Czech Fishing Union

Socioeconomic Study of Sport Fishing in the Czech Republic

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Socioeconomic Study of Sport Fishing in the Czech Republic

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Goal of the Study

Sport fishing in the present highly technical and global world is more and more understood to be an optimal form of active rest of human in close contact with nature. There is a worldwide increasing tendency in interest in this activity which has, apart from utilization on its own and from surface water management, also a whole series of social and economic linkages. In the USA for example, country with the most widespread sport fishing, 20% of population deal with this hobby. This country is the biggest market for fishing tackle producers and, together with Canada, also the most sought destination of sport fishing tourism. Sport fishing tourism, either freshwater or marine, represents an important economic income for many developing countries of Africa, Asia and South America.

However, there are several European countries with traditionally strong interest in sport fishing also (e.g. Great Britain, France, Italy), and there are many attractive sport fishing areas as well (Ireland, Sweden, Norway, Finland, Spain, Slovenia, Croatia, Romania, Ukraine). Compared within the Europe, the position of Czech Republic in the frame of sport fishing does not seem to be bad. With its number of ca. 330 000 registered anglers (3% of population), Czech Republic outdoes the neighbouring Germany (2% of population) and, as in the case of pond fish farming, high professional level of management of running waters, organization of sport fishing namely from the point of view of stocking the fishing waters, detailed recording of management data and catches are acknlowledged in abroad.

From the point of view of age structure of anglers, nearly 70 000 young people in age under 18 (more than 20% of anglers) deal with sport fishing in the Czech Republic. This represents also an important social aspect from the point of view of building the structure of positive values in this generation. Czech anglers also travel more for sport fishing in abroad after 1989, and more foreign anglers do visit our fishing waters.

With regards to the field of fishing, Czech Republic enters the EU as a quite equipollent partner who has something to offer also in sport fishing. Considering all the aspects stated, the Czech Fishing Union (the largest fishing union in the Czech Republic) following the model of West European countries advanced in sport fishing, took the decision to assign a socioeconomic study of sport fishing in the Czech Republic. The goal of this study is to obtain particular data about our anglers from the point of view of their interest in methods and styles of sport fishing, fish species prefered, fishing waters and interest in angling tourism, as well as in gaining some informations on expenses for fishing tackle and on satisfaction with the status of legislative arrangements in sport fishing and nature conservation.

Authorization to elaborate the study was given to the Institute of Fisheries and Hydrobiology,

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Summary

The socioeconomic study was elaborated upon a public inquiry (19 questions on various topics of sport fishing, 4 personal questions). Evaluation involved 1 529 respondents (0.46% of anglers registered in the Czech Republic). The age of respondents ranged from 10 to 84 years with mean age 44 years. The public inquiry was spread all over the area of the Czech Republic.

It was found that 49.18% of anglers commenced with sport fishing in age under 10, next 18.1% of anglers begun in age between 11 – 18 years. Exemplarity in the family was found to be the strongest impulse for the majority of beginning anglers (36.04%), tightly followed by individual active decision (33.22%). From the point of view of association with social groups, sport fishing is mostly conducted by employees (52.98%), pensioners (20.27%), students (12.23%) and enterpreneurs (11.71%). The decisive proportion of anglers belong to the lowest and middle income groups (82.4% with monthly income under 20 000 CZK). Employees, pensioners, students and jobless represent 87.05% of all anglers.

Altogether 97.19% of anglers fish in non-salmonid waters, 26.84% of anglers fish in salmonid waters and 24.03% of anglers fish in both types of waters. In course of the year, 45.03% of anglers come to water 11 – 50 times , 32.60% of anglers come 51 – 100 times. In total per year (regardless to the category of water) mean angler comes to water 62 times. Bottom – fishing is the most favourite fishing method (57.03% of anglers), common carp is the mostly fished species (33.66% individual catches). Mean annual amount of retained fish per 1 angler gains 31.9 kg. In the course of the year, 25.83% of anglers ate less than 5 kg of fish of their own catch, 33.81% of anglers ate more than 15 kg of fish of their own catch and 6.21% of anglers did not eat fish at all.

Mean annual expenses per fishing permits represent 1 046 CZK. Possibilities of commercial fishing are used by 18.90% of registered anglers and they pay for this service 1 647 CZK each. Every Czech angler spends annually 4 743 CZK for fishing tackle as a mean. Motor vehicle is used by 73.05% of anglers for travelling to fish, public transit is used by 2.55% of anglers, 23.22% of anglers walk or use a bike. Mean annual costs of fuel amount 2 633 CZK, public transit costs amount 698 CZK. The majority of anglers (31.00%) commute for fishing a 10 – 50 km direction from their residence. Altogether 12.56% of anglers travelled for sport fishing to abroad within the last 5 years with 23 972 CZK mean costs; most travels (38.1%) were to Norway.

Stay in the nature is the most important motive of sport fishing for 59.80% of our anglers; catching a large quantity of fish for consumption brings the major satisfaction to 16.62% of anglers. Looking at the contemporary legislation of sport fishing, the major opinion (54.87% of anglers) is that it is balanced while 31.46% of anglers consider it to be too complicated. Altogether 75.28% of anglers disagree with protection of cormorant while 55.53% of anglers agree with the protection of otter.

The Methods of Public Inquiry and Processing the Obtained Data

To perform the monitoring, a public inquiry was prepared which involved 19 questions on various topics of problems of sport fishing and 4 personal questions (see Supplements of the Study). Final version of the inquiry was approved by the ordering party (Czech Fishing Union Prague) and then the inquiry was distributed among anglers. Anglers involved in this inquiry were those from all regional unions of the Czech Fishing Union, of the Moravian Fishing Union and from the Fishing Union Luhačovice-Zálesí. The questionnaires were distributed by means of organizations of fishing unions. The ordering party desisted from its original idea to use the serial network of the „Sport Fishing" journal for distribution of the questionnaire, due to expected high costs. Apart from the printed form, the questionnaire was also available in electronic form on the web site of the Czech Fishing Union and part of the responses arrived via internet.

The elaborators obtained in total 1 609 partly or completely filled-in questionnaires, 80 of which were excluded before the next processing due to more that half of not-responded questions. The study thus involved 1 529 respondents (i.e. 0.46% of anglers registered in the Czech Republic). The file of responses obtained was computer-processed using the modified version of Excel programme.

Altogether 1 479 (96.73%) of the given number of respondents were men and only 27 respondents (1.77%) were women, 23 respondents did not state their sex. Age of the respondents ranged from 10 to 84 years, mean age of participants of the public inquiry was 44 years (for details of age groups of the respondents see Fig. 1 in the Supplements). Anglers of all administration regions of the Czech Republic were represented in the public inquiry. Most respondents were polled from the following regions (in descending order): Středočeský (Central Bohemian, 18.44%), Moravskoslezský (Moravian and Silesian, 13.28%), Hlavní město Praha (Prague Capital, 9.94%), Jihočeský (South Bohemian, 8.24%) and Jihomoravský (South Moravian, 7.72%). Considering the other regions, the representation fluctuated from 6.54% (Vysočina, Highlands) to 1.37% (Liberecký). The representation of regions according to the number of respondents in detail is given in Fig. 2 in the Supplements.

