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EXCERPTS

Europe's biggest wildlife crime: eight years of coordinated actions against eel trafficking

Florian Martin Stein[1,2] · **Andreea Troneci**[3] · **Jorge Jesus**[4] · **José Antonio Alfaro Moreno**[4]

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This report summarizes the results of Operation LAKE, a multi-annual operation aimed at dismantling the organized criminal groups involved in the illegal trade of European eels (*Anguilla anguilla*). The trade in European eel is strictly regulated by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and since 2010 there has been a total ban on trade across the EU's external borders. Profits associated with the illegal trade of European eels are estimated at 2–3 billion Euro annually (Europol, 2022a), and overall eel trafficking has been identified as the largest wildlife crime in the world (Europol 2021). The original internal analysis report (Europol 2023) is classified and not available to the public due to the risk of compromising the success of future operations. However, the authors wish to emphasize the importance of sharing condensed results, lessons learned and potential recommendations from operational activities.

The aim of this report is to enhance the understanding of a highly profitable form of organized crime and to promote cooperation between law enforcement and civil society. The multidisciplinary team of authors, two from law enforcement and two from academia, share the view that the fight against wildlife crime benefits greatly from the participation of civil society including academia. Accessibility and a degree

Florian Martin Stein and Andreea Troneci share the first authorship.

✉ Florian Martin Stein
f.stein@dafv.de

[1] Oxford Wildlife Trade Research Group, School of Social Sciences, Oxford Brookes University, Oxford OX3 0BP, UK

[2] Institute of Geoecology, Environmental System Analysis, Technische Universität Braunschweig, Langer Kamp 19c, 38106 Brunswick, Germany

[3] School of Social and Political Sciences, University of Glasgow, Glasgow G12 8QQ, UK

[4] Environmental Crime Team, European Serious and Organised Crime Centre, Europol, Eisenhowerlaan 73, The Hague, The Netherlands

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of transparency are key to making this possible. Environmental crime has been identified as one of the priorities of the EU Policy Cycle 2018–2021 and the EMPACT Cycle 2022–2025. Considering the success and impact of Operation LAKE for the European Multidisciplinary Platform Against Criminal Threats (EMPACT), we feel obliged to make this information available to European policymakers so as to inform them in advance of decisions on the fight against wildlife crime.

The information gathered for this report is the result of eight years of law enforcement operational activities discussed in light of academic publications.

Introduction

Environmental crimes are on the rise and pose a global threat to human health, food security, and economic stability, as well as threatening the survival of many species and ecosystems (e.g., Nellemannn et al. 2016; Wyatt 2022). The illegal trade in juvenile European eels (hereafter referred to as glass eels) of the species *Anguilla anguilla* has been identified as the largest wildlife crime in Europe in terms of sheer profit and total number of specimens traded (Europol 2021). Europol estimates that up to 300 million live glass eels (Europol 2018a) are trafficked annually to Asian aquaculture facilities, generating illegal profits of up to €3 billion in peak years (Europol 2022b). Glass eel trafficking as a wildlife crime phenomenon has been most comprehensively summarized to date in the 2020 edition of the World Wildlife Crime Report (UNODC 2020) and a chronological overview of early anti-eel trafficking operations (2011–2018) is provided by Kaifu et al. (2019).

The management and exploitation of the European eel (*Anguilla anguilla*) has been regulated by European legislation since 2007 (European Union 2007), and its trade across Europe's external borders has been completely banned since 2010. However, during Operation LAKE V to VII (2020–2023) alone, 268 criminal cases related to eel trafficking were reported to Europol.

Although other live stages as well as eel fillets are traded in violation with the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (e.g., Ely et al. 2023; Goymer et al. 2023; Nijman and Stein 2022), we will focus exclusively here on the lucrative trade in live glass eels, the earliest life stage present in the trade. In the early 2010s, the ban was largely unenforced by most member states, and the only early records of countermeasures came from the Servicio de Protección de la Naturaleza (SEPRONA) of the Spanish Guardia Civil (Guardia Civil 2012, 2014). This was followed in early 2016 by the first molecular evidence of eels being smuggled from the EU to Hong Kong (Stein et al. 2016). In response to the global increase in wildlife trafficking in general, EU member states adopted the Council Conclusions on the EU Action Plan against Wildlife Trafficking (European Union 2016), followed by the adoption of the resolution on the EU Action Plan by the European Parliament in November 2016 (European Parliament 2016). In addition, the Council of the European Union listed environmental crime as one of the priorities of the EU Policy Cycle (2018–2021) and the EMPACT Cycle (2022–2025) on organized and serious international crime (European Union 2017, 2021; Alfaro Moreno

2023), which are part of the European Multidisciplinary Platform Against Criminal Threats (EMPACT) (Europol 2022b).

