United Nations Environment Programme

Research Report

The Question of:

The effect of border control on animal populations

Introduction

As migration has become more and more prevalent in recent decades, an increasing number of countries have resorted to tighter border control. The construction of long border fences has caused unintended harm to ecosystems in numerous places around the world. The migration of wildlife is obstructed, for large carnivores and herbivores in particular, separating animal populations. On top of that, the fences themselves cause mortality as animals try to cross and get stuck. This makes these animals vulnerable within their ecosystem as they cannot cover certain distances in order to reproduce or consume food.

The Committee

The UNEP (United Nations Environment Program) is a UNO (United Nations Organization) introduced by the United Nations Conference on the Human Environment in 1972. It is the UN's main authority that sets environmental issues on the global agenda.

Their main focus is to guide institutions, NGOs and governments on the way to a more sustainable world. Furthermore, they assess trends and environmental conditions on a global, regional or national level. The UNEP conducts many operations around the world, which are categorized under: climate change, chemicals and waste, disasters and conflicts, ecosystem management, environmental governance, environment under review and resource efficiency.

This committee follows the standard Rules of Procedure, which means it is not an ad-hoc committee.

Key Terms

Biodiversity

The variability of animals and plants from all sources including, inter alia, terrestrial, marine and other ecosystems. In short, the diversity within species, between species and of ecosystems.

Ecosystem

The dynamics between animal, microbe and plant life in set, non-living environmental conditions. The interaction of different organisms and their environment generate a cyclical interchange of materials and energy.

General Overview

The issue at hand asks for a solution on a mainly regional level, because border fences are mostly constructed as a boundary between two individual countries. Though not all fences are placed with the aim to keep out humans, there are examples in the present and the past of fences with the aim to keep out animals. These fences solely have wildlife conservation purposes and therefore will not be included. International law cannot prohibit countries of placing fences within their borders regardless of the intents and consequences, however one can argue that states, that have placed border fences, violate international wildlife law. International wildlife law has become increasingly important and involved in decision making in recent years, seen the large number of reports emphasising the vulnerability of wildlife and ecosystems around the world. In order to solve the issue, this report will take a look at the situation per region.

Africa

Beginning in Africa, border fences have had adverse consequences for many wild animal populations, including giraffe, African elephant, zebra and many species of antelope. The main concerns were caused by ensnaring animals and by cutting them off from vital resources. Fences constructed at the Namibian border, along with the entirety of the West Caprivi Strip, pose a clear example, for they closed off the migratory routes of the animals. The following animals were found dead along the fence itself, whereby it should be noted that these merely form the tip of the iceberg of the fence's overall toll: five giraffes, one elephant, two elands, one roan antelope, one sable antelope, five kudus and several smaller antelope.

Asia

In Asia, border fences have become increasingly prevalent across the continent. Particularly in Central Asia, which has been dubbed the 'Serengeti of the North', the situation is precarious, as it is home to a range of large migratory and nomadic mammal species. By splitting the populations in this region, the animals are killed or impeded in an attempt to cross. Border fences pose an actual or potential threat to many of these, including the Mongolian gazelle, saiga antelope, Asiatic wild ass, also known as khulan, Bactrian camel, argali sheep and snow leopard. Statistics on the stark impact of the Kazakhstan-Uzbekistan border fence on a saiga population show exactly that; GPS data shows that fences along the Chinese-Mongolian border have separated the remaining herds of Asiatic wild ass therewith dividing them into distinct subpopulations on either side of the border; and other evidence shows photos of Mongolian gazelles that are caught up in barbed wire during an attempt to cross a point alongside the Mongolian-Russian border fence. A more surprising way in which border fences can diminish animals' chances of survival. An increase in fatal attacks on people by Asiatic black bears and leopards in the Kashmir region has a close relation to the recently placed border fence of India along with its border with Pakistan. The regular wander patterns of predators were disrupted by the fence resulting in difficult access to natural prey, ultimately causing them to enter villages and target humans. Regardless, this trend has increased, the likelihood of bears and leopards being killed by local people, whether to prevent further attacks or in retaliation.

Middle East

In the Middle East, the situation looks different and surprisingly less grim. As for a positive effect of border fences, Dorcas gazelle occurs in significantly higher numbers in the Israeli part of the Arava Desert than in the Jordanian part. Researchers attribute this to a combined effect of the border fence and more legal protection in Israel. Another good example is the mixed effects of some border fences. For instance regarding a different gazelle from the same region. Conservationists are struggling to decide whether the various border security fences constructed along Israel's borders are a good or a bad thing for the endangered Israeli gazelle. To be sure, the barriers impede the animals' cross-

border mobility, degrade its habitat and fragment its populations further. Nonetheless, these adverse impacts are overshadowed by the safety the barriers offer the gazelles from their gravest threat, namely death at the hands of Palestinian hunters. As most surviving gazelles remain on Israeli territory, the species' advocates would actually welcome the closing of remaining gaps in the West Bank separation barrier.

