

CONFLICTS IN BALTIC FISHERIES

Bartosz Mickiewicz¹, Wojciech Brocki²

¹*Faculty of Economics, West Pomeranian University of Technology in Szczecin, Poland*

²*Faculty of Food Sciences and Fisheries, West Pomeranian University of Technology in Szczecin, Poland*

Received 29 05 2018; accepted 10 12 2018

DOI: 10.15544/njfcongress.2018.14

Abstract

The deteriorating biological conditions in the Baltic Sea, a small epicontinental sea, due to overexploitation of fish stocks has led to a decline in the condition of fish stocks, both quantitatively (reduction of shoals) and qualitatively (size of the specimens and their condition). Overexploitation of fish stocks particularly concerns the most valuable species (e.g., cod and salmon) as well as the species that they feed on (e.g., herring and sprat). The growing competition in the exploitation of Baltic fish stocks has resulted in conflicts between different types of fisheries: small scale, marine, and recreational fisheries. Coastal zones experience intense conflicts, in which case, the most disadvantaged is the small-scale fisheries operating in a short distance from the harbors. However, catches for the industrial purposes are a probable cause of deterioration of the Baltic cod stocks. According to our review, the present condition of Baltic fisheries is far from the desired state described as sustainable fishery.

Keywords: Baltic Sea, responsible fishery, sustainable fisheries, small-scale fisheries, marine fisheries, recreational fisheries

Introduction

The Baltic Sea is the youngest and one of the smallest seas on Earth. It is characterized by a lack of tides and the epicontinental character. It is located between the lands, which increases its sensitivity to disruptions from both anthropogenic and nonanthropogenic activities. Thus, the environmental changes that are occurring in the Baltic Sea are usually more noticeable than that of other seas. Marine environment of the Baltic Sea is significantly influenced by various anthropogenic factors such as overfishing and anthropogenic eutrophication. These factors are known to interact between each other as well. In addition, the intensity of exploitation of Baltic waters evokes conflicts among its users running different kinds of activities, such as fishery, which is the most traditional form of exploitation of Baltic waters. Fishing is a global industry and is a major component of generating economy. In the Baltic Sea, pelagic and demersal fishing is a major source of fish fulfilling the needs of consumers as well as delivering fish for the industrial purposes. In addition, fishing provides employment, generates income (for people and countries), as well as is a popular form of recreation. At the beginning, marine fishery used to have artisanal character and occurred not far away from the coast. Fishing was performed mainly in the coastal belt, and fish that were purely local in origin were consumed. However, nowadays, the whole Baltic Sea is undergoing intense fishing activity. The local fish stocks have reached catastrophic levels, which is one of the significant causes of conflicts within the fisheries (small-scale, open sea, and recreational fisheries) that exploit the same, depleting fish resources. Therefore, responsibility in the exploitation of Baltic fish stocks aimed at sustainable fishery has become the topic of utmost importance.

Sustainable fisheries

“Fisheries, including aquaculture, provide a vital source of food, employment, recreation, trade and economic well-being for people throughout the world, both for present and future generations and should therefore be conducted in a responsible manner” (Code of Conduct for Responsible Fisheries, FAO, 1995, p. 6). Sustainable functioning of the entire fishing sector (conventionally referred to as fisheries) is well known as the term Responsible Fisheries, as reflected in the FAO’s Code of Conduct for Responsible Fisheries. According to their definition, “the concept of responsible fisheries encompasses the sustainable utilization of fisheries resources in harmony with the environment; the use of capture and aquaculture practices which are not harmful to ecosystems, resources or their quality; the incorporation of added value to such products through transformation processes meeting the required sanitary standards; the conduct of commercial practices to provide consumers access to good quality products” (Fisheries, 2017). The Code of Conduct for Responsible Fisheries provides for the responsibilities

- with regard to the environment,
- with regard to the fish production and processing industry, and
- with regard to the consumers (Responsible, 1998).

