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APPARENT CONSUMPTION OF SALMONID FISH PRODUCTS IN CROATIA FROM 2013 TO 2023

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ABSTRACT

By estimating food and nutrient consumption national and international bodies organizations and scientific institutions gain critical insights into consumption patterns. These insights, spanning from global to household levels, are essential for guiding effective food, agricultural, management and market policies and strategies in both the public and private sectors. This paper applies *Food Balance Sheets* to analyse official data on domestic production and trade (imports and exports), presenting the apparent consumption (net supply and per capita) of salmonid products in Croatia for the period from 2013 to 2023. During this period, the average net supply of salmonid products was 2.078 tonnes live weight. The main product categories were fresh/chilled salmonids, salmonid fillets and smoked salmonid fillets, while frozen, prepared and preserved salmonids had a lower market share. The average per capita consumption was 0.51 kg live weight. Salmonids accounted for approximately 2.5% of the total apparent consumption of fishery and aquaculture products in Croatia. In order to improve consumer awareness, the public sector should develop targeted and effective food and agricultural policies and optimize data collection related to processing. production and trade in cooperation with the private sector. Meanwhile, the private sector should increase production, expand product diversification (including filleting and smoking) and strengthen marketing initiatives.

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INTRODUCTION

Salmonids (salmons, trouts, chars, graylings, taimens, etc.) have significant economic, public health, and socio-cultural importance. They are a major traded commodity in the global aquatic food sector (EUMOFA, 2024a; FAO, 2022). In addition to being a nutritious and healthy food source (Richter et al., 2016; Rimm et al., 2018; Golden et al., 2021), salmonids are also widely used in sport and recreational fishing (Hoffmann, 1985; Gislason et al., 2017; Mordue and Moss, 2024). According to the Food and Agriculture Organization of the United Nations (FAO, 2022; 2024), salmonids have been the most important commodity in the world market of aquatic food products by value since 2013, accounting for 20% of the total value and 6.9% (4,243,000 tonnes live weight) share of total finfish production output in 2022. Since 1976, salmonid trade has grown at an average annual rate of 10.4%, surpassing the 7.2% growth rate of other aquatic food products (1976-2022). Consequently, salmonids (primarily Atlantic salmon *Salmo salar* Linnaeus, 1758) have contributed significantly to the growth of global commerce of aquatic food products over the past decades (FAO, 2024). Salmonids have been consumed by humans since the Late Pleistocene (Halffman et al., 2015), they are a relevant aquatic food at present, and will remain so in the future (Failler, 2007; 2008). Aquatic products are generally used either for direct human consumption (food fish) or for non-food purposes. Food fish are consumed fresh/chilled or processed (e.g. frozen, filleted, dried, salted, smoked, preserved). Non-food uses include the production of fishmeal and fish oil for aquaculture and livestock feed, pet food, bait in commercial and sport fishing, and ornamental fish aquaculture, as well as applications in biofuel, polymer composites, and various sectors such as biomedical, pharmaceutical, cosmetic, agricultural, food, and chemical industries (FAO, 2020; Sarkar et al., 2023). Dietary assessment methods for estimating food and nutrient intake use two main approaches: indirect (national and household level) and direct (retrospective, innovative technologies, prospective) (FAO, 2018). National consumption is estimated using official data on production, industrial use, and trade, while household consumption is based on surveys. Each approach has specific advantages and limitations, and their use depends on research goals, resources, and time constraints (FAO, 2018). At the national level, the term *apparent consumption* refers to the availability of a food product to consumers at the retail level (i.e. net supply) during a specific period (FAO, 2017). This measure does not represent actual food intake, but only the quantity reaching final consumers (i.e. food availability). The actual intake is usually lower due to losses, primarily at the household level in developed countries (e.g. storage, preparation, waste), and along the production and supply chain in developing countries (FAO, 2017). Multinational organizations and the public and private sectors of various countries often analyse aquatic food consumption at global, national, local, and household levels to inform policy planning, strategy development, and market positioning. For example, for the estimation of food shortages and surpluses, projecting future food supply needs or demands, establishing targets for production and trade, revising policies, and decision making (FAO, 2001). The *Food Balance Sheets* (FBS) have been used to analyse national food supply patterns since the early 20th century, with data on fishery and aquaculture product availability compiled globally since the 1960s (Laurenti, 2009). The analysis relies on official statistics on landings from commercial fisheries, aquaculture production, and commodity trade for eight aquatic animal groups, as defined by the FAO classification: freshwater fish, demersal fish, pelagic fish (large and small), other marine fish, crustaceans, molluscs (excluding cephalopods), cephalopods and other aquatic animals. Apparent per capita consumption is calculated by dividing available (net) supply by population. Net supply includes fisheries and aquaculture production, imports, and stock variations, minus exports and non-food needs (e.g. industrial use) (Laurenti, 2009). A similar method - *supply balance sheets* - is applied by the European Market Observatory for Fisheries and Aquaculture Products (EUMOFA) to assess the apparent consumption and monitor EU market supply, though results are used more for trend analysis than absolute values (EUMOFA, 2019a). FAO regularly compiles and publishes data on apparent consumption (net supply and per capita) of fisheries and aquaculture products globally and by country (FAOSTAT). However, the results are grouped by organisms with similar biological traits, for example “freshwater fish”, which includes both warm-water species (e.g. carps, catfish) and cold-water anadromous species (salmon, trout). FAO estimated the average apparent consumption of freshwater fish in Croatia between 2010 and 2022 at 6,502 tonnes live weight, with a minimum of 5,200 tonnes in 2016 and a maximum of 7,750 tonnes in 2011. Per capita consumption averaged 1.5 kg live weight, ranging from 1.2 kg in 2016 to 1.8 kg in 2011, 2021, and 2022 (FAOSTAT). Apparent consumption of trout in Croatia was estimated at 0.25 kg live weight per capita in 2020, which is below the average (0.59 kg) of the European Union (EU) (EUMOFA, 2023a; EUROSTAT, 2020). This study is the first detailed analysis of salmonid consumption in Croatia. It estimates apparent consumption (net supply and per capita) from 2013 to 2023 using official data sources.

