IUCN SSC Lagomorph Specialist Group

2018 Report

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Co-Chairs

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Location/Affiliation

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Number of members

73

Social networks

Website:
www.lagomorphspecialistgroup.org

Mission statement

To promote the conservation and effective sustainable management of all species of lagomorph through science, education and advocacy.

Projected impact for the 2017-2020 quadrennium

The Lagomorph Specialist Group (LSG) is "middle-sized" – not a single species, nor composed of hundreds of species. We have slightly less than 100 species in our brief. However, these are distributed around the globe, and there are few similarities among any of our many forms that are Red List classified as Threatened. Thus, we do not have a single programme or a single thrust; there is no one-size-fits-all to our approach. LSG members largely work independently in their region, and the Co-Chairs serve more as a nerve centre. This has always had to be our approach; the broad geographic reach of our members and the cost that would be involved in attempting to meet as a body of the whole essentially prohibit planning such a meeting. We judge our success based on the terrific work done by our members in their respective regions, and as this summary of our activities shows, this body of work is encouraging. What we are all doing collectively is to make Lagomorph a known entity, and to ensure that lagomorph diversity worldwide is maintained by minimising extinction risk, addressing climate change, working with local communities, stopping horrific poisoning campaigns, etc.

Targets for the 2017-2020 quadrennium

Assess

Red List: (1) improve knowledge and assessment of lagomorph systematics, (2) complete all Red List reassessments of all lagomorph species.

Research activities: (1) improve knowledge of *Brachylagus idahoensis*; (2) examine population trends of all lagomorphs in the western United States; (3) improve knowledge of *Lepus callotis*; (4) improve knowledge of *Lepus fagani*, *L. habessinicus*, and *L. starcki* in Ethiopia; (5) improve knowledge of *Lepus flavigularis*; (6) improve knowledge of all Chinese *Lepus*; (7) improve knowledge of *Nesolagus netscheri*; (8) improve knowledge of *Nesolagus timminsi*; (9) improve knowledge of *Ochotona iliensis*; (10) improve surveys of poorly-studied *Ochotona* in China; (11) understand the role of climate change in the determination of *Ochotona princeps* populations; (12) understand how climate change and reduced snow cover may affect populations of *Lepus americanus*; (13) identify individuals to study the *Pronolagus* species in Africa; (14) improve understanding of *Romerolagus diazi*; (15) improve understanding of lesser-known species of *Sylvilagus* in North America and South America; (16) increase knowledge of lagomorphs via publication of peer-reviewed publications (as indicated via The Web of Science).

Plan

Planning: update the Lagomorph Action Plan with production of a book highlighting overarching aspects of lagomorph biology and a comprehensive account with maps of all lagomorph species, published by Johns Hopkins University Press.

Ochotona princeps (American Pika) is found throughout the inner mountain west of the United States and southern Canada. Although it is widely considered a sentinal species indicating losses due to climate change, recent studies indicate that it is far more resilient than previously believed
Photo: Andrew Smith

Lepus townsendii (White-tailed Jackrabbit) occupies much of the grassland and upland habitat in western United States and Canada. However, this species has undergone recent range retraction (extinct from several formerly occupied states and provinces) and local population declines.
Photo: Justine Smith

Act

Conservation actions: (1) reintroduction of *Brachylagus idahoensis* into the Columbia Basin, Washington; (2) improve knowledge and conservation of *Bunolagus monticularis*; (3) improve knowledge and conservation of *Caprolagus hispidus*; (4) stop poisoning of *Ochotona curzoniae*; (5) control of feral cats and their negative impact on *Pentalagus furnessi*; (6) improve the status of *Oryctolagus cuniculus* in its native range, as a prey item of the endangered Iberian Lynx; (7) improve conservation to recover *Sylvilagus transitionalis*; (8) protect *Ochotona hyperborea* in Hokkaido; (9) protection and monitoring of the endangered subspecies *Sylvilagus bachmani riparius*; (10) monitor the endangered subspecies *Sylvilagus palustris hefneri*.

