Vulture Updates No 15 – October 2021 - Around the World of Vultures & VSG activities

Headlines during the period included identifying a new vulture safe veterinary NSAID, tolfenamic acid, but also fully confirming that another increasingly popular drug nimesulide urgently needs to be banned. In West Africa the development of an Action Plan to address belief-based use gains momentum. Lead poisoning is well known as the predominant threat for California Condor, but recent growing evidence confirms it threatens many species worldwide including vultures. VSG therefore submitted our formal letter of support to the EU with the help of VCF for a proposed lead ban in Europe. The Raptors MoU of CMS has been activated by the CMS resolution calling for countries to take urgent actions to ensure safety testing of existing veterinary drugs, withdraw licensing of vulture-toxic veterinary NSAIDs and to identify and promote safe alternatives. With this agenda, the TAG has created a new NSAIDs working group.

Our 2020 VSG report to IUCN was uploaded to the VSG website. We have updated guidance on the website for anyone interested to join VSG and we are happy to welcome several new members from South America which had been under-represented (and this has already increased contributions below for the region). Stoyan Nikolov is warmly welcomed as our second European Co-Chair. There are several key upcoming meetings including: Raptor Research Foundation, Bearded Vulture meeting in Europe, and the SAVE Open Day in Asia (open to all, details follow for each below). Note a request from Gambia for help with aging Griffon vultures. We here pay tribute to Nick P Williams who coordinated the production of the CMS vulture MsAP but sadly died in April 2021. Nick was head of the Raptors MoU Coordinating unit for ten years until 2020.

More details on al the above, on this year's IVAD and full regional round-ups below:

International Vulture Awareness Day (IVAD) Sept 2021: At least 102 organisations participated in IVAD from 28 countries across 6 continents, several organisations spanning multiple countries and continents. Participation increased over 2020, with impressive participation in virtual events where physical events were not possible. The USA had the highest number of participant organisations (24), followed by India, UK and South Africa. Participating organisations were from conservation NGOs, universities, nature reserves, wildlife parks, state governments, raptor displays, zoos and more. Effort increased this year to involve and engage the younger generation, including a particularly impressive podcast focus on vultures by Funky Kids Radio in Australia! There are too many to mention here, but among the more innovative were participation in national vulture counts by BCN in Nepal, and WWF in India, a sketching seminar with artist Christine Elder, a trail run at Dronfield NR, South Africa, vulture releases in Portugal and Spain, young ambassadors did an awareness evening performance for EVs in Gjirokastra, Albania and Shaver's Creek Env Center, USA led games, colouring activities, word searches, and even a guided walk with an injured Turkey Vulture (TV)! There were also numerous online webinars, podcasts, presentations, and educational activities, and site visits to view wild vultures in many countries. One of many examples was from Oman where ESO shared on social media footage captured by field researchers of a Lappet-faced Vulture chick learning to fly, along with information on threats they face. For the second consecutive year, a real-time competition between marathon runners and migrating tagged Egyptian vultures (EV) was held to celebrate the IVAD 2021, involving over 400 participants from 11 countries.

Africa Round-up:

The African Wildlife Poisoning Database announced the launch of a Wildlife Poisoning dashboard that will enable users to access summaries of all wildlife poisoning data that has been captured on this resource. The African Vulture SAFE team, which includes a number of AZA institutions and partners (big thanks to Jacque Williamson!), developed some excellent freely available resources for IVAD including a toolkit for educators and parents including some excellent graphics about vultures and their importance. See also three beautifully produced animation videos with key information on the African Vulture Crisis. African vulture movement as it relates to ungulate migration was highlighted in a *Science* publication investigating ungulate migration. Another paper showed how vultures use Mara River ungulate mass-drowning mortality events giving insight to how vultures use large pulses in resources as might occur during a disease outbreak. Also a strong African input to a JRR conservation strategy paper for Old World vultures in a One Health framework. As part of IVAD celebrations, BirdLife International launched a Vulture Conservation Forum composed of its partners and key collaborators across the Africa region to extend and scale vulture conservation actions across the continent by promoting lessons sharing, subregional collaborations as well joint communications and advocacy strategies to raise awareness and influence change.