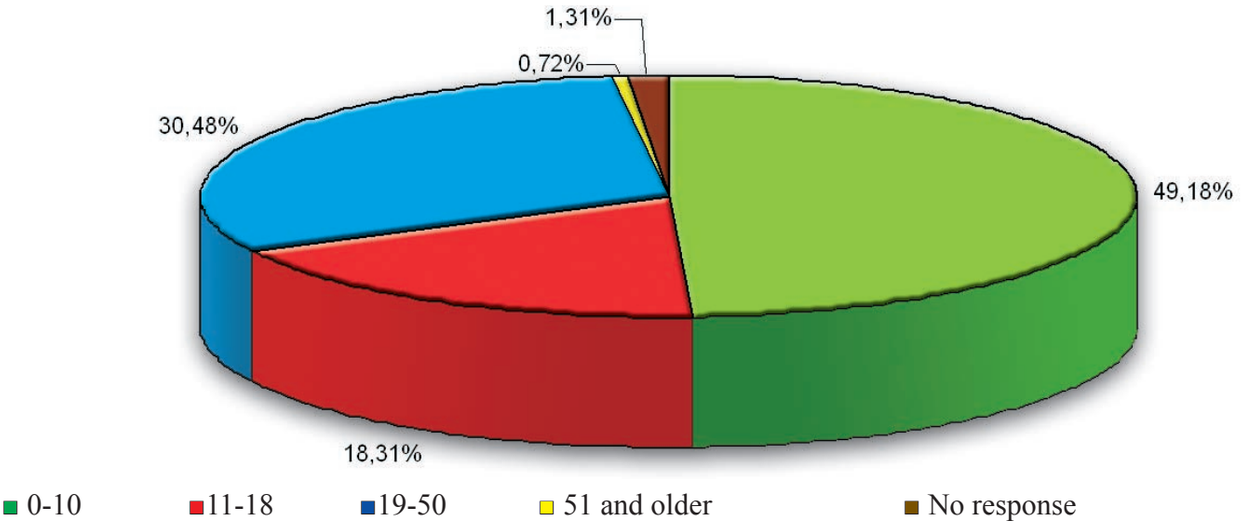
From the point of view of social pertinence of the respondents, most anglers which took part on the public inquiry were from the group of employees (52.98%), pensioners (20.27%), students (12.23%) and enterpreneurs (11.71%). Social groups of jobless and of houseworkers represented a negligible part (in detail see Fig.3 in the Supplements). Income groups given in Fig. 4 in the Supplements also refer to this social stratification of respondents. Monthly income under 10 000 CZK was stated by 41.33% respondents and monthly income ranging from 10 000 to 20 000 CZK was stated by 41.07% respondents. Full 82.4% respondents thus belong to the lowest and to the middle income groups.

Results

Age and Social Structure of Anglers in the Czech Republic

It was relatively surprising to find out that 49.18% of anglers begun with sport fishing in age under 10 years and next 18.31% of anglers begun in age between 11 - 18 years. This means that 67.49% of anglers start with sport fishing in youthful age (under 18 years), 30.48% of anglers begin in active age (19 - 50 years) and only 0,72% of anglers begin in pre-pensionery age (over 50 years).

Fig. 5: Age interval when the Czech citizens start with sport fishing.

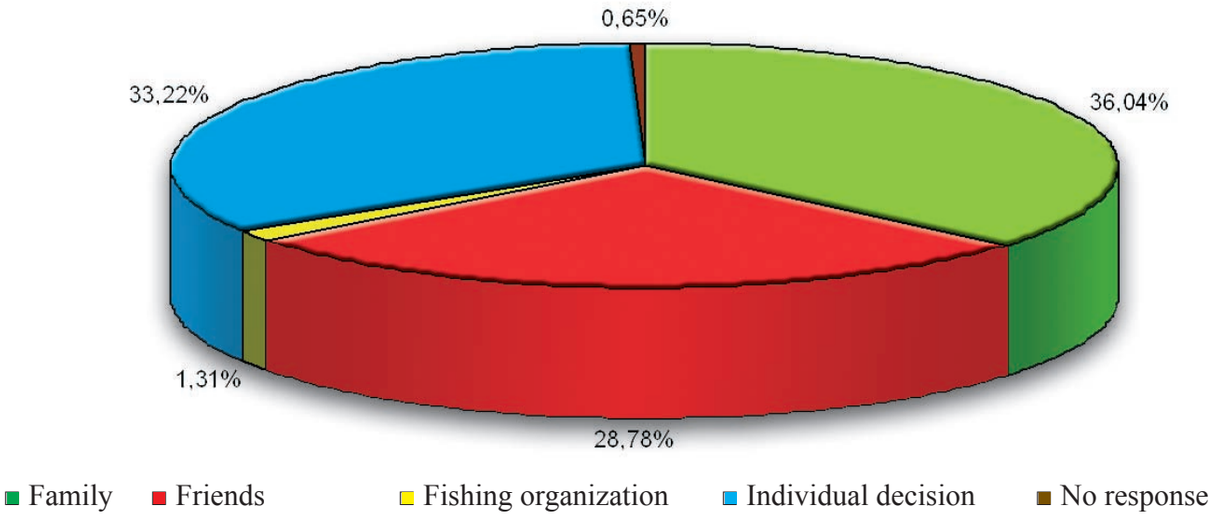


Exemplarity in the family (an angler in the family) was the strongest impulse for most beginners. Altogether 36.04% current anglers started their fishing careers in this way. The second position was taken tightly (33.22% respondents) by individual active decision and the third position (28,78%) was the effect of fishing friends. Edifying activities of fishing organizations which brought only 1.31% respondents to sport fishing, were found to have nearly negligible effect.

From the point of view of analysis of age structure of active anglers it is shown that their abundance in age groups raises consequently until the pre-pensionery age (22.83% in category 50 - 59 years) and then drops again (14.45% in age of 60 - 69 years, 3.66% in age of 70 - 79 years and 0.26% in age over 80).

Considering the affiliation with social groups, sport fishing is mostly carried out by citizens in the category of employees (52.98%), pensioners (20.27%), students (12.23%) and enterpreneurs (11.71%). The decisive proportion of anglers belong to the lowest and medium income groups (82.4% with monthly income under 20 000 CZK). It corresponds with the affiliation with social groups, where employees, pensioners, students and jobless represent 87.05% of all anglers (However, the proportion of the jobless group is 1.57% only).

Fig. 6: Primary motivation of decision to follow sport fishing.



Sport Fishing Itself, Catches Gained and Consumption of Rod Caught Fish

It is confirmed in accordance with expectations that our anglers fish most frequently in non-salmonid waters (97.19% of anglers). Only 26.84% of anglers fish in salmonid waters and 24.03% of anglers fish in both type of waters. The majority of trout anglers fish also in non-salmonid waters. From the point of view of water bodies, the majority of visits (35.60%) are paid to other water bodies (ponds and irrigation reservoirs involved in fishing waters, flooded gravel pits, mining lakes, etc.), followed by valley (dam) reservoirs (31.37%) and river streams (28.95%, running waters in the proper sense of the word). Fishing pressure to water bodies of salmonid waters refers to the structure of our salmonid waters, mostly consisting of riverine parts of trout and grayling zones (including secondary trout zones downstream the dam reservoirs) and relatively dense network of trout brooks, while still waters of salmonid character are nearly missing. Altogether 52.70% attendance to salmonid waters is thus performed to river streams, 32.76% to brooks and 8.21% to other water bodies only.

Altogether 45.03% of anglers come to water 11 - 50 times per year, 32.60% of anglers come 51 - 100 times, 12.96% of anglers come 101 - 200 times, 7.51% of anglers come less than 10 times and 1.90% of anglers come more than 200 times. Mean annual number of attendance per angler in non-salmonid waters is 55, in salmonid waters it is 32. Total mean, regardless of category of salmonid or non-salmonid waters, is 62 per angler and year.

Fig.7: Annual visits to water bodies.

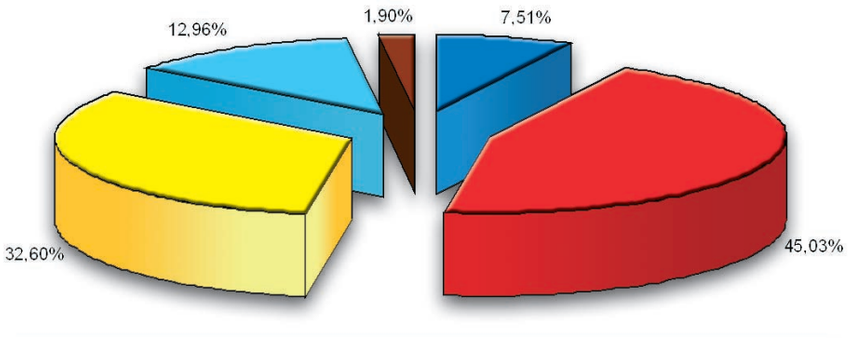
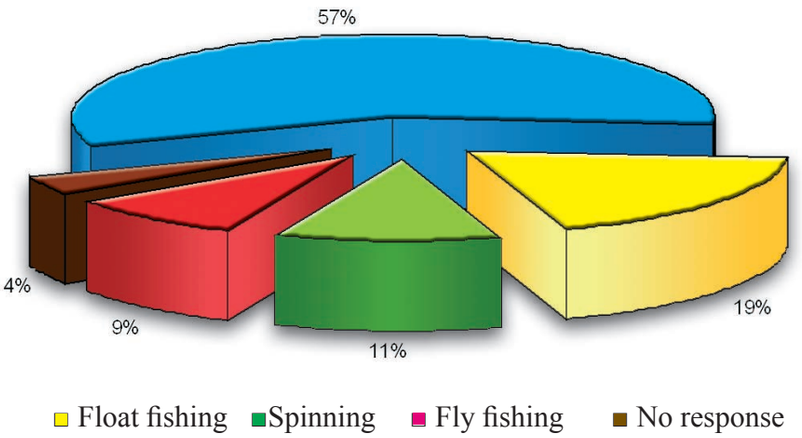


Fig.8: Prefered fishing techniques.



