



和諧你我牠

保育物種與居民的**心**關係

黑面琵鷺度冬族群在臺灣停棲的比例，遠超過世界各地 / 戴進元攝
The endangered Black-faced Spoonbills (*Platya minor*) would migrate to Taiwan each winter in a percentage far higher than to any other places around the world./ by Jin-yuan Dai



Harmonious Coexistence A Heartfelt Relationship between Humans and Protected Species

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臺灣的野生動物在經過國家公園及保育人士多年的努力下，已讓許多瀕危的野生動物脫離絕種的命運。野生動物的數量多了，與民眾接觸的機會也增加了，然而臺灣不似非洲有那樣寬廣無比的土地，如何讓野生動物與民眾能和諧共處於這蕞爾小島上，在在考驗著保育管理者的經營智慧。

保有生存空間 從尊重開始

在臺灣，人們較容易見到的野生動物，非臺灣獼猴莫屬了。尤其是玉山國家公園與壽山國家自然公園，只要曾至此兩處，必定對臺灣獼猴族群留下深刻印象。有遊客看到臺灣獼猴乞食的動作，心生憐憫進而餵食，卻不知這樣的舉動不僅會使臺灣獼猴失去野外生存能力，也會讓臺灣獼猴因爭食引起猴群間的衝突，甚至養成猴群乞食習慣導致驚擾遊客事件層出不窮。

「真正的尊重與愛，就是不要隨意餵食。」玉管處的保育志工總不厭其煩地向遊客宣導這樣的觀念，就是為了保護臺灣獼猴與遊客的安全。

然而追本溯源，真正該檢討的是否還是人類？是人類侵犯了猴群的生存領域，還是猴子誤闖了人的世界？自然棲地因種種原因持續縮減，使得臺灣獼猴的生存空間與食物來源日趨減少，猴子們被迫偷食農作物、與居民產生衝突的惡性循環未曾停歇，人類學習去尊重猴群的生存空間，才是根本之道。

寶藍色的頑皮身影 臺灣藍鵲

除了臺灣獼猴和人類產生小糾紛，名氣響亮的臺灣藍鵲，也常常讓人類想接近又怕受傷害。

After years of efforts by Taiwan's national parks and conservationists, various once-endangered species have been saved from extinction and grown in numbers, and thus more commonly seen or contacted by humans. Unlike a large continent such as Africa, Taiwan is merely a tiny island, and how to maintain a harmonious coexistence between humans and wildlife has become a challenging issue.

Respect for wildlife habitats

In Taiwan, no other wild animals are more approachable to humans than Formosan macaques (*Macaca cyclopis*). People who ever visited Yushan National Park (YSNP) or Shoushan (now a national nature park) must have been impressed by the bold macaques that'd beg for food from humans. But the sympathetic feeding by people will in fact blunt the monkeys' survival ability, and cause conflicts among them as they'd fight each other for food and thus scare tourists.

"If you love them and respect them, then don't feed them." This is what the conservation volunteers in YSNP have been educating tourists about in order to protect both the macaques and people.

But is it humans or macaques that should be blamed for this problem? Who indeed has intruded the other's territory? Facing a shortage of habitats and food, the macaques cannot but steal people's crops and trespass on people's land for survival. Such a vicious circle of conflicts between macaques and humans necessitates more respect from humans for the macaques' living environment.

The Feisty Formosan Magpie

Besides Formosan macaques, another lovely but trouble-making creature in Taiwan is the famous Formosan Magpie (*Urocissa caerulea*).