West Africa: The drafting of an Action Plan to understand and address belief-based use trade in vultures in West Africa gained momentum with the VSG securing a grant from the IUCN SSC to cover the initial costs. The planning process will be led by Jamie Copsey of the IUCN Conservation Planning Specialist Group. A time-frame has been agreed with the process commencing imminently (mid-Sept). BirdLife partners and contact organizations in Guinea-Bissau, The Gambia and Senegal have initiated work (with IUCN SOS support), and preliminary survey results demonstrate belief-based use in Senegal, but the primary market for these parts is Nigeria. Workshops aiming at development of a Regional Action Plan on Combatting Illegal Wildlife Trade were held in **Nigeria**. A Documentary on Nigeria's vulture and wildlife trade crisis was produced, and a very successful campaign for vulture conservation led by Nigerian celebrities was implemented. Awareness on vulture conservation was raised for 135 hunters in the regions of Maradi and Zinder, **Niger,** and environmental-education campaign focused on vulture conservation continues in Niger schools by provision of educational materials and stimulating the best students. Finally, Clive Barlow (from The **Gambia**) requests help/collaboration with *Gyps fulvus* experts from Europe or elsewhere to help with ageing Griffon Vultures from trail camera images captured at provisioned carcasses in early 2019 (see figure below).

East Africa: **Tanzania** dry season road surveys in Nyerere and Ruaha National Parks (NP) were completed, with Katavi NP planned for mid-Sept. Analysis of past 7 years data is ongoing trends had been stable until recently but now show declines, including more limited data for Nyerere NP. White-backed (WBV) and White-headed vulture (WHV) numbers in Ruaha look most worrying. Identified threats are poison baits linked to bushmeat hunting, trade in vulture parts, and retaliatory killing of carnivores. Current total of 20 WBV, and 1 WHV tagged in Tanzania. WBVs tagged in Nyerere NP/Selous GR regularly travelled into N Tanzania since early 2020 (including the Serengeti-Mara ecosystem). Poison response ranger training extended to the north, with 2-day training for 39 rangers from Maswa GR, Makao WMA and Wilco (Wildlife Conservation Ltd). Staff at Nyerere NP trained, bringing the total to 229 rangers trained. The Grumeti Fund, together with NCZ, is supporting a Tanzanian Master's student to conduct nest surveys in Grumeti GR and Ikorongo WMA in **N Tanzania**. Aerial census data (initiated in 2012) have shown steady declines in WBV nests since 2014. In northern **Kenya,** aerial surveys of three Rüppell's vulture colonies resumed, with a second flight planned later this year. The Coexistence Co-op, a joint project between The Peregrine Fund and Lion Landscapes continues community and ranger trainings teaching people how to build predator-proof bomas (livestock corrals) and about the dangers of wildlife poisoning. The team trained 351 people in the past 6 months, despite covid restrictions and limitations. Covid has

exacerbated the already perilous economic situation likely resulting in less tolerance of damage-causing wildlife. Poisonings increased notably during the first covid wave. Security concerns are also on the rise due to land/political issues. See Annual Report for details and other work in Africa. Two further Wildlife Poisoning Response training workshops were held in the Queen Elizabeth- and Murchison Falls National Parks in **Uganda** late Aug (43 pax). Two vultures were satellite tagged at Murchison Falls with plans to for a further 30 birds in Uganda during 2022 in partnership with UWA and the Uganda Conservation Foundation. In **Ethiopia**, EWNHS designed a schools education programme including a focus on vultures and conducted an awareness enhancing seminar on the need to mainstream vultures and other soaring birds conservation into the energy sector.