Network

Membership: review and expand LSG membership.

Communicate

Communication: (1) develop new improved LSG webpage; (2) publish overarching book on the biology and conservation of all lagomorphs.

Scientific meetings: plan for 6th World Lagomorph Conference.

Activities and results 2018

Assess

Red List

i. Discussions underway for the formation of an expert committee to review lagomorph systematics. (KSR #6)

ii. We completed all of the assessments of lagomorphs by December 2018, including assessments of newly described species. (KSR #1)

Sylvilagus audubonii (Desert Cottontail) is found throughout western United States and northern Mexico. While considered a game species across its range, there are distressing signs of a range-wide population declines
Photo: David Brown

Research activities

i. Four critical peer-reviewed publications on *Brachylagus idahoensis* were published by LSG members in 2018 (and 11 publications in the years 2016 and 2017). Continued successful reintroduction of an extinct population. (KSR #12, 16)

ii. Production of a major publication documenting declines in populations for *Sylvilagus* and *Lepus* across all of the Western United States, integrating knowledge across many different state agencies. This was a major regional effort. Brown, D.E., Beatty, G., Brown, J.E. and Smith, A.T. (2018). History, status, and population trends of cottontail rabbits and jackrabbits in the western United States. *Western Wildlife* 5:16–42. www.tws-west.org/westernwildlife/vol5/Brown_etal_WW_2018.pdf (KSR #12, 27)

iii. A thorough review of *Lepus callotis* was published in 2018: Brown, D.E., Traphagen, M.B., Lorenzo, C., et al. (2018). Distribution, status and conservation needs of the white-sided jackrabbit, *Lepus callotis* (Lagomorpha). *Revista Mexicana de Biodiversidad* 89:310–320. (KSR #12, 16)

iv. Improved LSG capacity to understand *Lepus fagani*, *L. habessinicus*, and *L. starcki* in Ethiopia through bringing in new LSG members. (KSR #12, 16)

v. Red Listing process brought together updated information on *Lepus flavigularis*. Censuses are continuing and a solid team is assembled to monitor the status of the species. (KSR #12, 16)

vi. We have an active LSG member at the Chinese Academy of Sciences, Institute of Zoology, Ge Deyan, who is looking for people with appropriate focal expertise to study all Chinese *Lepus*. We are optimistic that our new point person for Chinese lagomorphs will help with this moving forward. (KSR #12, 16)

vii. We sadly learned that *Nesolagus netscheri* has become a target for international trafficking, and working through our network, TRAFFIC, and WWF, we are hoping to bring more attention to this issue. We are in the process of forming a *Nesolagus* action conservation group. (KSR #12, 16)

viii. We have been doing ongoing surveys and documenting the wire traps that are being set for wildlife throughout Viet Nam that are really devastating *Nesolagus timminsi*. Several pieces have been published in the lay literature to bring the threat of the species to the general public. Our point person (Andrew Tilker) is working with locals to try to eliminate the use of wire nooses in protected areas. We are in the process of forming a Nesolagus conservation action group. Tilker, A. (2018). Fading Stripes in Southeast Asia: Saving the Elusive Annamite Striped Rabbit. *Capeia*: 20181218.016. (KSR #12, 16)

ix. We have not been able to get people to study the populations or natural history of *Ochotona* species in Asia. Very little is known and the systematics of these species are quite poorly understood. (KSR #12, 16)

x. Continuing to survey the populations of *Ochotona iliensis*. Our point person, Li Weidong, is having success with camera traps for improving knowledge. There still appear to be widespread extinctions. (KSR #12, 16)