前幾年臺灣藍鵲曾在臺灣國際觀鳥協會舉辦的「國鳥選拔」網路票選活動中拔得頭籌，其寶藍色身影跳躍在林間，姿態迷人，是遊客容易觀察到的鳥類。

臺灣藍鵲棲息於低海拔山地，生性喧噪兇悍，常成群穿梭於樹林間，並發出鴉科鳥類慣有的沙啞叫聲，在親鳥育雛期，同家族的成員都會幫忙哺餵幼鳥，相當有「鳥」情味。不過，愛家顧家的臺灣藍鵲具有強烈的護巢行為，對於侵襲者會毫不留情的攻擊，直到對方離開為止。

陽明山國家公園範圍內就常有遊客與藍鵲有趣互動的插曲。民眾在園區內散步時，經過鳥巢下方引起藍鵲因護巢而飛撲遊客，所幸並未造成傷害。

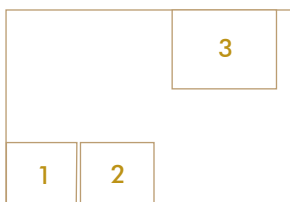
適應力強的臺灣藍鵲生性不怕人，加上雜食性，甚至有時候會偷吃廚餘，常可在山區民宅，或公園中發現牠的蹤跡。在開發之初，許多野生動物被迫遷離，但隨著環境演變，包括植栽、綠帶的增加，能夠容忍人類活動、食性較廣的野生動物，就可能慢慢回到環境中，臺灣藍鵲便是一例。

Once voted Taiwan's national bird in an Internet event, the sapphire blue bird is commonly spotted with its charming postures in the woods.

Formosan Magpies inhabit in low-altitude mountain area, shuttle in groups in the woods, and have a raucous call and a bad temper. When one of them breeds and nurtures its fledglings, other blue magpies would come help, showing a strong sense of kinship. The family-loving birds would also fiercely attack any intruder that approaches their nests.

Cases of tourists being attacked by the magpies are often reported in YMSNP. As people just walked underneath the nests, they were charged against by the protective birds. Fortunately, most of the attacked tourists were just scared but unharmed.

The adaptable blue magpies are omnivorous and unafraid of humans. They would steal people's leftover, and their traces can be found in human residences or in parks. As many wild animals have been driven away by urbanization, some others that are more tolerant of urbanized environments and more flexible in food choices will be able to adapt better. And the magpie is one good example.



1-2. 玉山國家公園呼籲人們與野生動物自然親近，積極宣導不要餵食臺灣獼猴 / 張燕伶攝

YNPark Headquarters hopes to create an environment where humans and wild animals can be closer to each other, but at the same time advises tourists not to feed Formosan macaque./by Yen-ling Chang

3. 陽管處提醒遊客，藍鵲在繁殖期可能會因護巢而出現驅趕遊客行為，遊客應留意 / 戴進元攝

YMSNP Headquarters has put up signs near the bird's nests that warn people about the possible attacks from the magpies during their breeding period./ by Jin-yuan Dai



復育有成的臺灣梅花鹿，已能在野外孕育下一代 / 鍾曉良攝
The well-rehabilitated Formosan Sika Deer (*Cervus nippon taiouanus*) are now able to breed their offspring in the wild. / by Xiao-liang Zhong



墾管處野放梅花鹿的情景 / 墾管處提供
The picture shows that the sika deer released to the wild / Provided by KTNP Headquarters

看到臺灣藍鵲的翩翩身影固然令人欣喜，但身為國家公園管理者，會加強宣傳人鳥相處的方式。陽管處便在臺灣藍鵲的巢附近設立說明告示牌，一來提醒民眾藍鵲繁殖期間可能會驅離人類，再者也是最佳的生態教育。而喜愛觀察鳥類的遊客也須多加留意，在臺灣藍鵲繁殖期盡量別接近鳥巢周圍，站在遠處以望遠鏡觀察為宜。

野放監測 與社區共營

地狹人稠的臺灣，生物多樣性豐富，人與野生動物間常有「邂逅」。猴群與鳥類只是小摩擦，相對於野生的臺灣黑熊、山豬、臺灣梅花鹿及臺灣水鹿等大型哺乳類，其行為可能對人類生活環境帶來衝擊時，相關的監測與應變方法，自然是經營管理者須審慎因應的問題。

