

Wojciech Gotkiewicz*

The fish poaching problem in the Biebrza National Park

* Department of Agrotechnology, Agricultural Production Management and Agribusiness,
 University of Warmia and Mazury in Olsztyn;
 e-mail: wgot@uwm.edu.pl

Keywords:

Biebrza National Park, nature conservation, fish poaching

Abstract

This article discusses the issue of poaching in Biebrza National Park. This is one of the important but often overlooked factors influencing the species composition and abundance of fish in the Biebrza River and its tributaries. This article analyzes the documentation of the Biebrza National Park Guard in the Osowiec-Twierdza from 2007 to 2016. The obtained results show that the scale of the described phenomenon is serious and its methods of combating are not effective. It is also a serious shortcoming in the absence of mandatory analysis of fish found in poaching tools, which prevents proper estimation of losses both in economic and environmental terms.

© IOŚ-PIB

1. INTRODUCTION

Poland has 23 national parks that occupy around 1% of the country's territory. Pursuant to the provisions of the Nature Conservation Act,¹ national parks are priority nature reserves that should offer comprehensive protection to the natural resources within their boundaries. In practice, however, the majority of Polish national parks face numerous problems that adversely affect nature conservation goals, in particular the preservation of biological diversity.

The efforts made by countries to protect their natural resources are significantly undermined by poaching, and one of the greatest problems faced by the Biebrza National Park is fish poaching [Ginalski 2008, Hibszer 2013]. According to the authors of the report entitled "Najważniejsze problemy ochrony przyrody w Polsce" ("Key nature conservation problems in Poland"), poaching poses one of the greatest threats to nature conservation. In some areas, poaching leads to catastrophic depletion of fish stocks in streams and lakes, and the problem is exacerbated by the fact that poaching is widely tolerated in Poland. According to Kotowska and Duda [2012], the losses sustained because of poaching may appear to be minor in the local dimension, but on a global scale,

poaching has disastrous consequences that significantly jeopardize aquatic habitats.

Poaching leads to the loss of juvenile fish, and illegal fishing often takes place in protected locations and in critical developmental periods during the life cycle of fish. Fishing in protected areas can induce changes in sensitive habitats and lead to the loss of the most valuable species in Poland and the European Union [Zębek, Napiórkowska-Krzebietke 2015; Kujawa i wsp., 2013].

Unlike other types of poaching, fish poaching has not been comprehensively researched to date, not so much in the legal context as in view of its influence on aquatic ecosystems in legally protected areas, particularly in national parks.

2. MATERIALS AND METHODS

The Biebrza National Park has a total area of nearly 60,000 ha, and it is the largest national park in Poland. The main aims of the Biebrza National Park are

- to protect and preserve the most vulnerable wetland habitats in Europe,
- to preserve landscapes of unique scenic beauty,
- to protect rare plant communities and animal species, in particular nesting and migrating wetland birds and selected species of animals.

¹ Dz.U. 2004 nr 92 poz. 880, Ustawa z dnia 16 kwietnia 2004 r. o ochronie przyrody.

The Biebrza National Park is a unique nature area in Poland and the world. It is one of the few national parks that encompass an entire river, from the source to the mouth, and preserve the biological diversity of the longitudinal and transverse axes of the river valley [Batyk 2012, citing Dyrz A., Werpachowski C. *Przyroda Biebrzańskiego Parku Narodowego*, Ed. BPN, Osowiec 2005, p. 333].

The Biebrza River spans the length of 156.5 km, and the combined length of other rivers flowing through the Biebrza National Park is estimated at 107 km [Jakatierzyńczuk-Rudczyk 2012]. Biebrza and its tributaries are colonized by 45 fish species, the highest number in any Polish national park. Six species are protected: weatherfish (*Misgurnus fossilis*), bitterling (*Rhodeus sericeus*), European bullhead (*Cottus gobio*), Siberian bullhead (*Cottus poecilopus*), spined loach (*Cobitis taenia*), and stone loach (*Barbatula barbatula*) [Żołnierowicz et al., 2013]. Three fish species inhabiting the Biebrza National Park have been listed in Annex II to the Habitats Directive. They are bitterling (*R. sericeus*), European bullhead (*C. gobio*), and weatherfish (*M. fossilis*) [Kujawa i wsp. 2013].

