CHAPTER 2

**The Southern Baltic hinterland and timber extraction during the second half of the 18th century**

Chapter I defined the main outlines of the timber supply policies adopted by the Spanish Crown, represented by the Ministry of the Navy and the Indies, in the second half of the 18th century, and analysed the most important contracts signed by the Spanish state and domestic and foreign entrepreneurs for the supply of timber from the main southern Baltic harbours, such as Riga, Memel, Königsberg, Danzig/Danzig, and Szczecin/Stettin.

These contracts offer an overview of the volume and type of trade between the southern Baltic and the Spanish maritime departments. Chapter II presents information about timber extraction in the hinterlands of the ports of Riga, Memel, Königsberg, Danzig/Danzig, and Szczecin/Stettin. These harbours were connected to the forests of the Kingdom of Prussia and the Polish-Lithuanian Commonwealth by navigable rivers, down which the felled timber was floated. The chapter also provides interesting information about the forestry policies introduced by the King of Prussia, the King of Poland, and the magnates who owned forest areas in their estates.

**Timber cutting in Pomerania and along the Odra River and its trade in Szczecin**

In 1713, Szczecin/Stettin was taken over by the Prussians and, after the Treaties of Stockholm, on 21 January 1720, the city, together with the Swedish part of Pomerania, was definitely sold for 2 million thalers to the King of Prussia, Frederick William I. In the following years, the Prussian authority consolidated in the port and its hinterland.[[1]](#footnote-1) One of the most important achievements of the first half of the 18th century was the construction of new fortifications that replaced the medieval defensive walls. Traditionally, Szczecin/Stettin, as the dominant port in the region, focused its commercial activities on the exchange of goods with Wolgast, Greifswald, and Stralsund, and, less frequently, with Rostock, Wismar, and Lubeck. Other important places for Szczecin’s trade were Copenhagen, Hamburg, Amsterdam, Rotterdam, The Hague, Ostend, Antwerp, Bordeaux, and London. Among other commodities, ships from these ports came to Szczecin/Stettin loaded with colonial products (coffee, tea, cocoa, indigo, spices), herring, liqueurs, wine, brandy, olive oil, cotton, and manufactured goods. In exchange, Szczecin/Stettin sent grain, linseed, salt, stone for construction, cloth, and large quantities of wood for the shipbuilding and construction industries as well as staves, barrel bottoms, and firewood.[[2]](#footnote-2)

The natural base from which the wood on sale in the city came were the surrounding forests, located within a 50 km radius around the Szczecin Lagoon, whence timber was hauled by road and sold on the timber market (Ger. *Holzmärkte*). According to the *Wöchentlich-Stettinische Frag und Anzeigungs-Nachrichten* newspaper, 86 logging sites were active in the jurisdiction of Pomerania in the period 1750-1771. The main logging stations were the villages of Podejuschen (with 30 mentions concerning timber-related transaction), Szczecin/Stettin (twenty mentions), Gollnow (seventeen mentions), Saatzig (twelve mentions), Hinzendorf (eleven mentions), Pudagla (eleven mentions), Damm (eleven mentions), Friedrichswalde (ten mentions), Ueckermünde (ten mentions), Nipperwiese (seven mentions), Grambin (six mentions), Dunzig (six mentions), and Moritzfelde (five mentions). Other locations within this jurisdiction feature in the record between one and three times (see Map 6).[[3]](#footnote-3)

