

Eurasian Otter (*Lutra lutra*)

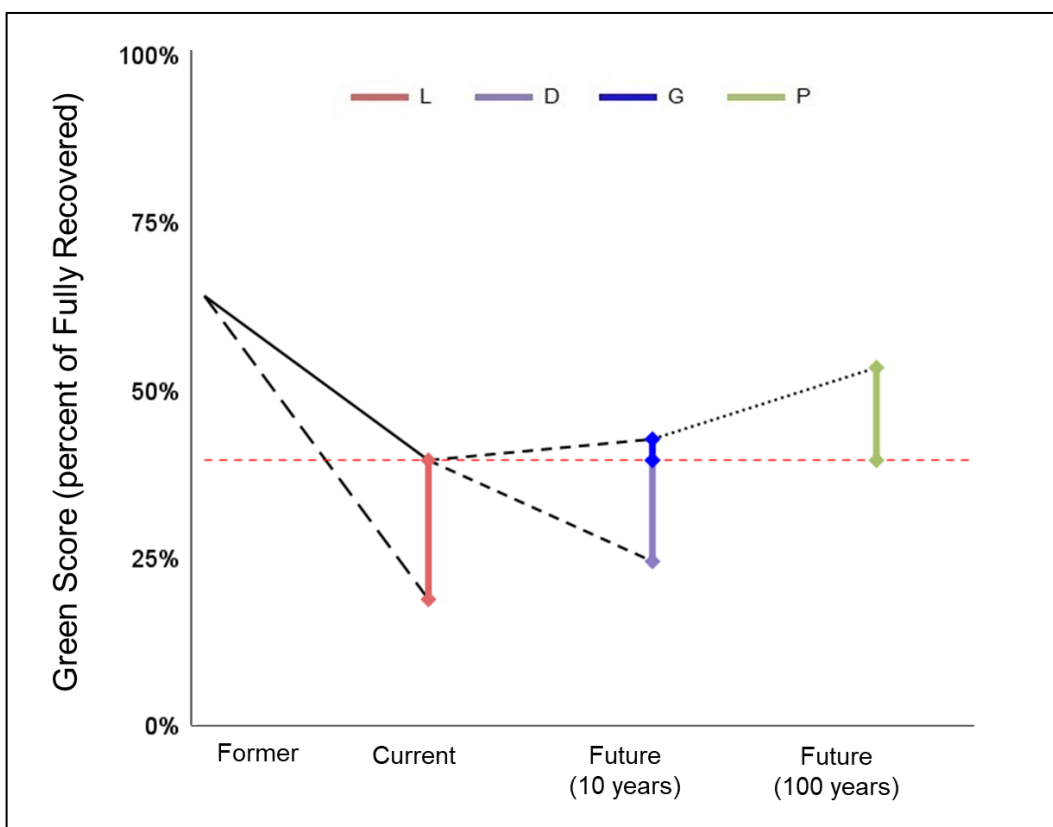


Figure S1. Graphical representation of the conservation metrics based on the Green Scores. Key: Vertical arrows represent the four conservation metrics: L – Conservation Legacy (may not appear if current and counterfactual states are the same); D – Conservation Dependence (may not appear if current and future-without-conservation states are the same); G – Conservation Gain (may not appear if current and future-with-conservation states are the same); P – Recovery Potential (may not appear if current and potential states are the same). Horizontal red dashed line represents the Current Green Score. Solid black line: observed change in the Green Score of the species (ignore it if "Former" state is not specified). Long-dashed black line: (counterfactual) past change expected in the absence of past conservation efforts. Dashed black lines: future scenarios of change expected with and without current and future conservation efforts. Dotted black line: long-term potential change expected with future conservation innovation and efforts.

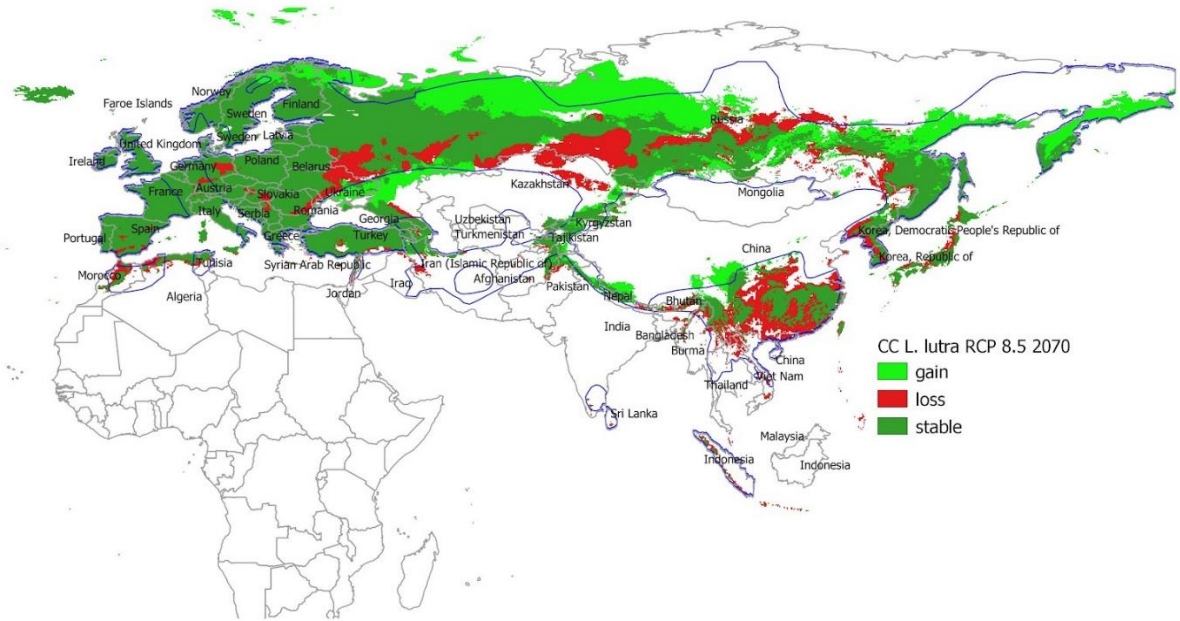


Figure S2. Expected changes in Eurasian Otter range by the year 2017 (Cianfrani *et al.* 2018). The blue line delineates the IUCN Red List estimation of the species' current range.

Table S1: Conservation Actions ([list of action codes](#))

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
SU 1	Afghanistan	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	None/Unknown
SU 2	Albania	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level 5.2. Policies and regulations: A National Strategy and Action Plan for Biodiversity was approved in 2000 5.2. Policies and regulations: 2007 the otter was included in the Red Data Book of Albanian fauna 5.2. Policies and regulations: Stockholm Convention was signed in 2001 5.2. Policies and regulations: National Implementation Plan for the reduction and disposal of persistent organic pollutants was approved in 2006	5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	None/Unknown	None/Unknown
SU 3	Algeria	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	None/Unknown	None/Unknown
SU 4	Armenia	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	5.2. Policies and regulations: setting up Emerald Network sites hosting otters 5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	5.2. Policies and regulations: implementing Emerald Network sites hosting otters	None/Unknown
SU 5	Azerbaijan	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	5.2. Policies and regulations: setting up Emerald Network sites hosting otters 5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	5.2. Policies and regulations: setting up Emerald Network sites hosting otters	None/Unknown
SU 6	Bangladesh	5.1.1. Legislation, International level (CITES)	4.3. Education and Awareness: Since 2018: International Otter	Unknown	None/Unknown

