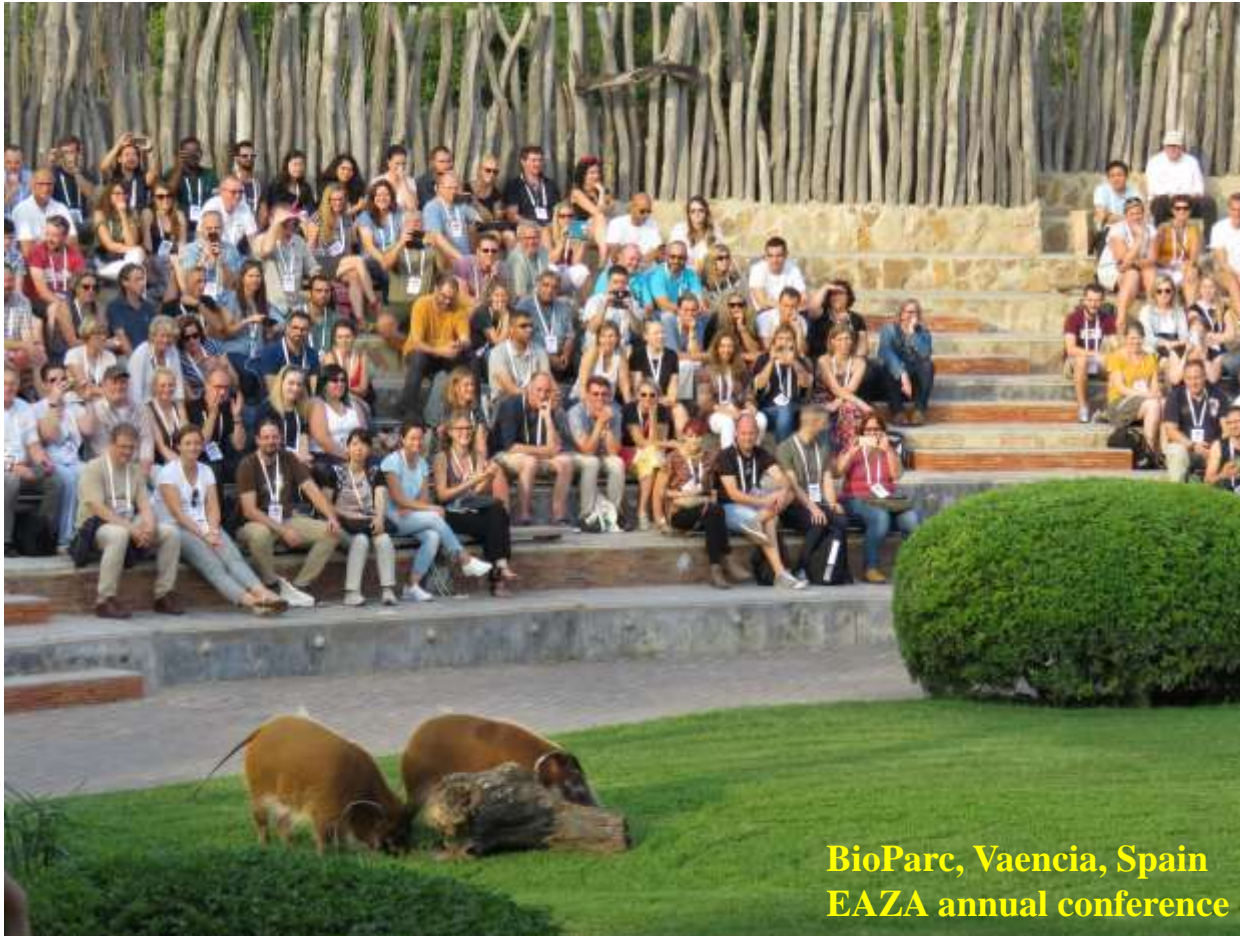


Approaching Better Animal Welfare by TAZA

台灣動物園暨水族館協會如何提升動物福祉



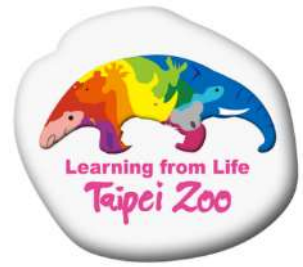
BioParc, Vaencia, Spain
EAZA annual conference