MATERIALS AND METHODS

Methodology

This study applies an indirect national-level approach to estimate apparent salmonid consumption (net supply and per capita). While FAO and EUMOFA use species-based classification, these methods do not capture changes in consumer preferences for specific product types (Failler, 2007). Also, an additional limitation is that data on commercial fisheries landings and aquaculture production are recorded in live weight equivalent, whereas data on trade exchange (import and export) are recorded in net weight, which may result in negative net supply of a certain group of species after implementing conversion factors, which realistically is not possible (Failler, 2008). This paper focuses instead on product categories to provide a more accurate picture of consumption trends. The methodology used in the present paper follows the approach developed by Failler (2007) in which the equation applies components and expresses results in units of commodities (i.e. product categories) instead of units of species (Failler, 2008):

fish consumption per capita of the product category *i*, where *i* = 1…n, is based on:

$$FC_i\,(t) = NS_i\,(t) / Population\,(t)$$

where NS_i represents the net supply at time *t* for product category *i* and is defined:

$$NS_i\,(t) = Prod_i\,(t) + Im_i\,(t) – Ex_i\,(t)$$

where $Prod_i\,(t)$ represents the production of product category *i* at time *t*, and $Im_i\,(t)$ and $Ex_i\,(t)$ are the imports and exports.

The total consumption TC of all categories of products is:

$$TC\,(t) = \Sigma NS_i\,(t) / Population\,(t) = \Sigma\,[(Prod_i\,(t) + Im_i\,(t) – Ex_i\,(t))] / Population\,(t)$$

Accurate data on the production of processed aquatic foods in Croatia, such as the origin of salmonid raw material, are often unavailable, which limits the accuracy of calculations (see below). This paper follows FAO recommendations (FAO, 2001; 2017) to include both economic and non-economic production quantities in the calculation. For salmonids in Croatia, this comprises aquaculture production and retained catch from the inland sport fishery, respectively.