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
		5.1.2. Legislation, National level 4.2. Education and Awareness: Training: workshop held in 2014 in the Sunderbans by IOSF to train people in otter research and education/public awareness	Survival Fund (IOSF) supports Delip Bisharga Das for education work and formation of a Team Otter Club Research: research was carried out in 2019 by Zahid Shashoto of the Otter Project, Bangladesh, in the North Eastern part of the country (Haor Region) 5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level		
SU 7	Belarus	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	5.2. Policies and regulations: setting up Emerald Network sites hosting otters 5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	5.2. Policies and regulations: implementing Emerald Network sites hosting otters	None/Unknown
SU 8	Bhutan	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	(3.2 Species recovery?) Research: documenting of distribution of each of the three species of otters throughout the Himalayan range, since 2015	(3.2 Species recovery?) Research: documenting of distribution of each of the three species of otters throughout the Himalayan range	None/Unknown
SU 9	Bosnia and Herzegovina	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	None/Unknown	None/Unknown
SU 10	Burma	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	None/Unknown	None/Unknown
SU 11	Cambodia	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level 4.2. Education and Awareness: Training: workshop held in 2009 by IOSF to train people in otter research and education/public awareness	5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level 3.2 Species recovery: Since 2008 International Otter Survival Fund (IOSF) has been supporting the work of Phnom Tamao Wildlife	None/Unknown	None/Unknown

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
			Rescue Centre near Phnom Penh		
			Ongoing research: species, diet, and habitat surveys		
SU 12	China	4.3. Education and Awareness: Awareness & communications - IUCN/SSC OSG held the 14th International Otter Congress in Sichuan Tangjiahe NNR in partnership with local organisers 5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level IOSF training workshop in China	5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level 5.4.3. Compliance and enforcement: Sub-national level: working closely with local conservation authorities to step up protection and monitoring of otter populations in various sites, mainly in the Qinghai-Tibetan Plateau area. 3.2 Species recovery: Several otter research and monitoring programmes have been established in China, such as Shenzhen, Hong Kong, Zhejiang, Qinghai, Sichuan and Xinjiang Provinces.	None/Unknown	3.2 Species recovery: launch a national-level otter survey, and periodically resurvey to monitor population and distribution changes 5.1.2. Legislation, National level: elevate the protection status to Class I Schedules of Nationally Protected Fauna
SU 13	Europe (EU) 26 countries within otter range: Austria, Belgium, Bulgaria, Croatia, Cyprus, Denmark, Estonia, Finland, Czech Republic, France, Germany, Greece, Hungary, Ireland, Italy,	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	3.2. Species recovery: otter excluder devices to either the opening of the net or the entrance of the first funnel. 4.3 Education and awareness: Awareness & communications: Italian Otter Network 4.3. Education and awareness: Awareness & communications: Citizen Science initiatives collecting data on road kills in Italy (http://therio.unimol.it:8080/lontra/), UK (https://www.cardiff.ac.uk/otter-project/found-an-otter), Sweden (https://www.nrm.se/utter), Spain 5.2. Policies and regulations: Implementation of national action plans 5.2. Policies and regulations:	5.2. Policies and regulations: setting a transboundary Alpine strategy and network 6.4. Livelihood, economic & other incentives: Conservation payments: Compensation of otter damages in fish farms	5.2. Policies and regulations: habitat improvement through implementation of Water Framework Directive 2000/60/EC 5.2. Policies and regulations: Habitat Directive 92/43/EC reporting and conservation measures 5.2. Policies and regulations: Implementation of transboundary Alpine strategy 6.4. Livelihood, economic & other

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
	Latvia, Lithuania, Luxemburg, Netherland, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden		habitat improvement through implementation of Water Framework Directive 2000/60/EC 5.2. Policies and regulations: Habitat Directive 92/43/EC reporting and conservation measures 5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level 6.4. Livelihood, economic & other incentives: Conservation payments: Compensation of otter damages in fish farms are provided in Germany, Austria, Slovakia, Czech Republic		incentives: Conservation payments: Compensation of otter damages in fish farms
SU 14	Georgia	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level 5.2. Policies and regulations: setting up Emerald Network sites in otter habitats	5.2. Policies and regulations: implementing Emerald Network sites in otter habitats	None/Unknown
SU 15	India	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level (Indian Wild Life (Protection) Act, 1972)	1.2. Land/water protection: Resource & habitat protection: NMCG-WII Ganga Biodiversity Conservation Initiative - Phase I 2.1. Land/water management: Site/area management: Biodiversity Conservation and Ganga Rejuvenation (NMCG-WII Project) 4.2. Education and awareness: Training: Himalayan otter network 5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level (3.2 Species recovery?) Research: documenting of distribution of each of the three species of otters	1.2. Land/water protection: Resource & habitat protection: NMCG-WII Ganga Biodiversity Conservation Initiative - Phase I 2.1. Land/water management: Site/area management: Biodiversity Conservation and Ganga Rejuvenation (NMCG-WII Project), 4.3 Education and Awareness: Awareness & communications: Himalayan Otter Network 4.2. Education and Awareness: Training through Himalayan Otter Network (3.2 Species recovery?) Research: documenting of distribution of each of the three species of otters throughout the Himalayan range, since 2015	

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
			throughout the Himalayan range, since 2015. Surveys have been conducted in Ladakh, Sikkim, Uttarakhand, and Arunachal Pradesh		
SU 16	Indonesia (Sumatra)	5.1.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	4.2. Education and awareness: Training: Indonesia Training Workshop 2013 (Supported by IOSF) 4.3. Education and awareness: Awareness & communications: 2013 establishment of Indonesia Otter Network 5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	None/Unknown	None/Unknown
SU 17	Iran	5.1.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	2.1. Land/water management: Site/area management: Implementation of a habitat rehabilitation plan for recovery and restructuring of some banks and vegetation cover is proposed for the Anzali wetland 5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	2.1. Land/water management: Site/area management: Implementation of a habitat rehabilitation plan for recovery and restructuring of some banks and vegetation cover is proposed for the Anzali wetland	None/Unknown
SU 18	Iraq	5.1.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	3.2 Species recovery: Conservation program for otter populations established in the southern marshes of Iraq, following the collaboration between the University of Baghdad (Iraq) and the University of Pisa (Italy). 4.2. Education and awareness: part of Conservation program 1.1. Land/water protection: Site/area protection: 2020 – Iraqi efforts to sustain UNESCO nomination of the marshes	3.2 Species recovery: Conservation program for otter populations established in the southern marshes of Iraq, following the collaboration between the University of Baghdad (Iraq) and the University of Pisa (Italy).	None/Unknown

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
SU 19	Israel	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	Research: Regular national otter surveys	Unknown	None/Unknown
SU 20	Japan	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	4.2. Education and Awareness: Asian Otter Conservation Society Japan (https://www.facebook.com/aocsi1979) Research: Department of Environment funded otter survey in Tsushima Island in 2018–2020, where they returned in 2017, but in 2021 only small survey will be done.	4.2. Education and Awareness: Asian Otter Conservation Society Japan (https://www.facebook.com/aocsi1979) Research: Government has a plan to survey otters in Tsushima Island, where they returned in 2018	None/Unknown
SU 21	Jordan	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	1.1. Land/water protection: Site/area protection: 5 new protected areas planned 5.2. Policies and regulations: 2002 Jordanian National Biodiversity Strategy and Action Plan (NBSAP) 5.2. Policies and regulations: Integrated Ecosystem Management in the Jordan Rift Valley 5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	1.1. Land/water protection: Site/area protection: 5 new protected areas planned 5.2. Policies and regulations: 2002 Jordanian National Biodiversity Strategy and Action Plan (NBSAP) 5.2. Policies and regulations: Integrated Ecosystem Management in the Jordan Rift Valley	None/Unknown
SU 22	Kazakhstan	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	None/Unknown	None/Unknown
SU 23	Kosovo	5.1.2. Legislation, National level	5.4.2 Compliance and enforcement, National level 2003 - Kosovo Biodiversity Assessment	None/Unknown	None/Unknown
SU 24	Kyrgyzstan	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	None/Unknown	None/Unknown