Dr. Eric Hsien-Shao Tsao
CEO, Conservation and Research Center, Taipei Zoo



Brief history of Taipei Zoo

(Since 1914, started with 9 species and 11 animals)

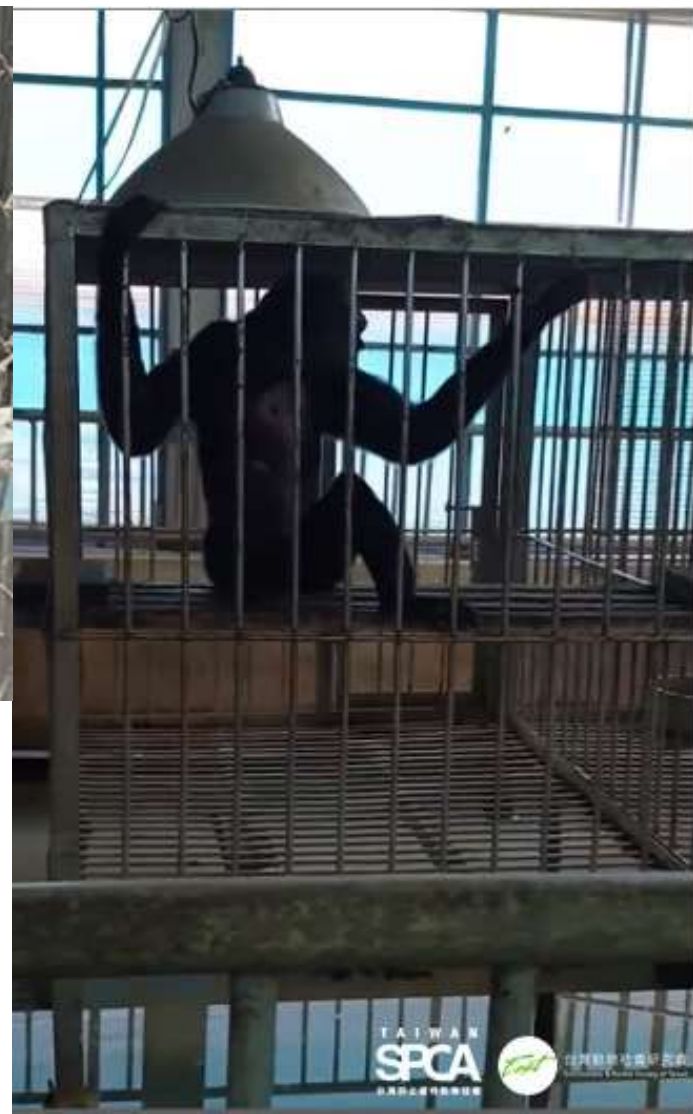
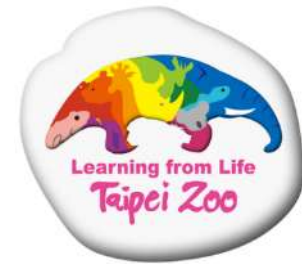


Yuanshan Zoo (3.49 hectares) is Taiwan's first large-scale zoo, and also the fifth "government-run zoo" of the Japanese Empire (Tokyo Ueno Zoo, Kyoto Municipal Zoo, Osaka Tennōji Zoo, and Hanseong (Seoul, South Korea) 李王職 Yiwangjik Zoo).



Why cause the attention so badly

情況為何變得如此糟糕

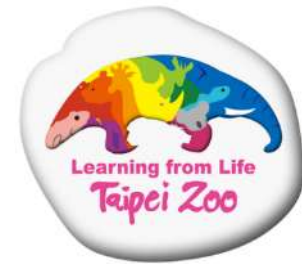


Lack of proper space, food or daily husbandry and medical care in captivity
缺乏適當空間、食物或日常照管與醫療

One for all, all for one syndrome 同舟一命症候群.....