Data sources

This paper uses official statistics from two sources, aggregated into salmonid product categories according to the Combined Nomenclature (CN) of the EU (Commission Implementing Regulation (EU) 2023/2364). The first source was the Ministry of Agriculture, Forestry and Fisheries – Directorate of Fisheries (MAFF-DoF), providing data on aquaculture production and retained catch from freshwater sport fishing, which were classified under *fresh/chilled salmonids*. Traditionally, rainbow trout *Oncorhynchus mykiss* (Walbaum, 1792) and brown trout *Salmo trutta* Linnaeus, 1758 are produced in raceway aquaculture in Croatia, while rainbow trout and Atlantic salmon have recently been introduced into marine net cage aquaculture. In inland sport fisheries, the main species caught are rainbow trout, brown trout, grayling *Thymallus thymallus* (Linnaeus, 1758) and huchen *Hucho hucho* (Linnaeus, 1758). Rainbow trout accounts for over 95% of aquaculture output, while brown trout (54%) and rainbow trout (39%) dominate the retained catch in inland sport fishing (data not shown). Official data on processed salmonids – both product categories and quantities - from retailers and processor companies not primarily engaged in fish processing, as well as on imported raw salmonid material intended for processing, are limited. Prodcom industrial production statistics and raw material input data lack specificity for salmonid products (Croatian Bureau of Statistics 2015a, 2015b, 2016a, 2016b, 2017a, 2017b, 2018a, 2018b, 2019a, 2019b, 2020a, 2020b, 2021a, 2021b, 2022a, 2022b). Although MAFF-DoF collects data on processed fish from aquaculture producers and specialized fish processors, these also do not distinguish salmonid products (Visnić Novaković, S. pers. comm.). Therefore, in this paper, domestic production of processed salmonid categories is recorded as zero, pending the availability of reliable data. The second data source was the Croatian Bureau of Statistics (CBS), which provides commodity trade data with EU (Intrastat) and non-EU countries (Extrastat), according to CN EU. Data related to salmonids were reviewed and aggregated into processed product categories (*frozen salmonids; salmonid fillets* – fresh/chilled and frozen; *dried, salted* or *in brine, smoked salmonids*; *prepared* or *preserved salmonids*) and a non-processed category (fresh/chilled salmonids). Since the majority of the "dried, salted or in brine, smoked salmonids" category consists of smoked fillets, it is referred to here as *smoked salmonid fillets*. Generally, in import, fresh/chilled salmonid category consisted of trout (mainly rainbow trout, 52%) and salmon (mainly Atlantic salmon, 48%). The salmonid fillets and smoked fillets were dominated by Pacific salmon (94% and 98%, respectively), with the remainder being primarily rainbow trout (data not shown). Similarly, in export, smoked salmonid fillets were dominated by Pacific salmon (99%). Fresh/chilled salmonids consisted of salmon (mostly Atlantic salmon, 60%) and trout (mostly rainbow trout, 40%), while salmonid fillets included Pacific salmon (78%) and trout (primarily rainbow trout, 22%) (data now shown). CBS data on product category *Live fish* are excluded, due to its utilization as stocking material for open waters or other non-food uses. As previously noted, production data are recorded in live weight equivalent, while trade data are in net weight. Therefore, conversion factors were applied to convert the net weight of each salmonid product category into live weight equivalent. For the present paper, EUMOFA conversion factors (Annex 7, Metadata 2, Data management) (https://eumofa.eu/metadata) were applied, in accordance with