臺灣梅花鹿在墾丁國家公園的長期復育下，族群數量有良好而穩定的成長，但也陸續傳出鹿群對生態環境帶來的衝擊，像是森林植被的啃食或是破壞經濟作物等問題逐漸浮現。

長期進行臺灣梅花鹿復育研究的臺灣師範大學生命科學系王穎教授表示，大多數的民眾都肯定墾丁國家公園對於臺灣梅花鹿的復育成效，然而對鄰近居民來說，農作物的遭受破壞，多少會影響到他們對臺灣梅花鹿的觀感。為減少野放的臺灣梅花鹿與人類環境的衝突，王穎建議，管理單位可與居民共管，「也就是由

To make the bird's presence more enjoyable to tourists and to avoid the conflicts between the bird and humans, YMSNP Headquarters has put up signs near the bird's nests that warn people about the possible attacks from the magpies during their breeding period. Tourists are advised to watch them from a distance with binoculars and avoid getting close to their nests at this period.

Co-management with Communities

Compared to the trivial conflicts between humans and the macaques and magpies, the impact on humans brought by larger mammals such as Formosan black bears, wild boars, Formosan sika deer and Formosan sambar deer could be more serious and require more elaborate monitoring and responses.

Formosan sika deer (*Cervus nippon taiouanus*) in Kenting National Park (KTNP), for example, has been well rehabilitated and growing in a stable number. But their thriving existence has affected the environment, mostly in the form of damages to forest vegetation and crops.

According to Professor Ying Wang of NTNU, who has long been studying the rehabilitation of sika deer, though positive about the efforts in reintroducing the deer, most local residents still frown upon the damages inflicted by the sika deer released to the wild. To mitigate their negative impact, Wang has suggested the co-management between the authorities and local residents, which "involves local communities in monitoring and managing the deer to

居民協助進行監測及參與經營管理，當居民對臺灣梅花鹿了解越多，接受度也可越高。像是在社頂發展的生態旅遊及社區巡守隊的成立便是成功的一種模式，據調查發現，社頂地區民眾對臺灣梅花鹿的接受程度也的確普遍較高。」王穎說。

王穎表示，在復育區的經營管理方面，為控制復育區內鹿隻的數量，應詳實地進行復育區內如節育、野放與棲地環境改善等相關的研究與試驗，並配以無線電發報器來監測野放鹿隻的動態與生理監測，才能有效控制環境的承載力。

由此可見，不論是在野生動物保育或森林資源經營管理的維護上，都需要發展一套簡易且能同時掌握被保育物種之族群密度、結構及牠們對棲息環境影響程度的評估指標，並透過長期的監測，才能了解族群動態及對森林生態系造成的影響或衝擊，並適時調整策略加以因應。

擎天崗的綠草與牛隻

前幾個例子皆為臺灣野生動物在復育見成效後，產生需要磨合與調整的問題。但臺灣除了野生動物與人類的關係需要妥善拿捏，就連豢養的動物也與環境生態平衡有著密切關係。

facilitate a better understanding and higher acceptability to the deer.” “The ecotourism and the deer patrols in Shedding area has set up a successful model of this co-management,” said Wang.

Inside the rehabilitation area, Wang added, solid research and experiments on the birth control, release and habitat improvement of the deer should be conducted in order to regulate the population of the deer. Radio monitoring of the deer's whereabouts and physical conditions is also essential to effectively maintain the capacity of the environment.