Why cause the attention so badly

情況為何變得如此糟糕



Animal show

Why cause the attention so badly

情況為何變得如此糟糕



2016/08/17, 社會
長頸鹿「賓久」意外死亡，除了抨擊動物園，我們還能做些什麼避免憾事再發生？



Beluga

Death of animals during transportation or in captivity
照養或運送過程動物死亡

日前運送兩度摔落地

〔記者謝佳君、張軒哲、謝文華／綜合報導〕日前在運送過程中兩度摔落地面受傷的河馬「阿河」昨天猝死，經台北市立動物園解剖發現，肝臟表面有出血，橫膈膜破裂三、四十公分，致右肺由胸腔陷落到腹腔，多日擠壓下導致組織壞死、呼吸窘迫死亡。



日前運送過程中兩度摔落地面受傷的河馬「阿河」

台中市農業局昨天對台農天馬生態園園主張俊結，依違反動物保護法重罰五十萬元並移送法辦；農委會主委陳保基指出，阿河的事故明顯是業者在運送上的嚴重疏失，依動物保護法，導致動物重傷或死亡最重可處一年以下有期徒刑。

阿河本月廿六日在搬家的過程中跳車摔傷，廿七日被安置到台中市后里區一處魚塢療傷，但吊運時又被重摔一次，昨日清晨六點多被飼養員鄭文忠發現沉在水

Hippo "A-Ho" died after accident
河馬"阿河"意外致死

Regulations in Taiwan

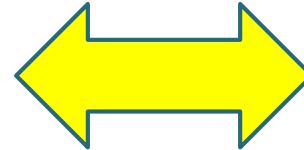
台灣相關法令



- **2007 Wildlife Conservation Law** 野生動物保育法
- **2010 Environmental Education Act** 環境教育法
- **2014 Animal Protection Act** 動物保護法
- **2016 A Regulation for the Registration and Management of Performing Animals Industry**
展演動物管理辦法