the EU CN. However, application of FBS have limitations, including potential discrepancies between net and live weight after conversion, and the absence of data on illegal, unregulated, unreported (IUU) and subsistence fishing (Lopes et al., 2017). Furthermore, the calculations of conversion factors and the final product weight are based on assumptions about the harmonised product category mixes labelled and traded under the EU CN in each specific Member State (MS) and between MS. These mixes may not be accurately represented, and data from producers or exporters/importers may be unreliable (EUMOFA, 2023a). Finally, as noted, additional limitations include potentially inaccurate or missing data on salmonid raw material imports and processing outputs. Therefore, the findings of this analysis should be interpreted with caution. Population data for Croatia were sourced from CBS estimates for the period 2013-2023 (Croatian Bureau of Statistics, 2014; 2015c; 2016c; 2017c; 2018c; 2019c; 2020c; 2021c; 2022c; 2023; 2024).

RESULTS

From 2013 to 2023, the average apparent consumption of salmonid products in Croatia was 2,078 tonnes live weight, ranging from 1,587 tonnes in 2013 to a peak of 2,680 tonnes in 2019 (Table 1). Fresh/chilled salmonids dominated with an average of 1,195 tonnes (58% of total net supply), followed by salmonid fillets with 500 tonnes (23%), and smoked salmonid fillets with 274 tonnes (13%), the latter being relevant primarily from 2013 to 2020. Negative net supply values for smoked salmonid fillets in 2022 (-686.77 tonnes live weight) and 2023 (-417.86 tonnes live weight) may sometimes occur in calculations. This is related to the lack of accuracy in production and export data, estimations of live weight equivalent, and low consumption in a specific MS. These factors require approximations, which can lead to negative values (EUMOFA, 2021a; 2023a; 2024b). Alternatively, and more probably, the negative net supply values may be the result of a lack of data on the domestic production of processed salmonid products. From 2013 to 2023, apparent consumption of frozen salmonids averaged 166 tonnes live weight (9% of total consumption), and of prepared or preserved salmonids averaged 115 tonnes (5%).

Between 2013 and 2023, the average per capita consumption of salmonid products in Croatia was 0.51 kg (live weight). The lowest recorded value was 0.37 kg in 2013, while the highest was 0.66 kg in 2019 (Table 2, Fig 1).

Consumption shows variation over the years, with some declines and peaks. The population size decreases steadily from 4.26 million in 2013 to 3.86 million in 2023. Despite population decline, per capita consumption does not show a consistent increasing trend (suggesting external market factors influence fish consumption). Variability in consumption could be linked to economic conditions, trade policies, and consumer preferences rather than just population changes.

Table 1. Apparent consumption (net supply) of salmonid products from 2013-2023 in tonnes live weight

Year/Product category	Pr (production)	Im (import)	Ex (export)	Pr + Im - Ex
2013	355.89	1,391.27	160.14	1,587.03
Fresh/chilled salmonids	355.89	770.87	14.58	1,112.18
Frozen salmonids	0.00	293.09	75.47	217.62
Prepared or preserved salmonids	0.00	34.30	1.62	32.68
Salmonid fillets	0.00	136.40	56.52	79.88
Smoked salmonid fillets	0.00	156.60	11.93	144.67
2014	380.98	1,579.72	133.52	1,827.18
Fresh/chilled salmonids	380.98	897.68	13.74	1,264.92
Frozen salmonids	0.00	216.15	39.76	176.38
Prepared or preserved salmonids	0.00	50.82	1.43	49.39
Salmonid fillets	0.00	248.33	69.72	178.60
Smoked salmonid fillets	0.00	166.75	8.86	157.89