In accordance with expectations, bottom fishing was found unambiguously dominating (57.03% of anglers) among the favourite fishing techniques, folowed by float fishing (18.57% of anglers).

Spinning was prefered by 11.45% of anglers and fly fishing was prefered by 9.16% of anglers, while 3.79% of anglers did not answer this question. Prefered types of fishing waters, water bodies and fishing techniques also refer to the most frequently caught species of fish. From the rod catches stated, common carp (33.66% of individual catches) is unambiguously the species mostly fished for, followed by bream (20.46%), perch (10.68%), „other“species (8.48%), brown trout (7.41%), rainbow trout (6.41%), pike (3.24%), pikeperch (2.19%) and grayling (2.46%).

Fig. 9: Fish species composition in annual rod catches of anglers.

K = Common carp

CV = Bream

Š = Pike

Ca = Pikeperch

Su = Wels

Oř = Perch

Os = Nase

U = Eel

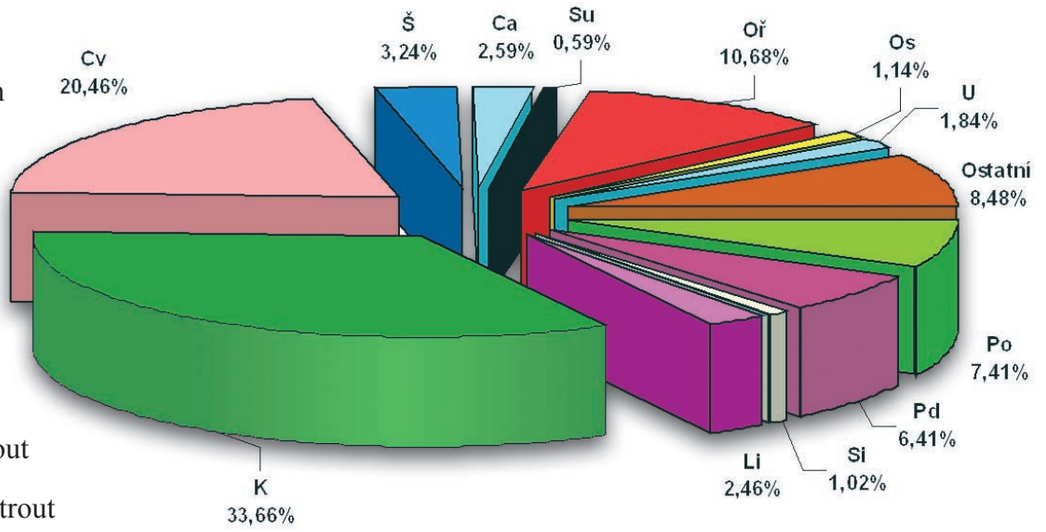
Ostatní = Other

Po = Brown trout

Pd = Rainbow trout

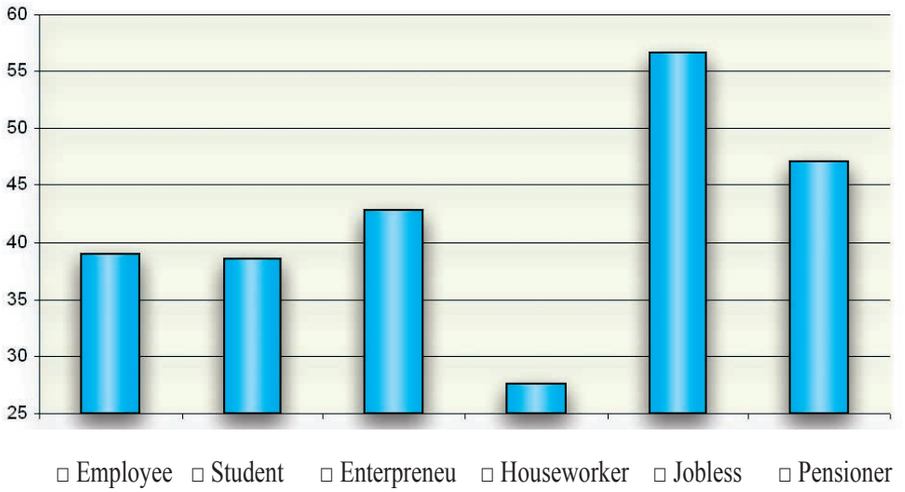
Si = Brook trout

Li = Grayling



Altogether 77.44% of anglers keep at least one fish out of the fish caught during the year. Mean annual amount of retained fish per 1 angler represents approximately 41.1 kg. Involving the groups of anglers who either did not gain any catch, or released their catches, the mean annual rod catch drops to 31.9 kg. However, the annual amount of retained rod catch can be expressively differentiated according to affiliation with social groups. Jobless (unemployed) anglers keep most fish for themselves (70.83% of anglers of this group keep 56.53 kg of fish as a mean). This social group represents 1.57% of anglers only. The next group is that of pensioners, 81.61% of whom annually retain for themselves mean amount of 47.04 kg fish caught. Anglers from the enterpreneur category also keep relatively big proportion of caught fish for themselves, 74.86% of anglers of this group keep anually 42.76 kg fish as a mean. The least and nearly equal mean amounts of fish caught are annually taken by anglers of the employees´ (38.94 kg) and students´ (38.51 kg) groups.

Fig. 10: Amount of fish caught (in kg per angler and year) and retained by individual social groups of anglers for their own.



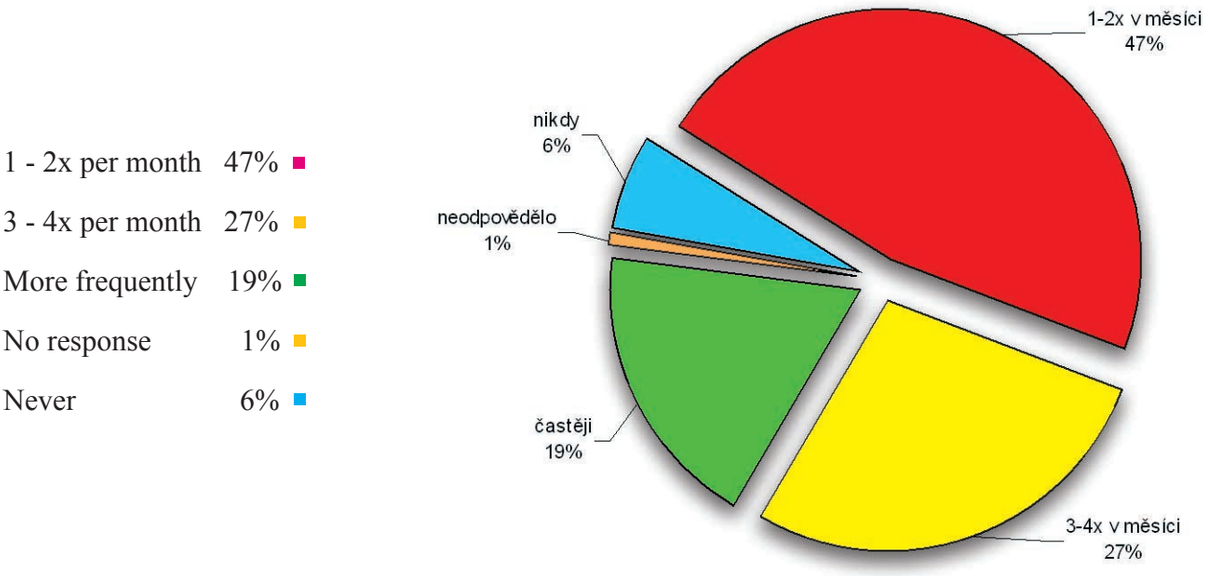
Angler	Number	Retained the Fish for Their Own	%	Mean of Fish Retained for Their Own	Mean of the Total Number
Employee	810	622	76.79	38.94 kg	29.90 kg
Student	187	144	77.01	38.51 kg	29.65 kg
Enterpreneur	179	134	74.86	42.76 kg	32.01 kg
Houseworker	3	2	66.67	27.50 kg	18.33 kg
Jobless	24	17	70.83	56.53 kg	40.04 kg
Pensioner	310	253	81.61	47.04 kg	38.40 kg

The proportion of fishes in the diet of Czech citizens is very low. It ranges in the nationwide scale around 5 kg per capita per year, whilst freshwater fish represent less than 1 kg out of this figure. This amount is deeply below the health limit recommended, and deeply below the mean consumption in EU countries (about 15 kg per capita per year).