Southern Africa: A recognised regional knowledge gap prompted 17 vultures to be fitted with satellite tags in **Botswana, Malawi** and **Zambia** since March - a partnership between Raptors Botswana, Lilongwe Wildlife Trust, African Parks, BirdWatch Zambia and Luambe Conservation Ltd. A new Vulture Safe Zone (VSZ) was established by Birdwatch Zambia in a game management area adjacent to Kafue NP, more than doubling the current area under VSZs in the country. 62 rangers, law enforcement, human-wildlife conflict and veterinary officers in the Kafue National Park and surrounding areas were trained in Poison Response by Endangered Wildlife Trust (EWT), as part of 19 wildlife poisoning response training workshops also in **South Africa, Malawi, Uganda** and **Mozambique** (398 trained). This included two virtual training sessions conducted with BirdLife International partner organisations in **Ethiopia**, The **Gambia** and **Ghana,** as well as ICF staff working in **Uganda** and W **Kenya**. This is a significant expansion in terms of in-country training capacity. EWT's Wildlife Training Protocols were translated into Portuguese and French to enable wider expansion within Africa. BirdLife SA with Peace Parks Foundations initiated the first VSZ in **Mozambique.** Furthermore, on IVAD BirdLife SA also announced the establishment of the first VSZ in the Waterberg region of South Africa extending the VSZ coverage in SA by another 48,000 hectares. VSZs in southern Africa developed with progress for the first trans-boundary VSZ being announced in the Greater Mapungubwe landscape that encompasses areas in NE Botswana, NW Limpopo in South Africa, and SW Zimbabwe. EWT also announced establishment of the first official VSZ in the Karoo-region of **South Africa**.

Bearded Vulture (BV) Recovery Programme updates from Sonja Krueger: June/July early breeding season monitoring across southern Africa focussed on confirming incubation at selected BV nest sites to provide the captive breeding programme with harvest options for the season. 54 territories were checked, adults detected in 29 of these, and breeding was confirmed in 22 cases. The BV Breeding Programme, led by Shannon Hoffman, harvested 7 eggs from the wild in August 2021. One was infertile, but 6 hatched and the chicks are doing well. A new enclosure was built at the African Birds of Prey Sanctuary (home of the BV Breeding Programme) to house 5 of the captive birds in the programme. One enclosure is being used as a pairing enclosure, to pair the oldest male and female, while the other houses the 6 chicks and surrogate adult female. A paper was published on BV genetic structure in southern Africa. Also, an MSc thesis, was completed at the Univ. Cape Town examining tracking data from adult tracked BVs.

Asia Round-up:

West & Central Asia: A collaborative project was initiated in June, the first vulture initiative for **Uzbekistan:** "Identifying migration routes & wintering areas of EVs breeding in Uzbekistan". 4 juvenile EVs were GPS/GSM tagged in Jul/Aug, the first EVs to be tagged in Central Asia. There was also nest monitoring for breeding success in the Central Kyzylkum desert, along with documentation of other breeding areas and congregation sites for the species. The first ever breeding survey of Lappet-faced vultures in the mountains of **Oman** in 2021 was carried out despite the pandemic constraints by the Environment Society of Oman with support from Disney Conservation Fund. Breeding population surveys

took place Feb-Aug 2021, including monitoring over 20 nests. Nest failure at the egg stage was higher than anticipated which will be further investigated in 2022. The breeding season is apparently quite extended with fledging between May-Sept. Environmental activist Ali Mahrous from Socotra, **Yemen** shared an inspiring blog on the role of EV in Socotra society. Note a new BBC series with D Attenborough is due to feature EVs in Socotra too. Breeding EVs population studies were progressed in **Turkey**, which also hosted an online workshop on the risks for vultures from electrocution and collision with powerlines. An EV conservation network for Nomad shepherds was also developed in Turkey. Three EVs were rescued from a zoo in **Lebanon**. There was good publicity in **Syria** when a rescued juvenile EV was released after being fitting with a tracking device. Anti-hunting awareness field missions were held in Syria during the spring migration. In **China,** a CV, satellite tagged in 2019, moved over 1,000 km to neighbouring **Kyrgyzstan** during both subsequent summers (May-Sept). Speculation on reasons for these movements are changing food availability, indirectly caused by impacts of disease or the pandemic, or to lower human population densities. In May, the WMBD 2021 was celebrated by BirdLife Middle East through a webinar on the illegal hunting methods.