Documents devoted to the topic of responsible fisheries to a large extent share the same positive language and one disadvantage, that is the fact that their implementation is voluntary, based on an appeal to the morality of entities involved in the exploitation of fish resources. If they were to be obligatory, such documents would effectively eliminate overfishing, thus guaranteeing an improvement of global fish stocks. However, this would entail prohibitions and obligations which might be met reluctantly by fishermen, especially in regions heavily dependent on the fishing industry which might suffer from economic hardship. Such regions exist not only in developing countries today but also in the “old European Union (EU) states.” Success in endeavors aimed at

enhancing responsibility in fisheries requires political will by the countries involved in the exploitation of fish stocks, as well as their ability and capacity to resolve socioeconomic problems. Such problems will neither be resolved at the global level nor be resolved at the EU level, but can only be resolved at the regional level, taking the local specifics into account and with the participation of fishing communities. Model practices, in turn, may be universal worldwide. “Public action may not be identified only with the state. It includes not just what is done for the public by the state, but also what is done by the public for itself” (Dreeze, 1991, p. 28). This idea was recognized by Ostrom (1990). In her case studies involving the management of common pool resources (including fish) from around the world, she observed that the resolution of problems such as those presented above lies in self-organization, in the formation of dynamic local organizations bringing stakeholders together.

Responsible fisheries more than anything else require sustainable, responsible fishing activities. Perversely, these very activities are operated in a scattered manner, extremely difficult to monitor, and far from unloading ports. If done right, in a responsible manner, they lay the ground for responsible postharvest activities. Fish caught illegally usually ends up in the black market or becomes legalized in a manner deviating from the generally accepted legal standards. For responsible, sustainable fisheries to become reality, all the components of the fishing economy must operate in a sustainable manner.

Sustainable fishing is defined in the FAO dictionary as the following:

- Fishing activities that do not cause or lead to undesirable changes in the biological and economic productivity, biological diversity, or ecosystem structure and functioning from one human generation to the next;
- or
- Fishing is sustainable when it can be conducted over the long-term at an acceptable level of biological and economic productivity without leading to ecological changes that foreclose options for future generations (FAO, 2016).

Fish and seafood obtained in a sustainable manner are caught and bred in a way which does not endanger the wild species or the environment in which they live. Fish stocks are not harvested excessively, and their exploitation does not cause harm to ecosystems. Sustainable fisheries are very important for the long-term prosperity and profitability of industries and communities which rely on fishing, both in Europe and worldwide (Nierozłęczni, 2016).

There is no clear-cut definition of sustainable fisheries. Both the aforementioned definitions meet the criteria. When fisheries are understood narrowly as fish catching, and when the term is understood broadly as the entire economic sector, the requirements are met by the definition of responsible fisheries cited earlier. Responsible fishing meets the requirement of sustainability, while sustainable fisheries must be operated in a responsible manner. The definitions provided above incorporate environmental and socioeconomic aspects, taking specifics of the fishing sector into account, referring to the popular definition of sustainable development, as laid down in the report of the Brundtland Commission (Our Common Future, 1987), as well as the documents of the Rio Earth Summit of 1992 and later conferences (Introduction, 2005, p. 1).

Figure 1 presents the factors involved in sustainable development taking sustainable fisheries into account.

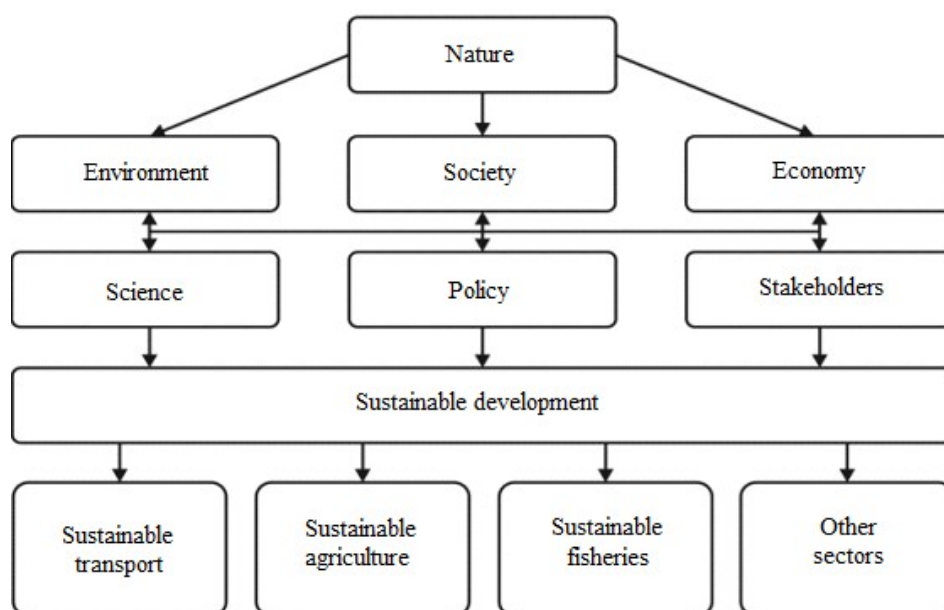


Figure 1. Sustainable fisheries in the context of factors involved in sustainable development
(Source: Own development)