We expected expressively higher proportion of fish in the diet of anglers and their families compared to other citizens. It was confirmed, however, but not too markedly. The majority of anglers (46.76%) eat fish (freshwater and marine, caught and purchased) once or twice a month only, 6.21% of anglers even do not eat fish at all. Only 27.47% of anglers eat fish three to four times a month and 18.71% of anglers eat fish even more frequently.

Moreover, 25.83% of anglers alone or with their families ate less than 5 kg of their own catch during a year, 24.00% of anglers ate 5 - 10 kg of fish, 14.19% of anglers ate 10 - 15 kg of fish and 33.81% of anglers ate more than 15 kg of fish (2.16% of respondents did not answer this question).

Fig. 11: Frequency of fish consumption by anglers.

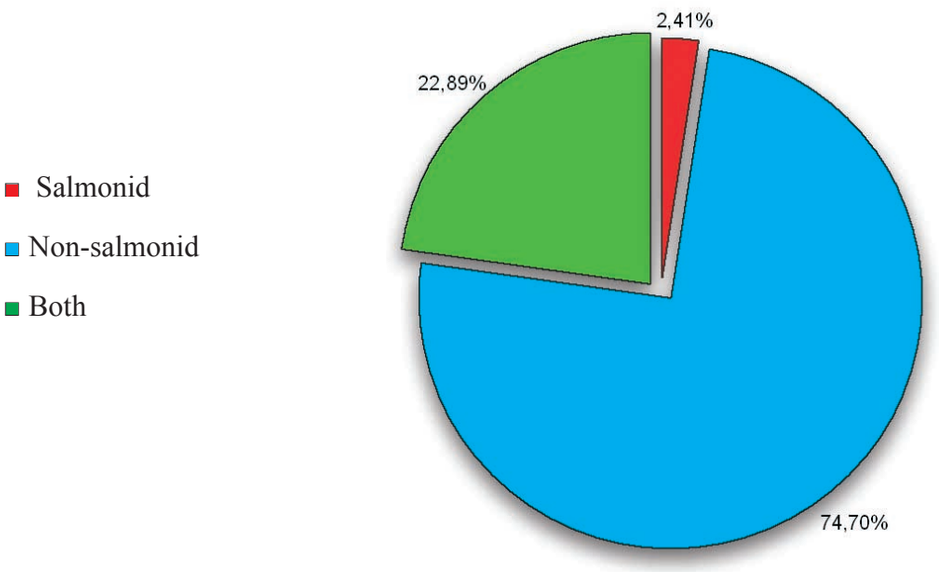


Financial costs of sport fishing

Fishing permits

Fishing permits represent basic, regular annually repeating costs of sport fishing. Considering anglers fishing in non-salmonid waters, 55.84% of them purchase yearly permit of the regional union, 36.20% of anglers purchase yearly all-union permit. Short – term permits (monthly, biweekly, weekly, two-days and daily) are utilized by 5.75% of anglers. Weekly permit is the most utilized one (2.70% of anglers) from the short – term permits for non-salmonid waters. A possibility to purchase yearly all-republic permit (fishing waters of both the Czech and the Moravian Fishing Union) is utilized only by 2.25% of anglers fishing in these waters. A similar ratio appears with permits for salmonid waters. Considering anglers purchasing this type of permit, 66.06% prefer yearly permit of the regional union, 25.33% prefer yearly all-union permit, 3.39% prefer yearly all-republic permit and 5.22% prefer some of the short-term permits. Similarly to non - salmonid waters, the mostly used permit for salmonid waters is the weekly permit (2.09% of anglers).

Fig. 12: Ratio of utilized non-salmonid and salmonid water permits.



One type of permit only was purchased by 70.63% of anglers, two types by 24.07%, three types by 1.50% and four types of permits were purchased by 0.33% of anglers (2.29% of respondents did not answer this question). From the number of actively fishing anglers, 74.70% purchase only a permit for non-salmonid waters, 2.41% purchase only a permit for salmonid waters and 22.89% of anglers purchase both types of permits (non- salmonid and salmonid). Upon the file of regularly paying anglers, mean annual costs of fishing permit represent 1 046 CZK (in terms of 2002). However, 61 anglers from the file did not pay for the permits. These were officials of local organizations and bayliffs who could have been given honourable permits. As the questionnaires have been distributed by means of regional unions and comittees of local organizations, a higher number of officials (not paying for permits) seemed to take part on the public inquiry than it would be in case of a true random sample. Due to these reasons, this group was not involved into the mean costs of fishing permits. Total annual costs of fishing permits are relatively low in the Czech Republic owing to the so-called „calculated prices“ which involve only the management costs of fishing waters and which are non-profitable. Management costs of fishing waters are further lowered by participation of fishing union members on works. This principle refers to voluntary conveyance of the achievement of fishing right from the state to the fishing unions and it takes into account the most numerous social groups of anglers (employees, pensioners, students).

Fig. 13: Utilization of various types of non-salmonid fishing permits.

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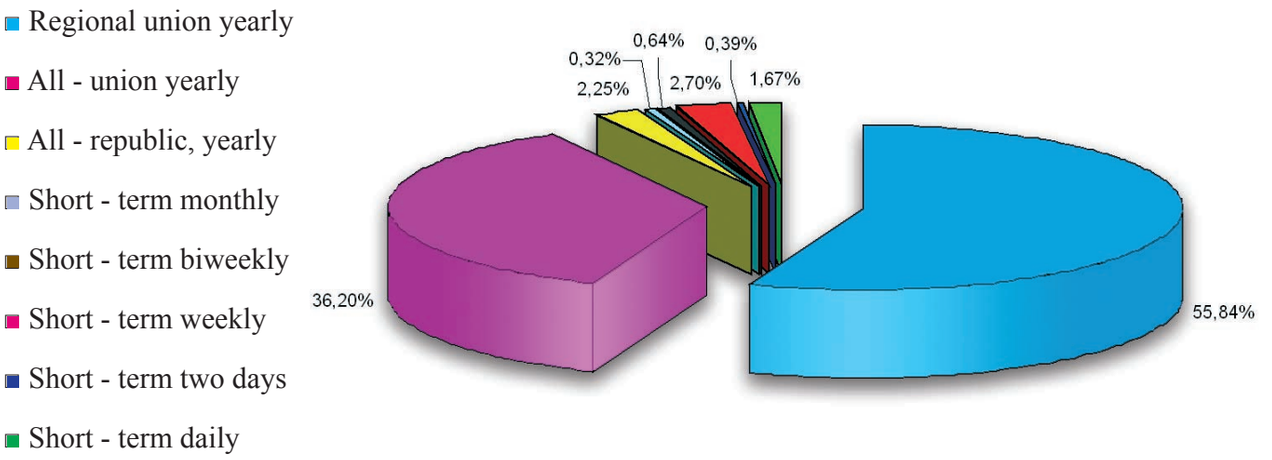
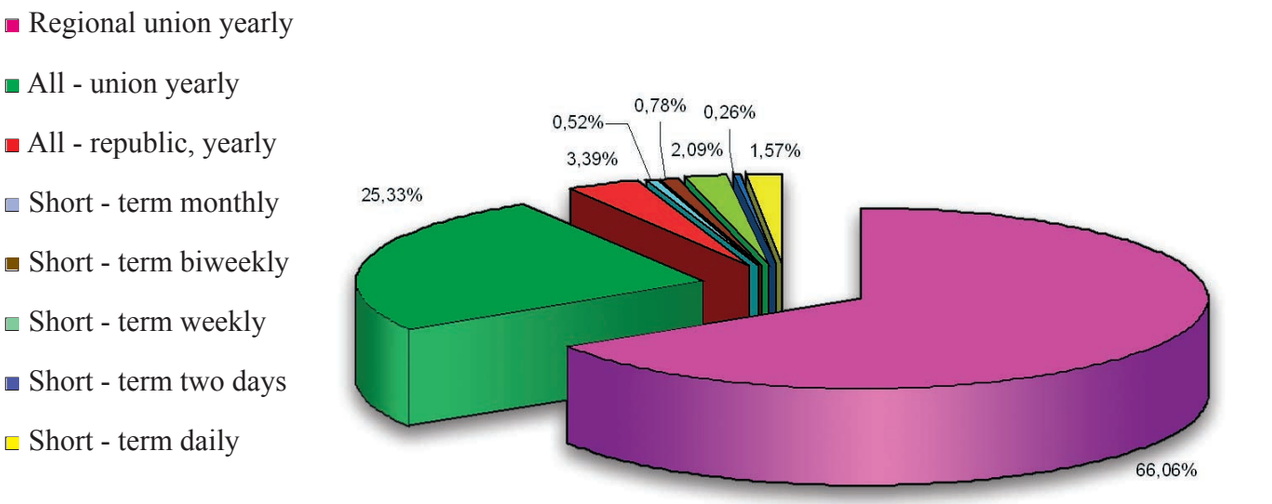


Fig. 14: Utilization of various types of salmonid fishing permits.