xi. In the last three years, there have been 18 peer-reviewed publications by LSG members on the role of climate change in the determination of American Pika (*Ochotona princeps*) populations. It has become apparent that American Pikas can still be regarded as a sentinel species for climate change, but they are not being driven to extinction and they are resilient in the face of climate change. Millar, C.I., Delany, D.L., Hersey, K.A., Jeffress, M.R., Smith, A.T., Van Gunst, K.J. and Westfall, R.D. (2018). Distribution, climatic relationships, and status of American pikas (*Ochotona princeps*) in the Great Basin, USA. *Arctic, Antarctic, and Alpine Research* 50:1, e1436296. [DOI: 10.1080/15230430.2018.1436296] (KSR #12, 16, 38)

xii. Three publications in 2018 by LSG members highlighted the relationship between coat colour change, lack of snow colour and its relationship to predation of *Lepus americanus*. Mills, L.S., et al. (2018). Winter colour polymorphisms identify global hot spots for evolutionary rescue from climate change. *Science* 359:1033–1036. (KSR #12, 16, 38)

xiii. We have not found anyone with relevant expertise to study *Pronolagus* species in Africa. LSG Co-Chair Andrew Smith has been searching for someone interested in this group since 1991. (KSR #12, 16)

xiv. Documented an extension of the range of *Romerolagus diazi* into an internal portion of its range. It remains an important species for conservation. We have a really great team of people working on this species. (KSR #12, 16)

xv. Several papers have either been published or are being published on species of *Sylvilagus* in North America and South America, refining and improving the taxonomic limits, ranges, and conservation status of the species formerly under the umbrella of *Sylvilagus braziliensis*. Population surveys conducted on Mexican lagomorphs, such as: Lorenzo-Monterrubio, C., Rioja-Paradela, T.M., Carrillo-Reyes, A. and de la Paz-Cuevas, M. (2018). *Conejos y liebres insulares de México* (Insular rabbits and hares of Mexico). Ciudad de México, México: CONABIO. (in Spanish and English). (KSR #12, 16)

xvi. In the last three years, 165 peer-reviewed publications have been published on lagomorphs by LSG authors. (KSR #28)

Ochotona gloveri (Glover's Pika) is a rock-dwelling species found across much of the southern Qinghai-Tibetan Plateau. While common, this species has never been studied
Photo: Andrew Smith

Plan

Planning

i. Book on lagomorph biology and a comprehensive account with maps of all lagomorph species published in 2018. Production of this book was a major effort coordinating all activities dealing with lagomorph conservation, management, and biology globally. This book served to replace the 1990 Lagomorph Action Plan. Smith, A. T., C. H. Johnston, P. C. Alves, and K. Hackländer (2018). *Lagomorphs: Pikas, Rabbits, and Hares of the World*. Baltimore, Maryland: Johns Hopkins University Press. (KSR #28)

Act

Conservation actions

i. As of 2018, Pygmy Rabbits (*Brachylagus idahoensis*) have been re-established in three non-connected locations within suitable deep soil sagebrush habitat in historic sites in eastern Washington, US, with one population established in 2012 containing an estimated minimum of 200 rabbits, and two newly-established sites with less than 10 rabbits each. These populations contain 22% Columbia Basin ancestry, with remaining genetic contributions from other parts of the Pygmy Rabbit's range in western US. The species was extirpated in the wild in 2003, and current population status is the result of 10 years of captive breeding of Columbia Basin rabbits (2002-2011), and eight years of on-site semi-wild captive breeding with augmentation from non-Columbia Basin adult rabbits from other states. From 2011 to 2016, 1,782 juveniles and 165 adults were released from on-site captive pens into the wild and in 2017, 98% of rabbits detected in the wild were wild born. Ongoing management activities include on-site semi-wild captive breeding, translocation of wild kits with soft-release, annual transects of burrows and scat, and non-invasive genetic sampling. (KSR #24)