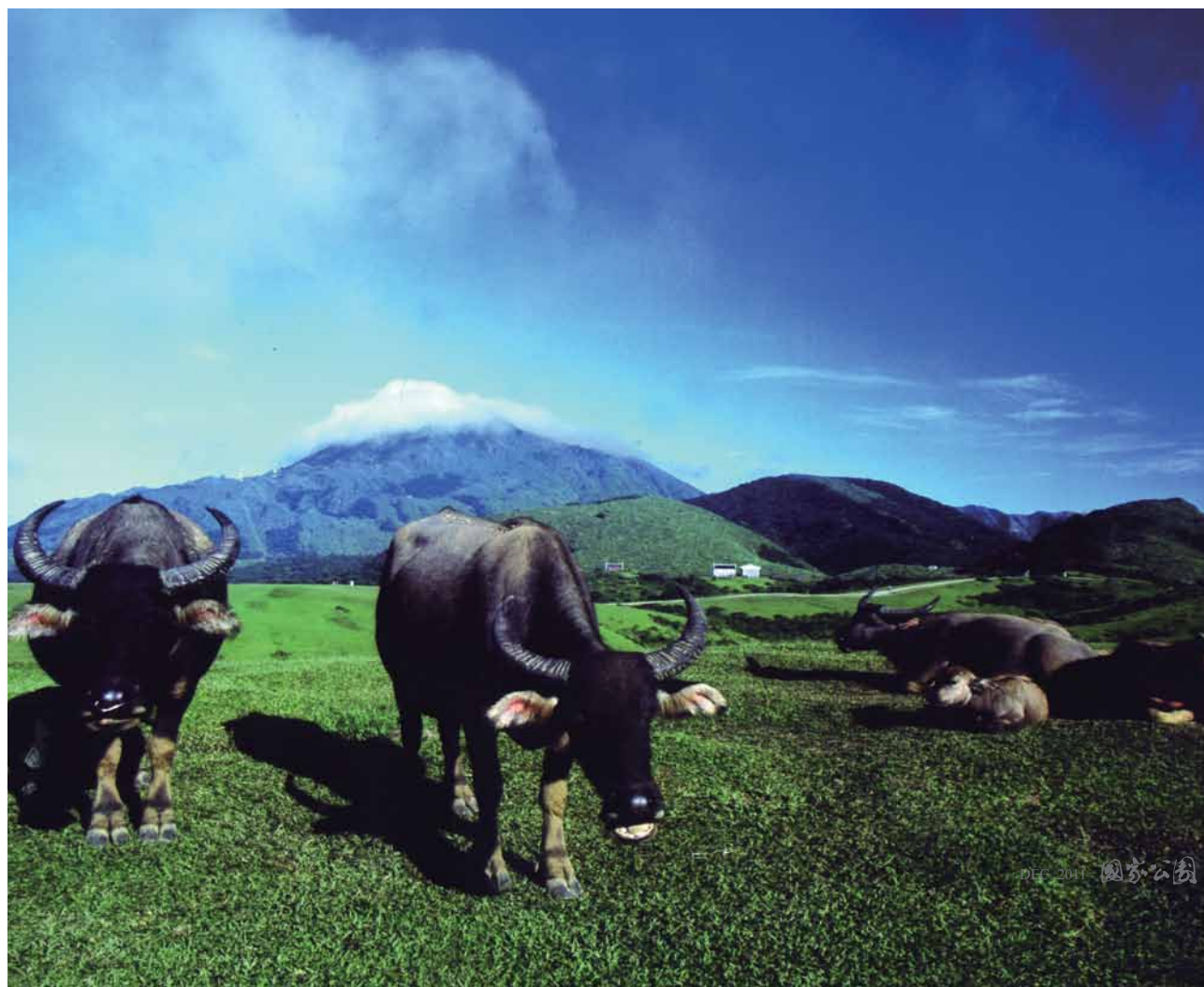
Hence, wildlife conservation and forest resources management both require a set of evaluation indicators that can easily show the population density and structure of a protected species, as well as its impact on the environment. And long-term monitoring will help us understand dynamics of the species' life and its influence to the forest ecosystem, and respond with proper measures.

Cattle and Grass in Qing tian gang

The above examples show the conflicts and problems arise after some wild animals have been well rehabilitated. But in some cases of animals raised in captive, the issue of the balance of eco-environment is also involved.

