



MANAGEMENT OF HIGH-VALUE NATURAL RESOURCES IN THE DIRECTION OF ENSURING SAFETY AND SUSTAINABLE DEVELOPMENT

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Abstract

The issue of international, illegal trade in wild fauna and flora is important, still valid, but extremely complex. It is a growing problem for the whole world. Wildlife trade covers all stages of the supply chain, from the acquisition of wild fauna and flora and its habitats, through trade, import, export, processing, possession, acquisition and consumption. This process causes global consequences for the environment, people and communities as well as national security. Despite many solutions already applied, new problems are still emerging. It is necessary to ensure safety and sustainable development by conducting multi-faced research and undertaking effective interventions. There is a need to better understand markets by monitoring the illegal trade, demand and prices of wild animals, what will allow for a holistic approach to this problem and a deeper understanding of it. Integration of information with an existing trade database will allow a more realistic assessment of the results of trade controls and can contribute to making the right decisions. Traffickers abuse transport systems, and when traveling from source to market, they also use airports in transit.

Keywords: High-value natural resources, wildlife trade, supply chain, safety, sustainable development

1. INTRODUCTION

The article concerns the management of high-value natural resources. These resources include wild animals and protected species. Their management is aimed at ensuring sustainable development and national security. This objective can be achieved through cooperation with organizations that carry out complex operations on an international scale. In order to carry out these operations it is necessary to involve many people and apply innovative methods and modern technologies.

The aim of the article is to analyze key problems related to the management of high-value natural resources and propose solutions. This research is based on the literature review and data analysis for the last years. This paper presents possible solutions in the scope of the analyzed global problem and it ends with implications for future research. Smuggling and trade in the supply chain were analyzed. Animal trafficking at the state border is another type of illegal immigrant, linked to the corruption process. Some say that we are currently experiencing a sixth mass extinction, with up to 100,000 species every year in human activity. The main areas of activity of international criminal group are: South Africa, Thailand and China. The global illegal immigration network and the economic incentive to smuggle animals are difficult to overcome. International criminal groups are using increasingly sophisticated methods and diverse means of transport. Illegal smuggling of animals can take place by: sea, land or air. Smugglers are increasingly using postal items. Polish scientists rarely address the issue of illegal trade in wild animals and protected species. The reason for this situation may be the complexity of the problem and difficult access to specific, integrated data, as well as latent data. Moreover, even internationally, there is little research focused on the transport.

2. THE SMUGGLING OF AND ILLEGAL TRADE IN WILDLIFE AND PROTECTED SPECIES

Illegal wildlife trade is little known among people around the world. Many people think that this is a problem that affects Africa in the first place, as a key source, while Asian regions are the main destination.



The simplified process of smuggling animals and protected species is shown in **Figure 1**.

