean destinations where the Scientific Authority of the State on import is satisfied that the proposed recipient of a living specimen is suitably equipped to house and care for it.*"

This agreement brought together the requirements for live trade in species under both Appendix I and II.

In 2007, the Appendix II listing of African elephant populations was annotated at CoP14 to state:
"*For the exclusive purpose of allowing trade in live animals to appropriate and acceptable destinations, as defined in Resolution Conf. 11.20, for Botswana and Zimbabwe and for in situ conservation programmes from Namibia and South Africa*".

Res. Conf. 11.20 was revised at CoP17 in 2016 to include the stipulations, for Appendix II species:
"*that the trade would promote in situ conservation*" and
"*that all Parties have in place legislative, regulatory, enforcement, or other measures to prevent illegal and detrimental trade in live elephants and rhinoceroses and the minimise the risk of injury, damage to health and cruel treatment of live elephants and rhinoceroses in trade*".

Over the years since the origin of the CITES Convention, there has been a clear trend towards the recognition that both extinction risk and compromise of animal well-being are parallel concerns in the conservation of endangered species.

2.3 Steps towards species-specific guidance for African elephants

Alongside the progress noted above, there remains a need to further define and clarify the terms 'appropriate and acceptable destinations', under Res. Conf. 11.20 (Rev CoP17) and 'suitably equipped to house and care for' under Article III.3.b of the Convention (which, as noted, is also included under the Res. Conf 11.20 definitions), particularly when they apply to African elephants.

Decisions 17.178 to 17.180 called on the Secretariat to report to AC29 and SC69 and coordinate deliberations on the 'suitably equipped...' terminology. They were conducted in intersessional working groups of the AC and SC, and at an in-session working group at AC30, and were reported to SC70, with findings presented at CoP18. The report, CoP18 Doc. 44.1, noted the following factors, among others, under non-binding guidance for all live specimens:
"*a) Physical housing (size and space [adequate space to display normal behaviour; to expand as the animal grows; availability of indoor/outdoor housing; and if animal is on public display, availability of private, off exhibit area], construction materials, shelter from sun/rain, safety and security measures, suitable arrangements for quarantine, substrate type);*
c) Animal care and husbandry (climate conditions, including correct temperature....;
d) Dietary needs (species-specific food and nutritional requirements....;
g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration;
i) Any other taxon-specific considerations".

SC70 Doc. 38.3, submitted by Burkina Faso and Niger to SC70, called on the Standing Committee to:
"*c) Recommend that the more detailed species-specific guidance for living specimens of African elephants and southern white rhinoceros include a statement indicating that exporting States and importing States are to permit trade in wild caught live African elephants only when the captured animal's social grouping is undisrupted, if the captured animal can exhibit normal behaviour fully equivalent to that of the animal living in the wild in its natural habitat, and if the trade demonstrates significant benefits to in situ conservation of the species of the exporting States*".

At CoP18, Res. Conf. 11.20 was further revised to define 'appropriate and acceptable destinations for live African elephants to mean:
"*in situ conservation programmes or secure areas in the wild, within the species' natural and historical range in Africa, except in exceptional circumstances where, in consultation with the Animals Committee, through its Chair with the support of the Secretariat, and in consultation with the IUCN elephant specialist group, it is considered that a transfer to ex-situ locations will provide demonstrable in-situ conservation benefits for African elephants, or in the case of temporary transfers in emergency situations*".

The recommendation in SC70 Doc. 38.3 informed Decision 18.155, which calls on the Animals Committee to:
"b) *building on the existing non-binding guidance contained in document CoP18 Doc. 44.1, prepare more detailed species-specific guidance for living specimens of African elephants and southern white rhinoceros, in consultation with relevant experts (including species and zoological facility experts) and the Secretariat*".

Notification No. 2019/070 of 29 November 2019, in addition to other recommendations called on
"*Parties... to use the non-binding guidance included in the Annex when considering whether the proposed recipient of a living specimen is suitably equipped to house and care for it*."
and
"*organizations and other relevant stakeholders, particularly those involved in either transport of live animals, or housing and caring for live animals, are also invited to submit any relevant information, including documents they may have developed or used to provide guidance on*

best practice in relation to housing and caring for live Appendix-I listed animals, or of relevance to the implementation of Resolution Conf. 11.20 (Rev. CoP18) on definition of the term 'appropriate and acceptable destinations' concerning elephants and rhinoceroses."

3 Meeting the requirements of elephant biology

This section outlines the realities of elephant biology, and compares them to reported best practice guidelines of a sample of national and international zoo associations. This comparison demonstrates that there is no current capacity for ex situ locations to provide for the basic biological needs of African elephants. It points out what improvements must be made for ex situ locations to meet the requirements of the non-binding guidance already outlined in CoP18 Doc. 44.1.

3.1 Natural behaviour of African Elephants

This description of key features of the biological qualities of elephants draws on information provided in SC69 Inf. 36, and in the submission to this Animal Committee by the IUCN-SSC African Elephant Specialist Group (AfESG 2020) in response to Notification to the Parties No. 2019/070. The information in the latter document is informed by the extensive experience of Dr Joyce Poole, who is an elephant research colleague of the author of the present submission (WK LIndsay). These biological qualities are further described below.

3.1.1 Dietary and habitat needs

Wild elephants have evolved a range of specialized physical and behavioural adaptations – including sizeable bodies and long limbs that allow them to traverse large distances (an average of 10km per day, with home ranges covering hundreds to thousands of square kilometres). They possess and require cognitive skills in foraging that help them to navigate the challenges of natural habitats. In the course of a 24-hour-day an adult elephant eats 150 to 450 kg, or between 4-6% of its body weight, and drinks 100-160 liters of water. To realize this input, free-ranging elephants must spend almost 75% of their lives acquiring food and searching for water (Wyatt & Eltringham 1974; Lindsay 1994). Effective foraging among free-ranging elephants *in situ* is achieved through constant smaller and larger movements. Slow meandering, moving-while-feeding, carries an elephant from one food item to another. Grasses, herbs, leaves, roots, branches, bark, seed-pods, lianas, and fungi are on the menu. Purposeful walking on daily forays and seasonal migrations take an elephant through a variety of habitats. Through the coordinated action of feet, tusks and dexterous trunk an elephant selects individual items of fruit, grasps tufts of grass, tusks open hearts of palm, flattens the hard thorns of an acacia branch, removes the leaves from a branch or pries bark off trees (Poole & Granli 2009).

Each species of food item in each season is eaten using a specific technique that must be learned and perfected through practice (Poole & Granli 2020). The physical activity and mental stimulation involved in the search for food items (walking, reaching and smelling with the trunk) and their manipulation (digging, kicking, stabilising with the feet; prying, levering, and breaking with the tusks; pulling, ripping, breaking, defoliating, cleaning with the trunk), constitutes the basis of an elephant's interest and survival. The techniques used by elephants to locate, select and extract food must be learned, either perfected through practice or by watching others and social learning plays a critical role in calves' acquisition of foraging knowledge and techniques of manipulating food items (Lee & Moss 1999; Poole & Granli 2020).

Furthermore, in addition to specific techniques, foraging *in situ* requires social learning, long-term memory, decision-making, vocal, visual and tactile communication, collaboration, tactical manoeuvres, and more - all of which maintain interest and mental stimulation. Dietary needs should, therefore, not be looked at in isolation of the overall wellbeing that foraging behaviour brings to an elephant.

3.1.2 Social well-being and animal behaviour

Elephant Society

Elephants' complex fission-fusion society is remarkable for its fluidity on the one hand, and its very close and enduring social relationships on the other. Relationships radiate out from the mother-offspring bond through family, bond group, clan, sub-population, independent adult males, and even beyond the population, to strangers (Moss & Poole 1983). Adult males, too, form long-term friendships among male age cohorts and relatives (Chiyo et al 2011) and, depending on their age, spend between 30-80% of their time in regular association with family groups (Poole, 1982). In the course of a single day an elephant may socialise with hundreds of other familiar individuals.

In the wild, much of what an elephant does is an intellectual challenge that depends on space: locating and manipulating a wide variety of food items as discussed in the dietary needs section of this document; remembering the location of water during a drought; searching for potential mates; deciding where to go, whom to go with, whom to join and whom to avoid. Discriminating between the individual scents, voices, and appearances of hundreds of familiar and unfamiliar individuals, including friends and foes, relatives and non-relatives, higher-ranking and lower-ranking competitors, and friendly and unfriendly species, is a continually engaging activity.

The activities experienced by a free-ranging elephant motivate an active mind and keep a vigorous body fit.

Behavior and communication

The behavioral repertoire of African elephants has been documented with written descriptions and video examples in *The Elephant Ethogram: A Library of African Elephant Behavior* (Poole & Granli 2020; and see Poole & Granli 2011; Poole 2011). Their repertoire includes over 280 behaviors (postures, gestures, calls as well as foraging and comfort techniques and other behaviors) and over 85 behavioral constellations (multi-behavioral displays or behaviors, e.g. estrous walk, musth walk, mating pandemonium, greeting ceremony etc).

Elephants use their voice, mouth, tusks, eyes, trunk, ears, feet, tail, glandular secretions and entire bodies in visual, acoustic, seismic, tactile and visual communication. Their voices range from 8-9,000 Hz, and include over 40 different calls in the form of low-frequency rumbles and higher-frequency trumpets, snorts, screams, barks, roars, cries, chirps, croaking, combination calls and other learned and idiosyncratic calls. Through these signals, postures and gestures we observe elephants to contemplate, indicate, comfort, assist, guide, express emotions and desires, communicate plans of action, discuss what to do, negotiate, and collaborate and meet their daily requirements.

3.1.3 Spatial-social wellbeing of elephants

The following elements of elephant biology and behaviour indicate the spatial-socio arrangement and scale needed for the wellbeing of elephants:

1. Elephants need be able to forage naturally
2. Multiple family units need to each have the possibility to split and re-form, aggregate with, and segregate from one another.
3. Female offspring need to remain with their mothers and closely bonded family for life, to allow them to learn allomothering and other critical social skills.
4. Male offspring need to remain with their families until approximately 14 years of age, their natural age of independence from the natal family, thereby also gaining critical social skills.
5. Adult males need to have the opportunity to form long-term social bonds among other adult males, to spend time alone or to join family groups as they would in the wild.

6. Elephants need to be able to express the full range of natural behaviour

In summary, wild elephants are born to walk long distances, to spend three-quarters of their time searching for forage, and to manage complex social relationships, and they need to do so on a daily basis to stay healthy in body and mind.

3.2 Species-specific guidance for African elephants

Appropriate conditions should be of a size and composition that allows for a normal functioning elephant society, with individuals able to engage in the full range of their natural behavioral repertoire (e.g. natural foraging and comfort behaviours; normal social functioning of family, all male and mixed groups as well as the formation of aggregations; provision for reproductive behavior such as oestrus, musth, births and the rearing of calves within a normal family structure.

Such conditions should include:

1. A climate in which seasonal variation falls within the range found in the African continent. Elephants should not be required to spend any significant time in indoor structures for protection from the climatic elements. Confinement in indoor stalls for more than 4-5 hours per day is totally inappropriate for any animal that is active for 75% of the 24-hour period, as are elephants.
2. An area of land encompassing tens, if not hundreds, of square kilometres of varied habitat, including productive grasslands, woodlands and water bodies. This amount of space is needed to allow movement and exercise, the expression of natural elephant behaviour patterns including the full range of foraging actions, and the ability to join with or avoid different individuals whom individual elephants may or may not choose - without aggressive encounters - as social companions.
3. Social groupings reflecting the natural structure of elephant society, comprising female-bonded groups that may also include juveniles of various ages and male-bonded groups that may form or disperse voluntarily. Male groups should have the space and opportunity to avoid the company of females entirely, or to join with them as and when they choose.

3.3 Current standards for *ex situ* captivity

Standards have been developed by zoo associations in different countries, or in groups of countries, around the world. These are summarized in the Table below. These standards have been developed under pressure from the public for better living conditions, and under the recognition by zoo managers that elephants were suffering significant problems in their physical and mental health. These minimum standards of the zoo associations, and even those of groups dedicated to captive elephant well-being, are based on what is considered practical under the financial constraints of facility construction and management. As can be seen below, they are completely inadequate when compared to what is known of elephant biology.