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
SU 25	Lao PDR	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	4.2. Education and awareness: Training: 2018 – Training workshop at the Nakai Nam Theun National Protected Area, supported by IOSF 4.3. Education and Awareness: Awareness & communications: 2019 – World Otter Day -outreach meeting at Pakistan Forestry College (sponsored by IOSF) 4.3. Education and awareness: Awareness & communications: Team Otter Club since 2020 (supported by IOSF) 5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level Research: 2015, Project Anoulak initiated the first otter-specific camera-trap survey ever done in Nakai-Nam Theun to confirm <i>Lutra lutra</i> , only historically recorded. http://www.conservationlaos.com/small_carnivores.html	None/Unknown	None/Unknown
SU 26	Lebanon	5.1.1. Legislation, International level (CITES) 3.2 Species recovery: 2015 Action Plan for the Eurasian otter in the Hima Anjar-Kfar Zabad (Beqaa Valley, Lebanon) Research: Otter conflicts survey in 2015 in the Hima Anjar-Kfar Zabad (Beqaa Valley, Lebanon)	5.4.1 Compliance and enforcement, International level	None/Unknown	None/Unknown
SU 27	Republic of North Macedonia	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	None/Unknown	None/Unknown
SU 28	Malaysia	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	4.2. Education and awareness: Training: 2018 – Training workshop at the Nakai Nam Theun National Protected Area, supported by IOSF	None/Unknown	None/Unknown

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
			4.3. Education and awareness: Awareness & communications: 2019 – World Otter Day - human-otter conflict workshop with fishermen in Batu Puteh, Kinabatangan, Sabah, Borneo(sponsored by IOSF)		
			4.3. Education and awareness: Awareness & communications: Team Otter Club since 2020 (supported by IOSF)		
			4.3. Education and awareness: Awareness & communications: 2020 - World Otter Day grant to Malaysian Nature Society for an event themed "Born to be WILD, Not caged, Live WILDLY".(sponsored by IOSF)		
SU 29	Mongolia	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	None/Unknown	None/Unknown	None/Unknown
SU 30	Montenegro	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	5.2 Planning a national plan for the protection of otters in Montenegro	5.2 National plan for the protection of otters in Montenegro	None/Unknown
SU 31	Morocco	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	None/Unknown	None/Unknown	None/Unknown
SU 32	Nepal	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level 4.2. Education and Awareness: Training: Training workshop on "Survey techniques and monitoring otter populations" for rangers and conservationists in Chitwan National Park, Nepal from 7-9 March 2006 2010 – Study of the otters in the Pokhara Valley (supported by IOSF) 2017 – World Otter Day grant to Balram Awasthi for an otter conservation rally (supported by IOSF)	4.3. Education and awareness: Awareness & communications: Asian Section of the IUCN/SSC Otter Specialist Group established Nepal Otter Network IOSF support for Jyoti Bhandari for her education and public awareness programme 4.3. Education and awareness: Awareness & communications: 2020 – World Otter Day webinar for 200 people to raise awareness of otters and their habitat (supported by IOSF) 4.3. Education and awareness:	(3.2 Species recovery?) Research: documenting of distribution of each of the three species of otters throughout the Himalayan range, since 2015. Extensive surveys results will be used to create a map of otter habitat throughout the nation. 3.2 Species recovery: Cooperation with government officials is in the works, which will result in a new conservation strategy for Nepal and 5.4.2. Compliance and enforcement National level: new legislative safeguards for the species	None/Unknown

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
			Awareness & communications: Team Otter club in Shuklaphanta National Park (supported by IOSF) 5.2. Policies and regulations: Nepal Otter action plan-Phase I: Research focus 2020–2022 5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level (3.2 Species recovery?) Research: documenting of distribution of each of the three species of otters throughout the Himalayan range, since 2015.	5.1.2. Legislation, National level: new legislative safeguards for the species	
SU 33	Democratic People's Republic of Korea		None/Unknown	None/Unknown	None/Unknown
SU 34	Norway	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	3.2 Draft version of new Red List for Norway (2021) proposed delisting from vulnerable to least concern. Between publication of draft version (early 2021) and final edition, it was out for 'public hearing'. Final version expected in November 2021.	None/Unknown	None/Unknown
SU 35	Pakistan	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	1.2. Land/water protection: Resource & habitat protection: Sindh Wildlife Department is planned the establishment in 2010 of the first Wildlife Sanctuary for otters in Pakistan in the Sanghar district 4.3. Education and awareness: Awareness & communications: WWF Pakistan launched an otter awareness and conservation campaign in 2008. 4.2. Education and awareness: Training: Pakistan Wetlands Program (PWP) launched	4.3. Education and Awareness: Awareness & communications: Establish the Pakistan Wildlife Foundation (3.2 Species recovery?) Research: documenting of distribution of each of the three species of otters throughout the Himalayan range, since 2015	None/Unknown

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
			distributional studies in NWFP for the Eurasian otter and supported three conservationists from Pakistan to attend the Otter Training Workshop in Cambodia during February 2009 (3.2 Species recovery?) Research: documenting of distribution of each of the three species of otters throughout the Himalayan range, since 2015		
SU 36	Palestine		1.1. Land/water protection: Site/area protection: Palestinian Environment Quality Authority (EQA) signed a Memorandum of Understanding with Observatory of Mediterranean Wetlands in 2010 and proposed six Wetland sites by GlobWetland II: Wadi Gaza coastal wetland, Southern area of Jordan River, Al-Fashkha, Marj Sanour, Wadi Al-Bhathan, Al-Muquatta valley		
SU 37	Russia	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	4.3 Education and awareness Education work and formation: Russian otter network since 2020 5.2. Policies and regulations: setting up Emerald Network sites in Armenia, Azerbaijan, Belarus, Georgia, Republic of Moldova, Russian Federation and Ukraine 5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	1.1 Land / water protection: Site / area protection: about 20 new protected areas are planned to be created in the coming years.	None/Unknown
SU 38	Serbia	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	None/Unknown	None/Unknown
SU 39	Republic of Korea	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level"	3.2 Species recovery: South Korea Otter Centre 5.4.1 Compliance and	None/Unknown	None/Unknown

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
		2.3. Land/water management: Habitat & natural process restoration	enforcement, International level 5.4.2 Compliance and enforcement, National level Others: Researches ongoing: species and habitat quality surveys		
SU 40	Sri Lanka	5.1.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	None/Unknown	None/Unknown
SU 41	Switzerland	5.1.1. Legislation, International level (CITES, Bern Convention) 5.1.2. Legislation, National level	1.2 Land/water protection: Resource and habitat protection on safe passages for otters along waterbodies / traffic. Other: Research project on micro-plastics and otter. 4.3. Education and awareness: Awareness & communications: Citizen Science project 'Otterspotter', since 2017 coordinated by Pro Lutra and local WWF branches. 5.2. Policies and regulations: implementation of a national working group, a national information centre 5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	3.2 Species recovery: third national survey. 4.3. Education and awareness: citizen science project on safe passages under bridges for otters nation-wide, including taking measures at risky passages, Project to increase awareness for otter habitats and requirements, e.g. establishing wildlife refuges along waterbodies using the otter as umbrella species. Other: Research projects on otter and pollution,	1.2 Land/water protection: Resource & habitat protection, e.g. increase awareness for the requirements of semi-aquatic species using the otter. 4.3. Education and awareness: Citizen science projects such as 'Otterspotter' 5.4.2. Compliance and enforcement- National level. Working together with the EU on transalpine connectivity for otters, including international common genetic survey/documentation. 5.2. Policies and regulations: implementation of a national strategy 6.2 Livelihood, economic & other incentives: addressing the conflict fisheries/otter "
SU 42	Syria	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	5.4.1 Compliance and enforcement, International level	None/Unknown	None/Unknown