Commercial Fishing

Apart from fishing in regular fishing waters, there has been an expanding offer of fishing on closed private waters within the last 10 - 15 years. These are mostly ongrowing ponds of marketable fish producers, who offer this type of fishing in a form of a commercially provided service within the so-called „economical exploitation of fish by means of rod catching“. This offer is currently used by 18.90% of registered anglers who pay annually for this fishing mean amount of 1 647 CZK. If calculating for the whole file of anglers in the Czech Republic (62 370 anglers using this service), fees for this form of fishing would represent 102 720 000 CZK. However, the sum could be in fact even higher as the calculation was based on registered anglers only. Other interested persons, not organized in any fishing union and not possessing a rod licence, can take part on commercial fishing as well.

Costs of Fishing Tackle and Travel Costs

The biggest group of anglers (91.69%) buy various accessories to the basic equipment and pay for it annually a mean sum of 790 CZK. The second numerous group of anglers (61.28%) purchases newly or completes the basic fishing equipment (rods and reels) with mean annual costs of 2 702 CZK. Artificial bait is purchased by 54.87% of anglers and they spend on it 448 CZK as a mean. Special fishing dress is purchased by 33.82% of anglers in mean annual value of 486 CZK per 1 angler. The least numerous group (3.73%) of anglers purchase a fishing boat of 8 497 CZK mean value. Mean annual expense of this item per 1 angler make 317 CZK. Every Czech angler thus spends in fishing tackle 4 743 CZK as a mean. These data of 2002 represent 1 565 miliard CZK in the scope of the whole state. As it is evident from the table attached, mean annual expenses for fishing tackle differ expressively among individual income groups of anglers. Anglers with monthly income under 10 000 CZK spend for fishing tackle annually mean amount of 3 459 CZK, those with monthly income under 20 000 CZK spend for fishing tackle annually mean amount of 4 987 CZK and those with the highest monthly income (over 40 000 CZK) spend for fishing tackle annually even mean amount of 15 414 CZK.

Income Group	Under 10 000 CZK (632)	10 - 20 000 CZK (628)	20 - 30 000 CZK(102)	30 - 40 000 CZK (20)	Over 40 000 CZK (21)
Rods and reels	1871	2896	4228	5005	10333
Accessories	629	821	1335	1106	1743
Artificial baits	292	478	936	834	1126
Fishing dress	419	483	652	1010	1260
Fishing boat	245	310	417	2000	952
Total	3459	4987	7568	9956	15414

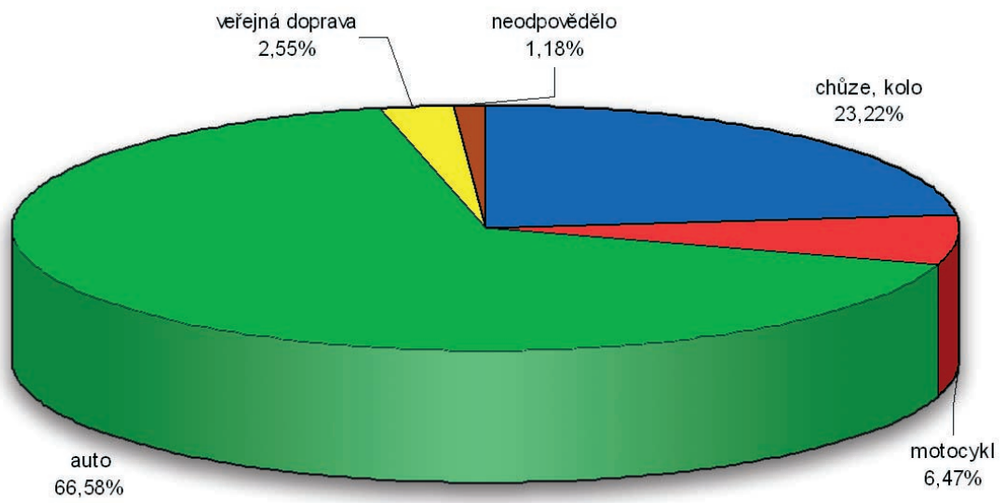


Fig.15: Use of transport means when travelling for fishing.

Car Motorcycle Walk, bike Public transit No response

When travelling to inland fishing waters, anglers mostly use cars (66.58%), motorcycle is used by 6.47% of anglers. Thus, altogether 73.05% of anglers use a motor vehicle. Walk or bike is used for visiting the fishing waters by 23.22% of anglers, public transit is used by 2.55% only. Mean annual costs of fuel are 2 633 CTK per 1 angler, mean annual costs of public transit are 698 CZK. The biggest number of anglers drive 10 - 50 km from their residence to fish (31.00%), similar-sized group of anglers drive less than 5 km to fish (30.80%). The next group of anglers fish 5 - 10 km far from their residences (21.58%). Distances 50 - 100 km are overcome by 7.85% of anglers and distances over 100 km by nearly the same number of anglers (7.72%), 1.05% of respondents did not answer this question. Transport distance to fish differs expressively with the size of community where an angler lives (There is an evident consequence of fishing waters availability). This status is given in the following table. The 13.78% of anglers travel 10 - 50 km to fishing waters from towns over 10 000 inhabitants, while distances 50 - 100 km and/or over 100 km are overcome accordingly by the same number of 3.79% of anglers.

Transport Distance to Fishing in Relationship with the Size of Residential Community

Distance	Under 2000 Inhabitants (%)	Under 5000 Inhabitants (%)	5 - 10 000 Inhabitants (%)	Over 10 000 Inhabitants (%)
Under 5 km	10.72	6.72	5.46	7.99
5 - 10 km	5.26	2.46	3.66	10.05
10 - 50 km	7.72	4.46	5.13	13.78
50 - 100 km	2.06	1.33	0.73	3.79
Over 100 km	2.06	0.87	1.13	3.79
No response	0.33	0.07	0.00	0.40

Fig. 16: Proportion of anglers in towns and in the country.

Under 2 000 inhabitants.

Under 5 000 inhabitants.

5 - 10 000 inhabitants.

Over 10 000 inhabitants.

No response.

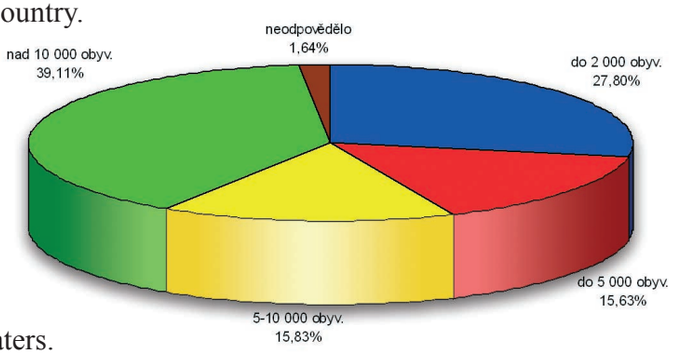


Fig. 17: Transport distance to the visited fishing waters.

