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Hunting statistics of *Lutra lutra* in the Bohemian Lands from the second half of the 19th century and the first half of the 20th century (Carnivora: Mustelidae)

Lovecké statistiky vydry říční (*Lutra lutra*) v českých zemích ve druhé polovině 19. století a v první polovině 20. století (Carnivora: Mustelidae)

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Abstract. The presence of the Eurasian otter (*Lutra lutra*) in the wild of the Czech Republic has long been the subject of discussions between the nature conservation on the one hand and the production and sport fishermen on the other. The methodology of obtaining data on the otter abundance is one of the controversial issues as estimates of numbers presented by each party are vastly different, with nature conservationists reporting significantly lower numbers of otters than the fishermen. Therefore, this paper presents statistically recorded data on the development of harvest from the past times, obtained from both published and unpublished sources. The numbers of catches at least indicate the size of the former population and its changes.

Key words. Eurasian otter, hunting statistics, Czech Republic.

The river otter, *Lutra lutra* (Linnaeus, 1758), has long been among the intensively hunted animals, primarily due to the composition of its food, in which fish predominate (POLEDNÍK et al. 2007), and the otter is considered a serious pest. The secondary reason was the effort to obtain the highly priced otter fur (ANDRESKA & ANDRESKOVÁ 1993). The otter meat was also consumed, even as a fasting dish (KOKEŠ 1960, ANDĚRA & KOKEŠ 1994).

There are no national statistics of the otter harvests until the second half of the 19th century. At that time, the Prague City Council began collecting data on catches of a number of game species. A continuous data set from 1857 to 1864 has been preserved with regard to otters, in handwritten tabular overviews. A tabular overview of two estates that have long archived the data on catches, namely the Třeboň estate, with a long fishpond farming tradition, and the Český Krumlov estate, with fewer ponds but a large part of the upper Vltava river, including tributaries, help form an idea of catch developments (Table 1).

The first culmination of otter catches occurred on both estates after the purchase (1660, Třeboň), or after the patrimony (1719, Český Krumlov) of the House of Schwarzenberg (Fig. 1). Hunting pressure

Table 1. Catches of otters in the South Bohemian estates of Třeboň and Český Krumlov in 1681–1905
 Tab. 1. Úlovky vyder na jihočeských panstvích Třeboň a Český Krumlov v letech 1681–1905

years / roky	estate / panství	Třeboň	Český Krumlov
1681–1685		2	–
1686–1690		1	–
1691–1695		1	–
1696–1700		9	–
1701–1705		52	–
1706–1710		50	–
1711–1715		33	–
1716–1720		54	–
1721–1725		36	–
1726–1730		14	70
1731–1736		23	29
1736–1740		21	12
1741–1745		20	7
1746–1750		19	4
1751–1755		13	7
1756–1760		19	–
1761–1765		17	–
1766–1770		13	11
1771–1775		11	10
1776–1780		9	5
1781–1785		6	10
1786–1790		4	1
1791–1795		4	–
1796–1800		9	–
1801–1805		4	9
1806–1810		12	3
1811–1815		14	6
1816–1820		9	2
1821–1825		4	1
1826–1830		5	0
1831–1835		9	0
1836–1840		18	3
1841–1845		14	12
1846–1850		26	7
1851–1855		13	7
1856–1860		32	15
1861–1865		34	9
1866–1870		32	12
1871–1875		34	25
1876–1880		26	28
1881–1885		65	32
1886–1890		32	75
1891–1895		18	49
1896–1900		27	–
1901–1905		28	–
total / úhrnem		896	461