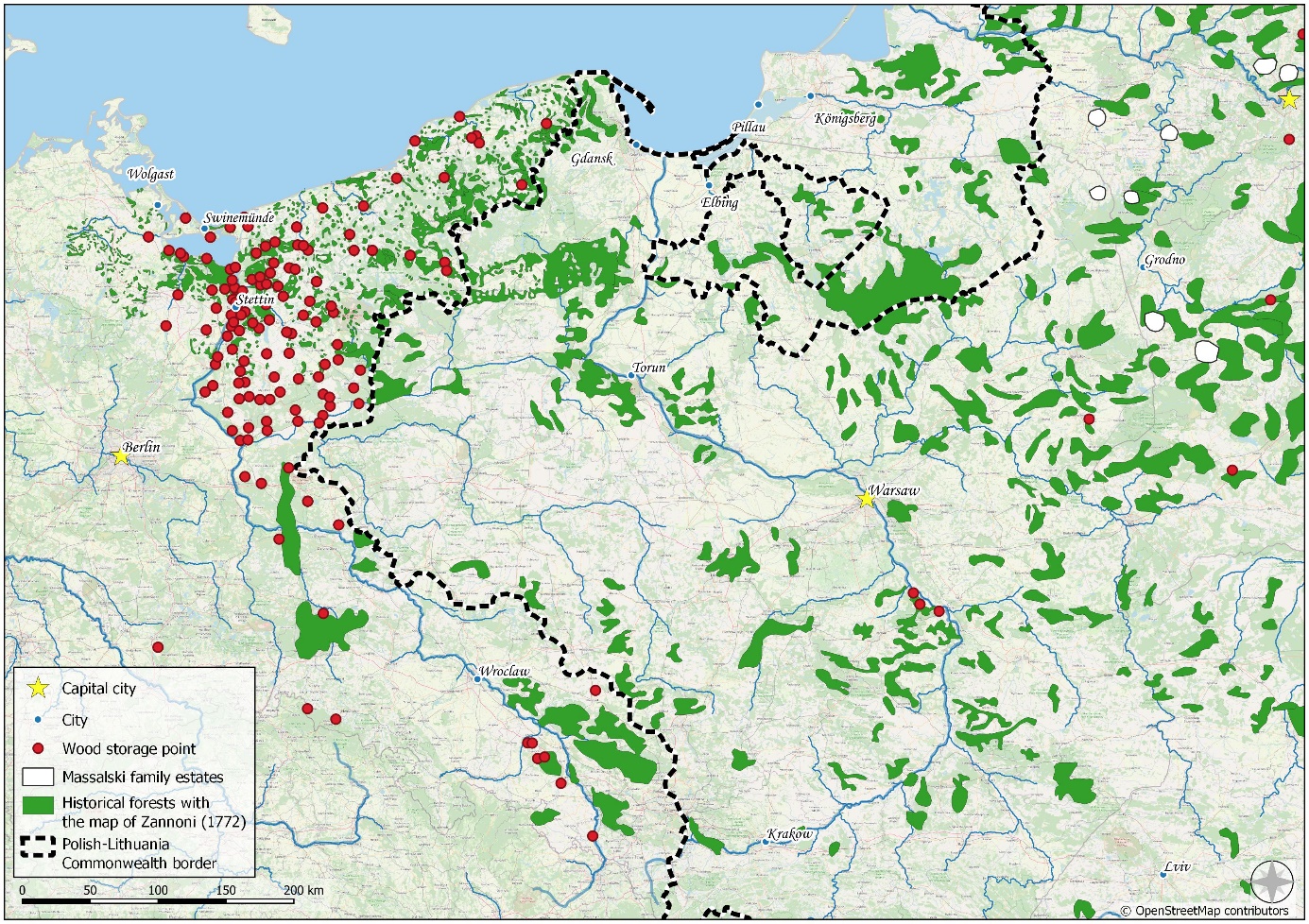
Table 20. Adverts for the sale of ship timber in Szczecin/Stettin according to the *Wöchentlich-Stettinische Frag…* newspaper (1750-1771).