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
SU 43	Taiwan	None/Unknown	5.4.2 Compliance and enforcement, National level 4.3. Education and awareness: in 2016, Taipei Zoo created a mascot to tour schools in Kinmen to promote education about conservation of the animals	1.2. Land/water protection: Resource & habitat protection 5.1.2. Legislation, National level	1.2. Land/water protection: Resource & habitat protection 5.1.2. Legislation, National level
SU 44	Tajikistan	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	None/Unknown	None/Unknown
SU 45	Thailand	5.1.2. Legislation, National level	4.3. Education and awareness: Wildlife Friends Foundation Thailand 5.4.2 Compliance and enforcement, National level	None/Unknown	None/Unknown
SU 46	Tunisia	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	None/Unknown	None/Unknown
SU 47	Turkey	5.1.1. Legislation, International level (CITES, Bern Convention) 5.1.2. Legislation, National level 4.3. Education and awareness: Turkish Society for the Protection of Nature (Türkiye Tabiatı Koruma Derneği, TTKD) declared the year 1998 an "Otter Protection Year", 4.3. Education and Awareness: National Otter Symposia held in 1999, 2002, 2003	4.3. Education and awareness: establishment of a National Otter Data Base in 2013 (NFDB) 5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	None/Unknown	None/Unknown
SU 48	Turkmenistan	None/Unknown	None/Unknown	None/Unknown	None/Unknown
SU 49	UK	5.1.1. Legislation, International level (EU Habitat Directive, CITES, Bern Convention) 5.1.2. Legislation, National level	5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level Regular national survey	None/Unknown	None/Unknown
SU 50	Ukraine	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	4.1. Education and awareness: Formal education 5.2. Policies and regulations: setting up Emerald Network sites in	None/Unknown	None/Unknown

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
			Armenia, Azerbaijan, Belarus, Georgia, Republic of Moldova, Russian Federation and Ukraine 5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level		
SU 51	Uzbekistan	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	None/Unknown	None/Unknown
SU 52	Viet Nam	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	None/Unknown	None/Unknown
SU 53	Moldova	5.1.1. Legislation, International level (CITES) 5.1.2. Legislation, National level	5.2. Policies and regulations: setting up Emerald Network sites in other habitats 5.4.1 Compliance and enforcement, International level 5.4.2 Compliance and enforcement, National level	None/Unknown	None/Unknown

Table S2. Threats (list of [threat codes](#))

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
SU 1	Afghanistan	5.1.1 Intentional use (species being assessed is the target: hunting for fur	5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market (Ostrowski 2016)	5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market	
SU 2	Albania	5.1.1 Intentional use (species being assessed is the target	2.1.2 Small-holder farming - Removal of bank side vegetation, illegal logging of riparian forests 2.1.3 Agro-industry farming : Removal of bank side vegetation, illegal logging of riparian forests 5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market 5.1.3 Persecution/control conflicts with anglers and fish farms 11.2 Droughts 11.4 Storms & flooding 11.5 Other impacts: Alteration of life cycles (activity rhythms) and homeostasis (body size)	2.1.3 Agro-industry farming: Removal of bank side vegetation, illegal logging of riparian forests 2.1.3 Agro-industry farming : Removal of bank side vegetation, illegal logging of riparian forests 9.1.3 Pollution: Domestic & urban waste water: Type Unknown/Unrecorded: new harmful pollutants (EDF, etc.) 11.2 Droughts 11.4 Storms & flooding 11.5 Other impacts: Alteration of life cycles (activity rhythms) and homeostasis (body size)	
SU 3	Algeria	5.1.1 Intentional use (species being assessed is the target	11.2 Droughts	11.2 Droughts	11.1 Habitat shifting & alteration 11.2 Droughts
SU 4	Armenia	5.1.1 Intentional use (species being assessed is the target) hunting for fur	5.1.1 Intentional use (species being assessed is the target). Poaching 5.1.1 Intentional use (species being assessed is the target) hunting for fur Otters can also be killed mistakenly by hunters that are targeting coypu, 5.1.3 Persecution/control conflicts with anglers and fish farms 5.1.4 Motivation Unknown/Unrecorded 5.3.3 Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest]- Removal of bank side		

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
			vegetation, illegal logging of riparian forests 5.4.3 Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest] Reduction of prey biomass 9.2.2 Pollution: Industrial & military effluents: Seepage from mining: Pollution from a molybdenum/copper mine 9.3.3 Pollution-Agriculture and forestry- Herbicides and pesticides- Water pollution 11.2 Droughts		
SU 5	Azerbaijan	5.1.1 Intentional use (species being assessed is the target) hunting for pelt market	5.1.3 Persecution/control conflicts with anglers and fish farms 5.1.4 Motivation Unknown/Unrecorded 5.3.3 Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest]- Removal of bank side vegetation, illegal logging of riparian forests 5.4.3 Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest] Reduction of prey biomass 9.3.3 Pollution-Agriculture and forestry- Herbicides and pesticides- Water pollution		
SU 6	Bangladesh	5.1.1 Intentional use (species being assessed is the target)	6.3 Work & other activities Conflicts with aquaculture activities 11.4 Storms & flooding 11.5 Other impacts: Alteration of life cycles (activity rhythms) and homeostasis (body size) 12.1 Other threats: competition with other otter species	6.3 Work & other activities Conflicts with aquaculture activities 11.4 Storms & flooding 11.5 Other impacts: Alteration of life cycles (activity rhythms) and homeostasis (body size) 12.1 Other threats: competition with other otter species	11.4 Storms & flooding 11.5 Other impacts: Alteration of life cycles (activity rhythms) and homeostasis (body size) 11.1 Habitat shifting & alteration

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
					12.1 Other threats: competition with other otter species
SU 7	Belarus	5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market	5.1.1 Intentional use (species being assessed is the target). Large scale poaching (Sidorovich and Lauzhel 1992).	5.1.1 Intentional use (species being assessed is the target). Large scale poaching	11.1 Habitat shifting & alteration 11.4 Storms & flooding
SU 8	Bhutan	5.1.1 Intentional use (species being assessed is the target)	1.1 Housing & urban areas: increasing human population-disturbance 5.1.1 Intentional use (species being assessed is the target). Illegal hunting for medicinal trade 7.2.9 Small dams (Hydrogeneration) 12.1 Other threats: dog attacks 12.1 Other threats: competition with other otter species	1.1 Housing & urban areas: increasing human population-disturbance 5.1.1 Intentional use (species being assessed is the target). Illegal hunting for medicinal trade 7.2.1 Natural system modifications: Dams & water management/use: Abstraction of surface water (domestic use): Ninety-one potential hydropower sites for run-of-the-river generation facilities have been identified in the country 7.2.9 Small dams (Hydrogeneration) 7.2.10 Natural system modifications: Dams & water management/use: Large dams: Two of the largest hydropower projects in the country, the Punatsangchhu Hydro Power Authority I and II, are now under construction 11.4 Storms & flooding 12.1 Other threats: dog attacks 12.1 Other threats: competition with other otter species	7.2.1 Natural system modifications: Dams & water management/use: Abstraction of surface water (domestic use): Ninety-one potential hydropower sites for run-of-the-river generation facilities have been identified in the country 11.4 Storms & flooding
SU 9	Bosnia and Herzegovina	9.3.3 Pollution-Agriculture and forestry- Herbicides and pesticides- Water pollution	2.1.1 Shifting agriculture: Removal of bank side vegetation, illegal logging of riparian forest 5.1.3 Persecution/control conflicts with anglers and fish farms 5.3.3 Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest]- Removal of bank side vegetation, illegal logging of riparian forests	9.1.3 Pollution: Domestic & urban waste water: Type Unknown/Unrecorded: new harmful pollutants (EDF, etc.)	