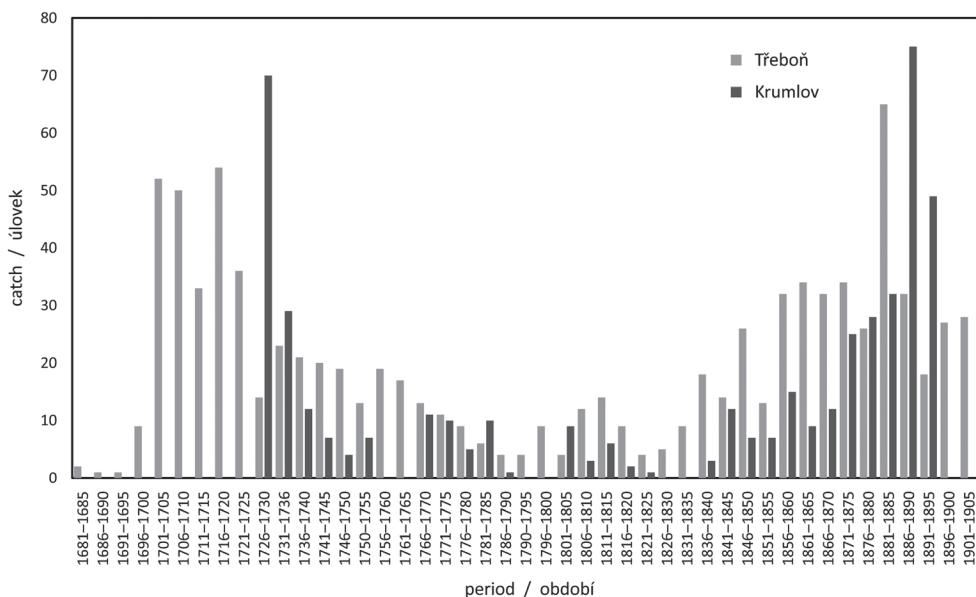


Fig. 1. Harvests of the otters in the South Bohemian estates of Český Krumlov and Třeboň (based on the data from Table 1).

Fig. 2. Úlovky vyder na jihočeských panstvích Český Krumlov a Třeboň (znázorněny údaje z tab. 1).

on the number of otters was an accompanying phenomenon of the consolidation of conditions. After that, the catches dropped for about a hundred years. The second peak of otter catches occurred in the second half of the 19th century; on the Třeboň estate between 1881 and 1885, with the catch of 65 individuals reported, and in Krumlov five years later, i.e. between 1886 and 1890, with 75 individuals caught. Then, in Třeboň, the catches decreased and in Krumlov no records are available to demonstrate the development trend [data sources: Třeboň – HESKE (1909), Český Krumlov – SAITZ (1898)].

The catches in the territory of the Kingdom of Bohemia (excluding Moravia and Silesia) in 1857–1864 oscillated between 109 and 189 otters, with the annual average of 147 individuals (Table 2).

More complex data are provided by state-administered statistics, compiled in the Austrian part of the Austrian-Hungarian Empire in the period 1874–1914 (Table 3). The data were then transparently published in the Statistical Yearbook of the Ministry of Ploughing in Vienna (ANONYMOUS 1875–1915). For clarity, we comment on the data obtained from the excerpt per individual decades, with the proviso that, to our detriment, the data are incomplete (Fig. 2). The graph shows that the number of otters caught

Table 2. Overview of the otter harvests in the Kingdom of Bohemia in 1857–1864

Tab. 2. Přehled úlovků vydry v Českém království v letech 1857–1864

year / rok	1857	1858	1859	1860	1861	1862	1863	1864
numbers / počty	157	189	131	146	158	137	109	149

Table 3. Numbers of harvested otters reported in particular provinces of the Bohemian Lands in 1874–1914
 Tab. 3. Počty ulovených vyder hlášených z jednotlivých českých zemí v letech 1874–1914