Table 1. A sample of "best practice" minimum standards for conditions of elephant captivity

Standard[1]	Sex	Area indoors	Area outdoors
ZAA - ARAZPA (Australia)	Female, with or without calves	Not specified	900m^2 for up to 2 adult elephants; 2000 m^2 for up to 8 elephants; 250m^2 for additional elephants >2 years' old
	Male	Not specified	500m^2 per elephant
AZA (USA)	Female	37m^2	500m^2 per elephant
	Female + calf	56m^2	500m^2 per elephant
	Male	56m^2	500m^2 per elephant
BIAZA (British and Irish Zoo Association)	Female	200m^2 for 4 females; 80m^2 per additional female	2,000m^2 for 4 adult females; 200m^2 per additional female
	Male	80m^2	500m^2
Central Zoo Authority, India	Either	48m^2	5,000m^2
CCEWB	Female	60m^2 overnight; 185m^2 winter quarters	Sufficient to allow walking of 10km/day
	Male	110 m^2 overnight; 320m^2 winter quarters	Same as female
GFAS	Female	240m^2 for 4 females; 80 m^2 per additional female	Sufficient to allow walking of 10km/day
	Male	110m^2	Same as female

The standards for social composition of elephant collections in *ex situ* locations varies between countries, but generally involves a minimum of 2-3 elephants of unspecified sex.

3.4 Observations on elephant behaviour compromises in captivity

While an elephant's diet in captivity may account for an elephant's nutritional needs (indeed, many captive elephants suffer from obesity (e.g, Clubb & Mason 2002, Clubb et al 2009) or may be underfed as reported with Asian elephants in Thailand/Indochina), captive feeding fails to stimulate the very considerable cognitive elements of foraging that fully engage free-ranging elephants. For example, the AZA recommended provision of "hay supplemented with fruits, vegetables, a pelleted supplement or grains" with fresh browse made available daily "when possible" (AZA 2020 guidelines) only requires an elephant to use the trunk to grasp and perhaps pull. The Elephant Ethogram (Poole & Granli 2020) describes over 40 different techniques used by wild elephants to manipulate and extract food items of which only 4 would be required for the AZA diet.

Due to the very limited space available in captivity elephants are not held in species appropriate groups that would permit them to behave naturally. The majority of American Zoos and Aquariums (AZA) accredited facilities that keep elephants (N=32), hold adult (defined as >10 years) female African elephants (N=99) with one or two other non-related adult females. Eleven of the AZA facilities hold four or more adult females, though we cannot be sure that they are housed together. Based on data compiled by C. Doyle, pers. comm.), only 6% of these adult females (N=99) are held with their adult daughters (any sons are typically removed after weaning and housed separately) and only 9% of them have immature offspring that they are presumably housed with (assuming males are removed by age 5)

[1] Sources: Zoo and Aquarium Association – ZAA of Australasia, formerly the Australasian Regional Association of Zoological Parks and Aquaria (ARAZPA 2004); American Association of Zoos and Aquaria (AZA 2012); British and Irish Association of Zoos and Aquaria (BIAZA 2010), Central Zoo Authority of India (2012); Coalition for Captive Elephant Well-Being, CCEWB (Kane et al. 2005a, 2005b); The Global Federation of Animal Sanctuaries (GFAS 2015).

The heightened sexual and aggressive state of musth experienced by adult males creates challenges to holding more than one male in a small enclosure in captivity. Thus, despite the social nature of male African elephants in the wild (Chiyo et al 2011; Lee et al 2011), the vast majority of captive males (for examples in AZA accredited facilities - C. Doyle, pers comm) are held singly.

Held In captivity, both male and female African elephants are kept in enclosures that do not permit natural social groupings or foraging, thus the expression of species-specific behaviours is severely impoverished.

To estimate the degree to which African elephants are able to express their natural behaviour in captivity, Poole (pers. comm.) scored how likely each behavior is to occur in captivity for adult females housed with or without immature offspring and for adult males housed singly. For adult females housed without juveniles or calves, 43% (N=308) of documented behaviours were likely to occur in captivity, but half of this number would occur only in limited contexts. For adult females housed with immatures 56% (N=330) of behaviours documented in situ were likely to be expressed in captivity, though 22% of these would only be expressed in limited contexts. Of the 266 behaviours displayed in situ by adult males, only 37% were likely to occur in captivity, and a good number of these only in limited contexts.

4 Conclusions

Evidence from elephant biology, when compared to the "best practice" conditions of confinement noted in Table 1, demonstrates that no *ex situ* captive facility is currently able to meet the social and behavioural needs of wild-caught elephants. For captive facilities to satisfy the basic needs of elephants, they must be prepared to provide the space and habitat complexity required to allow wild-caught African elephants to display normal behavioural choices of food or social companions or to sustain physical fitness. As noted, the spatial extent of an *ex situ* facility that would meet these requirements must be on the order of tens or, ideally, hundreds of square kilometres, in a climatic zone that allows year-round and 24-hour activity. Social groups must be formed voluntarily by the elephants, and should address the needs of females and males, adults and juveniles.

These requirements are exceedingly costly to provide and to maintain on a sustainable basis. For this reason, it is hard to escape the conclusion that the only option for 'appropriate and acceptable destinations' for African elephants would be an *in situ* location within the species' natural and historical range.

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15 April 2020

CITES Secretriat
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Dear Sir

Request for information: Implementation of Decisions 18.152 and 18.154 on Definition of 'appropriate and acceptable destinations'

In response to the request 'Pursuant to paragraph b) of Decision 18.152, the Secretariat issued Notification to the Parties No. 2020/070, inviting Parties and other stakeholders, inter alia, to submit to the Secretariat any examples of the type of relevant material outlined in paragraph a) of Decision 18.152, for inclusion on the CITES webpage (i.e. reference materials, published references, best practice examples, examples of Parties' appropriate and acceptable destination findings, suitably equipped to house and care for living specimens' findings, etc.).' In addition, 'provide any material that may assist the Animals Committee in their implementation of paragraph b) of Decision 18.155.'

In this regard, the IUCN SSC African Rhino Specialist Group (AfRSG) is a technical body, with access to broad diversity of rhino experts, in addition to links with other relevant Specialist Groups (such as the Reintroduction and Conservation Planning SGs) and the zoo fraternity (such as the European Association of Zoos and Aquaria (EAZA)). We stand ready to assist and advise countries with any specific assessments.

With the AfRSG's vision of striving for '*Thriving wild African rhinos valued by people and contributing to their well-being*' our focus is primarily on providing technical support in enhancing the conservation of free-ranging rhinos within their former range (ie *in situ*) in Africa (Knight 2019).

The success of rhino population recovery (prior to the recent poaching onslaught) in Africa has been largely driven by active translocation programmes within and back into former rhino range states. The AfRSG has actively promoted this through a series of re-introduction guidelines and rhino management manuals (Balfour et al 2019, du Toit et al 2006, Emslie et al 2009). These guidelines are also informed by a series of cascading rhino conservation plans from the continent scale (Emslie R. & Brooks M. 1999, DEA. 2016) to national levels (eg. South Africa. (Knight et al. 2015)). These are all based upon strong conservation principles, biological management and other criteria.

By and large the international rhino translocations (regulated by CITES) between African rhino range states supports the conservation of rhinos in both the exporting and importing African range states – thus supporting the main requirement associated with CITES Decision

18.152 with regard 'appropriate and acceptable destinations'. The national Non-Detriment Findings (NDF) process managed by the Scientific Authority in the exporting countries plays a crucial decision-making role with regards supporting such international translocations.

In the case of South Africa and Eswatini whose white rhino populations are listed on Appendix II by CITES but with annotations that they are only allowed to trade internationally in live animals to 'appropriate and acceptable destinations'. To maintain established white rhino populations at productive densities it is necessary to periodically live remove some animals and suitable homes need to be found for the removed animals. It is thus a win-win situation for both the donor and recipient populations in Africa and something we would not want to see constrained. It is accepted that crucial *in situ* conservation benefits can be derived from income earned from live sales. This revenue can help incentivise and importantly help pay for successful field conservation and protection and monitoring of remaining rhinos. Any notion that the trade in white rhinos is bad on the grounds that it potentially stimulates the illegal trade in rhinos and their derivatives need be treated with scepticism, in the absence of supportive scientific evidence. Here again, the national NDF process plays an important decision-making role with any international translocation with the donor range states with the Annotation needing to apply their minds on every application.

With regards white rhinos held in *ex situ* situations (defined here as outside natural rhino range states), the AfRSG accepts, in general terms, the role of such rhino groupings as spreading both the burden and the risk of rhino conservation, providing a potential genetic repository, as well as fulfilling an awareness and funding role for *in situ* conservation. Given the impact and threat of continuing poaching on free-ranging rhino populations, the AfRSG will need to assess the relative conservation importance of such *ex situ* populations, as well as the potential role of semi-intensive/captive breeding operations that have arisen (and may continue to arise) within rhino range states.

In the case of rhinos being exported into *ex situ* situations we lean heavily upon guidelines offered by IUCN and the various international zoo associations in deciding on why and when to establish such populations (IUCN 2014) and also how to manage them in a strategic, cooperative and humane manner (EAZA 2015, 2018, 2019a,b).

If you need any further assistance, we stand ready to help.

Yours

Dr MH Knight
Chairman

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IUCN SSC - African Elephant Specialist Group (AfESG) inputs on Implementation of Decisions 18.152 and 18.154 on Definition of 'appropriate and acceptable destinations', 15 May 2020

As prepared by the AfESG Task Force on movement of elephants from in-situ to ex-situ
Rob Slotow, Ben Okita-Ouma (co-Chairs), Deborah Gibson, Marion Garai, Richard Hoare, Winnie Kiiru, Shadrack Ngene, Joyce Poole, Daniel Stiles, Hilde Vanleeuwe, Lucy Vigne, Ian Whyte

The AfESG is responding to the request from CITES secretariat as per Notification to the Parties No. 2019/070.

"In particular, the Secretariat is seeking any material that may assist the Animals Committee in their implementation of paragraph b) of Decision 18.155, which directs the Animals Committee to prepare more detailed species-specific guidance for living specimens of African elephants and southern white rhinoceros, building on the existing non-binding guidance contained in the Annex to Notification to the Parties No. 2020/070." (the notification itself is labelled 2019-070)

E-Notif-2019/070 deals specifically with "Non-binding guidance for determining whether a proposed recipient of a living specimen is suitably equipped to house and care for it".

In response to the request for inputs under point 3 of No. 2019/070

3. In accordance with paragraph a) of Decision 18.154, Parties are hereby invited to use the non-binding guidance included in the Annex when considering whether the proposed recipient of a living specimen is suitably equipped to house and care for it.

The AfESG is not aware of any acceptable destinations that meet the requirements for ex-situ housing of forest or savanna elephants (collectively African elephants). This is reinforced by the poor success and survival of African elephant individuals previously taken into captivity. Currently there are three forest elephants (*Loxodonta cyclotis*) kept in captivity (1 in Ivory Coast and 2 in Japan; European Elephant Group database). In the EEP region between 2015 and 2019 only 27% of the African elephant (*L. africana*) captive breeding age females gave birth, compared to nearly 100% in the wild (European Elephant Group Database). Between 1990 and 2001, in European Studbook zoos, there was one birth per 55 African elephant females annually (Clubb & Mason 2002). The median lifespan for female African elephants born in European zoos is 16.9 years, against 56 years for natural mortality in Amboseli National Park, Kenya (Clubb et al. 2008).

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In response to the request for inputs under point 4 of No. 2019/070

4. Pursuant to paragraph a) of Decision 18.152 and with reference to paragraph b) of Decision 18.154, the Secretariat hereby invites Parties to submit any examples of the type of relevant material outlined in paragraph a) of Decision 18.152, for inclusion on the webpage.