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
			9.3.3 Pollution-Agriculture and forestry- Herbicides and pesticides- Water pollution		
SU 10	Burma	5.1.1 Intentional use (species being assessed is the target) hunting for pelt market	5.1.1 Intentional use (species being assessed is the target). Illegal hunting for medicinal trade 5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market 12.1 Other threats: competition with other otter species	5.1.1 Intentional use (species being assessed is the target). Illegal hunting for medicinal trade 5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market 12.1 Other threats: competition with other otter species	11.1 Habitat shifting & alteration 11.4 Storms & flooding
SU 11	Cambodia	5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market, traditional medicine, and exotic pet trade 5.1.3 Persecution/control conflicts with anglers and fish farms and targeted hunting for perceived/proven damage to fish ponds/fishing gear			
SU 12	China	5.1.1 Intentional use (species being assessed is the target)	1.1 Housing & urban areas: increasing human population-disturbance 1.2 Commercial & industrial areas 2.1.2 Small-holder farming - Removal of bank side vegetation, illegal logging of riparian forests 2.1.3 Agro-industry farming: Removal of bank side vegetation, illegal logging of riparian forests 5.1.1 Intentional use (species being assessed is the target). Illegal hunting for medicinal trade 5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market 5.3.3 Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest]- Removal of bank side vegetation, illegal logging of riparian forests 6.3 Work & other activities	5.1.1 Intentional use (species being assessed is the target). Illegal hunting for medicinal trade 5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market 9.1.3 Pollution: Domestic & urban waste water: Type unknown/Unrecorded: new harmful pollutants (EDF, etc.) 12.1 Other threats: competition with other otter species 12.1 Other threats. Increasing human population (disturbance)	11.1 Habitat shifting & alteration 11.2 Droughts 11.4 Storms & flooding 11.5 Other impacts: Spreading of parasites

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
			Conflicts with aquaculture activities 7.2.1 Abstraction of surface water (domestic use) 7.2.2 Abstraction of surface water (commercial use) 7.2.3 Abstraction of surface water (agricultural use) Habitat loss and reduction of feeding resources 12.1 Other threats: competition with other otter species		
SU 13	Europe (EU) 26 countries within otter range: Austria, Belgium, Bulgaria, Croatia, Cyprus, Denmark, Estonia, Finland, Czech Republic, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherland, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden	5.1.1 Intentional use (species being assessed is the target) 2.1.3 Agro-industry farming : Removal of bank side vegetation, illegal logging of riparian forests 9.3.3 Pollution-Agriculture and forestry- Herbicides and pesticides- Water pollution 12.1 Other threats - Habitat loss: canalization of rivers, draining of wetlands	2.1.1 Shifting agriculture: Removal of bank side vegetation, illegal logging of riparian forest 2.1.2 Small-holder farming - Removal of bank side vegetation, illegal logging of riparian forests 2.1.3 Agro-industry farming : Removal of bank side vegetation, illegal logging of riparian forests 4.1 Roads & railroads Road kills 5.1.3 Persecution/control conflicts with anglers and fish farms 5.1.4 Motivation Unknown/Unrecorded (illegal hunting with dogs in Ireland) 5.3.3 Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest]- Removal of bank side vegetation, illegal logging of riparian forests 5.4.3 Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest] Accidental deaths in fish nets 5.4.3 Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest] Reduction of prey biomass 6.3 Work & other activities	3.3 Renewable energy - Multiple mini hydropower stations 4.1 Roads & railroads Road kills 5.1.3 Persecution/control conflicts with anglers and fish farms 9.1.3 Pollution: Domestic & urban waste water: Type Unknown/Unrecorded: new harmful pollutants (EDF, etc.) 11.2 Droughts 11.4 Storms & flooding 11.5 Other impacts: Alteration of life cycles (activity rhythms) and homeostasis (body size) 12.1 Other threats. Dog attacks	

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
			<p>Conflicts with aquaculture activities</p> <p>7.2.1 Abstraction of surface water (domestic use)</p> <p>7.2.3 Abstraction of surface water (agricultural use) Habitat loss and reduction of feeding resources</p> <p>7.2.2 Abstraction of surface water (commercial use)</p> <p>7.2.9 Natural system modifications: Dams & water management/use: Small dams</p> <p>9.2.1 Oil spills</p> <p>9.2.1 Oil refinery (localized)</p> <p>9.2.2 Seepage from mining: arsenic, cyanide</p> <p>9.4 Pollution-Garbage and solid waste Rubbish thrown in rivers</p> <p>11.2 Droughts</p> <p>11.4 Storms & flooding</p> <p>11.5 Other impacts: Alteration of life cycles (activity rhythms) and homeostasis (body size)</p> <p>11.5 Other impacts: Spreading of parasites</p> <p>12.1 Other threats. Dog attacks</p>		
SU 14	Georgia	5.1.1 Intentional use (species being assessed is the target): hunting for pelt market	<p>2.1.1 Shifting agriculture: Removal of bank side vegetation, illegal logging of riparian forest</p> <p>2.1.2 Small-holder farming - Removal of bank side vegetation, illegal logging of riparian forests</p> <p>2.1.3 Agro-industry farming : Removal of bank side vegetation, illegal logging of riparian forests</p> <p>3.3 Renewable energy - Multiple mini hydropower stations</p> <p>5.3.3 Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest]- Removal of bank side vegetation, illegal logging of riparian forests</p>	3.3 Renewable energy - Multiple mini hydropower stations	

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
			5.4.3 Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest] Reduction of prey biomass 6.3 Work & other activities Conflicts with aquaculture activities 7.2.1 Abstraction of surface water (domestic use) 7.2.3 Abstraction of surface water (agricultural use) Habitat loss and reduction of feeding resources 7.2.2 Abstraction of surface water (commercial use) 9.3.3 Pollution-Agriculture and forestry- Herbicides and pesticides- Water pollution 9.4 Pollution-Garbage and solid waste Rubbish thrown in rivers		
SU 15	India		5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market 9.4 Pollution-Garbage and solid waste Rubbish thrown in rivers 11.2 Droughts 11.4 Storms & flooding 11.5 Other impacts: Spreading of parasites 12.1 Other threats: competition with other otter species	4.1 Roads & railroads Road kills 5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market 11.2 Droughts 11.4 Storms & flooding 11.5 Other impacts: Spreading of parasites 12.1 Other threats: competition with other otter species	11.1 Habitat shifting & alteration 11.2 Droughts 11.4 Storms & flooding 11.5 Other impacts: Spreading of parasites
SU 16	Indonesia (Sumatra)	5.1.1 Intentional use (species being assessed is the target)	5.1.1 Intentional use (species being assessed is the target). Illegal hunting for pet trade 5.1.1 Intentional use (species being assessed is the target). Illegal hunting for medicinal trad 12.1 Other threats: competition with other otter species	5.1.1 Intentional use (species being assessed is the target). Illegal hunting for medicinal trade 12.1 Other threats: competition with other otter species	
SU 17	Iran	5.1.1 Intentional use (species being assessed is the target)	4.1 Roads & railroads Road kills 5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market and	5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market and taxidermy	11.1 Habitat shifting & alteration