Continued. Table 1

Year/Product category	Pr (production)	Im (import)	Ex (export)	Pr + Im - Ex
2015	684.16	1,974.64	522.35	2,136.45
Fresh/chilled salmonids	684.16	845.00	281.55	1,247.62
Frozen salmonids	0.00	350.53	84.82	265.71
Prepared or preserved salmonids	0.00	55.97	3.05	52.92
Salmonid fillets	0.00	473.87	139.19	334.68
Smoked salmonid fillets	0.00	249.25	13.73	235.52
2016	471.24	2,118.01	991.94	1,597.32
Fresh/chilled salmonids	471.24	977.23	639.45	809.02
Frozen salmonids	0.00	298.71	71.17	227.54
Prepared or preserved salmonids	0.00	63.21	21.59	41.62
Salmonid fillets	0.00	534.24	249.37	284.87
Smoked salmonid fillets	0.00	244.62	10.35	234.27
2017	399.58	2,154.16	678.32	1,875.42
Fresh/chilled salmonids	399.58	891.56	395.50	895.64
Frozen salmonids	0.00	322.58	62.55	260.03
Prepared or preserved salmonids	0.00	56.50	32.31	24.19
Salmonid fillets	0.00	525.55	123.90	401.65
Smoked salmonid fillets	0.00	357.97	64.06	293.90
2018	373.39	2,418.95	602.51	2,189.83
Fresh/chilled salmonids	373.39	997.73	242.06	1,129.06
Frozen salmonids	0.00	228.28	82.65	145.63
Prepared or preserved salmonids	0.00	65.37	16.86	48.51
Salmonid fillets	0.00	649.92	175.13	474.79
Smoked salmonid fillets	0.00	477.65	85.81	391.84
2019	374.96	3,137.74	832.45	2,680.24
Fresh/chilled salmonids	374.96	1,271.47	367.50	1,278.94
Frozen salmonids	0.00	303.24	108.91	194.32
Prepared or preserved salmonids	0.00	125.24	14.25	110.99
Salmonid fillets	0.00	853.39	173.92	679.47
Smoked salmonid fillets	0.00	584.40	167.87	416.53

Continued. Table 1

Year/Product category	Pr (production)	Im (import)	Ex (export)	Pr + Im - Ex
2020	396.29	2,555.65	611.86	2,340.08
Fresh/chilled salmonids	396.29	1,069.34	213.13	1,252.50
Frozen salmonids	0.00	93.61	51.78	41.82
Prepared or preserved salmonids	0.00	189.54	13.86	175.68
Salmonid fillets	0.00	770.73	219.99	550.74
Smoked salmonid fillets	0.00	432.43	113.09	319.34
2021	352.54	3,366.47	1,355.07	2,363.94
Fresh/chilled salmonids	352.54	1,387.36	322.91	1,416.99
Frozen salmonids	0.00	99.34	32.68	66.66
Prepared or preserved salmonids	0.00	244.36	21.16	223.20
Salmonid fillets	0.00	1,050.78	402.66	648.12
Smoked salmonid fillets	0.00	584.63	575.66	8.97
2022	428.79	3,311.46	1,728.16	2,012.09
Fresh/chilled salmonids	428.79	1,167.10	231.93	1,363.96
Frozen salmonids	0.00	162.10	49.13	112.97
Prepared or preserved salmonids	0.00	309.63	15.86	293.77
Salmonid fillets	0.00	1,139.11	210.95	928.16
Smoked salmonid fillets	0.00	533.52	1,220.29	-686.77
2023	514.04	3,595.55	1,858.63	2,250.96
Fresh/chilled salmonids	514.04	1,196.62	326.09	1,384.57
Frozen salmonids	0.00	178.21	53.85	124.36
Prepared or preserved salmonids	0.00	241.97	28.34	213.63
Salmonid fillets	0.00	1,415.63	469.37	946.26
Smoked salmonid fillets	0.00	563.11	980.97	-417.86
Total	**4,731.86**	**27,603.62**	**9,474.94**	**22,860.54**

Table 2. Apparent consumption (net supply and per capita) of salmonids in Croatia for the period 2013-2023 in kg live weight