The highest rank is occupied by the part of nature on whose interactions man has no influence at the current stage of development. It exerts the greatest influence on what is happening on Earth. Environment, society, and economy make up the first level of impact. Politics, stakeholders, and science account for the second level of impact. The first- and second-level impacts interact with each other. The greatest driving force for sustainable development is, or should be, politics, because at the current stage, the problems of fisheries cannot be resolved by the mechanisms of market economy alone. Nongovernmental organizations, self-governments, voluntary service, and other phenomena of the civil society are forces which assist politics or function alongside it, independently.

The industry-specific components of sustainable development include sustainable fisheries, among others. Individual areas may be identified for analysis of sustainable development. One such area may be the Baltic Sea region, covering the Baltic Basin. It provides the context for any future considerations on action for sustainable fisheries in the Baltic, which is one of the many regional seas, but still unique due to its epicontinental character.

Coastal zone as a location for potential conflicts

Coastal zone (coastal areas, according to the nomenclature of EU) is a geographical area at the junction of sea and land, spreading toward the sea and the land, whose width depends on environmental requirements and management. Its size is a function of the number of users, their technological and financial potential, as well as the possibilities of exploitation. Political, economic, environmental, and legal reasons decide on the size of coastal zone.

Coastal zone plays both economic and environmental role. Not only there are clusters of big cities and business activities, but also there are national parks, landscape parks, and other protected areas. In the coastal zone, the following types of activity may function: wind farms, marine protected areas, fisheries, underwater cables, tourism, marine transport, marine ports and harbors, sand and gravel mining, gas and oil mining, dredging, aquaculture, sport and recreation, settlement, nature conservation, coastal protection, and military use.

The essence of conflict

Conflicts in the coastal zones are diverse such as the use of land and sea, which is the primary cause of increasing conflicts in this zone, which could be avoided by the mutual limitation of the co-participants of the use of the Baltic Sea space. When there is no possibility or when there is no will to limit oneself in one of the participants of the use of marine space, or there are no appropriate legal regulations, conflicts appear. The essence of these conflicts lies in the common use of the same space of the Baltic Sea by various types of users' economic activity. Time perspective of conflicts can vary. Investments of infrastructure, such as construction of marine wind power plants, cable location or water pollution by agriculture, determine the long-term character of conflicts. Due to this, they should be preceded by extensive consultations with other users and with the detailed analyses of negative impacts as well as the possibilities of restricting and eliminating them.

In case of fisheries, conflicts with the other aforementioned types of activities as well as within the fisheries occur. The most frequently occurring conflicts between fisheries and the other types of activities are related to the occurrence of protected areas and environmental protection. Marine protected areas are those that did not previously occur on the Baltic Sea, so it is difficult for the fishermen to accept the time and spatial limitations of catches. The conflict associated with environmental protection became evident in recent years and concerns the competition between Baltic fishery and gray seal and great cormorant. These correlations were presented in the first studies within the frames of the Plan Coast project (Schultz et al., 2008, p. 36).

Conflicts inside fisheries are more complex in nature and occur (a) between small-scale, marine, and recreational fisheries and (b) between fisheries for consumption and nonconsumption purposes (which is not a topic of discussion in this study).