Under 5 km

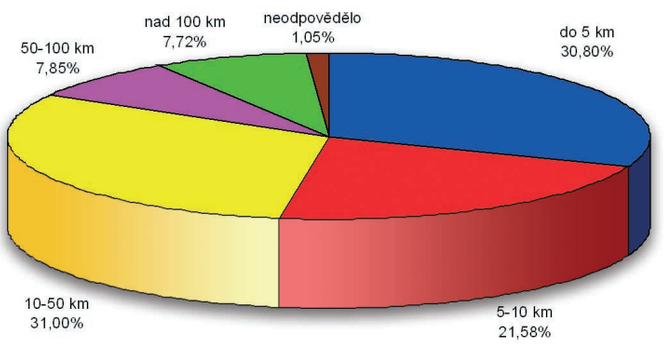
5 - 10 km

10 - 50 km

50 - 100 km

Over 100 km

No response



Within the last 5 years, 12.56% of anglers have travelled to abroad for sport fishing. The number of 192 respondents of this inquiry stated participation on 339 fishing trips. This meant that as a mean for this 5-year-period, they travelled twice to fish in abroad. Mean costs of a traveling angler were 23 972 CZK and they ranged from 500 to 400 000 CZK. The frequency of fishing trips differs expressively with the income groups of anglers, as it is shown in the following table:

Expenses of Fishing in Abroad According to Income Groups of Anglers (CZK)

Income Group	No. of Anglers	No. of Trips	Total Expenses	Expenses per 1 Angler
Under 10 000	45	92	515 250	11 450
10 - 20 000	96	210	2 592 600	27 006
20 - 30 000	24	49	700 500	29 188
30 - 40 000	5	12	87 000	17 400
Over 40 000	11	19	227 000	20 636

It is interesting to see that the expenses do not increase linearily with monthly income. Most money for trips abroad are spent by anglers with monthly income 20 000 - 30 000 CZK (29 188 CZK as a mean), followed by income group 10 000 - 20 000 CZK (mean expenses 27 006 CZK).

Fig.18: Fishing Techniques Used in Abroad

Sea fishing 13.02%

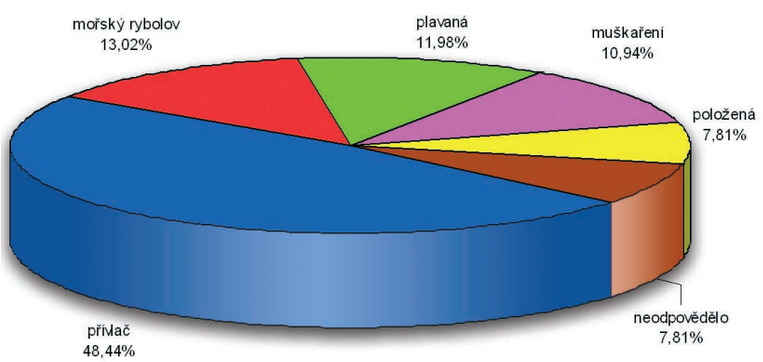
Free floating 11.98%

Fly fishing 10.94%

Bottom fishing 7.81%

No response 7.81%

Spinning 48.44%

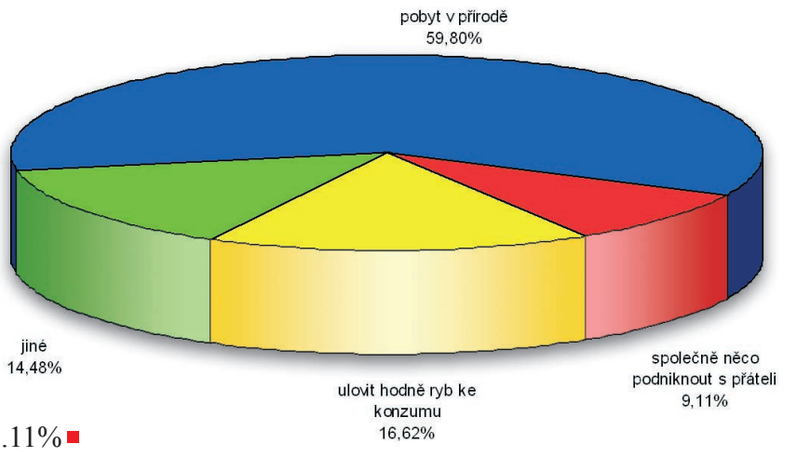


The travelling anglers visited the following countries within the last 5 years: England, Ireland, Danemark, Egypt, Italy, Finland, sweden, Norway, France, Slovakia, Croatia, Wales, Canary islands, Cuba, Lithuania, Mexico, Hungary, Bulgaria, Germany, Mongolia, Poland, Kamchatka, Canada, Spain, Dominican Republic, Austria, Romania, Russia, Slovenia and USA. Norway was the most visited country with 152 trips (38.1%). Spinning is the mostly used fishing technique on fishing trips abroad (48.44%) followed by sea fishing (13.02%), free floating (11.98%), fly fishing (10.94%) and bottom fishing is the least used technique (7.81%). The question was not answered by 7.81% of respondents. Answer „sea fishing“ may cause a certain error of bias of this question as it may involve al other fishing techniques stated.

Legislative and Ethical Frame of Sport Fishing

The most important motive of the decisive group of anglers (59.80%) why to carry out sport fishing is to stay in the nature. The second position is taken by a group of anglers (16.62%) who feel the biggest satisfaction of fishing when they catch a lot of fish for consumption. A sport fishing motive „to do something together with friends“ is stated by 9.11% of anglers and other reasons are given by 14.48%. For 54 800 anglers, sport fishing means above all a chance to get fish for consumption.

Fig. 19: Sport fishing motivation.



To stay in the nature 59.80% ■

To do something together with friends 9.11% ■

To catch a lot of fish for consumption 16.62% ■

Other 14.48% ■

In case of 5.69% of anglers their wives are fishing also, in 16.61% there is at least one fishing child under 18 and in 30.48% of cases there is at least one other family member fishing.

Looking at the current legislation of sport fishing in the Czech Republic, 54.87% of anglers considered it balanced and 31.46% of anglers considered it to be too complicated, 7.85% of anglers did not have a clear opinion and 5.82% of respondents did not answer this question. Detailed data on general prohibition of fishing, protection seasons of individual fish species, legal minimum allowed lengths of fish, limits of catches and protected fish species in non-salmonid and in salmonid waters are given in the following table. The highest satisfaction on both categories of water is with protection of endangered fish species and with protection seasons of individual fish species. Relatively the least satisfaction is expressed with legal minimum allowed lengths of fish and, in non-salmonid waters, also with limits of catch. Salmonid waters gained better evaluation from the point of view of balanced fishing regulations.

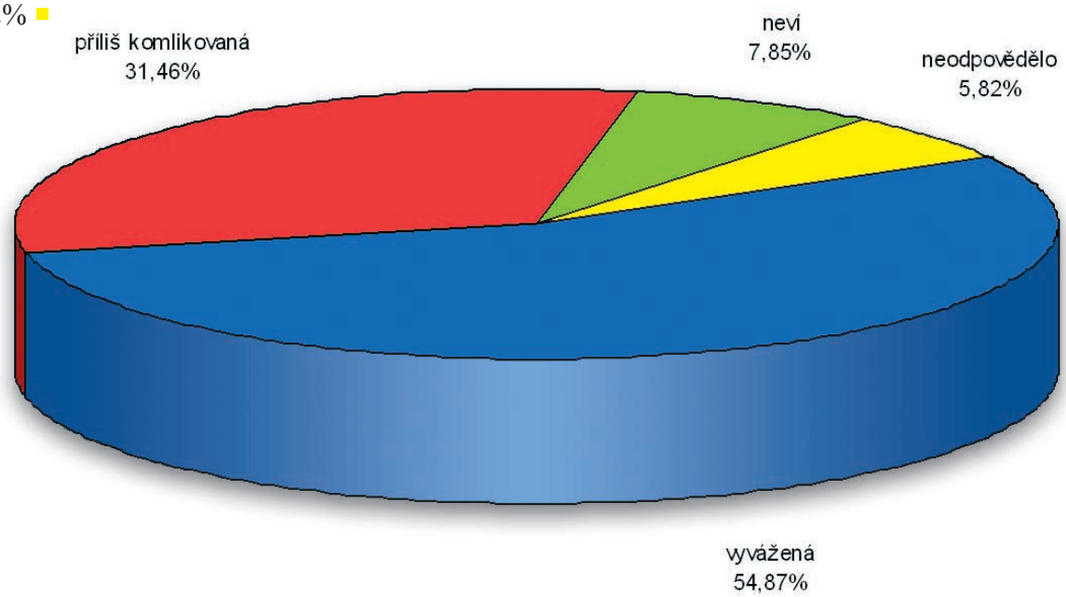
Fig. 20: Satisfaction of anglers with legislative regulation of sport fishing in the Czech Republic

Too complicated 31.46% ■

Balanced 54.87% ■

Do not know 7.85% ■

No response 5.82% ■



Anglers´ Opinion to Legislative Regulation of Sport Fishing.