Based on policy decisions taken since 2016, Europol has been mandated to lead the European fight against eel trafficking. In 2016, Europol launched Operation LAKE with the aim of dismantling the organized crime groups (OCGs; Europol 2017) involved in the trafficking of European eels outside Europe. During the course of the operation, the community not only grew in number, but also expanded horizontally to form a multidisciplinary approach involving a wide range of stakeholders from governmental institutions (police, judiciary, inspectorate and administration) to academia.

Methods

The annual operations, LAKE Zero to LAKE VII (2015/2016 to 2022/2023), are divided into three phases: (1) the preparation phase, (2) the operational phase, and (3) the post-operational phase. During the preparation phase, participants review and reflect on past operations to identify operational needs for the upcoming season. Under the umbrella of EMPACT, these needs are then translated into an Operational Action Plan (OAP) (Europol 2022b). The operational phase consists of three stages with different objectives: (1) combating the trade in glass eels to Asia, with the EMPACT Action Days (EADs) as the focal point; (2) identifying and tracing OCGs; and (3) tracing the commercial distribution of eel meat via DNA sampling. The post-operational phase starts with the compilation of the data submitted by the participants. After analysis by Europol, the participants are informed about the results. The main results are published in Europol's annual press releases (e.g., Europol 2018, 2021, 2022a). Further details on the methods used cannot be provided due to intelligence risks that could potentially jeopardize the success of future operations.

Results

Over the eight years of Operation LAKE, the number of participating countries and international agencies has increased sixfold from six during LAKE Zero to 36 during LAKE VII (Fig. 1). During the first iteration of the operation, the six participants consisted only of EU Member States and international organizations. However, since the second iteration, participants have been expanded to include countries from the Americas and Oceania. Other key performance indicators (KPIs) are the number of arrests and the number of eels seized. The number of arrests increased significantly from eight during the LAKE zero period to 154 during the LAKE III period, before decreasing for three consecutive years during the COVID pandemic. However, during the course of Lake VII (2022/2023), a record number of 256 individuals were arrested (Fig. 1). The number of eels seized over time appears to follow a very similar pattern. The number increased from approximately 8 million during LAKE zero to 17 million during LAKE III, before dropping dramatically during the COVID

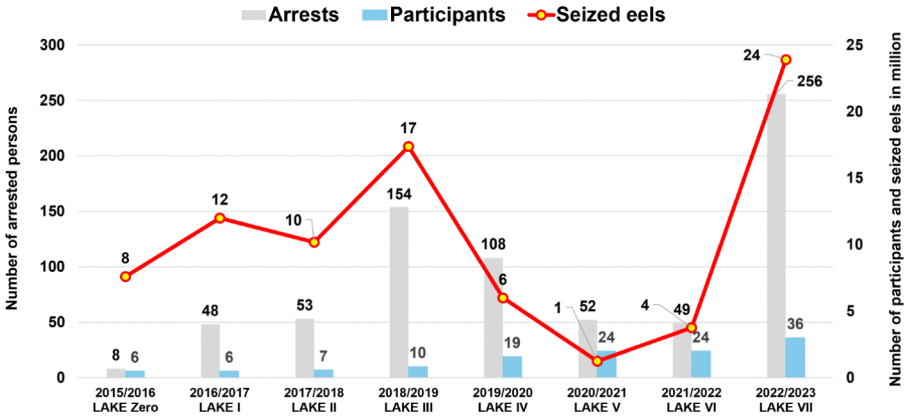

Fig. 1 Temporal evolution of three Operation LAKE key performance indicators: Participants, Arrests and Seizures (2015–2023). Source: Europol (2023). Operation LAKE Season 2022–2023. Internal Analysis Report. Figure created with Excel and Power Point

pandemic for a period of three years (LAKE V to LAKE VI). During LAKE VII, approximately 24 million eels were seized (Fig. 1).