擎天崗地區的牛性情溫和，但遊客仍應保持尊重與適當的距離，以免造成傷害與衝突 / 陽管處提供

The cattle in Qingtiangang area are basically mild, but tourists are still advised to keep a distance from them and pay due respect to them to avoid any possible injury or accident./ Provided by YMSNP Headquarters



遊人如織的陽明山國家公園的擎天崗，曾是民眾心目中鄰近都市又能親近動物的好地方。但曾幾何時，那些牛群悠哉低頭吃草、與人共處的景象已較為少見了。

陽明山國家公園進行牛隻放牧的歷史久遠，日治時期即設置牧場並進行大規模的飼養。臺灣光復後，國民政府於1952年將擎天崗、冷水坑一帶的規劃為陽明山牧場，並由陽明山管理局、士林鎮公所、北投鎮公所、陽明山農會、士林農會及北投農會等6個單位來共同經營。當時在擎天崗附近所看到的牛隻皆是由北投、士林、金山等地四十餘戶農民所寄養，起初放牧情形仍興盛，後來因耕作方式改變不再需要牛隻，放牧現象逐漸減少。

陽明山國家公園成立後，因草食性動物有維持草原生態存在的功能，可控制草原生態系內植物演替的進化。因此，陽管處並未對牛隻進行驅離。

但隨著擎天崗草原的遊客日漸增加及牛隻逐漸減少，其兩者的消長對草原環境產生影響：牛隻減少使得芒草漸漸取代類地毯矮草原，遊客量增加則草原遭受過度踐踏而死亡，或遊客對牛隻好奇，容易驚擾牛群。

為了使擎天崗維持景觀，陽管處以人工與放牧並行方式來維持現有草原，並採分區開放草原方式來維護草皮，除於草原區各入口處設置告示牌，提醒遊客於草原區活動時應注意事項，如「勿逗弄牛隻及接近拍照」，「草原養護請勿進入」等，主動宣導相關正確保育觀念。

透過「人牛之間」的互動，我們能了解到自然萬物間命運是息息相關，而非牛歸牛、草歸草、人歸人。在陽管處的努力下，但願擎天崗那綠毯綿延、牛隻倘佯的美麗景致，能永遠留存。

協調共營 只為天際嬌客

無論是野生動物或是豢養動物，生活在島上的臺灣人，在愛護動物觀念萌芽後，除了保護，更試著找出與動物之間的相處之道。而這份心意，也適用於對待每年造訪的候鳥。

2009年成立的台江國家公園，雖然年輕，但為保護黑面琵鷺生態棲地所須面對經營管理上的挑戰，可一點都不比「老大哥們」輕鬆。

黑面琵鷺是世界上瀕臨絕種的保育鳥類，由於黑面琵鷺度冬族群在臺灣停棲的比例遠超過世界各地，因此國家公園成立後，積極保護其棲息的濕地資源，不讓棲息環境遭受破壞。

只是，一旦有了限令，自然會引起當地漁民、業者的反彈。

Qingtiangang in Yangmingshan National Park (YMSNP) had once been a great place in the vicinity of the city for people to get close to wildlife. But such scenes as the cattle grazing on the grass with people strolling among them have all gone.

Pasturing of cattle in YMSNP has a long history. The colonial Japanese set up ranches to raise cattle in a large scale, and later in 1952 the nationalist government designated the areas of Qingtiangang and Lengshuikeng as the Yangmingshan Pastureland, which was jointly operated by the township offices and the farmers' associations in Shihlin, Beitou and Yangmingshan. The cattle then were all pastured by some 40 farmers nearby and were initially in a large number. But as the farming styles changed, cattle pasturing fell into obscurity accordingly.

Since the founding of YMSNP, as foreign research has shown that pasturing of herbivores can be helpful with grassland ecosystem and the succession of flora in it, the park has not dispersed the cattle from the area.

A growing number of tourists and a declining number of the cattle in Qingtiangang Grassland have caused great impact on the area's environment. *Miscanthus* has become the dominant plant in place of carpetgrass (*Axonopus*), which withered and died due to human treading.