Year	Net Supply	Population size	Per capita
2013	1,587,026.67	4,255,689.00	0.37
2014	1,827,184.06	4,238,389.00	0.43
2015	2,136,450.00	4,203,604.00	0.51
2016	1,597,316.39	4,174,349.00	0.38
2017	1,875,417.54	4,124,531.00	0.45
2018	2,189,831.88	4,087,843.00	0.54
2019	2,680,242.74	4,065,253.00	0.66
2020	2,340,080.84	4,047,680.00	0.58
2021	2,363,939.73	3,878,981.00	0.61
2022	2,012,090.00	3,855,641.00	0.52
2023	2,250,960.00	3,859,686.00	0.58

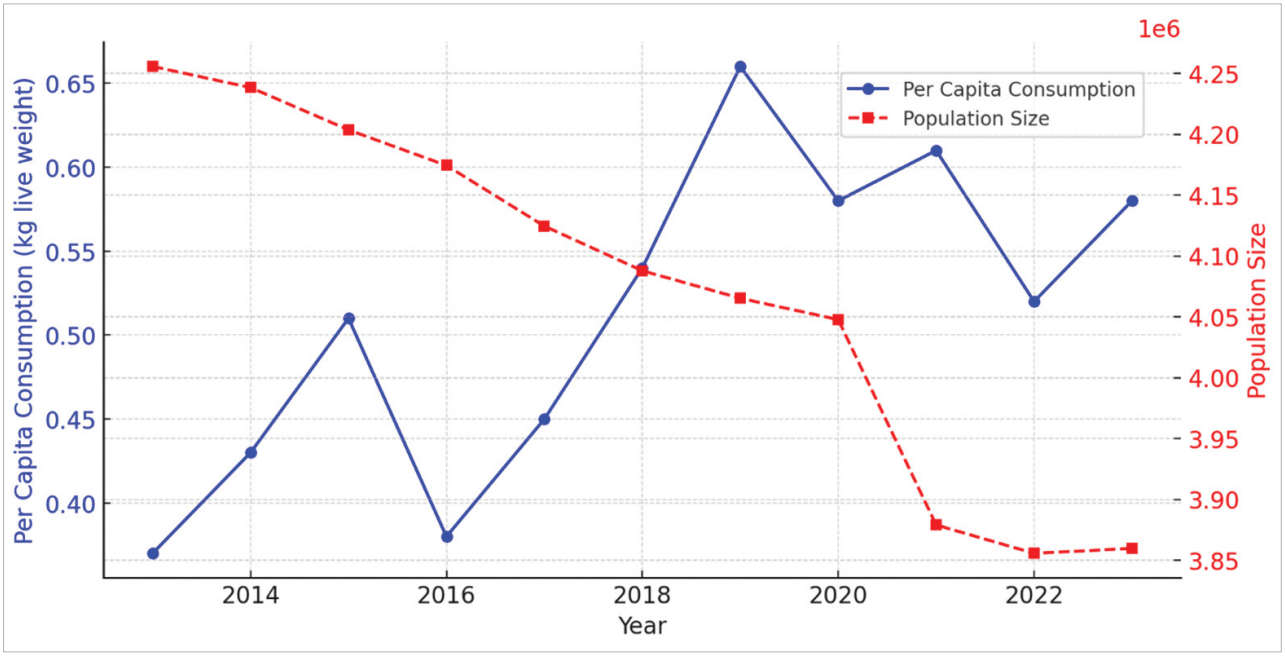

Fig 1. Per Capita Salmonid consumption vs. population size (2013-2023)

DISCUSSION

Analysis of Croatian salmonid consumption from 2013 to 2023 reveals that three categories – fresh/chilled salmonids (58%), salmonid fillets (23%), and smoked salmonid fillets (13% from 2013-2020) – accounted for the vast majority. Frozen (9%) and prepared/preserved (5%) salmonids represented a minor portion. The prevalence of fresh/chilled fish and fish fillets is also observed in the apparent consumption of all fishery and aquaculture product categories on the Croatian market from 2018 to 2023 (Ministry of Agriculture, 2021; 2023; 2024). In Poland, fresh/chilled fish, fish fillets, and smoked fish dominate the retail market for salmonid products (EUMOFA, 2021b). This trend extends to Atlantic salmon within the EU, where fillets and smoked fish are the primary consumption categories (EUMOFA, 2016; 2019b; 2020). Trout consumption in Poland averaged 0.51 kg live weight per capita from 2012 to 2016. It ranged from 0.45 kg in 2012 to 0.55 kg in 2014 (EUMOFA, 2021b). At the