South & SE Asia: The headline for the period from **India** was the announcement regarding tolfenamic acid through a preprint publication and publicity, as a second vulture-safe veterinary NSAID in addition to meloxicam. The safety testing results carried out on Himalayan Griffons and White-rumped vultures (WRV) at Pinjore, Haryana, was further endorsed by the Indian Veterinary Research Institute (Govt Institution) who carried out the work with BNHS & RSPB. Tolfenamic acid can hopefully gain popularity and help avoid other toxic drugs replacing diclofenac. Unfortunately, the growing popularity of other unsafe NSAIDs in the region was further confirmed for nimesulide, first through recent BNHS pharmacy surveys, but also through dead wild WRVs from Gujarat confirmed in a publication led by SACON as killed by the drug, and then with further confirmation of its toxicity in the prepublication accepted paper, led by Univ of Pretoria, South Africa where full safety-testing work was carried out with VulPro, RSPB & ERI on Gyps vultures. These collective results (for tolfenamic acid and nimesulide) attracted global attention in an article in Science adding weight to the calls to ban nimesulide for veterinary use – but there's no action on this so far. Trial BNHS vulture release work awaits progress from the NSAID monitoring before plans for further releases, but 5 wild WRV were GPS tagged near Pong Dam in Himachal Pradesh in Sept/Oct by Wildlife Institute of India, Central MoEFCC and HP State Forest Department. Meanwhile, surveys in **Bangladesh** are underway to monitor the effect of the recent national ketoprofen ban – the first such ban for this vulture-toxic drug, which is setting the example for other countries, not only in Asia. Also, Bangladesh Forest Dept through IUCN Bangladesh has initiated a two-year Vulture Conservation Program under Sustainable Forests and Livelihoods Project, funded by the World Bank, to implement key activities of the Bangladesh Vulture Conservation Action Plan. A high level IVAD event was attended by top Govt officials including MoEFCC Ministers, with POJ live-streaming 27 WRV from the main safe feeding site, also to national media. Meanwhile, the emerging poison-baits threat resulted in 69 vultures dying in one incident in **Nepal** in April, apparently targeting nuisance feral dogs. The report of the poison-response training in **Cambodia** last year was produced by partners of the Cambodia Vulture Working Group (CVWG), with two key outputs for response protocols, and decontamination protocols having far wider application helping save vultures that are still alive, collecting information to determine the source of the poisoning, and above all maintaining human safety in the process. In Sept, Rising Phoenix joined as a partner to the CVWG and the SAVE Partnership. Some welcome news from Parco Naturuo Viva, **Italy**, where **Red-headed vultures** hatched and fledged a chick naturally for the first time (see video), building hopes that this will develop to a larger scale breeding programme. There was also an EAZA vulture meeting in June attended by VSG chairs where the suggestion of creating a TAG for Asian vultures was put forward, as well as discussions around building links for African vulture species in particular, which are better

represented in European zoos. The regional SAVE Annual meeting will be held in early December, with the open day registration (2 Dec) now open for all to attend.