Conflicts inside fisheries: small-scale, marine, and recreational fisheries

“The scope of the Common Fisheries Policy includes the conservation of marine biological resources and the management of fisheries targeting them. In addition, it includes, in relation to market measures and financial measures in support of its objectives, fresh water biological resources and aquaculture activities, as well as the processing and marketing of fishery and aquaculture products...” (Point No. 2 of the preamble of the Regulation of the European Parliament and of the Council (EU) No. 1380/2013 of 11 December 2013 on the Common Fisheries Policy (CFP)). The new Common Fisheries Policy does not eliminate the causes of the majority of conflicts taking place in Baltic fishery, whose genesis consists in using common fish stocks in the same space by various types of fisheries. In addition, there is also an issue of the purpose of the obtained fish. A location where the conflicts are particularly intense is a 12-mile belt of territorial sea that is an object of exploitation of small-scale, marine, and recreational fisheries. Legal regulations of the individual Member States are effective there, but they cannot be opposite to the general principles of the Common Fisheries Policy concerning the protection of

stocks. The EU may issue recommendations and resolutions of the European Parliament; however, their implementation is not mandatory. In the aims of the Common Fisheries Policy, it has been mentioned that fishermen conducting small-scale fishing activity shall play a particular role, because of their importance in the sector of EU fishing economy. An exclusive fishing zone of 12 nautical miles for traditional fleets is to be introduced by 2022, and the Member States are to obtain recommendations to allocate the majority of the amounts to this sector, due to its low environmental impact and high labor inputs.

A practical resolution of conflicts in the coastal zone (or rather an example of a lack of resolution) can be seen on the Polish example, where trawling is prohibited within 3 nautical miles from the coast. For many years, coastal fishermen have applied to increase the length of the belt up to 6 nautical miles. It is obvious that trawling enables to achieve higher fishing efficiency than the passive tools used by coastal fishermen. Coastal fishermen functioning in short distances from ports and harbors do not have such a wide choice of fishing grounds as marine fishermen having bigger vessels at their disposal. Coastal fishermen who are economically weaker are forced to compete for fish with economically stronger marine fishermen. It occurs in the fishing grounds near ports and harbors, used by coastal fishermen, whose significance for local communities is undeniable. They fish and sell fish on local markets, where it is often processed afterwards. The additional inconvenience is the fact that the majority of coastal waters constituting the region of activity of small-scale fisheries in Poland is covered by the protected areas. Around 38% surfaces of the Polish marine protected areas are excluded from the fishing activity, which significantly restricts the access of coastal fishermen to the stocks (Węśławski, 2010, p. 518). So far, the marine fishermen lobby has been more effective. There is a lack of “reverse discrimination” of small-scale fishery indicated by the EU. This problem was discussed, among others, in 2016 at the international conference “Baltic—a small sea with big management problems” (Conference, 2016).

Another problem faced by the Baltic marine fisheries is the industrial fishing (for nonconsumption purposes). This particularly relates to the catches within the region of Baltic Proper. In case of Polish fishermen, because of the price, it is more profitable to fish sprat for feed and sell it to a Danish recipient in Bornholm than to sell it for consumption purposes in Poland. The Swedes, Finns, and Danes do not consider sprat as a fish for human consumption. In addition, Baltic herring becomes smaller as one approaches the northern boundaries of the Baltic Sea; therefore, it is not appropriate for human consumption. Intense fishing for nonconsumption purposes is considered by some environments as the principal cause of decline in the condition of sprat, herring, and cod (lean cod) stocks. There are also suggestions that the size of fishing vessels that fish in the Baltic Sea should be limited.

The final conflict within the fisheries is associated with the development of marine recreational fisheries in the Baltic Sea, which has been observed for over a decade. Marine recreational fisheries constitute a higher level of angling that has been practiced in the inland waters by millions of Europeans. “Recreational fisheries can have a significant impact on fish resources and Member States should, therefore, ensure that they are conducted in a manner that is compatible with the objectives of the CFP” (Point No. 3 of the preamble of the Regulation of 2013, mentioned in the introduction). Secondary legislation to the Regulation regulates the rules of practicing this form of recreation and also imposes on the individual states, the obligation to keep detailed statistics and to take these fisheries into account in the catch limits set for individual fish species. Previously, there was no such obligation, which used to be a source of conflicts with fishermen, both coastal and marine, who believed that, in particular, recreational fisheries for cod and salmon could have been associated with a reduction in their catches. It particularly concerned the coastal zone in the period of intense feeding and also migration associated with spawning. Due to the lack of official statistics and as thus not taking recreational fisheries into account when estimating the resources, they were called “forgotten fisheries” (Hyder et al., 2016, p. 1). The previously presented results of German studies have shown that the volume of recreational cod fisheries in the western part of the Baltic Sea is approaching the volume of commercial fisheries. It confirmed the legitimacy of the regulation of recreational fisheries within the frames of the new Common Fisheries Policy, similar as it has previously occurred in relation to the other types of fisheries. Furthermore, recreational boat fisheries can be conducted in the same regions as small scale-fisheries, with the use of the same catch methods (e.g., in Finland) and may be directed at the same fish species. The only available, quite reliable data show the following volumes of recreational cod fisheries in the Baltic Sea: Germany 2430 t (2015), Poland 1273 t (2014), Denmark 1250 t (2014), Sweden 215 t (2015), Lithuania 10 t (2014), Finland 3 t (2012), and Latvia 0.1 t (2012) (8.4.2, 2016, p. 4–6). In the first three cases, the amounts are significant.