EU level, trout consumption averaged 0.47 kg from 2012 to 2021, fluctuating between 0.44 kg (2012, 2014) and 0.49 kg (2016, 2020, 2021) (EUMOFA, 2023b). In 2019, trout consumption per capita was 0.87 kg in Germany, 0.45 kg in Italy, and 0.45 kg in Poland (EUMOFA, 2021a; EUROSTAT, 2019). By 2020, these figures changed to 0.91 kg, 0.44 kg, and 0.57 kg, respectively (EUMOFA, 2023a; EUROSTAT, 2020). In 2016, Atlantic salmon consumption per capita was 2.2 kg in Germany, 1.5 kg in Italy, and 1.1 kg in Poland (EUMOFA, 2020). For all salmonids in the EU in 2021, consumption was 3.13 kg per capita. This comprised 2.60 kg of salmon, 0.49 kg of trout, and smaller amounts of other salmonid species (EUMOFA, 2023b). In 2022, overall salmonid consumption slightly decreased to 2.97 kg, with 2.51 kg for salmon and 0.46 kg for trout (EUMOFA, 2024a). This decline was also seen in Croatia, where salmonid consumption fell from 0.61 kg per capita in 2021 to 0.52 kg in 2022. This decrease may be linked to reduced fish and seafood consumption during the COVID-19 pandemic (Zupo et al., 2020; Mignogna et al., 2022). Overall, salmonid consumption in Croatia is lower than in Germany, Italy, Poland, and the EU average (EUMOFA, 2023b).

Given Croatia's low annual freshwater fish consumption – estimated at 1.5 kg live weight per capita (Ministry of Agriculture, 2021; FAOSTAT) – salmonid products account for about one third (34%) of this amount. Overall, consumption of fisheries and aquaculture products in Croatia is dominated by marine species, averaging around 20 kg per capita from 2018 to 2023 (Ministry of Agriculture, 2021; 2023; 2024). Consequently, salmonids represent only about 2.5% of total fishery and aquaculture product consumption, a relatively low share compared to other EU MS. For example, in Germany, rainbow trout accounted for 7.1% of fish consumption in 2019 (EUMOFA, 2021a). The decline in Croatia's population may partly explain the slow growth in salmonid consumption, as population growth is often linked to increased fish demand (Issifu et al., 2022). However, other factors related to consumers, the market and the product itself also influence fish consumption. These include socio-demographic and lifestyle characteristics (age, gender, education, income, employment level, socio-economic status), consumer preferences, cultural attitudes, cooking skills, nutritional knowledge, product availability and accessibility, product cost, health benefits, food safety, sensory characteristics, product presentation, environmental sustainability, and other miscellaneous factors (Govzman et al., 2021; Budhathoki et al., 2022; Issifu et al., 2022; Lámfalusy et al 2025). It is important to point out that this analysis did not take into consideration the consumption of foreign tourists visiting Croatia during the year, which can be significant (e.g. Ministry of Agriculture, 2021).