Recreational fishing in the Biebrza River is permitted, but only in the following designated areas:

- section of the Biebrza River between the park's northern border and the railroad bridge in Osowiec, including oxbow lakes,
- section of the Biebrza River between the confluences with Rivers Wissa and Narew,
- section of the Jęgrznia River between the park's northern border and the bridge in Ciszewo,
- section of the Rudzki Canal between the railroad bridge in Osowiec to the Biebrza River,
- section of the Sidra River between Kolonia Kropiwna to the Biebrza River,
- section of the Brzozówka River between Kolonia Karpowicze to the Biebrza River,
- section of the Wissa River between Kolonia Łoje-Awissa to the Biebrza River.²

Fishing is prohibited in the remaining sections of the Biebrza River and oxbow lakes.

The aim of this study was to analyze the negative influence of fish poaching in the Biebrza National Park on the biological diversity of the Biebrza River Valley. The analysis was conducted based on the information and documentation supplied by Biebrza National Park Ranger Service for 2007–2016.

3. RESULTS AND DISCUSSION

Poaching is a concept that is difficult to define. According to Article 4 Section 3 of the Polish Hunting Law, poaching is the illegal capture of wildlife that does not involve

² Zarządzenie nr 20/2014 Dyrektora Biebrzańskiego Parku Narodowego z dnia 23 grudnia 2014 roku w sprawie Regulaminu udostępnienia Biebrzańskiego Parku Narodowego do amatorskiego połowu ryb.

hunting or violates hunting regulations. Fish poaching has never been formally defined in the Polish law; therefore, its impact is not easy to determine. For practical purposes, fish poaching can be simply defined as illegal fishing. In the Polish legal system, poaching has always been a punishable offence that had been initially classified as a misdemeanor, then a crime, and, subsequently, a misdemeanor or a crime depending on the type of catch [Radecki 2011a].

In general, the following actions constitute fish poaching:

- fishing without a license,
- fishing during protection periods,
- catching fish outside the specified size,
- failure to observe catch limits.

According to Szpetkowski [2013], the main causes of poaching are:

- custom and tradition, including in families and in entire villages where poaching is often conducted on a large scale,
- poverty and the availability of an attractive food source,
- supplementation of income,
- the need for entertainment in rural areas outside the field work season,
- trophy hunting, including by affluent members of the local community who feel the need to boast about their exploits, even if illegal.

Acts of poaching are also committed by nonresidents, mainly tourists.

In Poland, game and fish poaching is regulated by several acts of law.³ In national parks, fishing is additionally

³ Rozporządzenie Ministra Rolnictwa i Rozwoju Wsi z dnia 7 marca 2014 r. w sprawie szczegółowych zasad i warunków współdziałania Państwowej Straży Rybackiej z Policją

Obwieszczenie Marszałka Sejmu Rzeczypospolitej Polskiej z dnia 1 lipca 2005 r. w sprawie ogłoszenia jednolitego tekstu ustawy - Prawo łowieckie.

Obwieszczenie Marszałka Sejmu Rzeczypospolitej Polskiej z dnia 30 marca 2002 r. w sprawie ogłoszenia jednolitego tekstu ustawy - Prawo łowieckie.

Rozporządzenie Ministra Rolnictwa i Gospodarki Żywnościowej z dnia 23 grudnia 1997 r. w sprawie określenia szczegółowych zasad i warunków współdziałania Państwowej Straży Rybackiej z Policją.

Rozporządzenie Ministra Ochrony Środowiska, Zasobów Naturalnych i Leśnictwa z dnia 23 czerwca 1997 r. w sprawie współdziałania Państwowej Straży Łowieckiej z Policją i Polskim Związkiem Łowieckim.