Notwithstanding that there are currently African elephants held in ex-situ facilities, and not endorsing this; the AfESG is providing inputs based on its experience and expertise with wild elephants in promotion of the mission of the AfESG which is to is *"to promote the long-term conservation of Africa's elephants throughout their range"*, and on two specific components of the Annex to the E-Notif-2019/070, which demonstrates that the needs of African elephants cannot be met by such facilities.

d) Dietary needs (species-specific food and nutritional requirements, access to potable water);
g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed);

These inputs are appended as Annexure 1 - AfESG recommendations for captive elephants on dietary needs, space, social wellbeing and animal behaviour, based on our experience and expertise with wild elephants.

Annexure 1 - AfESG recommendations for captive elephants on dietary needs, space, social wellbeing and animal behaviour, based on our experience and expertise with wild elephants.

Notwithstanding that there are currently African elephants held in ex situ facilities, and not in any manner endorsing this; the AfESG is providing inputs based on its experience and expertise with wild elephants in promotion of the mission of the AfESG which is *"to promote the long-term conservation of Africa's elephants throughout their range"*, and on two specific components of the Annex to the E-Notif-2019-070, which demonstrates that the needs of African elephants cannot be met by such facilities.

Any management of elephants, whether in situ or ex situ, should aim to meet their biological, cognitive and social requirements, including, but not limited to, access to varied and suitable food, potable water, normal social partners and interactions, and provision for the elephants to engage in their natural behaviours. The inputs below are based on the Group's expertise with wild elephants, as well as considerable knowledge and experience of the current manner in which elephants are held captive in ex situ facilities.

d) "Dietary needs (species-specific food and nutritional requirements, access to potable water)"

The varied and complex diet of elephants in the wild, and their techniques and strategies for meeting their dietary needs, are difficult or impossible to replicate in captivity. Elephants spend approximately 75% of their life searching for and acquiring adequate food and water (Wyatt & Eltringham 1974; Lindsay 1994). Grasses, herbs, leaves, roots, branches, bark, seed-pods, lianas, fruit and fungi are part of their diet. Elephants meander from food item to food item, walk purposefully from one habitat to another, or engage in seasonal migrations in response to rainfall over many tens of kilometers (Viljoen 1989; Leuthold & Sale 1973; Leggett 2006).

Each species is eaten using specific techniques that must be learned and perfected through practice (Poole & Granli 2020). The physical activity and mental stimulation involved in the search for food items (walking, reaching, and smelling with the trunk) and their manipulation (digging, kicking, stabilizing with the feet; prying, levering, and breaking with the tusks; pulling, ripping, breaking, defoliating, cleaning with the trunk), provides a naturally enriching environment that contributes to the health and mental wellbeing of elephants, that cannot be met in a captive situation. The foraging techniques used by elephants must be learned through experience or by watching others, and social learning plays a critical role in calves' acquisition of foraging knowledge and techniques of manipulating food items (Lee & Moss 1999; Poole & Granli 2020).

While an elephant's diet in captivity may account for its nutritional needs (indeed 74% of elephants in North American zoos are overweight or obese (Morfeld et al. 2016; and see Club & Mason 2002;

Clubb et al 2009), it cannot stimulate the behaviours, and decision-making processes associated with foraging that engages free-ranging elephants (Poole & Granli 2020)

*The Elephant Ethogram: A Library of African Elephant Behavio*r (Poole & Granli 2020) describes over 40 different techniques used by wild elephants to manipulate and extract food items Furthermore, in addition to specific techniques, foraging in situ requires social learning (Lee & Moss 1999), long-term spatial memory (Hart et al. 2008; Polansky et al. 2015), decision-making, vocal, visual and tactile communication, collaboration, tactical manoeuvres (Poole & Granli 2020), and the physical exercise that leads to muscle tone and general health. Dietary needs should, therefore, not be looked at in isolation of the overall physical and mental health and wellbeing that foraging behaviour brings to an elephant.

g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed)

Elephant Society

Elephants' complex fission-fusion society is remarkable for its fluidity on the one hand, and it's very close and enduring social relationships on the other (McComb et al. 2000; Wittemyer et al. 2005; Archie et al. 2005; Moss & Lee 2011). Relationships radiate out from the mother-offspring bond through family, bond group, clan, sub-population, independent adult males, and even beyond the population, to strangers (Moss & Poole, 1983). Adult males, too, form long-term friendships among male age cohorts and relatives (Chiyo et al. 2011; Lee et al. 2011), and, depending on their age, spend between 30-80% of their time in association with family groups. In the course of a single day an elephant may socialise with hundreds of other familiar individuals (Poole & Moss 2008).

In the wild, much of what an elephant does involves cognitively engaging activities that depend on space: locating and manipulating a wide variety of food items as discussed in the dietary needs section of this document; remembering the location of water during a drought (Foley et al. 2008); searching for potential mates (Poole & Moss 1989); deciding where to go; and which partners to choose or avoid. Discriminating between the individual scents (Bates et al. 2007a,b), voices (McComb et al. 2001; McComb et al. 2003), and appearances (Poole & Moss 2008) of hundreds of familiar and unfamiliar individuals, including friends and foes, relatives and non-relatives, higher-ranking and lower-ranking competitors, and friendly and unfriendly other species, is, as evidenced by their behaviour (Poole & Granli 2020), a continually engaging activity.

Behavior and communication

Elephants in captivity need to be provided with an enriching environment that promotes and/or meets their intrinsic requirements. Many scientists have documented aspects of the behavioral repertoire of African elephants over the years (e.g. Douglas-Hamilton 1972, Kahl & Armstrong 2002, Poole & Granli 2011; Poole 2011). Poole & Granli (2020) have now compiled *The Elephant Ethogram*: *A Library of African Elephant Behavior* with written descriptions and video examples of over 280 behaviors (postures, gestures, calls as well as foraging and comfort techniques and other behaviors), and over 85 behavioral constellations (multi-behavioral displays or behaviors, e.g. estrous walk, musth walk, mating pandemonium, greeting ceremony, etc.)

Elephants use their voice, mouth, tusks, eyes, trunk, ears, feet, tail, glandular secretions, and entire bodies in visual, acoustic, seismic, tactile, chemical, and visual communication (e.g. Douglas-Hamilton 1972, Rasmussen & Wittemyer 2002, Langbauer, 2000, Khal & Armstrong 2002, Poole & Granli 2011). Their voices range from 8-9,000 Hz, and include over 40 different calls (Poole 2011) in the form of low-frequency rumbles (Berg 1983, Poole et al. 1988;) and higher-frequency trumpets, snorts, screams, barks, roars, cries, (Berg 1983), chirps, croaking (Leong 2003), combination calls (Pardo et al. 2018), and other learned and idiosyncratic calls (Poole et al. 2005). Through these signals, postures and gestures, we observe elephants to comfort, assist, guide (Bates et al. 2008), contemplate, indicate (e.g. Body-Axis-Pointing), express emotions and desires (e.g. Begging-Rumble), communicate location and plans of action (e.g. Contact-Call, Let's-Go-Rumble, Let's-Go-Stance,), discuss what to do, negotiate, and collaborate (e.g. Let's-Go- & Cadenced-Rumbling) and meet their daily requirements (Poole 2011; Poole & Granli, 2011; 2020).

Due to the very limited space available in captivity elephants are not held in species appropriate groups that would permit them to behave naturally. The following data are compiled from the African Elephant Studbook North American region (current through May 2017, with more recent births and deaths added by C. Doyle pers. comm.): The majority of American Zoos and Aquariums (AZA) accredited facilities that keep elephants (N=32), hold adult (defined here as >10 years) female African elephants (N=99) with one or two other non-related adult females. Eleven of the AZA facilities hold four or more adult females, though we cannot be sure that they are housed together. Only 6% of these adult females (N=99) are held with their adult daughters (any sons are typically removed after weaning and housed separately) and only 9% of them have immature offspring with whom they are presumably housed, assuming males are removed above the age of 5, as per AZA accreditation standards (AZA 2020).

The heightened sexual and aggressive state of musth (Poole & Moss 1981) experienced by adult male elephants creates challenges to holding more than one male in a small enclosure in captivity. Thus, despite the social nature of male African elephants in the wild (Chiyo et al 2011; Lee et al 2011), the vast majority of captive adult males (defined as age 6 by the AZA; AZA 2020) in AZA accredited facilities are held singly.

In captivity, both male and female African elephants are held in enclosures that do not permit natural social groupings or foraging, thus the expression of species-specific behaviors is severely impoverished.

To estimate the degree to which African elephants are able to express their natural behaviour in captivity, Poole (unpublished data.) scored how likely each of the behaviors documented in *The Elephant Ethogram* is to occur in captivity for adult females housed with or without immature offspring, and for adult males housed singly. For adult females housed without juveniles or calves, 43% (N=308) of documented behaviours were likely to occur in captivity, but half of this number would occur only in limited contexts. For adult females housed with immatures, 56% (N=330) of behaviours documented in situ were likely to be expressed in captivity, though 22% of these would only be expressed in limited contexts. Of the 266 behaviours displayed in situ by adult males, only 37% were likely to occur in captivity, and a good number of these only in limited contexts.

Spatial-Social wellbeing of elephants

The following elements of elephant biology and behaviour indicate the spatial-socio arrangement and scale needed for the wellbeing of elephants:

1. Elephants need be able to forage naturally
2. Multiple family units need to each have the possibility to split and re-form, aggregate with, and segregate from one another.
3. Female offspring need to remain with their mothers and closely bonded family for life, to allow them to learn allomothering and other critical social skills.
4. Male offspring need to remain with their families until approximately 14 years of age, their natural age of independence from the natal family, thereby also gaining critical social skills.
5. Adult males need to have the opportunity to form long-term social bonds among other adult males, to spend time alone or to join family groups as they would in the wild.
6. Elephants need to be able to express the full range of natural behaviour.

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In response to the request for inputs under point 5 of No. 2019/070

5. In addition to the Parties, organizations and other relevant stakeholders, particularly those involved in either transport of live animals, or housing and caring for live animals, are also invited to submit any relevant information, including documents they may have developed or used to provide guidance on best practice in relation to housing and caring for live Appendix-I listed animals, or of relevance to the implementation of Resolution Conf. 11.20 (Rev. CoP18) on definition of the term 'appropriate and acceptable destinations' concerning elephants and rhinoceroses.

Here the AfESG makes reference to Res. Conf. 11.20 (Rev. CoP18):

1. AGREES that where the term 'appropriate and acceptable destinations' appears in an annotation to the listing of Loxodonta africana in Appendix II of the Convention with reference to the trade in live elephants taken from the wild, this term shall be defined to mean in situ conservation programmes or secure areas in the wild, within the species' natural and historical range in Africa, except in exceptional circumstances where, in consultation with the Animals Committee, through its Chair with the support of the Secretariat, and in consultation with the IUCN elephant specialist group, it is considered that a transfer to ex-situ locations will provide demonstrable in-situ conservation benefits for African elephants, or in the case of temporary transfers in emergency situations;

2. FURTHER AGREES that, where the term 'appropriate and acceptable destinations' appears in an annotation to the listing of a species in Appendix II of the Convention with reference to the trade in all live animals, this term shall be defined to mean destinations where:

a) the Management and Scientific Authority of the State of import is satisfied that the proposed recipient of a living specimen is suitably equipped to house and care for it sustainably; and
b) the Management and Scientific Authorities of the State of import and the State of export are satisfied that the trade would promote in situ conservation;

Note: The AfESG urges the need to review #2 at the next CoP, as the AfESG should also provide recommendations to States in terms of 2(b).

To respond to this, the AfESG will provide inputs on:

1. What, if any, we see as exceptional circumstances which would warrant transfer to ex-situ locations.
2. What we see as demonstrable in-situ conservation benefits for the African elephants resulting from moving some of them to ex-situ locations.
3. What would represent a case of temporary transfers in emergency situations.

1. What, if any, we see as exceptional circumstances which would warrant transfer to ex-situ locations.

The AfESG is not aware of any exceptional circumstances that would warrant the transfer of African elephants to ex-situ locations, unless it is due to a catastrophe across all elephant range states. For any response to a local crisis that may necessitate removal of elephants for security or survival of the animals, they can be moved in situ to available areas within the current or historical range, and do not require movement ex-situ. Single elephants such as genuine orphans, sick, or injured elephants, can also be moved to local rehabilitation facilities based on this being an emergency situation. The AfESG is planning to develop guidelines for this.