Recreational fisheries, both marine and inland, have an enormous potential. This concerns both the number of people involved in this form of recreation and the range of the obtained fish. The estimated data from the Organization for Economic Cooperation and Development (OECD) were used for the comparison of recreational fisheries in the countries of the Baltic Sea basin with coastal and marine fisheries in the Baltic Sea (Table 1). During 2004–2014, recreational fisheries (marine and inland) obtained on an average more fish than that of small-scale fishery annually. This particularly concerns Sweden (fivefold more), Finland (almost twofold more), and Germany. A significant part of these fish was used for consumption, constituting an enrichment of diet of the inhabitants of these countries, which was not included in the statistics. In case of Sweden, Finland, and Germany, a big part of the catches originated from marine recreational fisheries. A possible further development

of marine recreational fisheries in the Baltic Sea may intensify the conflicts with coastal fishermen (cod, salmon, whitefish, and other valuable fish species). Moreover, due to the costs, fishing from the shore is becoming more popular.

Conflicts in Baltic Sea fisheries may be decreased by changes in fishery management. Within the belt of 12 nautical miles from the coast, these changes depend on the decision of countries who are the owners of the territorial sea. Above 12 nautical miles from the coast, the decisions are made at the level of the EU. In both cases, consultations with the conflicting parties should be conducted, and socioeconomic as well as environmental aspects should be considered.

Table 1. A number of fishermen and volume of catches according to the types of fisheries in the Baltic Sea basin (Source: Author's own study based on the UE and OECD materials)

Number of fishermen			
Type of fisheries	Small-scale fisheries	Marine fisheries	Recreational fisheries
<i>Year</i>	<i>2014</i>	<i>2014</i>	<i>The mean in 2004-2014</i>
Denmark	141	216	33104
Estonia	1895	175	62028
Finland	1699	148	1618500
Lithuania	142	195	..
Latvia	301	306	..
Germany	789	107	1240707
Poland	1519	966	630000
Sweden	558	296	1234758
Total	7044	2409	4819097
Fish catches (in tons)			
Type of fisheries	Small-scale fisheries	Marine fisheries	Recreational fisheries
<i>Year</i>	<i>2014</i>	<i>2014</i>	<i>The mean in 2004-2014</i>
Denmark	4875	50464	..
Estonia	10403	44365	173
Finland	14256	133968	25629
Lithuania	525	13299	..
Latvia	4484	54678	..
Germany	7136	11803	7725
Poland	12763	106490	12430
Sweden	3064	98395	16410
Total	57506	513462	62367

Summary

The management of the Baltic Sea resources is facilitated by the fact that two entities, the EU and Russia, mainly participate in it. It creates a unique possibility on the global scale to agree on important matters. Taking the size of the sea surface into account, which is under the EU's authority, it has a deciding effect on the shape of policy of the management of the Baltic Sea resources. At the same time, all the countries bordering the Baltic Sea are the members of the *Baltic Marine Environment Protection Commission–Helsinki Commission* (HELCOM). In case of fisheries, a significant part of the Baltic Sea (outside the boundaries of the territorial sea–exclusive economic zones) is subject to the exclusive jurisdiction of the EU, whereas the rest of it (territorial sea and internal waters) is under the jurisdiction of the Member States. Such condition shall facilitate the introduction of sustainable, responsibly conducted fisheries in the Baltic Sea. Meanwhile, there is a continuous decline in catches, a reduction in the number of vessels, and employment in fisheries, accompanied by a depletion of fish stocks that are exploited by fishermen competing between themselves. The conflicts are particularly intensified within the zone of up to 12 nautical miles from the coast, where the catches are the most intense. The situation is worsened by recreational fisheries that develop more and more quickly. In the coastal zone, there is a fight for the most valuable Baltic fish species (e.g., cod, salmon, and whitefish) between small-scale, marine, and recreational fisheries. The greatest disadvantage is experienced by the small-scale fisheries. They do not have any possibility to change the location of fishing and, at the same time, the location is the most important for the local communities. Industrial fishing is held responsible in affecting the poor condition of cod stocks. Deteriorating condition of the Baltic Sea resources and conflicts within the fisheries demonstrate the poor effectiveness of the Common Fisheries Policy of the EU.