year \ province rok \ země	Bohemia Čechy	Moravia Morava	Silesia Slezsko	total úhnm
1874	73	4	0	77
1875	139	36	5	180
1876	129	45	11	185
1877	220	55	6	281
1878	157	36	79	272
1879	204	79	6	259
1880	190	128	2	320
1881	253	57	16	326
1882	339	71	15	425
1883	255	85	22	362
1884	283	105	24	412
1885	261	148	35	444
1886	275	68	41	384
1887	332	208	30	570
1888	314	243	28	585
1889	306	112	34	452
1890	291	80	28	399
1891	225	113	23	361
1892	253	234	32	519
1893	489	–	–	
1894	–	–	–	
1895	239	75	16	330
1896	257	76	27	360
1897	388	111	27	526
1898	302	75	31	408
1899	322	70	–	
1900	238	70	53	361
1901	228	103	34	365
1902	170	70	38	278
1903	221	127	32	380
1904	185	131	15	331
1905	163	153	43	359
1906	218	81	38	337
1907	246	122	27	395
1908	181	142	16	339
1909	131	66	18	215
1910	166	77	14	257
1911	170	52	17	239
1912	236	334	15	585
1913	357	50	24	431
1914	71	98	12	181

grew predominantly in the period 1874–1888. In 1887, 570 caught otters were reported, while in 1888, there were 585 individuals caught. At the end of the recorded period, in 1912, the numbers reached 585 individuals once again. Such high numbers have not been reported in the following years, clearly due to

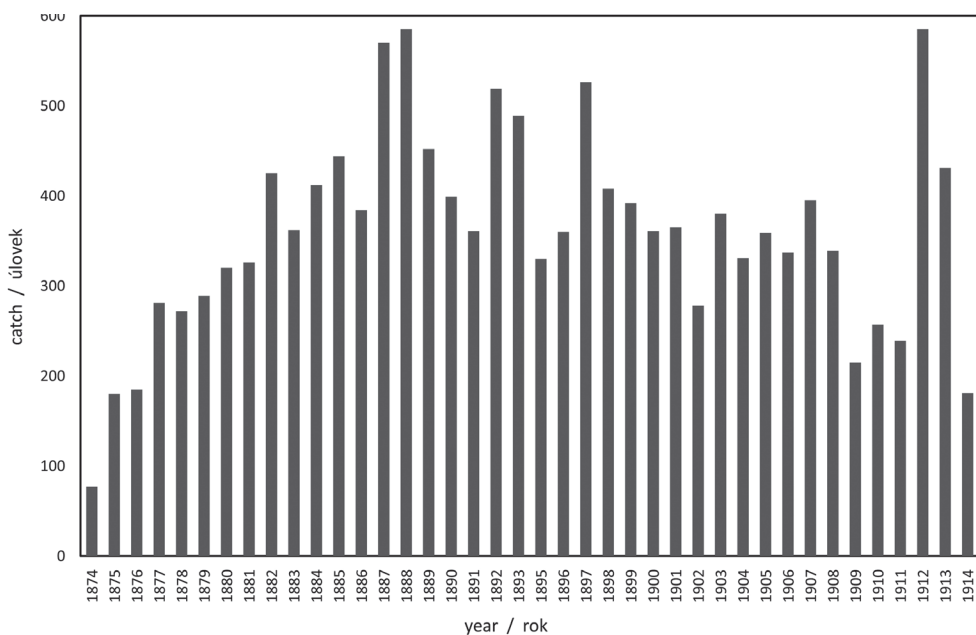


Fig. 2. Annual otter harvests in the current territory of the Czech Republic in 1874–1914. Based on the *Statistisches Jahrbuch des k. k. Ackerbau-Ministeriums, Forst- und Jagd-Statistik* [Statistical Yearbook of the Imperial Royal Ministry of Tillage, Forestry and Hunting Statistics]. Complemented and revised according to SCHWENK (1985).

Obr. 2. Roční úlovek vyder na současném území České republiky v letech 1874–1914. Údaje převzaty ze *Statistisches Jahrbuch des k. k. Ackerbau-Ministeriums, Forst- und Jagdstatistik* [Statistická ročenka Císařského královského ministerstva orby, Lesnická a lovecká statistika]. Doplněno a revidováno podle SCHWENKA (1985).

the weakening of the population through long-term hunting. In the 1874–1883 decade, a gradual increase in the number of otters caught is clearly visible. This is probably related to the resumption of productive fisheries and efforts to protect farmed fish. One-year data for Silesia are missing (1883). The total catch for this decade was 2,379 individuals. In the 1884–1893 decade, the number of catches increased, with a total of three figures in excess of five hundred. One-year data for Silesia are missing (1893). The total