Over 80% animal collections were imported

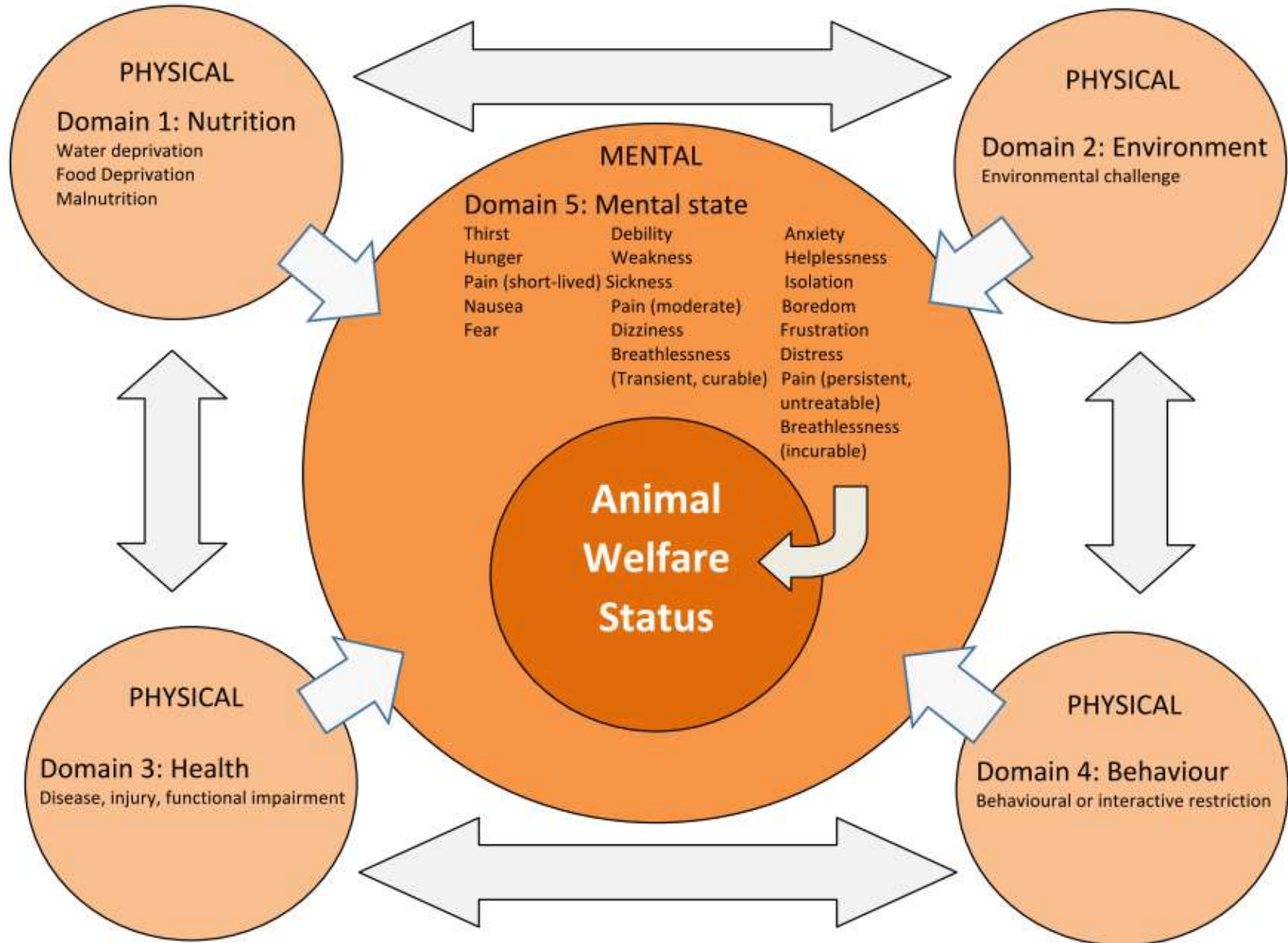


F. 2019 – 2023 Timeline 東南亞動物園暨水族館協會推動時程

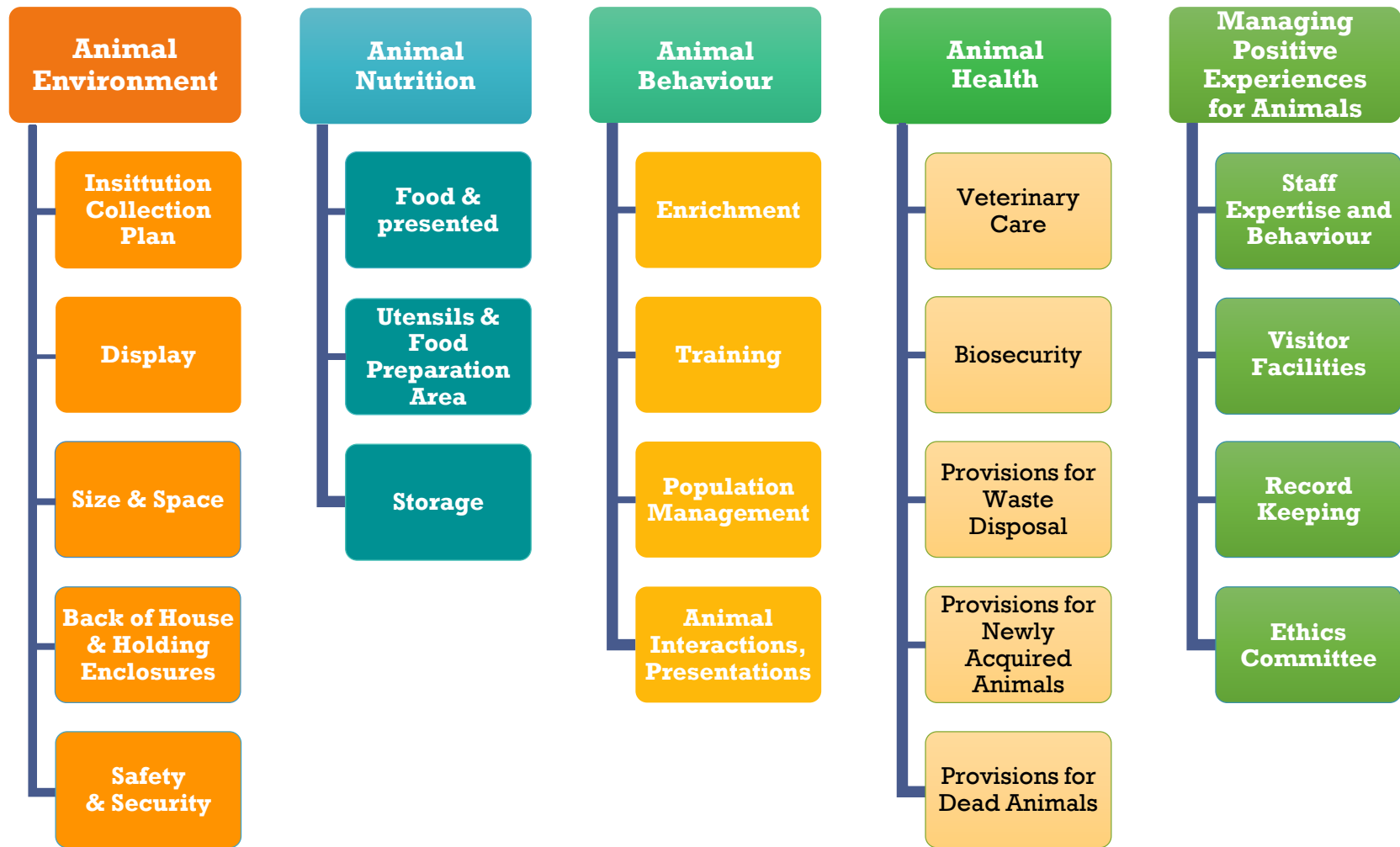


Five Domains Model of Animal Welfare

動物福祉五領域之自由



SEAZA STANDARD ON ANIMAL WELFARE COVERS



TAZA Animal Management Advisory Group

On-Site Evaluation Form

台灣動物園暨水族館協會動物管理專家群現場查核表



■ Animal Environment (Enclosure size, shape, and layout)				
	A	Q	UA	N/A
Sufficient space enable animal to have normal behaviors and locomotion				
Landscape setting close to animal's nature environment				
Environment enrichment facility or plan				
Exhibition safety meets AZA or EAZA standards				
Exhibition area is concealed to allow animals to avoid the sight of tourists				
Suitable space for social grouping and carrying capacity is not exceeded				
Isolated space for delivering baby or sick animal				
Frequency of disinfection : _____				
Exhibition cleanliness test (water quality, temperature, micro 、 microorganism)				

Grade Level: Acceptable (A)-No urgent need for improvement; Questionable (Q)-Room for improvement, but no need for immediately change; Unacceptable (U)-Must be improvement immediately; N/A- Not applicable or not evaluated

TAZA Animal Management Advisory Group

On-Site Evaluation Form

台灣動物園暨水族館協會動物管理專家群現場查核表



■ Animal Nutrition, Sanitation and Waste Programs

	A	Q	UA	N/A
Appropriate balanced diet to meet animal's need and good health				
Food storage places meet sanitation requirements and are cleaned everyday				
Stability of food storage conditions (low temperature, dry, pest and disease free)				