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
			taxidermy 5.4.3 Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest] Accidental deaths in fish nets 6.3 Work & other activities Conflicts with aquaculture activities 9.3.3 Herbicides and pesticides Water pollution		
SU 18	Iraq	5.1.1 Intentional use (species being assessed is the target)	2.1.3 Agro-industry farming: Removal of bank side vegetation, illegal logging of riparian forests 5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market 5.1.1 Intentional use (species being assessed is the target) Hunting for cub and training for fishing purposes 5.4.3 Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest] Accidental deaths fish nets 6.3 Work & other activities Conflicts with fishermen and anglers 9.3.3 Herbicides and pesticides - Water pollution 12.1 Other threats: competition with other otter species	5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market 5.1.1 Intentional use (species being assessed is the target) Hunting for cub and training for fishing purposes 12.1 Other threats: competition with other otter species	11.1 Habitat shifting & alteration
SU 19	Israel	1.1 Housing & urban areas: increasing human population-disturbance 12.1 Other threats: Habitat loss: elimination of wetland habitats	2.1.3 Agro-industry farming: Removal of bank side vegetation, illegal logging of riparian forests 4.1 Roads & railroads Road kills habitat degradation and fragmentation is ongoing 5.1.1 Intentional use (species being assessed is the target) Illegal hunting -poaching 6.3 Work & other activities	4.1 Roads & railroads Road kills 11.1 Habitat shifting & alteration 11.2 Droughts	11.1 Habitat shifting & alteration 11.2 Droughts

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
			Conflicts with aquaculture activities and anglers 7.2.3 Natural system modifications: Dams & water management/use: Abstraction of surface water (agricultural use) 9.3.3 Pollution-Agriculture and forestry- Herbicides and pesticides- Water pollution drainage of water sources		
SU 20	Japan	5.1.1 Intentional use (species being assessed is the target)- Hunting for pelts	6.3 Work & other activities Conflicts with aquaculture activities: Conflicts with fisheries		
SU 21	Jordan	4 Transportation & service corridors 5.1.1 Intentional use (species being assessed is the target)- Hunting for pelts	5.4.3 Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest] Accidental deaths in fish nets 9.3.3 Pollution-Agriculture and forestry- Herbicides and pesticides- Water pollution 11.2 Droughts 11.1.5 Other impacts: Alteration of life cycles (activity rhythms) and homeostasis (body size)	11.1 Habitat shifting & alteration 11.2 Droughts 11.5 Other impacts: Alteration of life cycles (activity rhythms) and homeostasis (body size)	11.1 Habitat shifting & alteration
SU 22	Kazakhstan	Unknown	Unknown	Unknown	Unknown
SU 23	Kosovo	5.1.1 Intentional use (species being assessed is the target)- Hunting for pelts	11.5 Other impacts: Alteration of life cycles (activity rhythms) and homeostasis (body size)	11.5 Other impacts: Alteration of life cycles (activity rhythms) and homeostasis (body size)	Unknown
SU 24	Kyrgyzstan	5.1.1 Intentional use (species being assessed is the target)- Hunting for pelts	5.1.3 Biological resource use: Hunting & collecting terrestrial animals: Persecution/control 5.4.3 Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest] Reduction of prey biomass 6.3 Human intrusions & disturbance: Work & other activities 12.1 Other threats: dog attacks Habitat loss		Unknown

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
SU 25	Lao PDR	5.1.1 Intentional use (species being assessed is the target)- Hunting for pelts	5.1.1 Intentional use (species being assessed is the target). Illegal hunting for medicinal trade 5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market 5.4.3 Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest] Reduction of prey biomass 12.1 Other threats: competition with other otter species loss of habitat	5.1.1 Intentional use (species being assessed is the target). Illegal hunting for medicinal trade 5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market 12.1 Other threats: competition with other otter species	11.1 Habitat shifting & alteration
SU 26	Lebanon	5.1.1 Intentional use (species being assessed is the target)	6.3 Work & other activities Conflicts with aquaculture activities 11.5 Other impacts: Alteration of life cycles (activity rhythms) and homeostasis (body size)		11.1 Habitat shifting & alteration
SU 27	Republic of North Macedonia	Unknown	9.2.3 Pollution: Industrial & military effluents: Type Unknown/Unrecorded		
SU 28	Malaysia	Unknown	6.3 Work & other activities Conflicts with rice field farmers		11.1 Habitat shifting & alteration
SU 29	Mongolia	5.1.1 Intentional use (species being assessed is the target)- Hunting for pelts	5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market 12.1 Other threats: competition with other otter species	5.1.1 Intentional use (species being assessed is the target)- Illegal hunting for pelt market 12.1 Other threats: competition with other otter species	11.1 Habitat shifting & alteration
SU 30	Montenegro	5.1.1 Intentional use (species being assessed is the target)- Hunting for pelts	1.3 Residential & commercial development: Tourism & recreation areas: growing tourism, construction of infrastructures, residential and hotel units in protected areas and other habitats 3.3 Renewable energy - Multiple medium hydropower stations 4.1 Transportation & service corridors: Roads & railroads 6.3 Work & other activities Conflicts with aquaculture activities 9.3.3 Pollution: Agricultural &	1.3 Residential & commercial development: Tourism & recreation areas: growing tourism, construction of infrastructures, residential and hotel units in protected areas and other habitats 3.3 Renewable energy - Multiple medium hydropower stations 4.1 Transportation & service corridors: Roads & railroads 6.3 Work & other activities Conflicts with aquaculture activities 9.3.3 Pollution: Agricultural & forestry	

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
			forestry effluents: Herbicides & pesticides 11.5 Other impacts: Alteration of life cycles (activity rhythms) and homeostasis (body size)	effluents: Herbicides & pesticides 11.5 Other impacts: Alteration of life cycles (activity rhythms) and homeostasis (body size)	
SU 31	Morocco	5.1.1 Intentional use (species being assessed is the target)- Hunting for pelts	1.3 Residential & commercial development: Tourism & recreation areas: canyon canoeing 5.1.1 Intentional use (species being assessed is the target). Illegal hunting for fur trade www.otter.org IOSF e-update no. 55 July 2015 11.2 Droughts 11.5 Other impacts: Alteration of life cycles (activity rhythms) and homeostasis (body size)	1.3 Residential & commercial development: Tourism & recreation areas: canyon canoeing 5.1.1 Intentional use (species being assessed is the target). Illegal hunting for fur trade www.otter.org IOSF e-update no. 55 July 2015 11.2 Droughts 11.5 Other impacts: Alteration of life cycles (activity rhythms) and homeostasis (body size)	11.1 Habitat shifting & alteration 11.2 Droughts
SU 32	Nepal	5.1.1 Intentional use (species being assessed is the target)- Hunting for pelts	2.1.2 Agriculture & aquaculture: Annual & perennial non-timber crops: Small-holder farming 2.3.2 Agriculture & aquaculture: Livestock farming & ranching: Small-holder grazing, ranching or farming 3.3 Energy production & mining: Renewable energy: hydropower 4.1 Transportation & service corridors: Roads & railroads 5.4.1 Biological resource use: Fishing & harvesting aquatic resources: Intentional use: subsistence/small scale (species being assessed is the target)[harvest] 5.4.5 Biological resource use: Fishing & harvesting aquatic resources: Persecution/control 7.2.11 Natural system modifications: Dams & water management/use: Dams (size unknown)	2.1.2 Agriculture & aquaculture: Annual & perennial non-timber crops: Small-holder farming 2.3.2 Agriculture & aquaculture: Livestock farming & ranching: Small-holder grazing, ranching or farming 3.3 Energy production & mining: Renewable energy: hydropower 4.1 Transportation & service corridors: Roads & railroads 5.4.1 Biological resource use: Fishing & harvesting aquatic resources: Intentional use: subsistence/small scale (species being assessed is the target)[harvest] 5.4.5 Biological resource use: Fishing & harvesting aquatic resources: Persecution/control 7.2.11 Natural system modifications: Dams & water management/use: Dams (size unknown) 9.1.1 Pollution: Domestic & urban waste water: Sewage 11.4 Climate change & severe	3.3 Energy production & mining: Renewable energy: hydropower 4.1 Transportation & service corridors: Roads & railroads 11.4 Climate change & severe weather: Storms & flooding 12.1 Other threats: competition with other species