Moreover, the absence of data on domestic production of processed salmonids and the origin of raw material further affects the results. Aquatic food consumption in Croatia is predominantly centred on marine species, reflecting the country's developed capture fisheries, aquaculture, and long-standing tradition. Nonetheless, increasing salmonid consumption could offer nutritional and health benefits. Fish, primarily marine oily fish, are considered a major dietary source of long-chain (LC) n-3 polyunsaturated fatty acids (PUFAs), eicosapentaenoic acid (EPA 20:5n3) and docosahexaenoic acid (DHA 22:6n3), which are associated with reduced cardiovascular disease risk (Rimm et al., 2018; Troell et al., 2019). It has been established that salmonids, especially Atlantic and Pacific salmon and rainbow trout, along with small pelagic fish (e.g. herring, anchovies, sardines, mackerel) are the best source of LC n-3 PUFAs (Richter et al., 2016; Rimm et al., 2018; Golden et al., 2021). Therefore, these findings should be actively promoted by policymakers to raise awareness among consumers, producers and retailers. This can include targeted education campaigns such as i) nutritional labelling, ii) school and public awareness programs; iii) subsidies for domestic producers, and similar actions. A successful example is Poland, where coordinated measures led to increased salmonid consumption (EUMOFA, 2021b). Therefore, relevant national authorities should develop food policies and strategies to promote awareness among consumers and producers as well as to further encourage and incentivise producers of salmonid processed products to utilize the available funds for these purposes (e.g. European Maritime, Fisheries and Aquaculture Fund). Additionally, data collection of processing production and trade data should be further streamlined for reliability. To improve reliability, the already established data collection framework related to fish processing should be amended by i) standardizing data collection across aquaculture producers, retailers, and trade authorities, ii) incorporate digital reporting tools to reduce data gaps and errors, iii) introduce mandatory disclosure of domestic processing volumes and the quantities and sources of imported raw material, allowing for more accurate consumption estimates, iv) facilitate EU-wide data integration to compare Croatian salmonid trends with other MS. Aquaculture producers should increase production output, diversify their product category production (fillets and smoked fillets) and invest more in marketing (branding, promotion).

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VIDLJIVA POTROŠNJA PROIZVODA SALMONIDNIH VRSTA RIBA U HRVATSKOJ OD 2013. DO 2023. GODINE

SAŽETAK

Procjenom potrošnje hrane i hranjivih tvari nacionalna i međunarodna tijela organizacije i znanstvene institucije dobivaju ključne uvide u obrasce potrošnje. Ti su uvidi koji obuhvaćaju razine od globalne do kućanstva od temeljne važnosti za oblikovanje učinkovitih prehrambenih, poljoprivrednih, upravljačkih i tržišnih politika i strategija u javnom i privatnom sektoru. Ovaj rad primjenjuje Proizvodno-potrošnu bilancu hrane za analizu službenih podataka o domaćoj proizvodnji i vanjskotrgovinskoj robnoj razmjeni (uvoz i izvoz) prikazujući vidljivu potrošnju (neto dostupna ponuda i po glavi stanovnika) proizvoda salmonidnih vrsta riba u Hrvatskoj za razdoblje od 2013. do 2023. godine. Tijekom promatranog razdoblja prosječna neto dostupna ponuda proizvoda salmonidnih vrsta riba iznosila je 2.078 tona žive mase. Glavne kategorije proizvoda bile su svježi/rashlađeni salmonidi, fileti salmonida i dimljeni fileti salmonida dok su smrznuti te pripremljeni i konzervirani salmonidi imali manji tržišni udio. Prosječna vidljiva potrošnja po glavi stanovnika iznosila je 0.51 kg žive mase. Proizvodi salmonidnih vrsta riba činili su otprilike 2.5% ukupne vidljive potrošnje proizvoda ribarstva i akvakulture u Hrvatskoj. Kako bi se poboljšala svijest potrošača javni sektor trebao bi razviti ciljane i učinkovite prehrambene i poljoprivredne politike te u suradnji s privatnim sektorom unaprijediti prikupljanje podataka vezanih uz preradu, proizvodnju i trgovinu. Istodobno, privatni sektor trebao bi povećati proizvodnju, proširiti diversifikaciju proizvoda (uključujući filetiranje i dimljenje) te ojačati marketinške aktivnosti.

Ključne riječi: salmonidi, unos hrane, opskrba

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