To restore the grassland, YMSNP Headquarters has maintained it by both artificial protection and cattle pasturing. Grassland is open to the public by sections and in rotation, while signs are erected to prohibit tourists from irritating the cattle and treading the grassland under maintenance. Park staff would also educate tourists about how to help protect the grassland.

The interaction between humans and the cattle tells us that all life forms are interrelated rather than separated. It is hoped that the cattle as well as the grassland will be revived and thrive someday in the future.

Negotiated Protection for Guests from Sky

Whether it wild or raised animals, people in Taiwan should learn to protect them and get along with them. The same is true of the migratory birds that visit the island every year.

Young as Taijiang National Park (TJNP), which was founded in 2009, is, the challenge it met in protecting the habitat for Black-face Spoonbill was far from easier than those faced by other older national parks.

The endangered Black-faced Spoonbills (*Platya minor*) would migrate to Taiwan each winter in a percentage far higher than to any other places around the world. So TJNP has strived for the protection for the bird's habitat and wetland resources there.

But the bans the park imposed on the area had triggered objection from local fishermen.

To avoid serious conflicts and to respect the traditional

為減少衝突，也為尊重當地傳統的漁業文化，台管處多次與漁民協商，並同意在不違背國家公園計畫保護利用管制原則的規範，讓設籍於七股區的漁民能在非黑面琵鷺的度冬期間，可經由申請進入七股黑面琵鷺保護區進行人工採捕文蛤、赤嘴及竹蛸等三種無保育疑慮、且具經濟價值的貝類（其他物種與黑面琵鷺食源有直接關係的魚類仍嚴格禁採），台管處亦進行相關生態承載量評估及監測，使貝類資源能永續利用。

如此一來，不僅能永續在地的漁業資源，在地居民原有經濟產業也能得到一定的尊重，進而認同管理處保育黑面琵鷺的經營管理方向，並與這珍貴的嬌客和平共處。

防護確實 疫情不懼

另一座「飛羽天堂」，則在位處離島的金門國家公園。

金門位居東亞候鳥重要遷移路徑上，鳥類資源豐富。其中數量眾多的鸕鷀是最引人注目的冬候鳥，其龐大族群在晨昏進出的壯觀景象，對賞鳥者與一般民眾都是相當難忘的經驗，鸕鷀因此成為金門發展生態旅遊的重要主角之一。

鸕鷀對於夜棲地的選擇十分嚴格（需要無人為干擾的濱水樹林），相較於有些國家對鸕鷀的夜棲地已破壞殆盡，在金管處的保護下，讓來金門渡冬

culture of local fishery, TJNP, via rounds of negotiation, agreed to allow fishermen in Cigu to enter the spoonbill protected area in non-migratory seasons to net three species of shellfish that are not directly linked to the food sources of the bird: common orient clams, Oriental cylicina, and *Solen strictus*. TJNP has also conducted evaluations and monitoring on the capacity of the local ecosystem to ensure sustainable provision of shellfish resources.

By doing so, the local fishery is sustained, fishermen and residents are respected and educated about the importance of protecting and managing the habitat for the spoonbills, and these special guests from the sky are treated right.

Solid Precautions Keep the Dread Away

Another paradise in Taiwan for the feathered friends is Kinmen National Park (KMNP).

Located on the migration route of migratory birds in East Asia, Kinmen boasts a variety of bird species, among which Common Cormorants (*Phalacrocorax carbo*) are the most eye-catching winter migratory bird. They would fly at dusk and at dawn in spectacular flocks, and are thus regarded as a key attraction of Kinmen's ecotourism.

The cormorants are very picky about their nighttime habitat, which has to be woods on waterfront without any human interference. Under careful protection by KMNP, Kinmen is one of the few sites in the world that could provide an ideal resting place for the cormorants. Besides, well-educated about ecological conservation, Kinmen residents have been mostly in peace with the bird.