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
			9.1.1 Pollution: Domestic & urban waste water: Sewage 11.4 Climate change & severe weather: Storms & flooding 12.1 Other threats: competition with other otter species	weather: Storms & flooding 12.1 Other threats: competition with other otter species	
SU 33	Democratic People's Republic of Korea	Unknown	Unknown	Unknown	11.1 Habitat shifting & alteration
SU 34	Norway	5.1.1 Intentional use (species being assessed is the target)- Hunting for pelts	4.1 Transportation & service corridors: Roads & railroads 5.1.1 Biological resource use: Hunting & collecting terrestrial animals: Intentional use (species being assessed is the target) 5.1.3 Biological resource use: Hunting & collecting terrestrial animals: Persecution/control 5.1.4 Biological resource use: Hunting & collecting terrestrial animals: Motivation Unknown/Unrecorded 5.4.4 Biological resource use: Fishing & harvesting aquatic resources: Unintentional effects: large scale (species being assessed is not the target)[harvest]. In Norway otter as bycatch is a huge threat 7.2.10 Natural system modifications: Dams & water management/use: Large dams 9.1.1 Pollution: Domestic & urban waste water: Sewage 9.2.1 Pollution: Industrial & military effluents: Oil spills 9.2.2 Pollution: Industrial & military effluents: Seepage from mining 12.1 Other threat: Habitat loss, garbage and plastic washes	4.1 Transportation & service corridors: Roads & railroads 5.1.1 Biological resource use: Hunting & collecting terrestrial animals: Intentional use (species being assessed is the target) 5.1.3 Biological resource use: Hunting & collecting terrestrial animals: Persecution/control 5.1.4 Biological resource use: Hunting & collecting terrestrial animals: Motivation Unknown/Unrecorded 5.4.4 Biological resource use: Fishing & harvesting aquatic resources: Unintentional effects: large scale (species being assessed is not the target)[harvest]. In Norway otter as bycatch is a huge threat 7.2.10 Natural system modifications: Dams & water management/use: Large dams 9.1.1 Pollution: Domestic & urban waste water: Sewage 9.2.1 Pollution: Industrial & military effluents: Oil spills 9.2.2 Pollution: Industrial & military effluents: Seepage from mining 12.1 Other threat: Habitat loss, garbage and plastic washes ashore & dumps along the coast lines	Unknown

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
			ashore & dumps along the coast lines		
SU 35	Pakistan	5.1.1 Intentional use (species being assessed is the target)- Hunting for pelts	1.3 Residential & commercial development: Tourism & recreation areas 6.3 Work & other activities Conflicts with aquaculture activities 5.1.1 Intentional use (species being assessed is the target). Illegal hunting for medicinal trade 5.1.1 Intentional use (species being assessed is the target). Illegal hunting for pelt market 9.3.3 Pollution: Agricultural & forestry effluents: Herbicides & pesticides 12.1 Other threats: competition with other otter species weak enforcement of wildlife laws habitat degradation (not specified)		
SU 36	Palestine		9.1.1 Pollution: Domestic & urban waste water: Sewage	9.1.1 Pollution: Domestic & urban waste water: Sewage	
SU 37	Russia	5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market	2.3.3 Agriculture & aquaculture: Livestock farming & ranching: Agro-industry grazing, ranching or farming 3.1 Energy production & mining: Oil & gas drilling 4.1 Roads & railroads: constructions and Road kills 4.2 Transportation & service corridors: Utility & service lines 5.3.4 Biological resource use: Logging & wood harvesting: Unintentional effects: large scale (species being assessed is not the target) [harvest] 5.1.1 Intentional use (species being assessed is the target). Hunting for fur trade 7.2.10 Natural system modifications: Dams & water	3.1 Energy production & mining: Oil & gas drilling 4.1 Roads & railroads: constructions and Road kills 4.2 Transportation & service corridors: Utility & service lines 5.3.4 Biological resource use: Logging & wood harvesting: Unintentional effects: large scale (species being assessed is not the target) [harvest] 5.1.1 Intentional use (species being assessed is the target). Hunting for fur trade 5.3.4 Biological resource use: Logging & wood harvesting: Unintentional effects: large scale (species being assessed is not the target)[harvest] 7.1.1 Natural system modifications: Fire & fire suppression: Increase in fire frequency/intensity	

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
			management/use: Large dams 9.2.1 Pollution: Industrial & military effluents: Oil spills 9.1.1 Pollution: Domestic & urban waste water: Sewage 9.2.1 Pollution: Industrial & military effluents: Oil spills 9.2.2 Pollution: Industrial & military effluents: Seepage from mining 9.2.3 Pollution: Industrial & military effluents: Type Unknown/Unrecorded 9.3.1 Pollution: Agricultural & forestry effluents: Nutrient loads 11.5 Other impacts: Spreading of parasites	7.2.2 Natural system modifications: Dams & water management/use: Abstraction of surface water (commercial use) 7.2.10 Natural system modifications: Dams & water management/use: Large dams 9.2.1 Pollution: Industrial & military effluents: Oil spills 9.1.1 Pollution: Domestic & urban waste water: Sewage 9.2.2 Pollution: Industrial & military effluents: Seepage from mining 9.2.3 Pollution: Industrial & military effluents: Type Unknown/Unrecorded 11.5 Other impacts: Spreading of parasites	
SU 38	Serbia	5.1.1 Intentional use (species being assessed is the target)- Hunting for pelts 9.2.3 Pollution: Industrial & military effluents: Type Unknown/Unrecorded 9.3.3 Pollution-Agriculture and forestry- Herbicides and pesticides- Water pollution	4.1 Roads & railroads Road kills 5.1.3 Persecution/control conflicts with anglers and fish farms 9.3.3 Pollution-Agriculture and forestry- Herbicides and pesticides- Water pollution		11.1 Habitat shifting & alteration
SU 39	Republic of Korea	9.3.3 Pollution-Agriculture and forestry- Herbicides and pesticides- Water pollution	5.1.3 Persecution/control conflicts with anglers and fish farms		11.1 Habitat shifting & alteration
SU 40	Sri Lanka	2.1.1 Shifting agriculture: Removal of bank side vegetation, illegal logging of riparian forest 2.1.3 Agro-industry farming : Removal of bank side vegetation, illegal logging of riparian forests 9.3.3 Pollution-Agriculture and forestry- Herbicides and pesticides- Water pollution	2.1.1 Shifting agriculture: Removal of bank side vegetation, illegal logging of riparian forest 2.1.3 Agro-industry farming : Removal of bank side vegetation, illegal logging of riparian forests 5.3.3 Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest]- Removal of bank side vegetation, illegal logging of riparian forests 7.2.4 Natural system modifications: Dams & water management/use:	2.1.1 Shifting agriculture: Removal of bank side vegetation, illegal logging of riparian forest 2.1.3 Agro-industry farming : Removal of bank side vegetation, illegal logging of riparian forests 5.3.3 Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest]- Removal of bank side vegetation, illegal logging of riparian forests 7.2.4 Natural system modifications: Dams & water management/use:	11.1 Habitat shifting & alteration