European Round-up:

Bearded vulture (BV): The reintroduction projects based on captive-breeding and release progressed, with 24 young released at 5 sites, including the Grands Causses in France, Vercors in the French Alps, the Swiss alps, the Maestrazgo massif in Spain, and the first ever release in Germany, organised by the Bavarian Nature Conservation Association (LBV) and Berchtesgaden National Park (BNP), and where 2 BVs 'Bavaria' and 'Wally' eventually took to the skies – more on the rationale for reintroducing the species in the German Alps here. Two birds were also released in Corsica to reinforce the small and dwindling population there. Over all in the Alps, the population broke new records in breeding numbers again, with 61 territories fledging 44. Three young were also tagged in the nests there, including one in the Italian Alps. In Andalusia, Spain too it has been a productive season: 5 pairs fledged 3 young in the wild in this reintroduced population. 8 chicks were also reintroduced there this year, and the Andalusia breeding centre produced a record 10 chicks. Further positive news was a pair is now establishing itself in Granada province, a significant range expansion in the Andalusian mountains. About 60 BVs are being tracked across Europe – see all their maps and news here, with some birds travelling extensively, 'Eglazine', for example, is still in Holland, while 'Piero' did a northern France trip. Perhaps the most famous vagrant BV was 'Vigo', that stayed in the UK for several months last year and was observed by thousands – through genetic analysis of its feathers, it was possible to trace it back to a specific nest in the French Alps! The captive breeding season was had its fair share of difficulties, some related to covid-19 related restrictions - read about some of the techniques and challenges. In Maestrazgo, Spain, the experimental project to translocate adult non-breeders from the Pyrenees continued this year, but so far is not producing the desired results - virtually all birds have returned to the Pyrenees. BV reintroductions remain popular with a range of supporters, eg a local running club in southern Spain, or *Decathlon* started selling BV water bottles, all donating BV conservation. The annual BV meeting will take place in Nov 2021 in the French Alps, at Die, Vercors – do please register if interested!

Cinereous vulture (CV): Excellent news from Bulgaria, not only because of the first breeding in the country following the start of the reintroduction in 2018 , but also because the nucleus of CV there has now increased: recently 20 were counted in a supplementary feeding point. Some birds do wander, like the well-travelled 'Riga'. 22 more CVs arrived in Bulgaria in March, to be released over the coming months. The Some CVs were also tagged in Spain by GREFA and the VCF, including this one in Salamanca. In Mallorca the population is also doing well, and this year a pair nested on rocks, unusual for western Europe. The colonies in Portugal (recent natural recolonisation from Spain) continue to do well, and birds have been tagged in the 4 breeding areas, as well as some rehabilitated birds, like 'Bruma'. In the Douro valley - the most northern breeding colony, a bird that was tagged last year remains in the area. A Portuguese project promoted by the Hawk Mountain Sanctuary with the support of Nature & Forest Conservation Institute of Portugal Government, the Natural Park of Tejo International, the electric company ENDESA and the Toxicology Department of Murcia region Veterinary University has increased the effort and focus during 2021 to monitoring 16 toxins on CV nestlings. This includes heavy metals, NSAIDs and antibiotics.

Egyptian vulture (EV): A paper analysing the threats for the Egyptian vulture and other soaring birds along the Eastern Mediterranean flyway was published. Two other recent papers evidence that 'sustainable development' kills globally threatened vultures and other reports in Africa and Middle East. A new study shows that supporting the declining migratory population of EV in the **Balkans** with captive-reared young birds every year could delay extinction, and thus afford conservationists more time to reduce lethal threats along a migratory flyway spanning three continents. The EV restocking programme in Bulgaria continued by releasing 3 more captive-bred individuals in spring 2021, and by evidencing for the first time the survival and successful return of captive-bred birds released a few years back. The practice to collect from the nest late-hatched wild EVs with a low chances of survival during the first migration and releasing them the next year (delayed-release method) is becoming common practice in **Bulgaria**. Another 5 captive bred EVs were released in southern **Italy** as part of the LIFE Egyptian vulture project. Some birds there have been tracked