Place food and water with easy access for animals, even subdominant ones in the group				
Whether there are chemical or biological toxic substances in the vicinity of food storage and preparation sites				
Food and water provided daily, and food/water containers cleaned everyday				
Food and water must be clean, and sufficient in quality and quantity				
Nutritional supplements are given according to the instruction by veterinarian or nutritionist				
Feed formula meets animal needs and is regularly adjusted				
Provide regular sampling results of feed				
Dispose of waste properly to avoid the risk of biosafety hazards				
Pest control				
Predator/stray dog or cat control plan or strategy				

TAZA Animal Management Advisory Group

On-Site Evaluation Form

台灣動物園暨水族館協會動物管理專家群現場查核表



■ Veterinary & Health Management				
	A	Q	UA	N/A
Frequency of diagnosis and treatment : _____ , able to provide animal medical needs in a timely manner				
Veterinarians have specialized in wildlife diagnosis (marine mammals, reptiles, etc.)				
Fineness of diagnosis and treatment (anesthesia, analgesia)				
Infectious diseases and parasites are regularly tested				
Vaccines are given regularly				
Major infectious disease prevention and control plan				
Aged animal care plan				
Humane euthanasia assessment process and approach				
Provide essential medical care in accordance with animal habits and physiological conditions				

分類	動物界->脊索動物門->哺乳綱->長鼻目->象科->Loxodonta->非洲象		
中文俗名	非洲象	英文俗名	African Elephant
學名	Loxodonta africana	呼名	美代
性別	母	ISIS	1919
現在區域	後區-->非洲區-->非一區-->非洲象	晶片號碼	
現在位置	後區-->非洲區-->非一區-->非洲象	辨識編號1	
出生年月	1982 年 10 月 28 日	辨識編號2	
現在狀態	--存活	屬性	事件按日排序
數量/單位	1/隻		移欄回報