Table 4. Overview of the average harvests in the Bohemian Lands per four particular (10–11 year) periods of 1874–1914

Tab. 4. Přehled průměrných úlovků vyder v českých zemích ve čtyřech 10–11 letých obdobích let 1874–1914

period / období	1874–1883	1884–1893	1894–1903	1904–1914
average annual harvest / průměrný roční úlovek	237.9	412.9	295.8	333.5

Table 5. Numbers of harvested otters reported in particular provinces of the Bohemian Lands in 1924–1937; harvests from the period 1924–1929 were taken from ANDĚRA & KOKEŠ (1994)

Tab. 5. Počty ulovených vyder hlášených z jednotlivých českých zemí v letech 1924–1937; úlovky z období 1924–1929 podle ANDĚRY & KOKEŠE (1994)

year \ province rok \ země	Bohemia Čechy	Moravia Morava	Silesia Slezsko	total úhrnem
1924	72	247	2	321
1925	83	82	2	187
1926	189	66	2	237
1927	64	38	2	104

year \ province rok \ země	Bohemia česká	Moravia-Silesia moravskoslezská	total úhrnem
1928	83	26	109
1929	26	45	87
1933	99	44	143
1934	104	23	127
1935	81	–	
1936	57	–	
1937	44	–	

catch for this decade was 4,129 individuals. During this decade, the killing of otters culminated. In the 1894–1903 decade, the number of catches decreased. The relevance of the data is compromised by the lack of records from Silesia for the years 1894 and 1899. The total catch for this decade was 2,958 individuals. In the eleven-year period of 1904–1914, once again, the number of catches increased, with one case (1912) of reaching a figure well over five hundred. The total catch for this period was 3,669 individuals. The decade averages of catches show a significant increase in the 1884–1893 period (Table 4), after which they clearly decrease.

The data presented by ANDĚRA & KOKEŠ (1994) for the years 1924–1929 show a declining trend in the number of catches in the Bohemian Lands (Table 5). From 1928 on, the data for Moravia and Silesia are presented combined, since the two provinces were joined into one unit that year (Moravian-Silesian Land). The numbers in Silesia decreased to only two individuals per year in the four specifically listed years. Officially compiled and published data for the period 1933–1937 (ANONYMOUS 1935, 1936, 1937, 1938, 1939) indicate another gradual declining trend in the number of catches for the Bohemian Lands (Table 5); the data for the Moravian-Silesian Land cannot be interpreted at all. The yearbook was published with a delay; the data for the years 1938 and 1939 were no longer published due to the establishment of the Protectorate of Bohemia and Moravia. In 1941, legal otter hunting was prevented by law.

Primary data from archives and published yearbooks were collected (the list and locations of archived data are provided in Archive Records), compared and complemented from the work of SCHWENK (1985), and from the work of ANDĚRA & KOKEŠ (1994). Data on catches of otters in the provinces that form the current territory of the Czech Republic have been already published several times. Our review offers data in so far the most complete form, including a complete list, locations and details of archived data. The relevance of the data can be described as follows: The source was an official, state-organised data collection for the Ministry of Agriculture. Otters caught illegally or caught legally by the staff and subsequently unreported were, naturally, omitted from the statistics of the entire described period. Efforts to sell the valued otter fur directly could motivate the practice of not reporting the catches. The number of such catches cannot be estimated, but it probably was not too high.



Fig. 3. An exhibition promoting the extermination of otters was installed at the Jubilee Exhibition in Prague in 1891. According to ANDĚRA & KOKEŠ (1994), it was at the initiative of the Fishermen's Association in Louny (NW Bohemia). Fifty-one otter skulls were used to install the inscription *Smrt vydrám* (*Death to Otters*). The photograph by the unknown author was used by STANĚK (1941), by coincidence, in the year when the otter received permanent legal protection in the Protectorate of Bohemia and Moravia.