for many years, eg 'Sara', an Italian EV in its 6th year and in this period it has done 4 migrations from Italy to Niger. One of the birds released two years ago spent several months touring the Balkans. A documentary was produced about EV conservation in Italy and the Canary islands. Several rehabilitated EVs have been successfully released with a GPS tags, like this one in Portugal, or this one in France. One bird that had been released last year, after a difficult rehabilitation, did return to the Iberian peninsula. The oldest known EV, 29 years old, was resighted this year in Spain. A paper on EV mortality was published. The discovery of a nest of the highly threated **Cape Verde** islands population was noteworthy, and finally, the first EV observed in the **UK** for 150 years caused great excitement. The movements of 26 EVs with transmitters are followed along the Eastern Mediterranean Flyway. Three small feeding stations (SFS) are operating systematically in **Greece** (one in Thessaly and two in Epirus) to support the EV population, while the SFS of Crete were activated during the migration period. A new feeding station was established in **Albania** and one more SFS started operating in **North Macedonia**. Live-streaming camera was installed in one of the operating SFS in Albania. Targeted supplementary feeding and nest-guarding for EVs continues also in Bulgaria. Young activists protect the last EVs in Albania and North Macedonia through field missions, local awareness events and celebration of the WMBD. Environmental-education programme focused on vulture conservation was launched in Bulgaria and strongly continues in Greece, considering the COVID-19 restrictions, by reaching in total over 1,800 students and publishing Egyptian vulture's Mission Impossible booklet. Special events to raise the awareness and sensibilize children about vultures were held in Albania and Bulgaria. In total, 38 EVs were counted during the annual Balkan pre-migration count in 2021. Study with trail cameras installed in wild nests revealed interesting aspects from the breeding behaviour of the EV in Bulgaria. Three life-streaming video cameras broadcasted the private lives of EVs in Bulgaria, reaching thousands of people from 140 countries around the Globe.

Griffon vulture (GV): The sustained recovery of the griffon population in Europe continues, with the species recolonising an ancient breeding colony in **Greece** and active conservation projects supplementing local populations, including in Croatia, Bulgaria, Sardinia and in Greece. A study of the vocal repertoire of GV was published' One study related landscape arthropodization with griffon habits and occurrence whilst a record of golden eagle predating a griffon chick. There was also an unusual record of a griffon nesting on a tree in **Portugal**. In the **Balkans**, a study confirmed that supplementary feeding sites can be very important in some parts of the year, but that the GV get most of their food there naturally. There are numerous tagging projects following GV movements, but here are examples of movements across the Middle East, or one reaching islands such as Cyprus.

Threats: Poison baits remains the biggest threat to vultures in Europe, killing vultures, including a reintroduced CV in **Bulgaria**, two birds in the only colony remaining in the Balkans in Dadia, **Greece**, and at least 7 CVs in **Turkey** Two EVs tagged by the NEW Egyptian vulture LIFE were also poisoned in Africa. Engaging with local stakeholders to address this is important, eg in **Serbia**, where a series of local workshops were organised by a Serbia conservation organisation, while in **Albania** meetings continue as part of the LIFE Balkan Detox, a significant anti-poisoning project involving 7 countries, that aims to develop and implement national actions plans against this threat. A major step forward in the regional efforts to mitigate this threat was given with the start of the Wildlife crime academy, a peer to peer training programme in which **Spanish** government staff is training a number of enforcement agents, toxicologists, veterinarians and judiciary from other countries. Balkan Wildlife Poisoning online database and map were launched. The National Anti-poisoning Road Map was endorsed in **Bulgaria**, while the work to establish local anti-poison networks continues. Initial results are available from the testing of pilot actions against wildlife poisoning in **Greece**. In April 2021, the Evros Forest Directorate in Greece organized the 1st meeting (web conference) of the stakeholders for the implementation of the Local Action Plan to combat the illegal use of poisoned baits. **Electrocution & collision:** The big news was Europe's first known casualty of