2. What we see as demonstrable in-situ conservation benefits for the African elephants resulting from moving some of them to ex-situ locations.

Any facility submitting a request for ex-situ trade should use the IUCN/SSC (2014). *Guidelines on the Use of Ex Situ Management for Species Conservation. Version 2.0*. Gland, Switzerland: IUCN Species Survival Commission, as they will guide the AfESG assessment of any such request.

The IUCN SSC AfESG stands by the statement previously made by the specialist group on the removal of African elephants for captive use in 2003 (https://www.iucn.org/ssc-groups/mammals/african-elephant-specialist-group/afesg-statements/removal-african-elephants-captive-use), namely:

2003: STATEMENT FROM THE AFRICAN ELEPHANT SPECIALIST GROUP OF THE SPECIES SURVIVAL COMMISSION ON THE REMOVAL OF AFRICAN ELEPHANTS FOR CAPTIVE USE.

"*Believing there to be no direct benefit for in situ conservation of African elephants, the AfESG of the IUCN SSC does not endorse the removal of African elephants from the wild for any captive use".*

3. What would represent a case of temporary transfers in emergency situations

Recognising emergency situations in-situ, for example elephants orphaned by poaching or rescued for urgent veterinary health purposes, there is a need for accredited rehabilitation centres in their natural range, for the purpose of rehabilitation of these elephants for reintroduction to the wild. The AfESG acknowledges that there may be a range of emergency situations, and appropriate cases for temporary transfers, the AfESG intends to produce guidelines for appropriate interventions and rehabilitation processes. Temporary rescues in case of a crisis are best done in-situ.

The AfESG has *Guidelines for in situ Translocation of the African Elephant for Conservation Purposes* (Dublin & Niskanen 2003), and intends to revise those guidelines.

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The Nation's First Elephant Sanctuary

PAWS
PERFORMING ANIMAL WELFARE SOCIETY
Founded in 1984
PROTECTION
EDUCATION
ADVOCACY
SANCTUARY
pawsweb.org

April 15, 2020

Re: Implementation of Decisions 18.152 and 18.154 on definition of "appropriate and acceptable destinations"

To Whom It May Concern:

The Performing Animal Welfare Society (PAWS) submits for your consideration the following information regarding the housing and care of the five African elephants at our sanctuary.

The provision of this material is meant to assist the Animals Committee in their implementation of paragraph b) of Decision 18.155, which directs the Animals Committee to prepare more detailed species-specific guidance for living specimens of African elephants.

Background

PAWS is a nonprofit organization founded in 1984 to rescue and provide lifetime care for abandoned, abused, or retired captive wild animals. We operate three sanctuaries in California where we care for elephants, big cats, bears, nonhuman primates, and other wild animals. PAWS is a true sanctuary; animals are not bred, bought, traded, sold, rented, or made to perform in any way. There is no public contact with any of our animals.

PAWS is licensed and regularly inspected by the U.S. Department of Agriculture (USDA) and by the California Department of Fish & Wildlife (CDFW). PAWS maintains good working relationships with local, state, and federal regulatory agencies, and over the years we have earned an excellent reputation with them. PAWS has provided permanent homes for numerous animals confiscated by the USDA and CDFW, including high-profile, emergency rescues involving a great deal of expertise and resources. PAWS is accredited by the Global Federation of Animal Sanctuaries.

PAWS President Ed Stewart serves on the Director's Advisory Committee on the Humane Care and Treatment of Wild Animals for the California Department of Fish & Wildlife, and the Advisory Committee for the Detroit Zoological Society's Center for Zoo Animal Welfare.

PAWS' animals are cared for by knowledgeable, well trained, committed, and compassionate caregivers, wildlife specialists, and veterinary team, who together provide round-the-clock care.

With the exception of a strict, limited number of educational events each year, PAWS' facilities are not open to the public. Our sanctuaries are designed to meet the animals' needs and to provide them with the most natural, intrusion-free lives possible. At PAWS, our focus is on the individual animal for the sake of that animal only.

GLOBAL FEDERATION OF ANIMAL SANCTUARIES
ACCREDITED

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Elephants

PAWS' largest sanctuary, ARK 2000, consists of 2,300 acres (about 930 hectares) of natural habitat. It is home to eight elephants – including five female African elephants – who have been rescued or retired from zoos and circuses.

Several zoos have made the decision to retire their elephants to PAWS, including the San Francisco Zoo, Detroit Zoo, Los Angeles Zoo, Milwaukee Zoo, Toronto Zoo, and the Alaska Zoo.

It is PAWS' position that elephants' natural ranges are the only appropriate places for them. Any ex situ situation should require conditions that allow for a full spectrum of natural behaviors and a relative amount of autonomy. Even with the spacious, complex habitats and opportunities for more natural behaviors that we offer at the sanctuary, it still is not enough for these highly intelligent, social, and self-aware animals.

Outdoor Habitats

The elephant enclosures at the ARK 2000 sanctuary are designed to provide natural, complex, and enriching habitats that promote innate behaviors. The enclosures are set in nature amid rolling hills with natural grasses and other vegetation, trees, lakes, mud wallows, and specialized enrichment for individual animals. The varied topography of the habitats provides the elephants with exercise and movement necessary to tone their muscles. The African elephants presently occupy about 80 acres (roughly 32 hectares) out of at least 125 acres (about 50 hectares) of elephant habitat at the sanctuary.

The elephants have a great degree of control over how they spend each day. They are free to engage in the behaviors they choose and to socialize as they please. Generally, the elephants walk, explore, socialize, lay down to nap, and forage on natural vegetation and supplemental food provided by caregivers.

PAWS' goal is to provide a place where elephants can heal from the physical and psychological stress they may have previously endured. We work with each elephant as an individual, taking into consideration personal history, health status, and relationships with the other elephants. The sanctuary's habitats create opportunities for increased agency, greater command of one's environment, and, in the best cases, enables elephants to realize more of their capabilities and express their personalities. More subtle aspects of the sanctuary that lend even more support to individual rehabilitation include privacy, the relative quiet of living in nature, the opportunity to relax from the previous pressures of close confinement and social stress, and more natural environments and vistas that expand their visual, auditory, and olfactory worlds.

Diet

The elephants spend a large amount of time foraging on fresh vegetation and native grasses. Additionally, we supplement their diet with hay, browse, fresh vegetables and some fruit. Diets are

tailored to each individual's particular needs, including necessary supplements, vitamins, and medications.

Elephant Barn

The African elephant barn at the ARK 2000 sanctuary is 20,000 square feet (1,860m^2) in size and equipped with heaters, hydraulic gates, restraint devices for veterinary procedures, spacious sleeping stalls, and flexible, interconnected hallways that allow for the safer introduction and socialization of new elephants. The barn has an indoor therapeutic pool in which an elephant can submerge, and floors that are both heated and padded.

Climate

California offers a moderate climate that allows the elephants to be outdoors every day of the year, where they have access to fresh vegetation and can naturally forage. In rare instances of extreme inclement weather, the elephants are held indoors during the day.

Management

While the African elephants at PAWS have relative autonomy, it is still necessary to manage and care for them, since they are in a captive situation.

PAWS' founder, elephant manager, and veterinarian have 90 years of combined experience in caring for elephants and other captive wildlife. A dedicated team of highly trained caregivers provides all aspects of care for the elephants, including performing foot maintenance and other husbandry tasks, administering prescribed treatments, and monitoring the health and well-being of the elephants 24 hours a day, 7 days a week. The elephants are safely managed in protected contact, and they are trained to cooperate with foot care, blood collection, trunk washes, physical examination, and a variety of husbandry behaviors. Keepers interact with the elephants daily using positive reinforcement training.

While the elephants mainly socialize amongst themselves, as it should be, our caregivers nurture positive relationships and earn their trust by demonstrating consistency, respect, patience, and kindness. These beneficial relationships can especially help elephants who have endured severe abuse.

Captive elephants are prone to chronic medical conditions such as arthritis and foot disease. PAWS' director of veterinary services, with over 25 years working with elephants, provides comprehensive preventative care and medical treatment for the elephants. PAWS has a registered veterinary technician on staff, and veterinary students often come to the sanctuary to learn about elephant care. Our caregivers play an integral role in veterinary care, assisting the veterinarian with examination, diagnostics, and treatment of elephants, and regularly communicating observations and concerns.

Social Considerations

Due to the large amount of space at the sanctuary, we can allow the elephants the time they need for social introductions and integration, and, if necessary, we can provide separate and equally rich natural areas for elephants who are incompatible for whatever reason. We use methods that are common to most other professional captive facilities when introducing elephants. Decisions are dictated by the individual elephant, recognizing their need for personal space, relationships that may be affiliative or antagonistic, personal history, personality, and physical needs.

Elephants who come to PAWS will live out their lives at the sanctuary. There is no purposeful disruption of elephant social ties through transfers to other facilities for the sake of management. This allows the elephants to establish lifelong bonds and to self-determine their social relationships.

Relocation of Elephants to PAWS

PAWS has coordinated the safe transport of numerous elephants, by land and air, from around the country and internationally. PAWS' involvement in a relocation begins once a facility has determined that it wishes to move an elephant to a sanctuary. Prior to any commitment to take an elephant, PAWS' representatives must assess the condition of the elephant and determine if the move is in the best interest of that particular individual.

Conclusion

We are proud of what we have accomplished for the elephants we care for at the ARK 2000 sanctuary. At the same time, we are deeply aware that what we provide will never be enough for them. Elephants removed from their families and home ranges will never have a sense of place or purpose and they can never fully realize their capabilities. Our goal is to provide the best life possible for those elephants already in captivity, and at the same time acknowledge that elephants have needs far greater than any captive institution can satisfy. The proper focus must remain on protecting elephants where they naturally live.

Thank you for the opportunity to share information about PAWS and how we care for our African elephants. Please let me know if you have any questions or require more information.

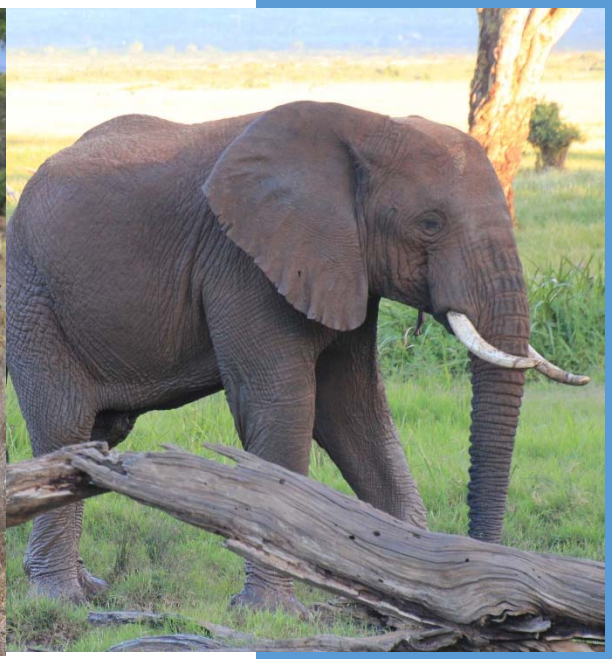
Sincerely,

Ed Stewart
President and Co-founder
Performing Animal Welfare Society (PAWS)

San Diego Zoo Global

Prepared by San Diego Zoo Global

GUIDANCE FOR APPROPRIATE AND ACCEPTABLE DESTINATIONS: AFRICAN ELEPHANTS AND SOUTHERN WHITE RHINOCEROS



Response to Decisions: 18.152-18.156
SDZG

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BACKGROUND

Resolution Conf. 11.20 (Rev. CoP18) of the Convention on International Trade in Endangered Species has evolved over the course of two decades to down-list several populations of African elephants and southern white rhinoceros, placing them under Appendix II "for the exclusive purpose of allowing export of live animals to appropriate and acceptable destinations." Its 18th meeting of the Conference of the Parties in July, 2019, established Decisions 18.152 – 18.156, formally defining the term "appropriate and acceptable destinations" as follows.