|  |  |  |
| --- | --- | --- |
| **Year** | **Wood for shipbuilding** | **Origin** |
| 1750 | - 1,198 pieces of shipbuilding oak wood | Gützow |
| 1751 | - 25 oak logs for shipbuilding  - 500 fathoms of shipbuilding wood  - 94 planks of oak wood | Ueckermünde  Regalitz  Podejuschen |
| 1752 | - shipbuilding wood  - shipbuilding wood  - shipbuilding wood  - shipbuilding wood  - 60 pieces of shipbuilding oak wood  - 30 planks of oak wood  - 50 planks of oak wood | Wittstock  Ueckermünde  Nenhaus  Friedrichswalde  Pudagla  Friedrichswalde  Massow |
| 1753 | oak shipbuilding wood  oak shipbuilding wood | Bahn  Moritzfelde |
| 1754 | ------ | ------ |
| 1755 | - 200 fathoms of shipbuilding oak wood  - 25 pieces of shipbuilding oak wood | Damm  Podejuschen |
| 1756 | - shipbuilding wood  - shipbuilding wood  - 48 pieces of shipbuilding wood  - 174 pieces of ship curves | Jasenitz  Ihnamünde  Podejuschen  Lantz |
| 1757 | - shipbuilding wood | Leuenburg |
| 1758 | - 50 pieces of shipbuilding oak wood | Mühlenbeck |
| 1759 | - shipbuilding oak and spruce wood | Damm |
| 1760 | ------- | ------ |
| 1761 | - 300 planks of oak wood and shipbuilding wood  - 49 oaks, 9 large spruce beams and 14 large spruce sail blocks | Stettin  Rothenvier |
| 1762 | - 650 oaks for shipbuilding | Lippehne |
| 1763 | - 480 fathoms of shipbuilding beech wood, 1,135 fathoms of shipbuilding oak wood and 5,400 fathoms of shipbuilding spruce wood  - 302 oaks for shipbuilding, 258 fathoms of shipbuilding beech wood, 2 fathoms of shipbuilding spruce wood, 510 fathoms of shipbuilding alder wood  - 188 pieces of shipbuilding oak wood  - 12 ship curves and 100 planks  - 200 oaks and 700 fathoms of shipbuilding alder wood  - 9 pieces of shipbuilding oak wood | Royal Forests of Stettin, Ueckermünde, Pudagla and Wollin  Royal Forests of Friedrichswalde, Colbatz, Stepenitz, Göltzow, Neugardten, Saatzig, Rügenwalde and Bütow  Anclam  Ganserin  Gollnow  Podejuschen |
| 1764 | - 2 and 2.5 inch oak planks and small shipbuilding wood  - 1,060 fathoms of shipbuilding beech wood, 1,190 fathoms of shipbuilding oak wood, 2,160 fathoms of shipbuilding alder wood and 8,870 fathoms of shipbuilding spruce wood  - 400 oaks and 300 beech | Podejuschen  Royal Forests of Stettin, Ueckermünde, Pudagla and Wollin  Forest of Captain Woedtcke |
| 1765 | ------ | ------ |
| 1766 | - 256 pieces of shipbuilding oak wood  - 50 pieces of shipbuilding oak wood  - 50 pieces of shipbuilding oak wood and 30 pine trees for masts  - fourteen pine trees for masts and 4,064 shipbuilding timbers of various kinds  - 200 fathoms of shipbuilding alder wood | Graf's Podewils forests near the village of Wusterwitz  Rügenwalde  Bütow  Stettin  Gollnow |
| 1767 | - nine pieces of shipbuilding oak wood  - 36 spruce deck planks of 36 feet long | Podejuschen  Stettin |
| 1768 | - 100 pieces of shipbuilding oak wood  - 50 pieces of shipbuilding oak wood and 30 pine trees for masts  - shipbuilding wood | Rügenwalde  Bütow  Woldenberg |
| 1769 | - shipbuilding oak wood and planks  - 581 pieces of shipbuilding wood | Stettin  Stargard |
| 1770 | - 200 oak logs for planks and boards | Glogau |
| 1771 | - shipbuilding wood  - six pieces of ship curves | Friedrichswalde  Rothenvier |

Source: KPS, *Wöchentlich-Stettinische Frag…*, XVIII.15123.I/10,ST6947, for the period 1750-1771.

Table 20 presents only adverts targeted at the shipbuilding industry. It must be recalled that this type of wood only accounted for approximately 13% of all the timber channelled through Szczecin/Stettin in the 1750s. The largest market segments were firewood (over 25%), barrel staves and bottoms (about 25%), unidentified purposes (about 23%), and timber for the construction industry (13%). It is important to note that during the period under consideration Copenhagen was the main destination for ships departing from Szczecin/Stettin and Swinemünde (a satellite harbour for Szczecin/Stettin); 69.1% of all ships registered as carrying wood arrived in Copenhagen. Other important destination harbours for Pomeranian timber were London (7.1%), Bordeaux (5%), and Amsterdam (4.5%). The remaining 14.3% of ships carrying timber set sail for other European and Baltic ports.[[4]](#footnote-4)