ii. The Riverine Rabbit Programme was established in 2003 under the auspices of the Endangered Wildlife Trust of South Africa to confront the situation facing the Critically Endangered Riverine Rabbit (*Bunolagus monticularis*). This highly successful effort has now been broadened into the Drylands Conservation Programme, a regional effort to protect not only the rabbit, but the entire Karoo ecosystem in which it lives. The Drylands Conservation Programme is managed by LSG member Cobus Theron. It is a prime example of how comprehensive and broad-based conservation initiatives should work. Significant efforts have been put into determining the numbers and range extent of the Riverine Rabbit, as the species is very difficult to census due to its low density and the thick scrub habitat that it occupies. These efforts include a sniffer dog – Jesse the border collie – who can discriminate between Riverine Rabbits and two other sympatric rabbits (Cape Scrub Hares *Lepus saxatilis* and Cape Hares *Lepus capensis*). The field work includes arrays of camera traps that record the presence of Riverine Rabbits (and help flesh out which other species occupy their habitat). Knowledge of the specific habitat the rabbit occupies feeds into an ambitious nursery project growing native species which then can be planted to restore degraded areas throughout its range. Because the Riverine Rabbit primarily occupies private land, the programme works closely with ranchers and farmers, forming conservancies and engaging in sustainable land management – activities which benefit local stakeholders as well as the rabbit. Finally, the Drylands Conservation Programme has developed several overarching educational programmes (the Clever Rabbit Project and Eco-Rangers) to ensure that the next generation will embrace conservation. (KSR #11, 12)

Endangered Wildlife Trust does restoration of degraded habitats to benefit the Critically Endangered Riverine Rabbit (*Bunolagus monticularis*)
Photo: Endangered Wildlife Trust

Endangered Wildlife Trust is investigating new techniques to find the Critically Endangered Riverine Rabbit (*Bunolagus monticularis*), including thermal drones and sniffer dogs
Photo: Endangered Wildlife Trust

iii. A new publication documenting and extending the modern range for *Caprolagus hispidus* into Bhutan was published this year. This has improved our knowledge of their distribution and status of this species. Nidup, T. (2018). Endangered Hispid Hare (*Caprolagus hispidus*-Pearson 1839) in the Royal Manas National Park, Bhutan. *Journal of the Bhutan Ecological Society* 2018 (3):56–64. (KSR #12, 16)

iv. The poisoning of *Ochotona curzoniae* has largely stopped in many areas. This is a major success story, and a review of the status of poisoning and the ecological role of the pika published online by Smith et al. in 2018 covers this story. Numerous scientists are agreeing that poisoning is bad, so we may be turning the corner on this practice. Smith, A.T., Badinqiuying, Wilson, M.C. and Hogan, B.W. (2019). Functional-trait ecology of the plateau pika *Ochotona curzoniae* in the Qinghai-Tibetan Plateau ecosystem. *Integrative Zoology* 14:87–103. [DOI: 10.1111/1749-4877.12300] (KSR #27)

v. The Amami Rabbit *Pentalagus furnessi* occurs only on Amami-ohshima Island (712 km^2) and on Tokuno-shima Island (248 km^2) in the Ryukyu archipelago in southwestern Japan. The recent status of the rabbit on both islands is recovering, both in population and distribution overall, due mainly to near-eradication of invasive mongoose *Herpestes auropunctatus* on Amami-ohshima Island and feral cat control on Tokuno-shima Island. As a next step in invasive species measures on Amami-ohshima Island, feral cat control was re-started in 2018, after stopping in 2013 for consensus building. In addition, more effective measures against traffic accidents are required. The rabbit is an important conservation species as a component of a candidate natural World Heritage site;

Endangered Wildlife Trust's environmental education activities create awareness for all lagomorph species in the Karoo of South Africa, particularly on the Critically Endangered Riverine Rabbit (*Bunolagus monticularis*) Photo: Endangered Wildlife Trust

in January 2019, the Japanese Government re-nominated the site to UNESCO for review, aiming for 2020 designation. (KSR #27)

vi. *Oryctolagus* populations have taken a massive downturn since 2017. They have been attacked by a new strain of a rabbit virus that has wiped out 60–70% of the species. We are hoping that they will develop immunity. LSG members are assessing the situation and working on the disease issue (our knowledge is high but the status of the species is worse). (KSR #27)