關閉視窗

請選擇事件日期

確定

轉exc

事件日期	登錄日期	屬性	內容	說明	體	紀錄者
2003/9/13	2003/9/13	疾病預防	沖水熱敷上指 油			詹榮樹
2003/9/14	2003/9/14	行為訓練	續訓練，中午互動餵食。			葉雲樓
2003/9/14	2003/9/14	疾病預防	熱敷，上油。			葉雲樓
2003/9/15	2003/9/15	行為訓練	續訓練，中午餵食互動。			葉雲樓
2003/9/15	2003/9/15	疾病預防	熱敷，上油。			葉雲樓
2003/9/15	2003/9/15	疾病預防	添加維生素			葉雲樓
2003/9/15	2003/9/15	外觀異常	四肢腳指底黑斑凹陷	張獸醫早上觀察		葉雲樓
2003/9/15	2003/9/15	疾病預防	為防止早晚訓練期間，腳底因熱敷按摩而較長時間的泡水，作業程序修改為先訓練，再沖洗，沖洗完馬上放出，以減少腳底因泡水所可能衍生的疾病。			徐吉財
2003/9/16	2003/9/16	生育管理	糞檢			葉雲樓
2003/9/16	2003/9/16	行為訓練	續訓練，中午互動餵食。			葉雲樓

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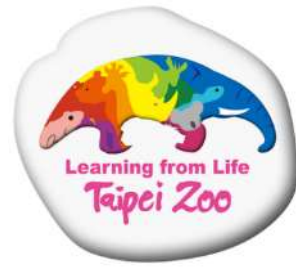
Animal database and management system at Taipei Zoo

- ZIMS for studbook, medical, husbandry, education...
- More than 70% data had been uploaded currently



TAZA Animal Management Advisory Group

On-Site Evaluation Form



台灣動物園暨水族館協會動物管理專家群現場查核表

■ Animal Management				
	A	Q	UA	N/A
Animals have performance consistent with their natural behaviors, no abnormal behaviors (stereotype, heterogeneity)				
Animal exhibition plan				
General animal training				
Education				
Daily records and individual/population data construction				
Animal handling SOP				
Animal escape/attack plan				
Projects on animal enclosure shift or in/out of the institution				
Animal transportation will consider its habits and physical conditions, and will be accompanied by keepers or technicians				
Natural disaster or water/power emergency contingency plan				
Staff training				
Conservation advocacy				
Show animals receive appropriate rest time				
Animals that are not suitable for display according to veterinarians' evaluation will not put into display and will receive proper medical treatment				
Animal training methods without causing animal harm				

TAZA Animal Management Advisory Group

On-Site Evaluation Form

台灣動物園暨水族館協會動物管理專家群現場查核表



■ Breeding of Animals

	A	Q	UA	N/A
Animal acquisition methods and policies				
Population management procedures and policies				

■ Other

Number of full time staff qualify for conducting animal show : _____				
Number of technician qualify for conducting animal show : Full time _____/Special contract _____				



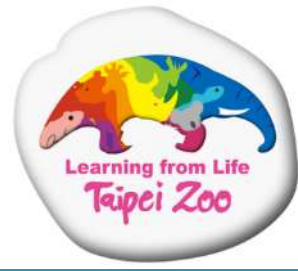
Challenges to implement screening

落實動物福祉審查的挑戰



- **Objectivity vs. Subjectivity**
- **Criteria**
- **Support and involvement from all layers (keepers to director) of the institution**
- **Availability of experts**
- **Different opinions among experts**
- **Keeping up with research findings and implementing these into the screening**
- **Time**





More considerations

- **Collection plan 動物典藏計畫**: from institutional, national, regional, to global cooperation
- **Architect Design 建築設計**: from safety to ecological thinking; from enclosure to habitat; frequency of use
- **Mix-species exhibition 混種展示**:
- **Internal and external evaluation 內部與外部審查**
- **2019 Apply animal welfare workshop, in principle of exhibition renovation and species collection consideration, December 9-11, Taipei Zoo**