Back to the issue of shipbuilding timber on offer in Szczecin/Stettin, it is worth noting that it came from various sources: it was sold at the timber market by merchants, *Junkers* (landowners), monks from the monastery of Saint John in Podejuschen, and the officials who managed the royal forests near Szczecin/Stettin, Ueckermünde, Pudagla, Wollin, Friedrichswalde, Colbatz, Stepenitz, Göltzow, Neugardten, Saatzig, Rügenwalde, and Bütow.[[5]](#footnote-5) Most of the wood they offered to the shipbuilding industry is generally defined as *schiffholz* (shipbuilding wood). Occasionally, the exact use of the timbers for masts,[[6]](#footnote-6) curves[[7]](#footnote-7) and hull planks is also mentioned.[[8]](#footnote-8) In some instances, the specific type of wood is also mentioned, mostly oak, but also beech, alder, spruce, and pine. In addition, not all adverts specify the exact amount of wood sold, while others refer to pieces, logs, beams, and trees.[[9]](#footnote-9) All of these confirm that Szczecin/Stettin, with its forest hinterland in Pomerania, was a major supplier of wood for the shipbuilding industry. Unfortunately, internal market data from Szczecin/Stettin do not specify exactly to whom the wood was delivered, but it can be assumed that a major part was intended for export, which is confirmed by the maritime traffic registered in the *Wöchentlich-Stettinische Frag* during the period 1750-1771.[[10]](#footnote-10)

Map 6. Wood felling and storage places in Pomerania mentioned in *Wöchentlich-Stettinische*.

Source: Look4GIS-Lukasz Brylak and Inez Beszterda based on QGIS software.

Apart from the Pomeranian forests, the newspaper also advertised wood from the Province of Neumark or the New March, whence it was shipped to Szczecin/Stettin in two ways: pulled by oxen by overland routes and in the form of logs rafts pushed down the Oder River and the Warta River (a major tributary of the Oder). The place that features in the record the most times between 1759 and 1770 was Cartzig (eight mentions). Moreover, wood from other locations – e.g. Cladow, Massin, Mückenburg, Staffelde, Neuhaus, Regenthin, and Schlanow – was also often on offer (Table 21).[[11]](#footnote-11)

Table 21. Adverts for the sale of shipbuilding wood from the Province of Neumark in Szczecin/Stettin according to the *Wöchentlich-Stettinische Frag…* newspaper (1759-1770).

|  |  |  |
| --- | --- | --- |
| **Year** | **Wood for shipbuilding** | **Origin** |
| 1759 | - 40 oak logs for planks  - 40 oak logs for planks  - 200 oak logs for planks  - 40 oak logs for shipbuilding wood  - twenty oaks logs for shipbuilding wood, twenty oaks for planks and 100 Stettin pines,  - 12 ship masts, 300 Stettin pines | Stabenow  Schwachenwald  Regenthin  Hammer  Schlanow  Mückenburg |
| 1761 | - twenty pine ship masts  - twenty pine ship masts  - twenty pine ship masts | Cartzig  Cladow  Regenthin |
| 1762 | - six pine ship masts  - twenty oaks logs for shipbuilding wood  - 25 oaks logs for shipbuilding wood  - sixteen pine ship masts  - 20 oaks logs for shipbuilding wood  - 20 oaks logs for shipbuilding wood  - ten pine ship masts  - twenty oaks logs for shipbuilding wood and six pine ship masts  - twenty oaks logs for shipbuilding wood  - 30 oaks logs for shipbuilding wood and ten pine ship masts  - twenty oaks logs for shipbuilding wood and 24 pine ship masts  - twenty oaks logs for shipbuilding wood | Regenthin  Sellnow  Schwachenwald  Cladow  Himmelstädt  Neumühl  Cartzig  Staffelde  Braschen  Driesen  Schlanow  Hammer |
| 1763 | - ten ship masts  - ten ship masts  - ten ship masts  - ten ship masts  - 25 ship masts  - ten ship masts  - 50 ship masts  - ten ship masts | Cartzig  Mückenburg  Neuhaus  Driesen  Schlanow  Massin  Cladow  Regenthin |
| 1764 | - six ship masts  - ten ship masts  - six ship masts  - six ship masts  - six ship masts | Cartzig  Mückenburg  Neuhaus  Cladow  Regenthin |
| 1765 | - ten pine ship masts  - ten pine ship masts  - six pine ship masts  - ten pine ship masts  - six pine ship masts  - six pine ship masts  - six pine ship masts | Cartzig  Neuhaus  Staffelde  Mückenburg  Regenthin  Massin  Cladow |
| 1766 | - ten pine ship masts | Schlanow |
| 1767 | - ten ship masts  - eight ship masts  - eight ship masts  - twenty ship masts  - ten ship masts | Neuhaus  Staffelde  Driesen  Schlanow  Massin |
| 1768 | - ten ship masts  - ten ship masts  - ten ship masts  - ten ship masts  - ten ship masts | Cartzig  Neuhaus  Mückenburg  Driesen  Wildenow |
| 1769 | - six ship masts  - six ship masts  - eight ship masts  - four ship masts  - twelve ship masts  - six ship masts  - eight ship masts  - eight ship masts  - six ship masts  - eight ship masts | Cartzig  Neuhaus  Staffelde  Driesen  Massin  Cladow  Himmelstädt  Wildenow  Reppen  Linichen |
| 1770 | - six ship masts  - six ship masts  - six ship masts  - five ship masts  - four ship masts  - six ship masts | Neuhaus  Cartzig  Staffelde  Mückenburg  Driesen  Schlanow |