a BV in a wind farm - a vagrant flying in the plains of northern Europe collided with a wind blade and died in the **Netherlands**. A recent study in the Swiss Alps assessing risk of wind farm collision for this species will help inform planners and decision makers in identifying safer locations for such structures in relation to BV. An adult BV that had recently established itself in the Spanish pre-Pyrenees also died after colliding with some lines. Electrocution is certainly a problem, and not only for vultures, eg a serious wildfire was started by an electrocuted griffon in Spain. One other BV that had been reintroduced in France was also electrocuted, in Italy, whilst a recent study in the Canary Islands highlights the danger of this threat to the recovering population of the endemic sub-species of EV there. Meanwhile, projects across Europe continue to put bird marks and insulate pylons – like this one in Sardinia. A LIFE Rupis project video was produced on this threat (and poison-baits) in Portugal and how current actions are underway to address these problems. Also other best practice videos for farmers and landowners were produced in 4 languages. **NSAID poisoning:** The first confirmed case of diclofenac poisoning of a CV in Spain brings new pressure on the EU and Spanish government to ban the drug for veterinary use, supporting an earlier paper, and illustrating that the authorities claims this could never happen are false. **Shooting:** Unfortunately, some vultures are still shot at in Europe like this young EV from the Italian restocking project, that was most likely killed over Malta, or some cases of birds being shot in France, including griffon vultures, or a CV from Bulgaria, that wandered into Hungary and was killed there. In one case a CV died in Switzerland having ingested plastics. **Lead poisoning:** Lead from hunting ammunition is also a threat to European vultures, and every year there are cases of acute lethal poison, like this case in Bulgaria. A fantastic review of the impact of this type of secondary poisoning to vultures was published recently, and an important process is underway in the European Union to try to restrict (and eventually ban) the use of lead bullets in the wider environment as has recently been approved for banning lead shot in wetland hunting. See also VSG website.

North American Round-up:

The latest **California Condor** (CC) nestling update: 3 surviving wild nestlings in the southern CA flock (4 known nestlings hatched but one died, cause of death unknown) and 6 in Central CA. The Yurok Tribe is working to establish another CC release site in northern CA with hopes for a first release there in spring 2022. Researchers from Mississippi State Univ. are studying the spatial ecology of AABVs and TVs relative to U.S. Dept of Defense activities in Mississippi. They wing-tagged 227 American **Black Vultures** (ABV) & 71 **Turkey Vulture** (TV), with resightings in Indiana, Maryland, & Tennessee, several over 100 km away. 26 ABVs & 15 TVs were fitted with GPS/GSM tags. Some ABVs move 100 km/day on average. Evaluating the impact of wing-tags on flight performance of ABVs is being investigated, comparing movement parameters of 10 GPS-tracked ABVs with 10 GPS-tracked non-wing-tagged birds. Preliminary results reveal no differences in flight performance between the groups. The impact of extreme weather events (eg cyclones, tornados) and measuring lead (Pb) in blood samples of 285 birds (215 ABVs and 70 TVs) are also being investigated. This same team is compiling nesting records to investigate nesting habitat suitability for ABVs and TVs. To date they have compiled <70 nesting records and will welcome additional nesting records for any north American vulture nest, which can be submitted online. Purdue Univ. Wildlife Services fitted 14 additional ABVs with GPS/GSM transmitters Aug 2021 in Kentucky & Indiana (making 20 tagged in total). This data will be used to monitor how ABVs utilize livestock production areas in Southern Indiana. Wildlife Services NWRC Florida Field Station recently teamed up with the Univ. Georgia and State Univ. New York to investigate TV and ABV roost site selection criteria, with potential human-wildlife conflict in mind. An existing vulture location data set is being used to determine if man-made landscape transformations can produce favourable roosting conditions for TVs & ABVs. These findings can help wildlife managers predict where roosts are likely to occur. Keith Bildstein led TV road surveys (2000+

km) in central and northern CA in July 2021 which recorded only 65% compared to equivalent dates in 2015. The Raptor Population Index Project has released updated 10-year and long-term trends for ABVs and TVs. Of the 31 sites tracking AABVs, 77% show stable 10-year trends, 16% show increasing and 7% declining. TVs are monitored at 64 North & Central American sites with 72% showing stable counts and 27% increasing over the past decade. The increases were predominantly in eastern North America.