Europe

In Europe, the security fences that have stood along the western borders of Russia and Belarus for decades have damaged animal populations of wolf, brown bear, Eurasian lynx and European bison in the region, primarily caused by separation. In Central Europe, since the Iron Curtain was taken down, wolves and other large carnivores have found their way across the old fence lines again. The effects of border fences can linger for generations, for humans and animals alike. As a recent GPS-tracking study of red deer living on both sides of the border between Germany and the Czech Republic reveals, a stunning 25 years after the complete removal of the electrified border fences, the deer still do not cross the boundary. This is astonishing, as none of the deer alive today have ever seen the fence. Mother deer apparently still teach their fawns not to try and cross where once the Iron Curtain stood. Meanwhile, the brand new razor wire fences erected by Slovenia along the Croatian border create a new problem. Significantly, they split the transboundary Dinaric-Balkan populations of wolf, lynx and brown bear. Besides, dead deer have been found entangled and badly damaged in the same fences' coiled wires, amidst evidence of prolonged struggles, the gruesome images of which have caused a public outcry.

North America

In the North American region, the migration of many animals, such as cougars, mule deer, roadrunners, snakes, lizards and frogs, is on the line. This is caused by the fence at the US-Mexico fence. This border fence is also believed to hinder other species besides, such as the fragile jaguar population in the region.

Possible measures

Researchers and experts have pointed to a list of possible measures, that countries can implement in order to reduce the impact of border fences on animal populations. Seen the vast differences between cases worldwide policymakers should respectively consider, which measures to implement. Implementation should be considered for measures such as:

Raising the bottom wire of fence to the apt height at which animals can crawl under or removing the bottom wire entirely;

Replacing the bottom barbed wire of the fence with a smooth wire;

Placing small 'gate' passages where the above mentioned are applied;

Replacing parts of the fence with concrete bollards or 'Normandy barriers' in order to prevent vehicles from passing, yet providing a passage for animals;

Removing (parts) of the fence in rough terrain.

Timeline of Events

Date	Description of Event
1999	The construction of the Kyrgyzstan-Uzbekistan border fence, due to conflict
2000	The construction of the South Africa-Zimbabwe border fence, due to smuggling and illegal immigration
2001	The construction of the Turkmenistan-Uzbekistan border fence due to illegal immigration
2003	The construction of the Botswana-Zimbabwe border fence, due to illegal immigration
2004	The construction of the India-Kashmir border fence, due to conflict over disputed territory
2006	The construction of the Kazakhstan-Uzbekistan barrier, due to illegal smuggling
2015	The construction of the Croatia-Slovenia border fence, due to illegal immigration
2016	First reports on the impact of border fencing on animal populations

Previous attempts to solve the issue

A good example is the Kazakhstan-Uzbekistan border. The fence, constructed in 2006, caused a rapid decline in the Saiga antelope population. The Saiga antelope are grazers crucial to the ecosystem of the steppes in Kazakhstan, Uzbekistan and Mongolia. Moreover, they have been an important economic source for centuries. Their habitat is threatened by a border fence and Kazakh construction of a railway. Tests have been conducted along the Kazakhstan-Uzbekistan border, trying out wildlife friendly border fences and seasonal entrance for animals.

The Saiga antelopes are not a tall species of antelope, therefore researchers set the lowest strain of barbed wire at 40 centimetres off the ground. At certain points along the border the governments only want to prevent vehicles from being able to cross the border. In these cases researchers opted for a line of concrete bollards. These measures have proven to work to some extent and the Saiga population is recovering slowly. In the case of the Kazakhstan-Uzbekistan border these measures were applicable; disappointingly this might not always be feasible worldwide.

The Future

Seen this issue recently emerged on the international environmental agenda and the first reports, about this topic from biology institutes, emerged in 2016. This makes it hard predicting what might happen in the near and far future. In a scenario, where very little to no action is taken experts agree that the situation is likely to worsen. The rapid change in certain animal populations leave the entire ecosystem vulnerable and can even be linked to the wider topic of climate change. Though this most probably will not be the case. In the future the international community will have to try and hold countries responsible for wildlife care, regardless of transnational disputes. The measures also need time before they become effective, because the animals have to accustom to the safety of the boundary, a process likely to take a few generations.

Important Decisions a Resolution Must Take

This issue is relatively new to the international agenda, thus a resolution on this topic will mainly have to focus on providing a strong framework, on which future resolutions can build. In addition, a resolution always strives to be universally applicable, but at the same time the stark difference between the regions should not be neglected. In order to achieve a successful resolution the delegate should take the following into account.

What can the UNEP do in order to increase the awareness of this relatively unknown issue?
Will there be a main UN body put into place to observe the developments in the different regions?
Can this task be added to a different UNO or is a new creation necessary?
Are there any practical possibilities for animals to still cross a boundary, such a special passage or conservation?
Will it be possible to negotiate an amendment to international law, which will force countries, that wish to construct a border fence, to incorporate wildlife law?

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