Source: KPS, *Wöchentlich-Stettinische Frag…*, XVIII.15123.I/10,ST6947, for the period 1759-1770.

The adverts of shipbuilding timber from the forests in the Province of Neumark show that wood from there was mainly used for masts, a trend confirmed by adverts from the period 1763-1770, in which this type of products predominates, in contrast with the earlier period (1759-1762), during which the products on offer include an assortment of masts and oak logs and planks.[[12]](#footnote-12) However, it is important to note that wood on offer also included other timber products that may have also been used by the shipbuilding industry, but whose exact purpose was not made clear in the adverts. The adverts often mention masts, for example, “200 pines, and twenty beech trees”[[13]](#footnote-13) or “40 oaks, ten masts, 400 pines”,[[14]](#footnote-14), which may suggest that the entire cargo was intended for the shipbuilding industry. Cargoes coming through Szczecin/Stettin from the forests of Pomerania and the New March strongly suggest that the latter jurisdiction was mainly involved in mast production. This is indicative of the specialised nature of forest productions there, which focused on good quality pine trees, the species most often used to build spars.

Finally, timber rafts were also sailed down the Oder River[[15]](#footnote-15) from the Duchies of Silesia –which were annexed by Prussia after the First Silesian War (1740-1742) [[16]](#footnote-16)– with major storage sites in Ratibor, Flinsberg, Petersdorf, Grase, Glogau, Mangersdorf, Tyllowitz, Jägerhäuß, Schedyske, Schiedlow, and Stoberau.[[17]](#footnote-17) Stoberau was the headquarters of timber rafting down the Stoberau River into the Oder. In 1766, royal official Frick reported a shipment of approximately 3,000 cubic meters of ship timber from the forests of Dammerau toward Szczecin/Stettin. The purpose of this wood is unknown, but this and earlier reports from 1748, 1754, and 1755 confirm that this Pomeranian harbour received wood for different purposes, including the shipbuilding industry.[[18]](#footnote-18) The source of wood in Lower Silesia was the Kłodzko Valley (Ger. *Glatzer Kessel*), where the royal forests of Reusalzer, Wohlauer, Herrnstadt, Wohlau, and Neusaltz supplied durable alder and oak wood and also pine and spruce.[[19]](#footnote-19)

**Examples of forest management by the Prussian crown in Silesia, Kłodzko, and Pomerania in the second half of the 18th century**