台管處尊重當地傳統的漁業文化，使漁民能在規範內維持原有的產業活動。圖為在四草湖收成的牡蠣 / 劉良力攝
Taijiang National Park Headquarters respects the local traditional fishing culture in Tainan, allowing the fishermen to making a living by doing what they has long been doing. The picture shows the harvest of oysters in Sihcao Lake. /by Liang-li Liu



鸕鷀是金門地區發展生態旅遊的重要主角 / 廖東坤攝

Common Cormorant (*Phalacrocorax carbo*) is a key attraction of Kinmen's ecotourism. / by Dong-kun Liao



的鸕鷀得以有安心的棲所，加上保育觀念的宣導與生態教育的落實，鸕鷀與在地居民甚少有衝突的情形發生。

金門國家公園管理處自2003年起，即以鸕鷀為主題，每年持續推動與鸕鷀相關的生態旅遊活動，並進行環境教育解說、生態紀錄片拍攝以及生態習性的研究調查，使金門的在地民眾皆能與鸕鷀建立良好而自然的共處關係。而為保育鸕鷀棲地，金管處定期清除民眾為捕捉魚蝦而設下的漁網，期盼民眾能共同重視自然生態，遵守國家公園法的規定，勿在水中架設網具，一起建構安全的候鳥棲地。

2005年時，禽流感疫情一度引起全球的恐慌，長期於金門進行鸕鷀生態研究的金門縣野鳥學會理事、金門高中莊西進老師表示，當時大家對於近距離賞鳥也開始有些防備與疑慮，但由於金門地區

Such a harmonious relationship must be attributed to the efforts by KMNP Headquarters, which has since 2003 promoted eco-tours, environmental interpretation services, eco-documentary filming and ecological research, all with the cormorants as the major theme. KMNP also regularly removes the fishing nets set up by people in the waters for catching fish and shrimps. KMNP hopes that people could abide by National Park Act and help maintain a safe environment for the migratory birds.

In 2005, the epidemic of avian flu had once sent a worldwide shock. According to Hsi-chin Chuang, a council member of Kinmen Wild Bird Society and a teacher at Kinmen High School, people in Kinmen were also concerned about the risk of contraction of the flu. But as domestic fowls were not in a large number in Kinmen, the chance of flu transmission was low, and there's no need to ban bird-watching activities. Instead, what's more important was "to educate people about the



並沒有大規模的家禽飼養，由野鳥傳給家禽的機會不高，所以賞鳥的活動不至於需要禁止，事前的防範與禽流感的正確認知宣導才是真正重要的事。「除了加強宣導有關禽流感的正確認知、禁止一般民眾進入鷓鴣的夜棲地外，須踏入鳥類棲地進行研究工作的人員，則需施打疫苗與穿戴完整的隔離防護措施，配以長期的研究監測，才能真正將禽流感可能造成的不良影響或恐慌降至最低。」莊西進說。

莊西進表示，與動物相處時，許多的恐慌與衝突往往來自民眾的不了解，確保執行前的先行防範，對於保育動物而言，就是一種最好的「護生」作法。

物種保育的重點，並非只在「數量」提昇，還要給牠們適宜的棲地環境。但別忘了，人類在物種保育中扮演最重要的角色，與萬物和諧共處，才能真正讓生命延續，而民眾保育觀念提昇並向下紮根，才能使這條路走得長遠、走得穩健。 🇹🇼

preventive measures against avian flu, and to keep people away from the nighttime habitat of the cormorants,” said Chuang. “Researchers must wear full protective gears and get inoculation before entering the area. And long-term monitoring on the birds would help minimize the negative impact.”

Panic and conflicts against animals often arise from lack of knowledge. And in the process of animal conservation, taking precautions is also the best way to protect the animals.

Animal conservation, one of the major duties of Taiwan’s national parks, is not just about rehabilitating species in large quantities but also about keeping the ecosystem in good quality. And protection of species and habitats is just a beginning to a higher end of a harmonious coexistence between humans and wildlife, a common goal for all people on this island. 🇹🇼