References

- BROCKI, W. 2012. Odpowiedzialne rybołówstwo jako element zrównoważonego rozwoju. ZUT, Szczecin, Wydanie drugie uzupełnione.
- BROCKI, W. 2018. Uwarunkowania rybołówstwa bałtyckiego w latach 2004-2014. ZUT, Szczecin (in print).
- Code of Conduct for Responsible Fisheries. 1995. Rome. FAO, United Nations.
- DREEZE, J., SEN, A. K. 1991. The political economy of hunger. Entitlement and well being (Studies in development economics). Vol.1. Oxford University Press.
- FAO TERM PORTAL, <http://www.fao.org/faoterm/en/?defaultCollId=21>, access 21.02.2018 r.
- Fisheries Glossary. <http://www.fao.org/faoterm/en/?defaultCollId=21>, access 20.01.2018 r.
- HYDER, B. K., Recreational sea fishing – the high value forgotten catch, <https://www.ices.dk/news-and-events/newsarchive/news/Documents/Pages%20from%20ICES%20Insight%202014.pdf>, access 18.01.2018 r.
- Introduction. World Conferences Introduction. 2005. <http://www.uu.org.info/bp/intro/html>, access 11.10.2005 r.
- Konferencja – „Bałtyk – małe morze, którym trudno zarządzać”. <http://mir.gdynia.pl/baltyk-konferencja-baltyk-male-morze-ktorym-trudno-zarzadzac/?lang=en%20>, access 20.02.2018 r.
- Nierozłączni, jedz, kupuj i sprzedawaj ryby z zasobów zrównoważonych. 2016. <https://ec.europa.eu/fisheries/inseparable/pl/faq>, access 25.07.2016 r.
- OECD-FAO Agricultural Outlook 2016-2025, https://www.oecd-ilibrary.org/docserver/agr_outlook-2016-en.pdf?expires=1522969081&id=id&accname=guest&checksum=E54EB22F5C62C955F7C7E2A6B61D2709, access 10.02.2018 r.
- OSTROM, E. 1990. Governing of commons. Cambridge University Press.
- Our Common Future. www.un-documents.net/our-common-future.pdf, access 12.01.2018 r.
- Responsible fish utilization. 1998. FAO Tech. Guidelin. Respons. Fish. 7, 42.
- Rio Declaration on Environment and Development. <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>. access 12.03.2017 r.
- REGULATION (EU) No 1380/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32013R1380>, access 21.02.2018 r.
- SCHULTZ-ZEHDEN, A., GEE, K., ŚCIBOR, K., 2008. Handbook on Maritime Spatial Planning. http://www.plancoast.eu/files/handbook_web.pdf, access 20.02.2018 r.
- Sustainable development and natural resources management. 1999. [in: Conference Food and Agricultural the Organization of the United Nation]. Rome C 89/2 Sup. 2. Rome, FAO.
- WĘSŁAWSKI, J. M i inni, The different uses of sea space in Polish Marine Areas: is conflict inevitable?, OCEANOLOGIA, 52 (3), 2010. s. 518.
- World conservation strategy. 1980. <https://portals.iucn.org/library/efiles/documents/wcs-004.pdf>, access 4.07.2017 r.

Data about the authors:

Bartosz Mickiewicz, Faculty of Economics, West Pomeranian University of Technology in Szczecin, Poland, tel. +48914496902, e-mail: bmickiewicz@zut.edu.pl

Wojciech Brocki, Faculty of Food Sciences and Fisheries, West Pomeranian University of Technology in Szczecin, Poland, tel. +48914496653, e-mail: wbrocki@zut.edu.pl