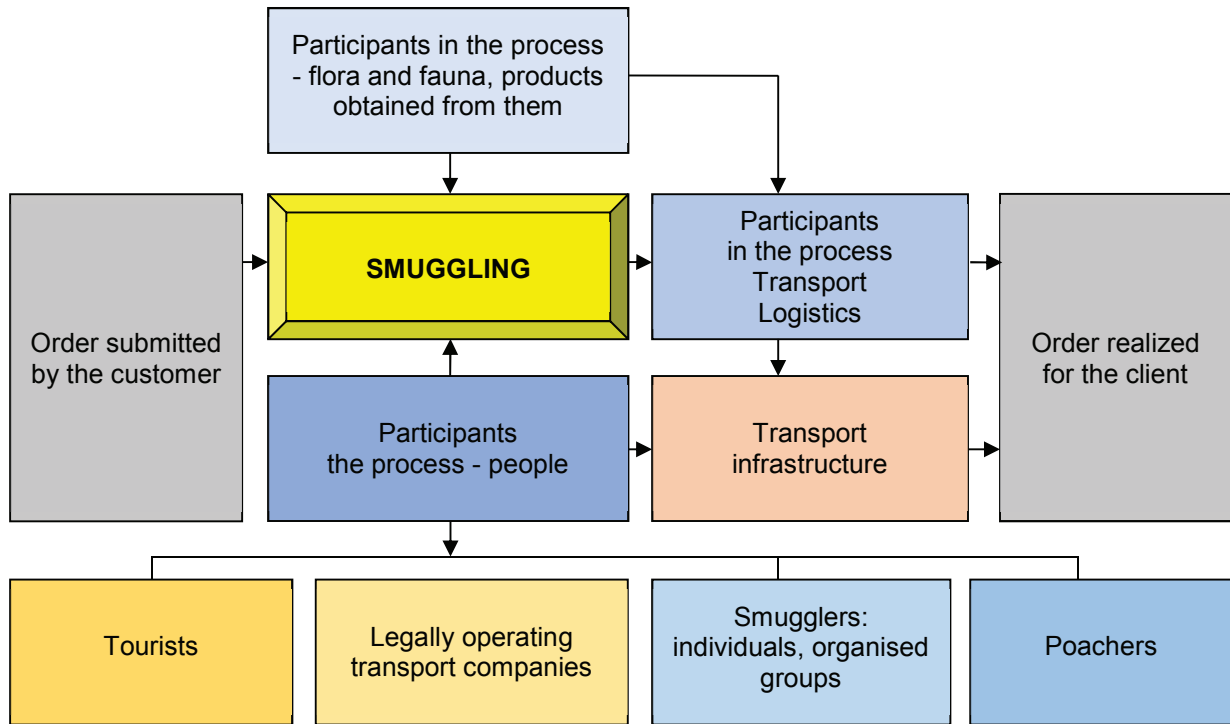


Figure 1 Simplified smuggling of wild flora and fauna and protected species

Meanwhile, it is a global problem, and controlling the entry of illegal products into the European Union is a challenge [1]. A simplified process of illegal trade in wildlife and protected species is shown in **Figure 2**.

Transporters can operate within countries and across borders. Transporters can travel using a variety of transportation modes and use a number of techniques for concealing wildlife products. Not all transporters may realize that they are participating in the illegal wildlife trade [2].