18.152 - 18.156 Definition of 'appropriate and acceptable destinations'

18.152

Decision directed to: Secretariat

The Secretariat shall:

a) create and maintain a dedicated webpage on the CITES website to make available the non-binding guidance contained in document CoP18 Doc. 44.1 and to compile reference materials, published references, best practice examples, examples of Parties' appropriate and acceptable destination findings and suitably equipped to house and care for living specimens' findings, and other relevant information;

b) issue a notification within 90 days of the close of the 18th meeting of the Conference of the Parties containing the non-binding guidance contained in document CoP18 Doc. 44.1 on the provisions of paragraph 2 a) of Resolution Conf. 11.20 (Rev. CoP18) on *Definition of the term 'appropriate and acceptable destinations'* for living specimens of Appendix-II species subject to an annotation referring to 'appropriate and acceptable destinations', as well as Article III paragraphs 3 (b) and 5 (b) for living Appendix-I specimens; and inviting Parties to submit relevant material for the CITES webpage created under paragraph a);

c) source additional relevant information for inclusion on the dedicated webpage created under paragraph a); and

d) issue a notification within 30 days of the close of the 73rd meeting of the Standing Committee inviting Parties to provide feedback on experience with using the guidance contained in document CoP18 Doc. 44.1 as well as the information provided on the CITES webpage created under paragraph a) and report this to the Animals Committee and Standing Committee for their consideration and recommendations, as appropriate.

18.153

Decision directed to: Secretariat

The Secretariat shall consult with Parties whose elephants are listed in Appendix II and who have exported wild caught elephants to a non-elephant range State since CoP11 on their implementation of Resolution Conf. 11.20 on *Definition of the term 'appropriate and acceptable destinations'*, in particular considering the role and responsibility of the State of export in Article IV and Resolution Conf. 16.7 (Rev. CoP17) on *Non-detriment findings*, and provide the information received to the Animals Committee, for its consideration.

18.154

Decision directed to: Parties

Parties are:
a) invited to use the non-binding guidance contained in document CoP18 Doc. 44.1 when considering whether the proposed recipient of a living specimen is suitably equipped to house and care for it; and
b) encouraged to submit relevant information for the webpage created under Decision 18.152, paragraph a).

18.155

Decision directed to: Animals Committee

The Animals Committee shall:

a) prepare non-binding best practice guidance on how to determine whether "the trade would promote *in situ* conservation", in line with the provisions of paragraph 2 b) of Resolution Conf. 11.20 (Rev. CoP18), in consultation with the Secretariat;

b) building on the existing non-binding guidance contained in document CoP18 Doc. 44.1, prepare more detailed species-specific guidance for living specimens of African elephants and southern white rhinoceros, in consultation with relevant experts (including species and zoological facility experts) and the Secretariat;

c) make the guidance and any recommendations available for consideration and endorsement by the Standing Committee; and

d) review the report from the Secretariat on feedback from Parties called for in Decision 18.152 paragraph d) and make recommendations, as appropriate, for consideration by the Standing Committee.

18.156

Decision directed to: Standing Committee

The Standing Committee shall:
a) consider the report of the Animals Committee, regarding the non-binding guidance developed under Decision 18.155 paragraphs a) and b), and the guidance contained in document CoP18 Doc. 44.1 and make recommendations, as appropriate, including possible revisions to Resolution Conf. 11.20 (Rev. CoP18) and any other relevant Resolution, for consideration at the 19th meeting of the Conference of the Parties; and
b) review the report from the Secretariat and any comments and recommendations coming from the Animals Committee on feedback from Parties called for in Decision
18.152 paragraph d) and make recommendations, as appropriate, for consideration by the Conference of the Parties at its 19th meeting.

INTRODUCTION

Currently there are numerous published guidelines for the care and welfare of captive animals including African elephants and rhinos in zoos and sanctuaries (AZA, 2012 & 2020; BIAZA, 2016; ZAA, 2020; EAZA, 2014; WAZA, 2015), including comprehensive guidance ranging from staff training, to medical care and end of life decisions. All of these serve as suitable guidelines for the care of African elephants and white rhinos cited in Decision 18.155, paragraph b. The guidelines provide a series of inputs designed for caretakers and cogent performance standards for the facilities in which the animals live. As a supplement to those guidelines, adding a framework for assessing how those actions and designs are impacting the animals that are part of such a program (measurable outcomes) can provide a more robust set of guiding principles. Much of the guidance on both inputs and outcomes comes from scientifically validated measures of animal welfare.

The scope of this document is to provide a universal barometer designed to measure the welfare of captive African elephants and white rhinos, thus defining the suitability of a destination as appropriate and acceptable, based on the inputs found in the annex of Notification to the Parties No. 2019/70 with a set of validated, measurable outcomes. The connection between known inputs of appropriate animal care and the validated indicators of positive welfare is modeled by an outcome-based animal care model known as the 'Opportunities to Thrive' (Vicino, G. A. & Miller, L.J. 2015), which will also serve as the guiding principle for this document.

Guidance for Elephants and Rhinos

The annex of Notification to the Parties No. 2019/70 [Notification 2019/70] outlines a host of agreed upon inputs that will form the foundation of this guidance document, and are as follows:

Non-binding guidance for determining whether a proposed recipient of a living specimen is suitably equipped to house and care for it.

With regards to the provisions of paragraph 2 a) of Resolution Conf. 11.20 (Rev. CoP17) and Article III, paragraphs 3 (b) and 5 (b) of the Convention, factors that should considered when determining whether the proposed recipient of a living specimen is suitably equipped to house and care for it may include, but are not limited to:

a) Physical housing (size and space [adequate space to display normal behaviour; to expand as the animal grows; availability of indoor/outdoor housing; and if animal is on public display, availability of private, off exhibit area], construction materials, shelter from sun/rain, safety and security measures, suitable arrangements for quarantine, substrate type);

b) Species-specific enclosure furnishings (for example provisions of pools, climbing equipment, hides, nest boxes, plants and hiding places);

c) Animal care and husbandry (climate conditions, including correct temperature and light; water quality parameters for aquatic species);

d) Dietary needs (species-specific food and nutritional requirements, access to potable water);

e) Adequate provisions of suitable veterinary and animal care (sufficient numbers and expertise of staff who care for the animals, disease considerations, preventative medicine);

f) Wildlife laws (comply with all relevant wildlife laws and/or regulations and possess all appropriate permits and licenses for the species involved);

g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed);

h) Management (facility's adequate record-keeping); and

i) Any other taxon-specific considerations.

By selecting appropriate outcomes correlated with inputs described in the *Opportunities to Thrive* and Notification 2019/70, we can target an adaptive care program with a simple "yes or no" measure.

The following table details how a managed care program applies an input category (in this case 'Opportunity'), evaluates its efficacy by measuring the corresponding outcomes associated with it and aligns it with the guidance provided in Notification 2019/70. *For an example on how to apply this system, please see Appendix I. For an example of how to present the findings from an assessment, please see Appendix II*

OPPORTUNITY FOR A STRATEGICALLY PRESENTED, WELL BALANCED DIET

Using current scientific knowledge to validate that the animals are being fed an appropriate food in a way that encourages natural feeding behaviors, physically and temporally.

Primary Input:

Is it evident that you are able to supply fresh water and a suitable, species-specific diet in a way that ensures full health and vigor, both behaviorally and physically?

Measurable Outcome	CITES 2019/70 Guidance
Animals have a healthy weight.	d) Dietary needs (species-specific food and nutritional requirements, access to potable water)
	h) Management (facility's adequate record-keeping)
Animals search food in a manner consistent with natural history (using senses and problem solving).	a) Physical housing (size and space [adequate space to display normal behaviour; to expand as the animal grows; availability of indoor/outdoor housing; and if animal is on public display, availability of private, off exhibit area], construction materials, shelter from sun/rain, safety and security measures, suitable arrangements for quarantine, substrate type)
	b) Species-specific enclosure furnishings (for example provisions of pools, climbing equipment, hides, nest boxes, plants and hiding places)
	d) Dietary needs (species-specific food and nutritional requirements, access to potable water)
	g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed)
	i) Any other taxon-specific considerations
Animals acquire (physical activity, specialized adaptations, or body position) food in a manner consistent with natural history.	a) Physical housing (size and space [adequate space to display normal behaviour; to expand as the animal grows; availability of indoor/outdoor housing; and if animal is on public display, availability of private, off exhibit area], construction materials, shelter from sun/rain, safety and security measures, suitable arrangements for quarantine, substrate type)
	b) Species-specific enclosure furnishings (for example provisions of pools, climbing equipment, hides, nest boxes, plants and hiding places)
	d) Dietary needs (species-specific food and nutritional requirements, access to potable water)
	g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed)
	i) Any other taxon-specific considerations

Measurable Outcome	CITES 2019/70 Guidance
Observed feeding (processing) behavior is consistent with natural history.	a) Physical housing (size and space [adequate space to display normal behaviour; to expand as the animal grows; availability of indoor/outdoor housing; and if animal is on public display, availability of private, off exhibit area], construction materials, shelter from sun/rain, safety and security measures, suitable arrangements for quarantine, substrate type)
	b) Species-specific enclosure furnishings (for example provisions of pools, climbing equipment, hides, nest boxes, plants and hiding places)
	d) Dietary needs (species-specific food and nutritional requirements, access to potable water)
	g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed)
	i) Any other taxon-specific considerations
The amount of time spent feeding is similar to natural history.	a) Physical housing (size and space [adequate space to display normal behaviour; to expand as the animal grows; availability of indoor/outdoor housing; and if animal is on public display, availability of private, off exhibit area], construction materials, shelter from sun/rain, safety and security measures, suitable arrangements for quarantine, substrate type)
	b) Species-specific enclosure furnishings (for example provisions of pools, climbing equipment, hides, nest boxes, plants and hiding places)
	d) Dietary needs (species-specific food and nutritional requirements, access to potable water)
	g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed)
	i) Any other taxon-specific considerations

OPPORTUNITY TO SELF MAINTAIN

An appropriate environment including shelter and species specific substrates and structure that encourage opportunities to self-maintain.

Primary Input:

Is there evidence that you are supplying a robust environment, including proper shelter and species-specific substrates that encourage opportunities for self-maintenance with appropriate environmental factors related to thermoregulation, grooming, mobility and cognitive health?