Discussion

Operation LAKE VII (2022–2023) has set new standards in the fight against eel smuggling. This success can be explained by significant advances in the knowledge of smuggling routes and smugglers' modus operandi, increased cooperation between the actors involved, the integration of more advanced technologies (e.g., DNA analysis and surveillance) and finally, the implementation of stricter laws and associated penalties (Europol 2023). In particular, the implementation of stricter legal measures can be linked to a paradigm shift in organized crime that links the glass eel trade to financial crimes and crimes against human health. This new paradigm has resulted in increased penalties, reflecting a more holistic approach to addressing interrelated criminal activities.

However, the constantly evolving tactics of the smugglers require law enforcement authorities to constantly adapt and improve their strategies. Organized crime groups are exploiting the legality of the intra-EU glass eel market to engage in illegal trade and are taking advantage of the ability to operate in multiple jurisdictions to effectively evade law enforcement. They strategically navigate through Europe thus avoiding countries with more stringent control regimes. Criminal organizations source eels primarily from Western European estuaries, using various transit points throughout Europe, Africa and Western Asia.

Another challenge to effectively combating glass eel trafficking are the information gaps that prevent LEAs from gaining a full understanding of how poachers sell glass eels or how legally caught glass eels are diverted to illegal markets. These information gaps are underpinned by three main elements: Firstly, insufficient exchange of information by participants with Europol on ongoing investigations or their results.

This hampers the identification of patterns and trends, including the mapping of hot spots and new routes used for eel trafficking and reduces the potential assistance to Member States as well as the possibility of coordinated operational activities. Secondly, the lack of information exchange between EU member states due to different national priorities and even national strategies regarding the enforcement of national legislation (e.g. between source and transit countries) (Musing et al. 2018), which ultimately reduces awareness and the ability to take legal action against eel trafficking given the international component of this crime. Finally, there is an information gap regarding some of the routes used to smuggle glass eels from their last known point of departure from the EU to a third country being used as a transit point.

These obstacles lead to a series of implications for addressing the cross-border challenges associated with the illicit glass eel trade. First, enhancing international operational information sharing and cooperation is a critical step in facilitating a unified front against this type of crime. This includes sharing relevant information, promoting best practices and fostering collaboration to rapidly identify new threats and smuggling methods. It also implies the need for improved communication with specific regions, including Central and Eastern European countries, Asia, North Africa and West Africa, where new transit points are being established to circumvent stricter law enforcement in their countries of origin. In addition, a more united front against glass eel smuggling would also benefit from improved communication with consumer countries, as this would lay the groundwork for the potential involvement of such countries in any future anti-smuggling operations. Moreover, Regular evaluation of the strategies implemented and harmonization of national legislation among European Member States would benefit the overall implementation of the Eel Regulation (European Union 2007). These areas for improvement imply an urgent need to invest in capacity building and training for LEAs, focusing on standardized kits, forensic laboratories, specialized training in identification techniques, intelligence gathering and legal procedures. In this context, collaboration with academic institutions and research centers is encouraged to enhance research on glass eel conservation and smuggling prevention. In addition, public awareness campaigns would support the fight against glass eel smuggling by educating the general public, local fishery stakeholders, conservation groups and schools on the legality, traceability and sustainability of eels, as well as promoting a sense of responsibility and encouraging the reporting of suspicious activities when encountered.

From a more operational perspective, the establishment of random checkpoints and increased inspections along known smuggling routes, particularly at ports and airports, would also serve to deter glass eel smuggling (Gore et al. 2021). This approach aims to disrupt the illegal trade by targeting vessels, vehicles, cargo shipments, and individuals suspected of illegally transporting glass eels. Another recommendation would be to work with fisheries authorities, using their expertise knowledge and resources to increase the effectiveness of law enforcement efforts. These authorities also play a crucial role in advocating for tougher penalties for eel smuggling, cooperating with investigators an important factor in their work. In addition, given the lucrative nature of this type of wildlife trafficking, financial investigation tools are key to investigating such crimes. By examining bank records and other financial data, it is possible to identify key players in the illicit trade and disrupt the associated finan-

cial flows, thereby hampering the operational capabilities of OCGs involved in glass eel trafficking. Finally, international cooperation is essential, in particular through the exchange of information with Europol, as it creates a standardized information exchange environment which would ideally be independent of national systems.

Declarations

The authors declare that they have no conflict of interest.

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