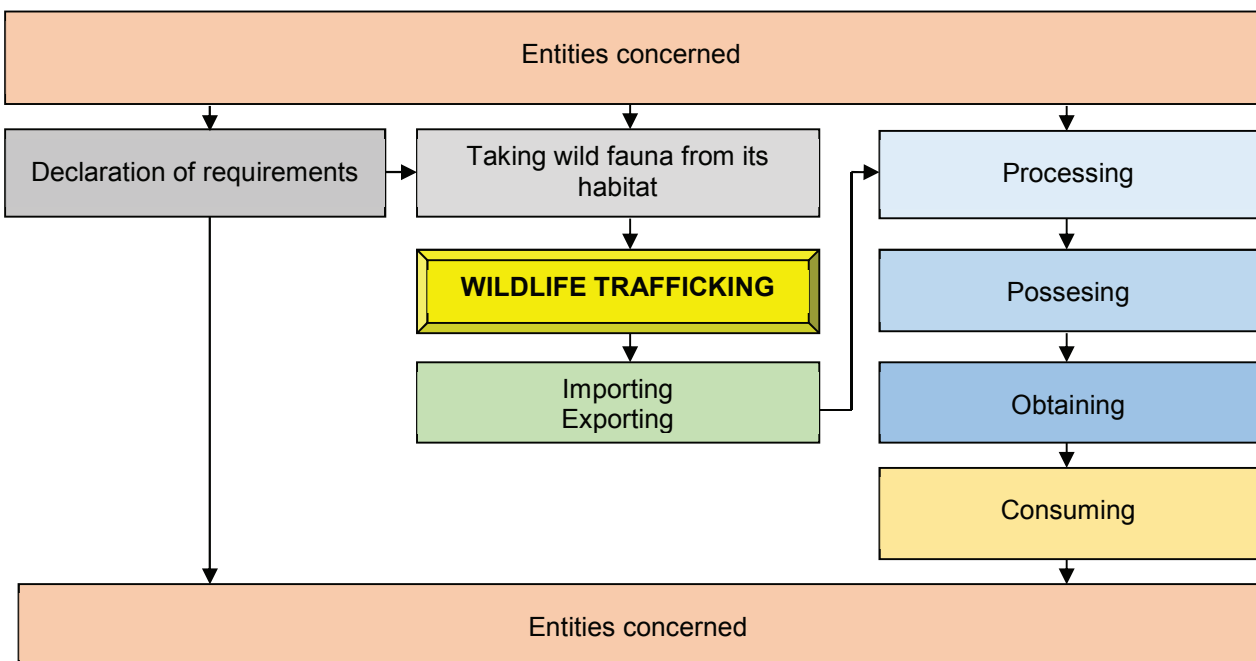


Figure 2 Simplified Illicit Trade in Wildlife and Protected Species



Wildlife trafficking encompasses all stages in the supply chain, from taking wild fauna from its habitat, to trading, importing, exporting, processing, possessing, obtaining and consuming of these species [3]. The European Union is a center for trade in illegal wildlife products. Spain plays an important role in the global wildlife trade, being the main entry point for trade from South America and Africa. If such a product reaches Spain, it can move freely throughout the European Union, through the Schengen Zone. The European Union is an important region for endangered species between continents, especially Africa and Asia. Spain is at the heart of this trade. European eel is the main illegally traded species originating in the European Union. European countries, first and foremost: Slovakia, the Czech Republic, Belgium, Italy and Germany are transit points for the illegal trade in rhinoceros horns [1]. Poland is a leader in terms of the volume of online trade in protected flora and fauna in the central and eastern parts of the European Union, is a destination country, but is also used for transit purposes.

3. TRANSPORT SYSTEMS USED FOR TRADE IN WILDLIFE AND PROTECTED SPECIES

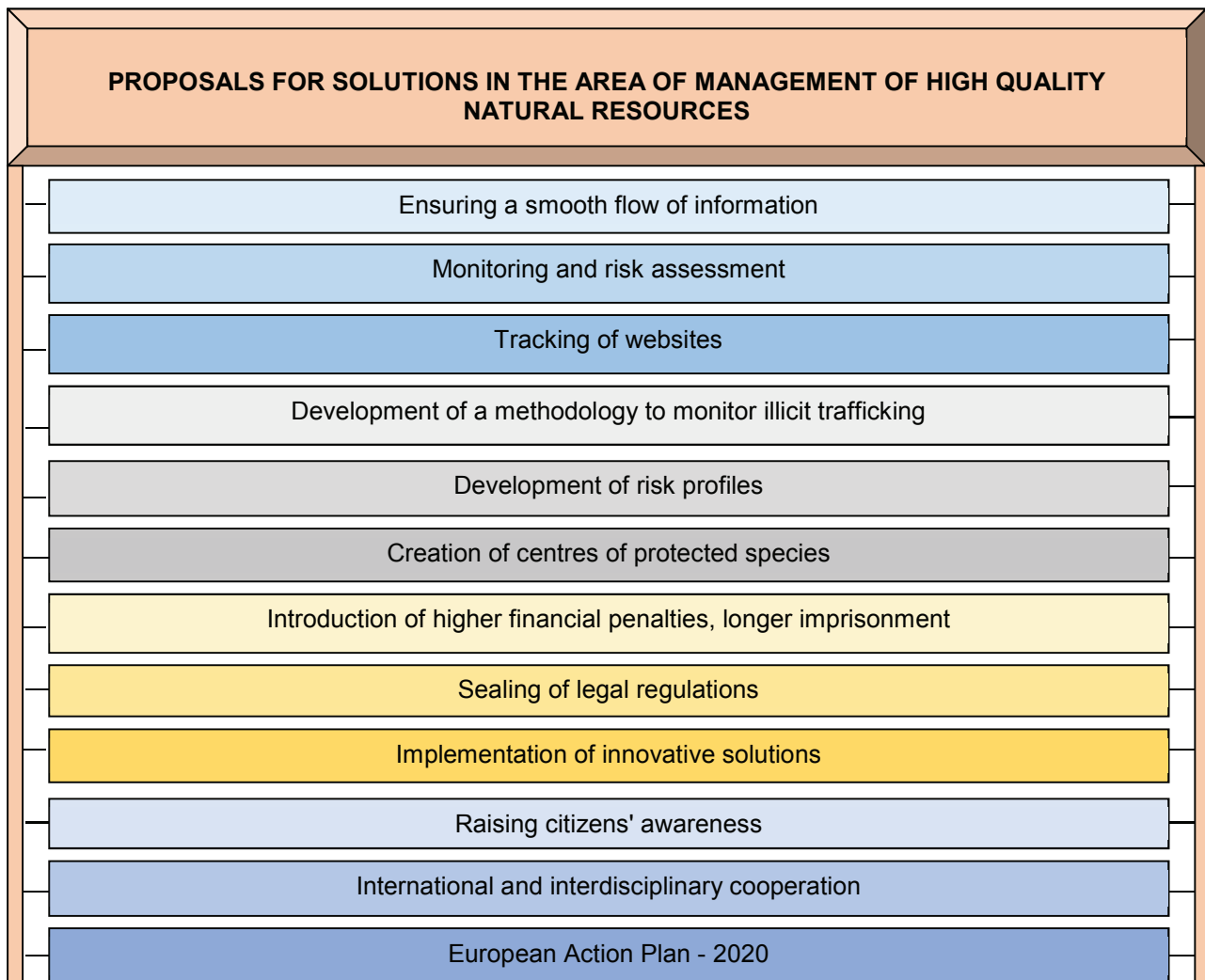


Figure 3 Suggestions for solutions for the management of high-value natural resources