Measurable Outcome	CITES 2019/70 Guidance
Animals exhibit normal thermoregulation behavior (move when hot or cold to different areas).	a) Physical housing (size and space [adequate space to display normal behaviour; to expand as the animal grows; availability of indoor/outdoor housing; and if animal is on public display, availability of private, off exhibit area], construction materials, shelter from sun/rain, safety and security measures, suitable arrangements for quarantine, substrate type)
	b) Species-specific enclosure furnishings (for example provisions of pools, climbing equipment, hides, nest boxes, plants and hiding places)
	c) Animal care and husbandry (climate conditions, including correct temperature and light; water quality parameters for aquatic species)
	f) Wildlife laws (comply with all relevant wildlife laws and/or regulations and possess all appropriate permits and licenses for the species involved)
	g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed)
	i) Any other taxon-specific considerations
Animals use substrate and structures within the habitat to maintain good skin, foot/joint condition.	a) Physical housing (size and space [adequate space to display normal behaviour; to expand as the animal grows; availability of indoor/outdoor housing; and if animal is on public display, availability of private, off exhibit area], construction materials, shelter from sun/rain, safety and security measures, suitable arrangements for quarantine, substrate type)
	b) Species-specific enclosure furnishings (for example provisions of pools, climbing equipment, hides, nest boxes, plants and hiding places)
	c) Animal care and husbandry (climate conditions, including correct temperature and light; water quality parameters for aquatic species)
	e) Adequate provisions of suitable veterinary and animal care (sufficient numbers and expertise of staff who care for the animals, disease considerations, preventative medicine)
	f) Wildlife laws (comply with all relevant wildlife laws and/or regulations and possess all appropriate permits and licenses for the species involved)

Measurable Outcome	CITES 2019/70 Guidance
	g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed)
	i) Any other taxon-specific considerations
Animals' physical condition changes seasonally to adapt to seasonal changes.	a) Physical housing (size and space [adequate space to display normal behaviour; to expand as the animal grows; availability of indoor/outdoor housing; and if animal is on public display, availability of private, off exhibit area], construction materials, shelter from sun/rain, safety and security measures, suitable arrangements for quarantine, substrate type)
	b) Species-specific enclosure furnishings (for example provisions of pools, climbing equipment, hides, nest boxes, plants and hiding places)
	c) Animal care and husbandry (climate conditions, including correct temperature and light; water quality parameters for aquatic species)
	e) Adequate provisions of suitable veterinary and animal care (sufficient numbers and expertise of staff who care for the animals, disease considerations, preventative medicine)
	f) Wildlife laws (comply with all relevant wildlife laws and/or regulations and possess all appropriate permits and licenses for the species involved)
	g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed)
	i) Any other taxon-specific considerations
Animals' physical condition is maintained by appropriate lighting in appropriate spectrum and schedule.	a) Physical housing (size and space [adequate space to display normal behaviour; to expand as the animal grows; availability of indoor/outdoor housing; and if animal is on public display, availability of private, off exhibit area], construction materials, shelter from sun/rain, safety and security measures, suitable arrangements for quarantine, substrate type)
	b) Species-specific enclosure furnishings (for example provisions of pools, climbing equipment, hides, nest boxes, plants and hiding places)
	c) Animal care and husbandry (climate conditions, including correct temperature and light; water quality parameters for aquatic species)
	e) Adequate provisions of suitable veterinary and animal care (sufficient numbers and expertise of staff who care for the animals, disease considerations, preventative medicine)
	f) Wildlife laws (comply with all relevant wildlife laws and/or regulations and possess all appropriate permits and licenses for the species involved)
	g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social

Measurable Outcome	CITES 2019/70 Guidance
	and behavioural enrichment, ability to separate the group where needed)
	i) Any other taxon-specific considerations
Animals express appropriate behavioral responses to challenges presented by changes in the environment.	a) Physical housing (size and space [adequate space to display normal behaviour; to expand as the animal grows; availability of indoor/outdoor housing; and if animal is on public display, availability of private, off exhibit area], construction materials, shelter from sun/rain, safety and security measures, suitable arrangements for quarantine, substrate type)
	b) Species-specific enclosure furnishings (for example provisions of pools, climbing equipment, hides, nest boxes, plants and hiding places)
	c) Animal care and husbandry (climate conditions, including correct temperature and light; water quality parameters for aquatic species)
	e) Adequate provisions of suitable veterinary and animal care (sufficient numbers and expertise of staff who care for the animals, disease considerations, preventative medicine)
	f) Wildlife laws (comply with all relevant wildlife laws and/or regulations and possess all appropriate permits and licenses for the species involved)
	g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed)
	i) Any other taxon-specific considerations

OPPORTUNITY FOR OPTIMAL HEALTH

Rapid diagnosis and treatment of injury or disease while providing supportive environments that increase the likelihood of healthy individuals and animals are given the benefit of clear lines of communication between all departments responsible for the care of the animals.

Primary Input:

Is there evidence that you are able to identify and address causes of injury or disease, while providing supportive environments that prevent illness and increase the likelihood of healthy individuals?

Using emerging scientific knowledge, are you able to evaluate if the animals' care regimen benefits from a clear line of communication between all responsible parties?

Can you ensure that roles and responsibilities are well defined and that all involved parties are operating within their area of expertise as part of a collaborative effort?

Measurable Outcome	CITES 2019/70 Guidance
Animals are in a good state of health and show no signs of disease (excluding current medical conditions that are managed effectively).	e) Adequate provisions of suitable veterinary and animal care (sufficient numbers and expertise of staff who care for the animals, disease considerations, preventative medicine)
	f) Wildlife laws (comply with all relevant wildlife laws and/or regulations and possess all appropriate permits and licenses for the species involved)
	h) Management (facility's adequate record-keeping)
	i) Any other taxon-specific considerations
All parties involved in animal health are operating within their area of expertise as part of a collaborative effort to achieve a common goal.	e) Adequate provisions of suitable veterinary and animal care (sufficient numbers and expertise of staff who care for the animals, disease considerations, preventative medicine)
	f) Wildlife laws (comply with all relevant wildlife laws and/or regulations and possess all appropriate permits and licenses for the species involved)
	h) Management (facility's adequate record-keeping)
	i) Any other taxon-specific considerations
Roles and responsibilities of each involved party are well-defined, with clear understanding of who will serve as an adviser and who will serve as a decision maker with respect to animal health.	e) Adequate provisions of suitable veterinary and animal care (sufficient numbers and expertise of staff who care for the animals, disease considerations, preventative medicine)
	f) Wildlife laws (comply with all relevant wildlife laws and/or regulations and possess all appropriate permits and licenses for the species involved)
	h) Management (facility's adequate record-keeping)
	i) Any other taxon-specific considerations
Reporting of concerns regarding animal health is easy, efficient, timely and effective.	e) Adequate provisions of suitable veterinary and animal care (sufficient numbers and expertise of staff who care for the animals, disease considerations, preventative medicine)
	f) Wildlife laws (comply with all relevant wildlife laws and/or regulations and possess all appropriate permits and licenses for the species involved)
	h) Management (facility's adequate record-keeping)
	i) Any other taxon-specific considerations
There is evidence that pro-active care and health of the animals are promoted to prevent injury and disease.	e) Adequate provisions of suitable veterinary and animal care (sufficient numbers and expertise of staff who care for the animals, disease considerations, preventative medicine)
	f) Wildlife laws (comply with all relevant wildlife laws and/or regulations and possess all appropriate permits and licenses for the species involved)
	h) Management (facility's adequate record-keeping)
	i) Any other taxon-specific considerations

OPPORTUNITY TO EXPRESS SPECIES-SPECIFIC BEHAVIOR

Using current scientific knowledge to validate that animals are being given the opportunity to express meaningful behaviors at a frequency that meets the needs of the species' natural history. This includes, but is not limited to, appropriate developmental conditions (social/cognitive/life stage), enriched social environment, complex environmental experiences, lack of maladaptive behaviors and a strong and responsive relationship with the environment.

Primary Input:

Is there evidence that you provide quality spaces and appropriate social groupings that encourage species-specific behaviors at animal-determined frequencies and natural diversity?

Measurable Outcome	CITES 2019/70 Guidance
Animals express behavior at a frequency and diversity that is consistent with natural history (activity budget).	a) Physical housing (size and space [adequate space to display normal behaviour; to expand as the animal grows; availability of indoor/outdoor housing; and if animal is on public display, availability of private, off exhibit area], construction materials, shelter from sun/rain, safety and security measures, suitable arrangements for quarantine, substrate type)
	b) Species-specific enclosure furnishings (for example provisions of pools, climbing equipment, hides, nest boxes, plants and hiding places)
	c) Animal care and husbandry (climate conditions, including correct temperature and light; water quality parameters for aquatic species)
	d) Dietary needs (species-specific food and nutritional requirements, access to potable water)
	e) Adequate provisions of suitable veterinary and animal care (sufficient numbers and expertise of staff who care for the animals, disease considerations, preventative medicine)
	f) Wildlife laws (comply with all relevant wildlife laws and/or regulations and possess all appropriate permits and licenses for the species involved)
	g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed)
	h) Management (facility's adequate record-keeping)
	i) Any other taxon-specific considerations
Animals express normal social behavior (group living, mating, solitary life stage, pair bond, etc…).	a) Physical housing (size and space [adequate space to display normal behaviour; to expand as the animal grows; availability of indoor/outdoor housing; and if animal is on public display, availability of private, off exhibit area], construction materials, shelter from sun/rain, safety and security measures, suitable arrangements for quarantine, substrate type)
	b) Species-specific enclosure furnishings (for example provisions of pools, climbing equipment, hides, nest boxes, plants and hiding places)

Measurable Outcome	CITES 2019/70 Guidance
	c) Animal care and husbandry (climate conditions, including correct temperature and light; water quality parameters for aquatic species)
	d) Dietary needs (species-specific food and nutritional requirements, access to potable water)
	e) Adequate provisions of suitable veterinary and animal care (sufficient numbers and expertise of staff who care for the animals, disease considerations, preventative medicine)
	f) Wildlife laws (comply with all relevant wildlife laws and/or regulations and possess all appropriate permits and licenses for the species involved)
	g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed)
	h) Management (facility's adequate record-keeping)
	i) Any other taxon-specific considerations
Animals respond appropriately to challenges, problem solving and environmental changes in a way that is consistent with natural history.	a) Physical housing (size and space [adequate space to display normal behaviour; to expand as the animal grows; availability of indoor/outdoor housing; and if animal is on public display, availability of private, off exhibit area], construction materials, shelter from sun/rain, safety and security measures, suitable arrangements for quarantine, substrate type)
	b) Species-specific enclosure furnishings (for example provisions of pools, climbing equipment, hides, nest boxes, plants and hiding places)
	c) Animal care and husbandry (climate conditions, including correct temperature and light; water quality parameters for aquatic species)
	d) Dietary needs (species-specific food and nutritional requirements, access to potable water)
	e) Adequate provisions of suitable veterinary and animal care (sufficient numbers and expertise of staff who care for the animals, disease considerations, preventative medicine)
	f) Wildlife laws (comply with all relevant wildlife laws and/or regulations and possess all appropriate permits and licenses for the species involved)
	g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed)
	h) Management (facility's adequate record-keeping)
	i) Any other taxon-specific considerations

Measurable Outcome	CITES 2019/70 Guidance
Animals are responsive to learning new skills (via training) and show motivation to engage.	a) Physical housing (size and space [adequate space to display normal behaviour; to expand as the animal grows; availability of indoor/outdoor housing; and if animal is on public display, availability of private, off exhibit area], construction materials, shelter from sun/rain, safety and security measures, suitable arrangements for quarantine, substrate type)
	b) Species-specific enclosure furnishings (for example provisions of pools, climbing equipment, hides, nest boxes, plants and hiding places)
	c) Animal care and husbandry (climate conditions, including correct temperature and light; water quality parameters for aquatic species)
	d) Dietary needs (species-specific food and nutritional requirements, access to potable water)
	e) Adequate provisions of suitable veterinary and animal care (sufficient numbers and expertise of staff who care for the animals, disease considerations, preventative medicine)
	f) Wildlife laws (comply with all relevant wildlife laws and/or regulations and possess all appropriate permits and licenses for the species involved)
	g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed)
	h) Management (facility's adequate record-keeping)
	i) Any other taxon-specific considerations
Animals DO NOT engage in stereotypic behavior.	a) Physical housing (size and space [adequate space to display normal behaviour; to expand as the animal grows; availability of indoor/outdoor housing; and if animal is on public display, availability of private, off exhibit area], construction materials, shelter from sun/rain, safety and security measures, suitable arrangements for quarantine, substrate type)
	b) Species-specific enclosure furnishings (for example provisions of pools, climbing equipment, hides, nest boxes, plants and hiding places)
	d) Dietary needs (species-specific food and nutritional requirements, access to potable water)
	e) Adequate provisions of suitable veterinary and animal care (sufficient numbers and expertise of staff who care for the animals, disease considerations, preventative medicine)
	g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed)
	h) Management (facility's adequate record-keeping)
	i) Any other taxon-specific considerations

OPPORTUNITIES FOR CHOICE AND CONTROL

Providing conditions in which animals can exercise control and make choices to avoid suffering and distress, engage in meaningful behavior to acquire beneficial resources and emotional states. Using current scientific knowledge to evaluate if the animals are being given the opportunity to make choices related to spatial and social organization and training programs are based on the principles of positive reinforcement. Enriched Experiences and exhibit conditions should include problem solving and opportunities to make choices based on varying degrees of challenge that the animal is motivated to engage.

Primary Input:

Is there evidence that you provide conditions in which animals can exercise control and make choices to enhance the quality of their lives and to make behavior meaningful?