vii. Good conservation work continues to be done on *Sylvilagus transitionalis*. Our LSG point person, John Litvaitis, is very involved with state agency and recovery efforts. (KSR #15, 27)

viii. Attempts to stabilise the Hokkaido populations of *Ochotona hyperborea* have been carried out by the Pika Fan Club, which is the largest green/conservation group in Japan. They have been working through the publications of books, seminars, and meetings throughout the country of Japan, and have had success with fighting off development that would threaten the species. Pika Fan Club (Japan). (2017). *Pikas in the Rocks*. Sapporo, Japan: The Pika Fan Club. [*Ochotona hyperborea yesoensis*] (KSR #21, 27)

ix. The Riparian Brush Rabbit (*Sylvilagus bachmani riparius*) is listed as Endangered by the state of California and the US federal government. A number of significant conservation and recovery actions have been implemented since 2001 in its remaining habitat in the central valley of California. These include establishment of new populations, restoration and creation of new habitat, and the provision of high ground with suitable cover for shelter and protection when rivers within their range flood. A camera survey of the refuge was conducted following major flooding in spring/summer of 2017, and the overall results were reassuring. Cameras were deployed along 18 transects (3/transect) in three habitat types (riparian, transitional, 'grassland'; 6 transects in each) in fall/winter 2017. Although Riparian Brush Rabbit mortality was high during the flood, following the flood and recovery of the habitat, rabbits were documented on all of the riparian transects. Once the flood waters receded, rose and other brushy species recovered and the surviving Riparian Brush Rabbits moved from refugia areas (vegetated levees, etc.) back into suitable habitat in areas that had been flooded for months. We are now concerned that there will be major flooding in 2019 due to the above average precipitation and snowpack in the Sierra Nevada during the winter of 2019, and the rabbits will be continuously monitored. (KSR #12, 16, 24)

x. The Lower Keys Marsh Rabbit (*Sylvilagus palustris hefneri*) is vulnerable due to its occupancy on the low-lying and exposed lower Florida Keys. The subspecies is listed as Endangered by the US Government. In addition to other stressors leading to its vulnerability, Hurricane Irma in September 2017 severely impacted the population, such that standardised pellet counts, an indication of the population, declined by 96-98%. LSG plans to follow up these surveys conducted by the US Fish and Wildlife Service and engage in conservation action to restore the Lower Keys Marsh Rabbit to sustainable levels. Parker, I.D., Montalvo, A.E., Lund, A.A., et al. (2017). *Lower Keys Marsh Rabbits Post-Hurricane Irma*. College Station, Texas: Texas A&M Natural Resources Institute. (KSR #12, 16)

Network

Membership

i. Expanded membership primarily with new members in Africa and Asia.

Communicate

Communication

i. New improved LSG Web Page completed and online. (KSR #28)

ii. New book: Smith, A. T., C. H. Johnston, P. C. Alves, and K. Hackländer (2018). *Lagomorphs: Pikas, Rabbits, and Hares of the World*. Baltimore, Maryland: Johns Hopkins University Press.

Scientific meetings

i. First announcements for the 6th World Lagomorph Conference have been circulated to the LSG membership. (KSR #28)

Acknowledgements

We thank Harriet Smith and Kelvin Wierks for their assistance in construction and posting of our new LSG website. Roni Alexander contributed our new LSG logo. The following non-LSG specialists assisted with the Red List re-assessments of lagomorph species: A.V. Abramov, S.T. Álvarez-Castañeda, M. Child, C. Condrat, J. Holden, T. Le, A. Lissovsky, D. Martyr, K. McCarthy, J. Mora, P.O. Nameer, C. Relton, R. Steinmetz, D. Wilcox, and N. Wilkerson.

Summary of activities 2018

Species Conservation Cycle ratio: 5/5

Assess	**18**
Plan	**1**
Act	**10**
Network	**1**
Communicate	**3**

Main KSRs addressed: 1, 6, 11, 12, 15, 16, 21, 24, 27, 28, 38

KSR: Key Species Result