1-very bad, 2 -bad, 3 - good, 4 - very good

	Responded in total	Mean	Do not know	Responded in total	Mean	Do not know
General prohibition of fishing	1444	2.90	37	895	3.16	164
Protection seasons of individual fish species	1422	3.13	32	886	3.18	151
Minimum allowed lengths of fish	1429	2.75	28	889	2.84	151
Limit of catches	1423	2.91	27	886	3.01	153
Protected fish species	1424	3.36	79	876	3.21	183

Concerning the state protection of animal species which feed on fish (the so-called „piscivorous predators“), the two most problematic animals were selected for this public inquiry: cormorant and otter. It is interesting to see that anglers´ opinions to both species differ diametrically. In case of cormorant, 75.28% of anglers disagreed with its protection (43.56% disagreed strongly), 6.28% of anglers did not know, 16.68% agreed (3.73% strongly agreed) and 1.77% of respondents did not answer this question. In case of otter as a protected animal, anglers showed quite opposite opinion: full 55.53% of anglers agreed with its protection (14.65% agreed strongly), 33.16% disagreed (14.19% disagreed strongly), 7.65% did not know and 3.66% did not answer the question.

Fig. 21: Opinion of anglers on the protection of cormorant.

No 31.72%

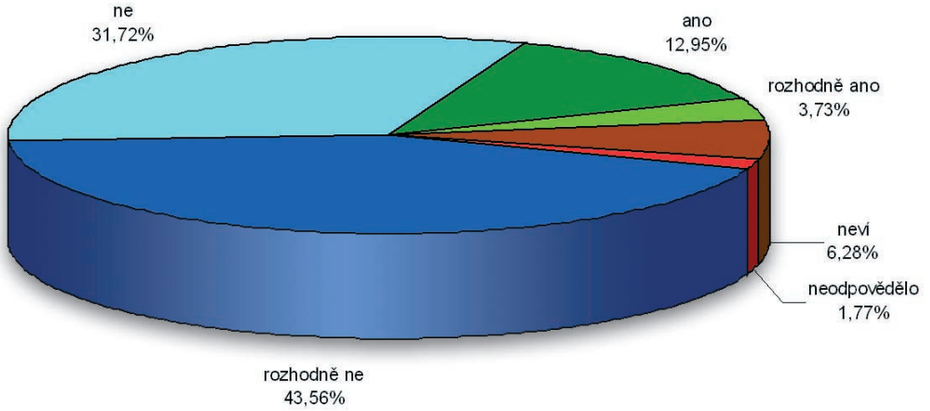
Definitely no 43.56%

Yes 12.95%

Definitely yes 3.73%

Do not know 6.28%

No response 1.77%



It is difficult to evaluate reasons of the different approach of anglers to both these species. It is fact that shoals of cormorant cause much higher damage in fishing waters. Otter hunts individually and in a hidden manner. Many anglers suppose otter to cause damage above all in ongrowing ponds. Positive public image of otter as a kind and playful animal undoubtedly will have an effect to its positive evaluation.

Fig. 22: Opinion of anglers on the protection of otter.

No 18.97%

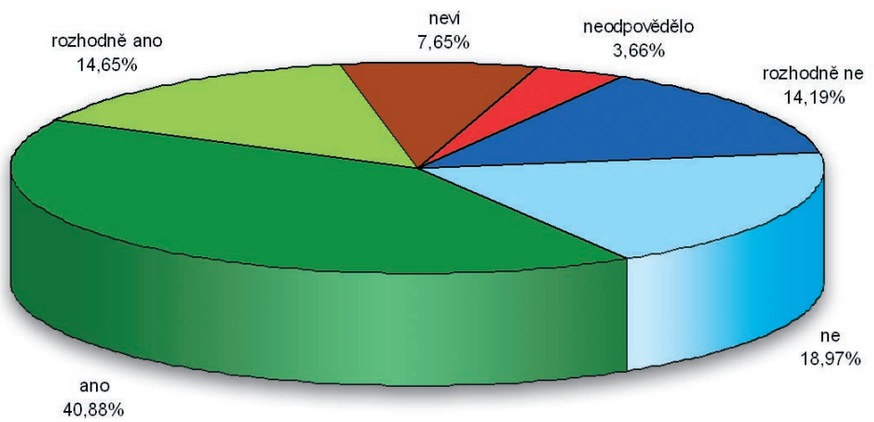
Definitely no 14.19%

Yes 40.88%

Definitely yes 14.65%

Do not know 7.65%

No response 3.66%



Supplements

Fishing questionnaire

Fig. 1: Age structure of respondents of the public inquiry.

Fig. 2: Proportion of respondents from individual regions of the Czech Republic.

Fig. 3: Affiliation of respondents with social groups.

Fig. 4: Allocation of respondents according to monthly income.

FISHING QUESTIONNAIRE

1. Who brought you to sport fishing?

a)

□ Family

□ Friends

□ Fishing organization

□ Self

b)

In what age did you begin to fish:

In .....years.

2. In what type of water and how often did you fish last year:

a) Non-salmonid waters

Brooks .....visits

Rivers.....visits

Valley reservoirs .....visits

Other water bodies .....visits

b) Salmonid waters

Brooks .....visits

Rivers .....visits

Valley reservoirs .....visits

Other water bodies .....visits

3. Every angler prefers a certain fishing technique (bottom fishing, free floating, spin casting, fly fishing).
   What is your favourite technique (max. 3 answers in descending order):

1..... 2..... 3.....

4. How many fish (species) and how many kilograms of fish did you catch and retain last year:

Brown trout..... Common carp..... Wels.....

Rainbow trout..... Bream..... Perch.....

Brook trout..... Pike..... Nase.....

Grayling..... Pikeperch..... Eel.....

Total fish.....kg Other species..... .....

5. How often in a month do you eat fish (caught and purchased, freshwater and marine):

   □ Never □ 1 - 2 times □ 3 - 4 times □ More often

6. How many of the fish caught did you ate yourself or with your family last year:

   □ Less than 5 kg □ 5 - 10 kg □ 10 - 15 kg □ More than 15 kg

7. What type of fishing permit did you use last year (fishing waters only):

a) Non-salmonid permit

□ Regional union yearly

□ All - union yearly

□ All - republic, yearly

□ Short - term monthly

□ Short - term biweekly

□ Short - term weekly

□ Short - term two days

□ Short - term daily

b) Salmonid permit

□ Regional union yearly

□ All - union yearly

□ All - republic, yearly

□ Short - term monthly

□ Short - term biweekly

□ Short - term weekly

□ Short - term two days

□ Short - term daily

8. How much did you pay for the given fishing permits in total last year? (only permits without other expenses):

.....CZK

9. Did you utilize a possibility of commercial fishing on ongrowing ponds or other private reservoirs last year:

□ No □ Yes (.....days)

10. If you used commercial fishing, how much did you pay for it in total last year:

.....CZK

11. How much did you approximately spend in fishing tackle last year, according to the following categories:

□ Rods, reels..... CZK

□ Accessories (hooks, lines, floats, leads, etc.)..... CZK

□ Artificial baits (spinners, wobblers, twisters, flies, etc.)..... CZK

□ Fishing dress (boots, coats, jackets, etc.)..... CZK

□ Fishing boat, echosounder .....CZK

12. How far from your residence did you use to fish most often (daily visits to 3-day-weekend trips):

□ Less than 5 km □ 5-10 km □ 10 - 50 km □ 50 - 100 km □ Over 100 km

13. What kind of transport do you mostly use when fishing:

□ Walk, bike □ Motorcycle □ Car □ Public transit

14. What were your expenses for fishing transport last year (inland costs only):

□ Fuel..... CZK □ Public transit tickets.....CZK

15. Did you take a fishing holiday in abroad during the last 5 years:

□ No.

□ Yes. □ Number..... □ Country □ Fishing type..... □ Costs.....

16. What criterion of fishing brings you the greatest satisfaction (several answers can be marked):

□ To stay in the nature. □ To do something together with friends.

□ To catch a lot of fish for consumption. □ Other, namely .....

17. Do other members of your family sport fishing as well:

□ Wife □ Children under 18 (number)..... □ Other (number).....