Measurable Outcome	CITES 2019/70 Guidance
Animals express behavior consistent with making choices of space use.	a) Physical housing (size and space [adequate space to display normal behaviour; to expand as the animal grows; availability of indoor/outdoor housing; and if animal is on public display, availability of private, off exhibit area], construction materials, shelter from sun/rain, safety and security measures, suitable arrangements for quarantine, substrate type)
	b) Species-specific enclosure furnishings (for example provisions of pools, climbing equipment, hides, nest boxes, plants and hiding places)
	c) Animal care and husbandry (climate conditions, including correct temperature and light; water quality parameters for aquatic species)
	e) Adequate provisions of suitable veterinary and animal care (sufficient numbers and expertise of staff who care for the animals, disease considerations, preventative medicine)
	g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed)
	h) Management (facility's adequate record-keeping)
	i) Any other taxon-specific considerations
Animals show motivation to engage in behavior that is meaningful to them.	a) Physical housing (size and space [adequate space to display normal behaviour; to expand as the animal grows; availability of indoor/outdoor housing; and if animal is on public display, availability of private, off exhibit area], construction materials, shelter from sun/rain, safety and security measures, suitable arrangements for quarantine, substrate type)
	b) Species-specific enclosure furnishings (for example provisions of pools, climbing equipment, hides, nest boxes, plants and hiding places)
	c) Animal care and husbandry (climate conditions, including correct temperature and light; water quality parameters for aquatic species)

Measurable Outcome	CITES 2019/70 Guidance
	d) Dietary needs (species-specific food and nutritional requirements, access to potable water)
	e) Adequate provisions of suitable veterinary and animal care (sufficient numbers and expertise of staff who care for the animals, disease considerations, preventative medicine)
	g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed)
	h) Management (facility's adequate record-keeping)
	i) Any other taxon-specific considerations
Animals use the environment to acquire resources that benefit them.	a) Physical housing (size and space [adequate space to display normal behaviour; to expand as the animal grows; availability of indoor/outdoor housing; and if animal is on public display, availability of private, off exhibit area], construction materials, shelter from sun/rain, safety and security measures, suitable arrangements for quarantine, substrate type)
	b) Species-specific enclosure furnishings (for example provisions of pools, climbing equipment, hides, nest boxes, plants and hiding places)
	c) Animal care and husbandry (climate conditions, including correct temperature and light; water quality parameters for aquatic species)
	d) Dietary needs (species-specific food and nutritional requirements, access to potable water)
	e) Adequate provisions of suitable veterinary and animal care (sufficient numbers and expertise of staff who care for the animals, disease considerations, preventative medicine)
	g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed)
	h) Management (facility's adequate record-keeping)
	i) Any other taxon-specific considerations
Animals use control over interactions (keeper, con specific, intra-specific) based on outcomes that are consistent with natural history (acquiring resources, avoiding conflict and injury, etc…).	a) Physical housing (size and space [adequate space to display normal behaviour; to expand as the animal grows; availability of indoor/outdoor housing; and if animal is on public display, availability of private, off exhibit area], construction materials, shelter from sun/rain, safety and security measures, suitable arrangements for quarantine, substrate type)
	b) Species-specific enclosure furnishings (for example provisions of pools, climbing equipment, hides, nest boxes, plants and hiding places)
	c) Animal care and husbandry (climate conditions, including correct temperature and light; water quality parameters for aquatic species)
	d) Dietary needs (species-specific food and nutritional requirements, access to potable water)

Measurable Outcome	CITES 2019/70 Guidance
	e) Adequate provisions of suitable veterinary and animal care (sufficient numbers and expertise of staff who care for the animals, disease considerations, preventative medicine)
	f) Wildlife laws (comply with all relevant wildlife laws and/or regulations and possess all appropriate permits and licenses for the species involved)
	g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed)
	h) Management (facility's adequate record-keeping)
	i) Any other taxon-specific considerations
Any training or conditioning is based on positive reinforcement (except for animals in pre-release conditions).	a) Physical housing (size and space [adequate space to display normal behaviour; to expand as the animal grows; availability of indoor/outdoor housing; and if animal is on public display, availability of private, off exhibit area], construction materials, shelter from sun/rain, safety and security measures, suitable arrangements for quarantine, substrate type)
	b) Species-specific enclosure furnishings (for example provisions of pools, climbing equipment, hides, nest boxes, plants and hiding places)
	c) Animal care and husbandry (climate conditions, including correct temperature and light; water quality parameters for aquatic species)
	d) Dietary needs (species-specific food and nutritional requirements, access to potable water)
	e) Adequate provisions of suitable veterinary and animal care (sufficient numbers and expertise of staff who care for the animals, disease considerations, preventative medicine)
	f) Wildlife laws (comply with all relevant wildlife laws and/or regulations and possess all appropriate permits and licenses for the species involved)
	g) Social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed)
	h) Management (facility's adequate record-keeping)
	i) Any other taxon-specific considerations

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APPENDIX I (Animal Welfare Assessment Tool SDZG, 2020)

INTRODUCTION

Animal Welfare Assessments are conducted regularly (Table 1.) by the care staff in order to identify areas of opportunity and to encourage dialogue across every level of the organization. We also use the survey at any time we have an area or species in which a deeper look is warranted. The assessment tool is based on our guiding principles of animal welfare and is meant to encourage critical thinking, open conversations, and creative problem solving. There is no score, or right answer, but the discussion should lead the group or individual to an outcome that is in the best interest of the animal. Because the Opportunities to Thrive are based on measuring and evaluating validated measures of welfare, we are able to maintain an objective assessment that matches our principles and keeps the responsibility for decision making in the hands of the practitioners with a strictly animal-centric approach. The survey can be taken as an individual or with a group of stakeholders, in which the assessors are asked to provide evidence for all answers to the following five questions, each including the input and a corresponding set of outcomes. **Inputs** refer to anything that is having a direct impact on the animals. That includes, but is not limited to, weather, environmental conditions, anything caretakers provide, husbandry and management strategies, etc. **Outcomes** are what we use to measure how the animals are responding to those inputs. That includes, but is not limited to, behavior, overall health and body condition, social interactions, and physiological health. The survey asks for respondents to indicate which measured outcomes are aligned (left side) with the specific Opportunity associated with that question, or un-aligned (right side) with that Opportunity.

FAQ'S about the survey

Do I assess individual animals, whole groups, or multiple species? Ideally individuals will complete an assessment for their primary string or enclosure assignment. It is important that they list the species they are assessing on each survey, regardless if it is a single animal (rattlesnake), a group of con-specifics (gorillas), or a mixed species exhibit (field enclosures, aviaries, aquaria).

What if I think that all of the hoof stock in an exhibit are assessed at one level, but a few individuals are assessed at another level? In that case you can fill out an individual survey for any animals or species that do not match what the whole group assessment determined.

Is it bad if I answer "no" to any of the questions? Absolutely not! This program is designed to be an assessment so that we can target interventions, or evaluate areas in which we have an opportunity to improve, change, or even, in some cases, reduce our impact. CHECKING NO IS NOT A FAILURE ON ANYONES PART.

What if I don't know what Outcomes the animal exhibits? Take the time to watch your animals, ask your peers if they see these things, talk to the transportation teams (buses, trams, caravan, etc.) and inquire whether they ever see these outcomes. Keepers are highly trained, skilled individuals who have a strong sense of what the animals are doing. If they don't, we should do everything in our power to make sure they do.

What if I don't know anything about the animals' natural history? Take some time to do a little research, you may find you know more than you think. It is the case, however, that some species are understudied and we simply do not have the right information about them. In that case, shift your assessment to balance it against best practices, and use your best understanding of how the exhibited outputs are allowing the animal to thrive.

Table 1.

1. OPPORTUNITY FOR A STRATEGICALLY PRESENTED, WELL BALANCED DIET: Using current scientific knowledge to validate that the animals are being fed an appropriate food in a way that encourages natural feeding behaviors, physically and temporally.

(Input) Is it evident that you are able to supply fresh water and a suitable, species-specific diet in a way that ensures full health and vigor, both behaviorally and physically?

☐Yes	☐No
Please check ALL MEASURED OUTCOMES that support this answer	**Please check ALL MEASURED OUTCOMES that support this answer**
☐Animals have a healthy weight.	☐Animals DO NOT have a healthy weight.
☐Animals search food in a manner consistent with natural history (using senses and problem solving).	☐Animals DO NOT search food in a manner consistent with natural history (using senses and problem solving).
☐Animals acquire (physical activity, specialized adaptations, or body position) food in a manner consistent with natural history.	☐Animals DO NOT acquire (physical activity, specialized adaptations or body position) food in a manner consistent with natural history.
☐Observed feeding (processing) behavior is consistent with natural history.	☐Observed feeding (processing) behavior is NOT consistent with natural history.
☐The amount of time spent feeding is similar to natural history.	☐The amount of time spent feeding is NOT similar to natural history.

2. OPPORTUNITY TO SELF MAINTAIN: An appropriate environment including shelter and species specific substrates and structure that encourage opportunities to self-maintain.

(Input) Is there evidence that you are supplying a robust environment, including proper shelter and species-specific substrates that encourage opportunities for self-maintenance with appropriate environmental factors related to thermoregulation, grooming, mobility and cognitive health?

☐Yes	☐No
Please check ALL MEASURED OUTCOMES that support this answer	**Please check ALL MEASURED OUTCOMES that support this answer**
☐Animals exhibit normal thermoregulation behavior (move when hot or cold to different areas).	☐Animals DO NOT exhibit normal thermoregulation behavior (move when hot or cold to different areas).
☐Animals use substrate and structures within the habitat to maintain good fur, feather, skin or scale condition.	☐Animals DO NOT use substrate and structures within the habitat to maintain good fur, feather, skin, or scale condition.
☐Animals' physical condition changes seasonally to adapt to seasonal changes.	☐Animals' physical condition DOES NOT change seasonally to adapt to seasonal changes.
☐Animals' physical condition is maintained by appropriate lighting in appropriate spectrum and schedule.	☐Animals' physical condition is NOT maintained by appropriate lighting in appropriate spectrum and schedule.
☐Animals express appropriate behavioral responses to challenges presented by changes in the environment.	☐Animals DO NOT express appropriate behavioral responses to challenges presented by changes in the environment.

3. OPPORTUNITY FOR OPTIMAL HEALTH Rapid diagnosis and treatment of injury or disease while providing supportive environments that increase the likelihood of healthy individuals and animals are given the benefit of clear lines of communication between all departments responsible for the care of the animals.

(Input) Is there evidence that you are able to identify and address causes of injury or disease, while providing supportive environments that prevent illness and increase the likelihood of healthy individuals? Using emerging scientific knowledge, are you able to evaluate if the animals' care regimen benefits from a clear line of communication between all responsible parties? Can you ensure that roles and responsibilities are well defined and that all involved parties are operating within their area of expertise as part of a collaborative effort?

☐Yes	☐No
Please check ALL MEASURED OUTCOMES that support this answer	**Please check ALL MEASURED OUTCOMES that support this answer**
☐Animals are in a good state of health and show no signs of disease (excluding current medical conditions that are managed effectively).	☐Animals are NOT in a good state of health and show signs of disease (excluding current medical conditions that are managed effectively).
☐ All parties involved in animal health are operating within their area of expertise as part of a collaborative effort to achieve a common goal.	☐ All parties involved in animal health are NOT operating within their area of expertise as part of a collaborative effort to achieve a common goal.
☐ Roles and responsibilities of each involved party are well-defined, with clear understanding of who will serve as an adviser and who will serve as a decision maker with respect to animal health.	☐ Roles and responsibilities of each involved party are NOT well-defined, with clear understanding of who will serve as an adviser and who will serve as a decision maker with respect to animal health.
☐Reporting of concerns regarding animal health is easy, efficient, timely and effective.	☐Reporting of concerns regarding animal health is NOT easy, efficient, timely and effective.

☐ There is evidence that pro-active care and health of the animals are promoted to prevent injury and disease.	☐ There is NOT evidence that pro-active care and health of the animals are promoted to prevent injury and disease.