Rozporządzenie Ministra Ochrony Środowiska, Zasobów Naturalnych i Leśnictwa z dnia 17 marca 1997 r. w sprawie wysokości ekwiwalentu za zwierzynę bezprawnie pozyskaną.

Ustawa z dnia 27 września 1996 r. o zmianie ustawy o rybactwie śródlądowym.

Ustawa z dnia 13 października 1995 r. Prawo łowieckie.

Zarządzenie Ministra Ochrony Środowiska, Zasobów Naturalnych i Leśnictwa z dnia 5 września 1995 r. zmieniające zarządzenie w sprawie cennika na zwierzynę bezprawnie pozyskaną.

Zarządzenie Ministra Ochrony Środowiska, Zasobów Naturalnych i Leśnictwa z dnia 27 listopada 1991 r. w sprawie cennika na zwierzynę bezprawnie pozyskaną.

Zarządzenie Ministra Leśnictwa i Przemysłu Drzewnego z dnia 28 grudnia 1982 r. w sprawie cennika na zwierzynę bezprawnie

Table 1. Fish poaching offences in the Biebrza National Park in 2007–2016.

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Offences	6	8	7	4	3	7	5	8	3	1
Equipment (pieces)	218	196	284	147	295	390	266	257	122	119

Source: Documentation of the Biebrza National Park Ranger District in Osowiec-Twierdza.

Table 2. Poaching equipment seized in the Biebrza National Park in different months between the years 2007 and 2016.

Month	1	2	3	4	5	6	7	8	9	10	11	12
Equipment (pieces)	189	144	190	304	275	272	205	120	102	159	126	205
Mean	19	14	19	30	27	27	20	12	10	16	13	20

Source: Documentation of the Biebrza National Park Ranger District in Osowiec-Twierdza.

regulated by the provisions of the Nature Conservation Act and Conservation Plans (if available). However, unlike in other countries, such as Germany and the Czech Republic, poaching is not an offense punishable under the Polish Penal Code, which minimizes the deterrent effect [Radecki 2011b].

In 2007–2016, a total of 52 persons had been detained on fish poaching charges in the Biebrza National Park, which produces an average of 5 offences per year. Fish poaching could appear to be a minor issue if this analysis were to be limited to the above figures. However, the list of confiscated poaching equipment testifies to the seriousness of the problem. In the discussed period, park rangers seized a total of 2294 pieces of poaching equipment (nets, strangle snares, snagging hooks, electrofishing tools, lift nets, trawls), that is, nearly 230 items per year, on the assumption that all poaching tools have been eliminated (Table 1). Such high discrepancies can probably be attributed to the fact that rangers often discover poaching equipment but are unable to detain its owners. Kotowska and Duda [2012] analyzed fish poaching cases tried before the District Court in Olsztyn and reported that many poachers rely on several illegal fishing methods and use various types of equipment.

Fish poaching is a year-round problem in the Biebrza National Park, and it peaks in spring and summer, which coincides with the tourist season (Table 2). Similar observations were made by Koprowska and Endler [2012] who reported that the incidence of fish poaching is influenced by weather, tourist traffic, and demand for fish, in particular the demand for game fish species, which is higher during the tourist season. The extent of illegal fishing has been investigated by Mickiewicz [2016], who surveyed 60 National Fishing Guard officers and concluded

that fish poaching is the most common illegal fishing activity whose negative consequences are second only to organized poaching.

Such high discrepancies between the number of tried offenders and the number of seized equipment indicate that anti-poaching operations in the park are not highly effective. The above could result from the park's extensive area and the relatively small number of park rangers. The problem is additionally exacerbated by the fact that fish poaching is socially accepted and local communities are reluctant to cooperate with the park's rangers in this respect.

In 2007–2016, the park's rangers imposed 483 fines totaling PLN 73,600 (Table 3). The number of interventions that end with a fine continues to increase, which indicates that poaching is a growing problem that will adversely influence the parks' ichthyofauna.