18. What is your opinionon the current sport fishing regulations in the Czech Republic:

□ Too complicated. □ Balanced. □ I don´t know.

a) Non-salmonid waters	very bad	bad	good	very good	I don´t know
General prohibition of fishing	□	□	□	□	□
Protection seasons of fish species	□	□	□	□	□
Minimum allowed lengths of fish	□	□	□	□	□
Limit of catches	□	□	□	□	□
Protected fish species	□	□	□	□	□

b) Salmonid waters	very bad	bad	good	very good	I don´t know
General prohibition of fishing	□	□	□	□	□
Protection seasons of fish species	□	□	□	□	□
Minimum allowed lengths of fish	□	□	□	□	□
Limit of catches	□	□	□	□	□
Harmful fish species	□	□	□	□	□

19. What is your opinion aon the protection of piscivorous animals, do you consider this protection to be correct:

	Definitely not	Not	Yes	Definitely yes	I don´t know.
Cormorant	□	□	□	□	□
Otter	□	□	□	□	□

Finally, several personal questions:

Sex

□ Male

□ Female

Year of birth: .....

Region where you stay: .....

How big is the village (town) where do you live:

□ Under 2 000 inhabitants □ Under 5 000 inhabitants □ 5 000 – 10 0000 inhabitants

□ Over 10 000 inhabitants

What is your social position:

□ Employee □ Student □ Enterpreneur □ Houseworker □ Jobless □ Pensioner

What is your monthly income:

□ Under 10 000 CZK □ 10 000 – 20 000 CZK □ 20 000 – 30 000 CZK

□ 30 000 – 40 000 CZK □ Over 40 000 CZK

We thank you very much for your cooperation. If you wish to take part on our draw, please put your name and address legibly on the attached drawing coupon and insert it all in the envelope. It is obvious that your data will be processed anonymously. The public inquiry is processed by the Institute of Fisheries and Hydrobiology, Mendel University of Agriculture and Forestry Brno.

Please return the complete questionnaire until:

Address:

Fig. 1: Age structure of respondents of the public inquiry.

Younger 9.68%

20 – 29 years 10.40%

30 – 39 years 15.96%

40 – 49 years 20.54%

50 – 59 years 22.83%

60 – 69 years 14.45%

70 – 79 years 3.66%

80 years and older 0.26%

No response 2.22%

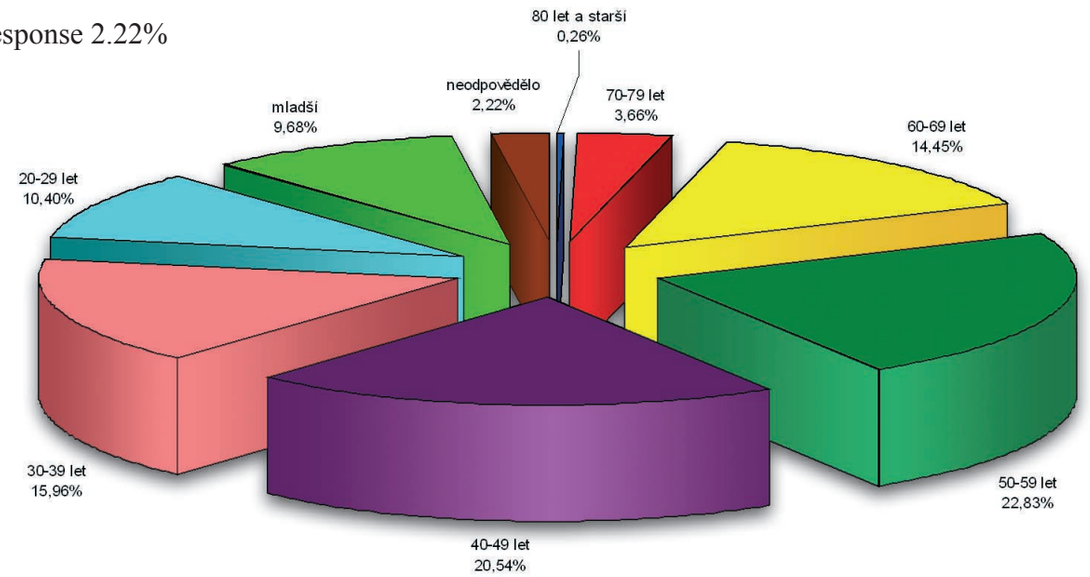


Fig. 2: Proportion of respondents from individual regions of the Czech Republic.

No response 2.49%

Prague Capital 9.94%

atd.

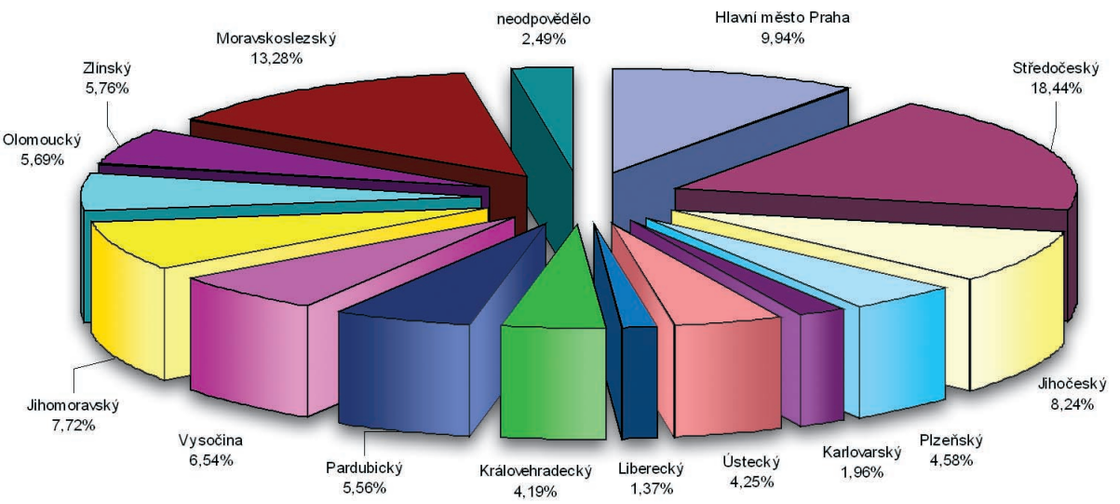


Fig. 3: Affiliation of respondents with social groups.

Jobless 1.57%

Pensioner 20.27%

No response 1.05%

Employee 52.98%

Student 12.23%

Enterpreneur 11.71%

Houseworker 0.20%

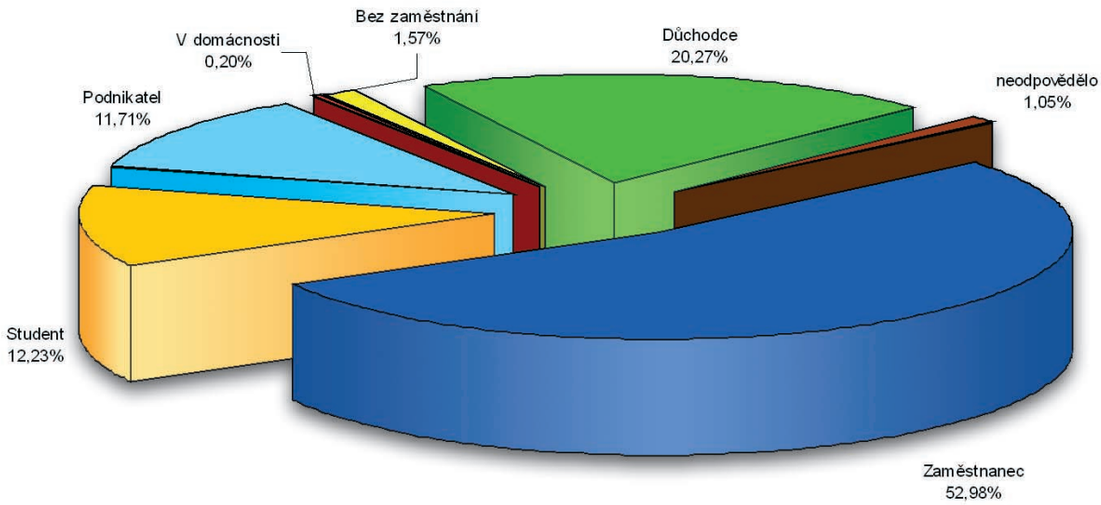


Fig. 4: Allocation of respondents according to monthly income.

Under 10 000 CZK 41.33%

10 - 20 000 CZK 41.07%

20 - 30 000 CZK 6.67%

30 - 40 000 CZK 1.31%

Over 40 000 CZK 1.37%

No response 8.24%