South America Round-up:

In **Ecuador,** Fundación Cóndor Andino (FCA) and The Peregrine Fund confirmed the birth of 6 Andean Condor (AC) chicks in the wild over the last 12 months, satellite tagged two more AC, and continued developing environmental education and awareness campaigns at selected communities near key feeding and nesting sites. In May 2021, one adult AC, injured with gunshot pellets, was rescued and is being rehabilitated for release into the wild with a satellite transmitter. On 4th Sept, FCA and Bioparque Amaru from Cuenca city (southern Ecuador) celebrated IVAD with various events – talks, a webinar, and a flight exhibition. Stronger education campaigns are urgently needed in **Bolivia** where between Aug 24th and Sept 2nd, three ACs (all females) had to be rescued from two locations in Chuquisaca department. An adult and an immature had been poisoned having fed on a dog, which had also been poisoned; the other was an adult with an injured wing where the causative factor has yet to be determined. In **Peru**, support from government (SERNAMP and CIES) initiated two AC research projects in early 2021, both in marine-coastal protected areas: The first in Zona Reservada Illescas in NW Peru, and the second in Reserva Nacional San Fernando in SW Peru. Both projects aim to determine to what extent AC diet depends on marine resources, and the relationship between food availability and the relative abundance of AC and other vultures (AABV & TV). There are also plans to GPS tag condors along the coast and in Colca Canyon. In **Colombia,** Humboldt Institute with the Neotropical Foundation of Colombia started a project to study AC population structure and genetic diversity in Colombia, funded by the Ministry of Envt & Sustainable Devpt. The project started with visits to areas of very difficult access to collect feathers, generate genetic information and provide guidelines for the standardization of protocols for genetic monitoring of biodiversity in the country. The goal is to generate genetic benchmark information to gauge success of reintroduction work and the conservation status of the species. Three condors were found dead in Colombia around April, apparently due to poisoning. In **Argentina** there were several new poisoning events: A juvenile female AC died from poison baits - pesticides used to control carnivores in El Cain, Rio Negro Province. This individual was born in the wild in 2017, a result of an international conservation effort to reintroduce condors to the Atlantic coast of Patagonia - so was part of the Integral Plan for the Conservation of the AC in Argentina. Three ACs died due to lead shot ingestion in the provinces of Jujuy, Río Negro and Santa Cruz. These cases highlight the urgent need to prohibit the manufacture, sale and use of lead bullets in the country. A juvenile AC that fell from the nest was rehabilitated and released with satellite tags in S Argentina. Other chicks were tagged as part of a flight learning study by CONICET, Swansea University, Universidad del Comahue, & Max Planck Institute. In **Chile**, there were 5 separate cases of intentional poisoning of AC just between Aug 9th & Sept 14th plus two more unintentional poisonings (ingestion of lead ammunition and ingestion of plastic respectively). Further individual cases were one collision with a wind turbine; a collision with a powerline and one case of a bird being shot. Of these 10 condors, 8 died and 2 are at least alive in captivity. Given the rugged topography, there are undoubtedly other unreported cases, but these data are almost certainly part of a long-term rising trend of different human-caused threats.

Let us know if you receive this newsletter indirectly and wish to be added to the circulation list.
Do send items for inclusion ahead of the next edition in February. Or submit longer articles to the editor of the VSG journal, Vulture News. Reminder that Vulture News including back copies is available free online – do read it!

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Figure 1. Camera trap image of vultures feeding in The Gambia provided by Clive Barlow, with the following request: "We are interested in collaborating with anyone who may be working with *Gyps fulvus* and who would be interested in ageing birds etc from trail camera images in groups like this example secured in the east of The Gambia at a series of provisioned carcasses in early 2019. Please get in touch at birdsofthegambia@hotmail.com ."