Poaching emerges as an evident problem in view of the fines levied under the provisions of the Nature Conservation Act (Table 4). In the analyzed period, most fines were issued for violating the ban on fishing and catching other aquatic organisms, excluding in locations designated in a Conservation Plan or protective measures (Art. 15, Section 1, Point 14 of the Nature Conservation Act). The remaining offences delineated by the above act were far less frequent, including

- Art. 15, Section 1, Point 5—acquisition, destruction, or intentional damage of plants and mushrooms;
- Art. 15, Section 1, Point 6—use, destruction, intentional damage, contamination, and modification of natural objects, areas, resources, formations, and components;
- Art. 15, Section 1, Point 14—pedestrian traffic, cycling, skiing, and horseback riding, excluding ski trails and runs designated by the manager of a national park and in nature reserves—by the regional manager for environmental protection;

pozyskaną.
Zarządzenie Ministra Leśnictwa i Przemysłu Drzewnego z dnia 17 listopada 1975 r. w sprawie cennika na zwierzynę bezprawnie pozyskaną.

Table 3. Fines levied in 2007–2016.

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Number of fines	27	34	32	36	26	83	64	95	60	26
Total value [PLN in thousands]	2.6	3.1	2.15	3.05	2.6	10.3	11.1	20.65	13.15	7.95
Average fine [PLN]	96.3	91.2	67.2	84.7	100	124.1	173.4	222	219.2	305.8

Source: Documentation of the Biebrza National Park Ranger District in Osowiec-Twierdza.

Table 4. Fines per type of offence in 2007–2016.

Article of Nature Conservation Act	Art. 15, Section 1, Point 5	Art. 15, Section 1, Point 6	Art. 15, Section 1, Point 14	Art. 15, Section 1, Point 15	Art. 15, Section 1, Point 18	Art. 15, Section 1, Point 23
Number of fines	17	2	341	4	15	3

Source: Documentation of the Biebrza National Park Ranger District in Osowiec-Twierdza.

- Art. 15, Section 1, Point 18—vehicular traffic outside public roads and roads on land that is owned or leased by national parks under a perpetual usufruct agreement, designated by the manager of a national park, and in nature reserves—by the regional manager for environmental protection;
- Art. 15, Section 1, Point 21—use of motor boats and other power-driven craft, water and motor sports, swimming, and sailing, excluding bodies of water and trails designated by the manager of a national park and in nature reserves—by the regional manager for environmental protection;
- Art. 15, Section 1, Point 23—camping, excluding locations designated by the manager of a national park and in nature reserves—by the regional manager for environmental protection;
- Art. 15, Section 1, Point 27—organized sports and recreational events in locations designated by the manager of a national park and in nature reserves—by the regional manager for environmental protection (Table 2).

The species composition and the number of fish that are found in seized fishing equipment do not have to be registered, which significantly obstructs the estimation of the damage caused by poaching in the Biebrza National Park. The above measures are initiated only when the perpetrators are caught in the act of poaching with the aim of presenting evidence in court.

4. CONCLUSIONS

The Biebrza National Park features water bodies where fish diversity and abundance are among the highest in Polish national parks. The Biebrza River with its oxbow lakes and tributaries is a highly valuable ecosystem in Poland and the European Union, and it has been included in the Natura 2000 network. However, similar to other nature conservation areas in Poland, the Biebrza National Park is confronted with many problems that have adverse effects on habitat and species protection. Fish poaching is one of such problems. An analysis of the data provided by the Biebrza National Park Ranger Service indicates that fish poaching poses a growing problem and that the implemented anti-poaching measures are not highly effective. There are no legal procedures for estimating environmental losses sustained because of poaching. The number and weight of illegally captured fish are recorded only if the perpetrators are caught in the act of poaching. At present, only the market value of confiscated fish is determined, which prevents reliable estimation of environmental damage. A detailed analysis of seized poaching equipment should be an obligatory procedure for the park's ranger service. Local communities should also be actively involved in anti-poaching measures. The decline in fish populations in the Biebrza River will decrease the park's attractiveness for tourists, and it will compromise the local communities' ability to derive additional income from tourism.