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
			Abstraction of surface water (unknown use) 9.3.3 Pollution-Agriculture and forestry- Herbicides and pesticides- Water pollution	Abstraction of surface water (unknown use) 9.3.3 Pollution-Agriculture and forestry- Herbicides and pesticides- Water pollution	
SU 41	Switzerland	5.1.1.3 Biological resource use: Hunting & collecting terrestrial animals: Persecution/control Federal funding was provided in order to eradicate the species 9.3.3 Pollution-Agriculture and forestry- Herbicides and pesticides- Water pollution	4.1 Roads & railroads Road kills 7.2.2 and 7.2.9 Increase of the building of small dams (increase of hydroelectric power stations as a response to the fading out of nuclear power plants), Intensification of agriculture 1.3 Residential and commercial development: Tourism & recreational activities along and on the waterbodies. 9. Pollution, especially 9.3.3 herbicides and pesticides. Microplastic. 9.6.1 Light pollution along the river and 9.6.3 noise pollution due to an increase of human activities along the riversides 11.1 Increase of water temperature 12.1 a loss of fish biomass.	4.1 Roads & railroads Road kills	
SU 42	Syria	7.2.3 Natural system modifications: Dams & water management/use: Abstraction of surface water (agricultural use): construction of the Tabagua dam	5.1.4 Motivation Unknown/Unrecorded 7.2.9 Small dams (construction phase) 11.2 Droughts 11.5 Other impacts: Alteration of life cycles (activity rhythms) and homeostasis (body size)	2.1.1 Agriculture & aquaculture: Annual & perennial non-timber crops: Shifting agriculture 11.2 Droughts	11.1 Habitat shifting & alteration
SU 43	Taiwan	5.1.1.1 Intentional use (species being assessed is the target)- Hunting for pelts	1.1 Residential & commercial development: Housing & urban areas: New construction works are altering the land-use pattern fast and dramatically: several wetland areas have been drained and infilled to make land for building. 1.3 Residential & commercial development: Tourism & recreation	1.1 Residential & commercial development: Housing & urban areas: New construction works are altering the land-use pattern fast and dramatically: several wetland areas have been drained and infilled to make land for building. 1.3 Residential & commercial development: Tourism & recreation	

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
			areas 9.1.1 Pollution: Domestic & urban waste water: Sewage	areas 9.1.1 Pollution: Domestic & urban waste water: Sewage	
SU 44	Tajikistan	Unknown	Unknown	Unknown	Unknown
SU 45	Thailand	5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market 12.1 Other threats: competition with other otter species	5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market 12.1 Other threats: competition with other otter species	5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market 12.1 Other threats: competition with other otter species	11.1 Habitat shifting & alteration
SU 46	Tunisia	5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market	1.2 Residential & commercial development: Commercial & industrial areas 4.1 Roads & railroads Road kills 7.2.8 Natural system modifications: Dams & water management/use: Abstraction of ground water (unknown use) 9.1.1 Pollution: Domestic & urban waste water: Sewage 11.2 Droughts 11.5 Other impacts: Alteration of life cycles (activity rhythms) and homeostasis (body size) 12.1 Other threats: competition with other otter species	1.2 Residential & commercial development: Commercial & industrial areas 4.1 Roads & railroads Road kills 7.2.8 Natural system modifications: Dams & water management/use: Abstraction of ground water (unknown use) 9.1.1 Pollution: Domestic & urban waste water: Sewage 11.2 Droughts 11.5 Other impacts: Alteration of life cycles (activity rhythms) and homeostasis (body size) 12.1 Other threats: competition with other otter species	11.1 Habitat shifting & alteration 11.2 Droughts
SU 47	Turkey	5.1.1 Intentional use (species being assessed is the target) - Hunting for fur trade	1.1 Residential & commercial development: Housing & urban areas 2.1.1 Agriculture & aquaculture: Annual & perennial non-timber crops: Shifting agriculture 5.1.4 Motivation Unknown/Unrecorded 7.2.3 Natural system modifications: Dams & water management/use: Abstraction of surface water (agricultural use) 7.2.9 Small dams (Hydrogeneration) 9.2.1 Oil spills 9.2.1 Oil refinery	1.1 Residential & commercial development: Housing & urban areas 2.1.1 Agriculture & aquaculture: Annual & perennial non-timber crops: Shifting agriculture 5.1.4 Motivation Unknown/Unrecorded 7.2.3 Natural system modifications: Dams & water management/use: Abstraction of surface water (agricultural use) 7.2.9 Small dams (Hydrogeneration) 9.2.1 Oil spills 9.2.1 Oil refinery 11.5 Other impacts: Alteration of life cycles (activity rhythms) and homeostasis (body size)	

Spatial unit	Name	Past actions (no longer occurring)	Current actions	Actions planned within 10 years	Actions that could be implemented in the long-term aspiration scenario
			11.5 Other impacts: Alteration of life cycles (activity rhythms) and homeostasis (body size)		
SU 48	Turkmenistan	Unknown	unknown	unknown	unknown
SU 49	UK	5.1.1 Intentional use (species being assessed is the target): recreational hunting and hunting for fur 9.3.3 Pollution-Agriculture and forestry- Herbicides and pesticides- Water pollution	5.1.3 Persecution/control conflicts with anglers and fish farms 11.5 Other impacts: Spreading of parasites	5.1.3 Persecution/control conflicts with anglers and fish farms 11.5 Other impacts: Spreading of parasites	11.5 Other impacts: Spreading of parasites
SU 50	Ukraine	5.1.1 Intentional use (species being assessed is the target): hunting for fur	5.1.4 Motivation Unknown/Unrecorded 5.1.3 Persecution/control conflicts with anglers and fish farm (fish pond owners) 5.4.3 Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest] Reduction of prey biomass	5.1.4 Motivation Unknown/Unrecorded 5.1.3 Persecution/control conflicts with anglers and fish farm (fish pond owners) 5.4.3 Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest] Reduction of prey biomass	
SU 51	Uzbekistan	Unknown	Unknown	Unknown	
SU 52	Viet Nam	5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pelt market 6.2 Human intrusions & disturbance: War, civil unrest & military exercises	5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pet market 5.1.3 Persecution/control conflicts with anglers and fish farm (fish pond owners) 7.3 Natural system modifications: Other ecosystem modifications: loss of wetlands 9.3.4 Pollution: Agricultural & forestry effluents: Type Unknown/Unrecorded 12.1 Other threats: competition with other otter species 12.1 Other threats: Habitat destruction due to Viet Nam war - even now there are still effects from the use of Agent Orange.	5.1.1 Intentional use (species being assessed is the target) Illegal hunting for pet market 5.1.3 Persecution/control conflicts with anglers and fish farm (fish pond owners) 7.3 Natural system modifications: Other ecosystem modifications: loss of wetlands 9.3.4 Pollution: Agricultural & forestry effluents: Type Unknown/Unrecorded 11.2 Droughts 12.1 Other threats: competition with other otter species	11.1 Habitat shifting & alteration
SU 53	Moldova	Unknown	Unknown	Unknown	Unknown

Appendix 1. Assessor Self-Review

- 1. Disclose any potential conflicts of interest, which could bias the assessment.**

None.

- 2. Is there any discrepancy between this assessment and the Red List assessment for the species? If so, comment on the likely reason for this discrepancy.**

None.

- 3. Review the impact that you assigned to the various threats and conservation actions. Would the trajectory of the species be very different if other choices were made? If so, review your justification for these choices. If appropriate, widen the bounds on tabs 4 and 5-8 (change the lower and upper plausible values) to reflect the uncertainty introduced by the possibility of these other choices. How, if at all, did this review question cause this assessment to change? If no changes were needed, please write "no changes".**

Predicted impact of climate change assessed under the most pessimistic (RCP 8.5) and most optimistic scenarios (RCP 2.6); no other scenarios considered.

References

Cianfrani, C., Broennimann, O., Loy, A. and Guisan, A. 2018. More than range exposure: Global otters' vulnerability to climate change. *Biological Conservation* 221: 103–113.

Ostrowski, S. 2016. The Eurasian Otter *Lutra lutra* in Afghanistan: A review of the sparse available information. *IUCN Otter Specialist Group Bulletin* 33(1): 50–53.

Sidorovich, V.E. and Lauzhel, G.O. 1992. Numbers of otters and approach to population estimation in Byelorussia. *IUCN Otter Specialist Group Bulletin* 7: 13–16.