Obr. 3. Výstavní expozice nabádající k hubení vyder umístěná na Jubilejní výstavě v Praze roku 1891. Podle ANDĚRY & KOKEŠE (1994) se jednalo o nápad Rybářského sdružení v Lounech. Padesát jedna vydřích lebek bylo užito k sestavení nápisu *Smrt vydrám*. Fotografie od neznámého autora byla použita STANĚKEM (1941), shodou okolností v roce, kdy vydra v části českých zemí (Protektorátu Čechy a Morava) získala celoroční hájení.

Fluctuations in the number of catches between particular years can be partly explained by the climatic course of particular winters. Snowy winters with frequent snow coverage renewals make recognising the presence of otters, resulting in their subsequent catching, easier.

The data for Bohemia and Moravia were supplemented by a comparison of the literature and preserved archive records. Missing data for Silesia are not known. The absence of the relevant tables in the Provincial Archives in Opava and in the literature may have been caused by a failure to deliver the data to Vienna due to clerical indifference.

The collection of statistical data mainly shows the development of catches of otters in 41 years at the turn of the 19th and 20th centuries, further comparing it with the preserved data from two South Bohemian estates. The growing number of catches clearly shows the increasing hunting pressure on the otter populations. Its causes are suggested by ANDRESKA & ANDRESKOVÁ (1993) and ANDĚRA & KOKEŠ (1994). The sources agree that during this particular period, the effort to produce fish in both ponds and rivers grew. The foundations of modern fishpond farming were laid at that time by the director of the Třeboň estate, Josef ŠUSTA. Professor Antonín FRIČ long sought to strengthen the presence of the Atlantic salmon in the Elbe river system (ANDRESKA 2010). At the same time, the era of sport fishing began, with trout and salmon hatcheries used to stock the streams. The aversion of sport fishermen towards otters is well expressed in the photograph from the exhibition held in 1891 (Fig. 3, after STANĚK 1941). The presence of otters in aquatic ecosystems collided with the aforementioned objectives of fish farmers, and the otter was, therefore, hunted intensively. In fact, much more intensively than in the previous era. Efforts to control the otter population size by fishermen were complemented by changes in the environment, especially the channelization of rivers and the discharge of industrial sewage (ANDĚRA & KOKEŠ 1994).

To our detriment, statistical data ceased to be collected in the period after the outbreak of World War I in 1914. The renewal of the collection and publication of the data related to hunting happened long after the establishment of the independent Czechoslovakia in 1918. A period of documented decline in catches after the World War I followed (ANDĚRA & KOKEŠ 1994), when large land holdings were divided as a result of a nationwide land-owning reform. Consequently, the boundaries of hunting grounds changed and statistics were, evidently, difficult to keep the same way as in the previous period.

Despite their incompleteness, the cited statistics show the numbers of otters which could be caught during the period when the otter eradication efforts culminated (585 individuals in 1888), and at the time when the otter population was significantly weakening (127 individuals in 1934). Trying to estimate the size of the population at that time from catch data would be too speculative.

Otter hunting was then completely banned by the Government Hunting Regulations No. 127 and 128 (ANONYMOUS 1941a, b) at the time of the Nazi occupation of the Bohemian Lands (Protectorate of Bohemia and Moravia). This ban was respected by the subsequent legal norms related to hunting (Game Management Laws 225/47 and 23/1962; ANONYMOUS 1947, 1962). As a result, the otter was completely excluded from the official hunting statistics.

SOUHRN

Přítomnost vydry říční v přírodě ČR je dlouhodobě předmětem diskuzí mezi ochranou přírody na straně jedné a rybaří produktivními i sportovními na straně druhé. Jedním ze sporných momentů je i metodika získávání údajů o početnosti, přičemž odhady početnosti oběma stranám sporu vycházejí povážlivě odlišně, kdy ochránci přírody hlásí početnost vyder výrazně nižší. Proto autoři předkládají statisticky vykázaná data vývoje úlovků z minulých dob, získaná z publikovaných zdrojů i nepublikovaných pramenů. Početnost úlovků alespoň naznačuje početnost někdejší populace a její kolísání.

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