REFERENCES AND LEGAL ACTS

- BATYK I, 2012. Zagospodarowanie turystyczne obszarów chronionych na przykładzie Biebrzańskiego Parku Narodowego, Infrastruktura i Ekologia Terenów Wiejskich, Nr 2/III/2012, PAN, Oddział w Krakowie, s. 207–216
- Dz.U. 2004 nr 92 poz. 880, Ustawa z dnia 16 kwietnia 2004 r. o ochronie przyrody
- GINALSKI A. 2008. Aktualne problemy zarządzania polskimi parkami narodowymi. Dokumentacja Geograficzna 37, s. 172-178
- HIBSZER A. 2013. Parki narodowe w świadomości i działaniach społeczności lokalnych. Uniwersytet Śląski, Katowice, s. 111
- JAKATIERYŃCZUK-RUDCZYK E. 2012. Biebrzański Park Narodowy (w:) Wody w parkach narodowych Polski, Bogdanowicz R., Jokiel P., Pociask-Karteczka J. (red.) IGI GP UJ, KH PTG, Kraków, s. 51-52
- KOPROWSKA K., ENDLER Z. 2012. Rejestracja szkód w środowisku przyrodniczym na przykładzie działalności Państwowej Straży Rybackiej w Olsztynie. Ochrona Środowiska i Zasobów Naturalnych, nr 51, s. 106-118
- KOTOWSKA M., DUDA M. 2012. Przestępstwa kłusownicze na wodach śródlądowych na przykładzie spraw w Sądzie Rejonowym w Olsztynie (w:) Prawo karne i kryminologiczne aspekty ochrony środowiska. Pływaczewski W. (red.) Wyd. Wydawca: Katedra Kryminologii i Polityki Kryminalnej Wydział Prawa i Administracji Uniwersytet Warmińsko-Mazurski w Olsztynie, s. 265-279
- KUJAWA R. GLIŃSKA-LEWCZUK K., SKRZYPCZAK A. 2013. Plan zadań ochronnych dla obszaru natura 2000 Dolina Biebrzy PLH200008. Zeszyt Nr 5 Dokumentacja dla gatunków ryb będących przedmiotem ochrony. Opracowano w ramach realizacji projektu POIS.05.03.00-00-277/10 „Przygotowanie dwóch projektów planów zadań ochronnych dla obszarów Natura 2000 SOO Dolina Biebrzy i OSO Ostoja Biebrzańska”, współfinansowanego ze środków Programu Operacyjnego Infrastruktura i Środowisko, w ramach działania 5.3 priorytetu V. Warszawa, Białystok, Olsztyn, Suwałki, s. 87
- MICKIEWICZ M. 2016. Ekologiczne, ekonomiczne i społeczne aspekty rybacko-wędkarskiego gospodarowania szczupakiem *Esox lucius* L. Komunikaty Rybackie 3(152), s. 20-26
- Najważniejsze problemy ochrony przyrody w Polsce. Państwowa Rada Ochrony Przyrody, Warszawa 15 maja 2007.
- RADECKI W. 2011a. Oceny prawne kłusownictwa rybackiego. Prokuratura i Prawo 9, s. 5-26
- RADECKI W., 2011b. Prawo karne środowiska. Cz. II. Struktura polskiego prawa karnego środowiska. JEcolHealth, vol. 15, nr 4, s. 185
- SZPETKOWSKI K. 2013. Etyka a kłusownictwo. Investigationes Linguisticae vol. XXVIII, s. 113-125
- ZĘBEK E., NAPIÓRKOWSKA-KRZEBIETKE A. 2015. Nielegalny połów ryb w aspekcie prawnokarnym i środowiskowym, Studia Prawnoustrojowe nr 29, 245-258
- ŻOŁNIEROWICZ K., PRZYBYLSKA K., URBAŃSKA M., ANDRZEJEWSKI W., MAZURKIEWICZ W. 2013. Ichtyofauna na obszarach chronionych. Studia i Materiały CEPL w Rogowie R. 15. Zeszyt 34 / 1 /, s. 83-94