4. OPPORTUNITY TO EXPRESS SPECIES-SPECIFIC BEHAVIOR: Using current scientific knowledge to validate that animals are being given the opportunity to express meaningful behaviors at a frequency that meets the needs of the species' natural history. This includes, but is not limited to, appropriate developmental conditions (social/cognitive/life stage), enriched social environment, complex environmental experiences, lack of maladaptive behaviors and a strong and responsive relationship with the environment.

(Input) Is there evidence that you provide quality spaces and appropriate social groupings that encourage species-specific behaviors at animal-determined frequencies and natural diversity?

☐Yes	☐No
Please check ALL MEASURED OUTCOMES that support this answer ☐Animal express behavior at a frequency and diversity that is consistent with natural history (activity budget). ☐ Animals express normal social behavior (group living, mating, solitary life stage, pair bond, etc…). ☐Animals respond appropriately to challenges, problem solving and environmental changes in a way that is consistent with natural history. ☐ Animals are responsive to learning new skills (via training) and show motivation to engage. ☐ Animals DO NOT engage in stereotypic behavior.	**Please check ALL MEASURED OUTCOMES that support this answer** ☐Animals DO NOT express behavior at a frequency and diversity that is consistent with natural history (activity budget). ☐ Animals DO NOT express normal social behavior (group living, solitary life stage, pair bond, etc…). ☐Animals DO NOT respond appropriately to challenges, problem solving and environmental changes. ☐ Animals are NOT responsive to learning new skills (via training) and show motivation to engage. ☐ Animals engage in stereotypic behavior.

5. OPPORTUNITIES FOR CHOICE AND CONTROL: Providing conditions in which animals can exercise control and make choices to avoid suffering and distress, engage in meaningful behavior to acquire beneficial resources and emotional states. Using current scientific knowledge to evaluate if the animals are being given the opportunity to make choices related to spatial and social organization and training programs are based on the principles of positive reinforcement. Enriched Experiences and exhibit conditions should include problem solving and opportunities to make choices based on varying degrees of challenge that the animal is motivated to engage.

(Input) Is there evidence that you provide conditions in which animals can exercise control and make choices to enhance the quality of their lives and to make behavior meaningful?

☐Yes	☐No
Please check ALL MEASURED OUTCOMES that support this answer ☐Animals express behavior consistent with making choices of space use. ☐ Animals show motivation to engage in behavior that is meaningful to them. ☐Animals use the environment to acquire resources that benefit them. ☐ Animals use control over interactions (keeper, con specific, intra-specific) based on outcomes that are consistent with natural history (acquiring resources, avoiding conflict and injury, etc…). ☐ Any training or conditioning is based on positive reinforcement (except for animals in pre-release conditions).	**Please check ALL MEASURED OUTCOMES that support this answer** ☐Animals DO NOT express behavior consistent with making choices of space use. ☐ Animals DO NOT show motivation to engage in behavior that is meaningful to them. ☐Animals DO NOT use the environment to acquire resources that benefit them. ☐ Animals DO NOT use control over interactions (keeper, con specific, intra-specific) based on outcomes that are consistent with natural history (acquiring resources, avoiding conflict and injury, etc…). ☐ Any training or conditioning is NOT based on positive reinforcement (except for animals in pre-release conditions).

NOTE: Consider the animals' current life history stage (neonate, aged animal, etc…) and the context (animal under medical care, animal has a chronic disease, etc.) in order to make an accurate assessment. Checking "yes" or "no" does not preclude you from using outcomes in both columns.

ANALYSIS

The main priority for this assessment is to trigger open dialogue and encourage staff to discuss how we apply our guiding principles of animal welfare and the experience of the animals in our care. There is, however, also a strong need to collect meaningful data in order to compare specific strategies and monitor changes over time. Since the Opportunities to Thrive are based on the presence or absence of validated measures of welfare (both positive and negative), we analyze both inputs and outcomes. Four primary metrics will be evaluated and used for comparison:

Meets Opportunity (% Meets Opp): This figure simply represents the percentage of respondents in a group or subgroup that reported that the assessment found the animals were being given the corresponding Opportunity to Thrive. If the respondent marked "yes" they were indicating that the animal was being given the appropriate **Inputs** that are typically associated with the **Outcomes** related to the specific Opportunity (%0-%100).

Measured Aligned Outcomes (% MAO)*: Represents the percentage of all possible Measured Outcomes that are aligned with the corresponding Opportunity selected by the respondents. This can be interpreted as the presence of positive indicators of welfare that are linked to the Inputs associated with the Opportunity (%0-%100).

Measured Unaligned Outcomes (% MUO)*: Represents the percentage of all possible Measured Outcomes that are not aligned with the corresponding Opportunity selected by the respondents. This can be interpreted as the absence of positive indicators of welfare that are linked to the Inputs associated with the Opportunity (%0-%100).

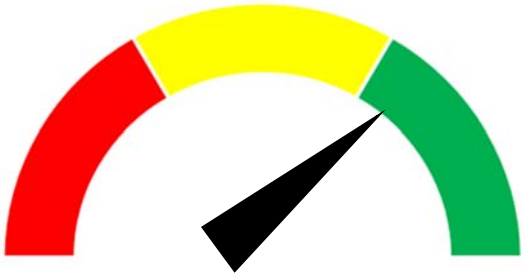
Certainty Score: Respondents are asked to rate their level of certainty for knowing each of the outcomes they reported on a scale from 1-Low to 3-High. The confidence score is an average of all of the respondents' ratings for each outcome and can be used to identify areas in which staff members can focus attention.

**It is important to remember that these two metrics are distinct from one another, participants should select one or the other, and if unsure the default should be 'unaligned'.*

APPENDIX II (Example Animal Welfare Report SDZG, 2020)

Total Data Tables

Below are the raw data tables for each of the five main questions and corresponding responses to each of the Aligned or Unaligned Outcomes (Table 2). The number reflects the proportion of respondents who checked the corresponding MAO or MUO and can be used to identify areas in need of further discussion. The Confidence score corresponding to each of the outcomes is also listed and color coded, from High (green) to Low (red)



Average Certainty Score = **2.31**

Table 2

OPPORTUNITY FOR A STRATEGICALLY PRESENTED, WELL BALANCED DIET:									
Animal(s) have a healthy weight		Animal(s) locate food in a manner consistent with natural history (using senses, and problem solving).		Animal(s) acquire (physical activity, specialized adaptations, or body position) food in a manner consistent with natural history.		Observed feeding (processing) behavior is consistent with natural history.		The amount of time spent feeding is similar to natural history.	
Aligned	Unaligned	Aligned	Unaligned	Aligned	Unaligned	Aligned	Unaligned	Aligned	Unaligned
94.48%	**5.52%**	**81.64%**	**18.36%**	**74.79%**	**25.21%**	**93.34%**	**6.66%**	**61.85%**	**38.15%**
Certainty Score									
2.50		**2.00**		**2.17**		**2.17**		**1.83**	

OPPORTUNITY TO SELF MAINTAIN									
Animal(s) exhibit normal thermoregulation behavior (move when hot or cold to different areas)		Animal(s) use substrate and structures within the habitat to maintain good fur, feather, skin, scale, and physical condition.		Animal(s) physical condition changes seasonally to adapt to seasonal changes		Animal(s) physical condition is maintained by appropriate lighting in appropriate spectrum and schedule.		Animal(s) express appropriate behavioral responses to challenges presented by changes in the environment.	
Aligned	Unaligned	Aligned	Unaligned	Aligned	Unaligned	Aligned	Unaligned	Aligned	Unaligned
96.76%	**3.24%**	**94.86%**	**5.14%**	**85.35%**	**14.65%**	**90.01%**	**9.99%**	**83.73%**	**16.27%**
Certainty Score									
2.83		**2.33**		**1.83**		**2.33**		**2.67**	

OPPORTUNITY FOR OPTIMAL HEALTH									
Animal(s) are in a good state of health and show no signs of disease (excluding current medical conditions that are managed effectively).		All parties involved in animal health are operating within their area of expertise as part of a collaborative effort to achieve a common goal		Roles and responsibilities of each involved party are well-defined, with clear understanding of who will serve as an adviser and who will serve as a decision maker.		Reporting of concerns regarding animal health is easy, efficient, timely and effective.		There is evidence that pro-active care and health of the animals are promoted to prevent injury and disease.	
Aligned	Unaligned	Aligned	Unaligned	Aligned	Unaligned	Aligned	Unaligned	Aligned	Unaligned
98.19%	**1.81%**	**96.86%**	**3.14%**	**93.15%**	**6.85%**	**91.44%**	**8.56%**	**91.75%**	**8.25%**
Certainty Score									
2.50		**2.50**		**2.33**		**2.67**		**2.50**	

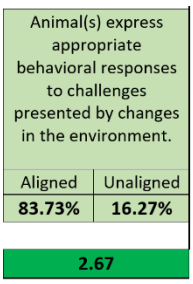
OPPORTUNITY TO EXPRESS SPECIES-SPECIFIC BEHAVIOR									
Animal(s) express behavior at a frequency and diversity that is consistent with natural history (activity budget).		Animal(s) respond to challenges, problem solving, and environmental changes in a way that is consistent with natural history.		Animal(s) express normal social behavior (group living, mating, solitary life stage, pair bond, etc…).		Animal(s) are responsive to learning new skills (via training) and show motivation to engage.		Animal(s) DO NOT engage in stereotypic behavior.	
Aligned	Unaligned	Aligned	Unaligned	Aligned	Unaligned	Aligned	Unaligned	Aligned	Unaligned
83.92%	**16.08%**	**93.91%**	**6.09%**	**89.06%**	**10.94%**	**76.31%**	**23.69%**	**94.86%**	**5.14%**
Certainty Score									
2.00		**2.00**		**2.17**		**2.17**		**2.67**	

OPPORTUNITIES FOR CHOICE AND CONTROL									
Animal(s) express behavior consistent with making choices of space use.		Animal(s) show motivation to engage in behavior that is meaningful to them.		Animal(s) us the environment to acquire resources that benefit them.		Animal(s) use control over interactions (keeper, con specific, intra-specific) based on outcomes that are consistent with natural history (acquiring resources, avoiding conflict and injury, etc…).		Any training or conditioning is based on positive reinforcement (except for animals in pre-release conditions)	
Aligned	Unaligned	Aligned	Unaligned	Aligned	Unaligned	Aligned	Unaligned	Aligned	Unaligned
96.19%	**3.81%**	**90.96%**	**9.04%**	**94.29%**	**5.71%**	**94.58%**	**5.42%**	**86.39%**	**13.61%**
Certainty Score									
2.67		**2.00**		**2.00**		**2.17**		**2.67**	

This table format allows for a targeted intervention that would make the most sense to bring our alignment between Inputs and Outcomes closer to each other. Although there are a myriad of ways to use these results to improve animal welfare, in this example we will focus on three specific result groupings:

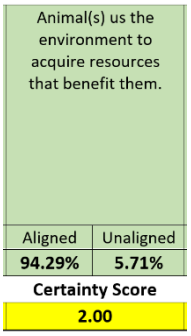
1. Results in which our alignment can be improved and the certainty score is high:

If one is to look at the result from the outcome 'Animal(s) express appropriate behavioral responses to challenges presented by changes in the environment' the care staff is quite certain this outcome is unaligned, so we need to focus our energy on developing strategies to increase adaptability, problem solving, and skill acquisition for the particular animal or species.



2. Results in which our alignment is high but the certainty score is in the middle.

If one is to look at the result from the outcome 'Animal(s) us the environment to acquire resources that benefit them', it has a relatively high level of alignment, but only a medium level of certainty from the care staff. This result provides an opportunity to increase staff training and explore strategies in which animals make meaningful choices, and how to interpret them.



3. Results in which our alignment score is low and our certainty score is low:

If one is to look at the result from the outcome 'The amount of time spent feeding is similar to natural history', it is clear that the care staff shares both a divided opinion and a lack of certainty in their answer. Our next step is to rigorously evaluate the feeding strategy to develop a plan that increase the amount of time spent feeding while concurrently providing more observation time for our staff to more effectively measure the outcomes of these strategies.