Traders of wildlife and wildlife products rely mainly on logistics, land, air and sea. Wildlife traders depend on an interconnected logistics and transport network. This network includes: airports, land and sea ports, passenger and freight airlines, shipping companies, express courier companies, postal companies and forwarding agents [4]. Smugglers of wildlife and protected species often use large air hubs around the world.

Airports should be active leaders in preventing illegal wildlife trade. China, Thailand and the United Arab Emirates have detected the most cases of smuggling by air. Cases of animal smuggling have been identified in 114 countries. In 2016, over 5,300 kilos of illegal ivory and rhino horn, and over 16,000 trafficked reptiles were seized at airports, either in passenger baggage or cargo shipments [5]. Wildlife trafficking has grown into a \$20 billion a year industry. This is a fourth most lucrative transnational crime, behind drugs, humans and arms trafficking [6]. According to the report, large hub airports across the world, including Hong Kong, Johannesburg and Dubai, are used to move around 81 % of global trafficked wildlife. Organized criminal groups are a threat to airport security. It is important to implement precise and effective control systems for airport services. These systems are used for customs clearance procedures. In order to ensure the safety of people and cargo, modern technologies are used. One such method is RFID. This technology is used to identify suspicious parcels and shipments, increases the efficiency of operations and affects the speed of reaction of customs and security services. The content of baggage is scanned. Detection of illegal, suspicious, dangerous elements must trigger a strong and effective response from the relevant services. RFID systems also make it possible to take action remotely. Passengers carrying wild animals and protected species and illegal products can be identified by observing their body language and suspicious behaviour. Most confiscated live animals are placed in rehabilitation facilities and zoos after quarantine. Airports can influence their supply chain through: cooperation with ROUTES and other world leaders, understanding leadership, status, understanding trends and patterns of illegal wildlife trade [2]. **Figure 3** presents proposals for solutions in the area of management of high-value natural resources in relation to the global problem of smuggling and trade in wildlife and protected species.

4. CONCLUSION

The study analyzed the process of smuggling and illegal trade in wild animals and protected species. As the literature review and analysis has shown, the process of illegal trade in wildlife and protected species and the smuggling process varies in nature and scope. However, some common patterns can be observed among commercial species. These relate to the following areas: the methods used by those involved in the process, the countries of demand and supply, and the objectives of trade. It is important to include interventions aimed at reducing trade. Interdisciplinary cooperation should contribute to a better understanding of how to mitigate illegal trade in wildlife and protected species worldwide.

There are still many challenges related to monitoring in the online environment. The Internet is the largest market in the world, open at all times to buyers and sellers for the exchange of goods. The Internet has transformed and changed with the global economy and illegal trade in wildlife and protected species. Unfortunately, Poland is a leader in online trade in wildlife and protected species [7-12].

The European Wildlife Action Plan focuses mainly on improving enforcement, better cooperation between Member States and more effective prevention of illegal trade. In April 2017, the European Commission adopted an action plan for nature, people and the economy for 2020. The main challenge is to coordinate all Member States.

The main objective is to agree, implement and enforce the same rules. There are many uncertainties in European Union legislation that need to be clarified and improved. Irresponsible tourism and consumption habits also contribute to illegal trade.

It is important to check whether airports have robust security systems and whether they need technical assistance. RFID, for example, has been implemented at the airport in Katowice-Pyrzowice. Customs authorities need to develop data-based risk profiles for trade in wildlife and protected species. Sophisticated criminal groups use the high level of corruption at some airports to transport wildlife and protected species and products obtained from parts of their bodies. It is possible to check whether the airport is exposed to trade in illicit goods, including products derived from animal bodies. The following criteria are taken into account

assessment of the airport: assessment of the airport's size, flight, routes, screening procedures for trafficked goods, infrastructure [11].

Traffickers can exploit capacity problems, corruption and other problems within the air transport sector to move products. The problem is that penalties for smuggling wildlife and protected species are too low. In many cases, the same people, routes and mode of action are used in the smuggling process.

It is important to develop an appropriate system for managing high quality natural resources in order to ensure sustainable development and security in Poland, in the European Union and around the world [12].

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