It is worth emphasizing that the Prussian crown also carefully exploited its forest resources. This is illustrated by the royal order entitled *Holtz, Mast und Jagd Ordnung für Unser Souverainen Hertzoghum Schlesien und die Souveraine Grafschafft Glatz*, issued by Frederick II the Great on 2 December 1750,[[20]](#footnote-20) in which the monarch presented a series of important forest management rules. The royal decree consists of 26 laws, which are also broken down into sections. The laws deal with the management of forests under the jurisdiction of cities and villages, but also that of the Military and Treasury Cameras in Wrocław and Głogów, which were directly concerned with the protection and cultivation of forests. The latter aspect was addressed by the first paragraph, entitled “Von denen Holzungen und Schonung auch Anbauung derselben”, which contains thirteen points and is the most comprehensive in the entire royal order. The first two points put the felling of trees under state control and forbid timber harvesting beyond what was strictly necessary from an economic perspective. The next point forbids the sale of shipyard oak wood, boards for barrels, and other forms of cooperage unless a permit issued by the Silesian Military and Treasury Cameras was secured. The sale of wood from episcopal, monastic, or parish jurisdiction with a value of over 200 Rhenish thalers also had to be reported and supervised by the Military and Treasury Cameras. The Crown ordered owners of private forests to keep 1/10 of their forests in reserve and to afforest clearings. In point 10, the Crown prohibited the free grazing of livestock, especially goats, which ate young tree shoots and slowed down the recovery of forests. The Crown allowed for controlled deforestation for cultivation, but after the soil was depleted, these areas were to be reforested. Finally, in the last point, the King promoted the afforestation of mountains slopes in the Duchy of Silesia and the Kłodzko County, especially in those places and areas where wood was a valued product and forests grow slowly.[[21]](#footnote-21) The issue of this royal edict in 1750 – i.e. eight years after the incorporation of Silesia and the territory of Kłodzko into Prussia – shows the scale of the destruction of local forests and the previous lack of control over the wood harvested. The introduction of forestry supervision agencies, especially the Military and Treasury Cameras in Wrocław and Głogów, reduced uncontrolled logging for firewood and stimulated afforestation, especially in mountain areas of Upper Silesia. In the years 1763, 1773, 1777, 1778, 1782, and 1785, further royal decrees were published, but in many points they merely reproduced the first edict of Frederick II in 1750.[[22]](#footnote-22) It is worth noting that the king was also interested in communal areas, and from 1754 state foresters were entrusted with the supervision of communal forests, in which they were to earmark trees to be cut down and harvested; however, they did not receive a salary for this additional task, which led to these areas being poorly supervised.[[23]](#footnote-23)

In Pomerania, the Prussian kings also took care of securing forest resources and pursued a policy of afforestation. Between 1777 and 1783, several edicts were published concerning the issue of forest management. The first two were published on 24 December 1777. The first forest ordinance for Pomerania established the principles for felling, selling, taxing, and delivering wood, as well as the lease of moors (Ger. *Forstordnung für Pommern von Anweisung, Fällen, Verkauf, Taxe, und Lieferung, des Holzes, auch Einmiethen in der Heide*).[[24]](#footnote-24) The second document contained detailed instructions for forest and hill management (Ger. *Forstordnung für Pommern von Bearbeitung der Forstsachen und Verwaltung der Forstgefälle*).[[25]](#footnote-25)

Both edicts from 1777 contain instructions about forest cleaning and caretaking (e.g. ordering the removal of broken branches), and orders for forest officials to stay in logging areas. Interestingly, the instruction says that wood could be collected from whole forested areas, because the division of forests into different zones, which would later help control logging activities, had not yet been fully introduced. Although wood could be sold all year round, during fallow periods of, for example, oak and beech, only the cutting down of dry and sick trees was allowed. The harvesting of wood worth more than 20 Rhenish thalers required a license. Below this amount, it could be harvested without a license, but the forestry office had to be notified about the felling. Interestingly, cutting down young pines, spruces, and firs for boards was forbidden. However, trees blown over by the wind, dead, or sick could be used for this purpose. If there was not enough wood for planks, they could be sourced from other species such as juniper, birch, aspen, and alder.[[26]](#footnote-26) The king ordered that these species be used as a substitute for pines, spruces, and firs in construction. The instruction *Forstordnung für Pommern von Anweisung, Fällen, Verkauf, Taxe, und Lieferung, des Holzes, auch Einmiethen in der Heide* ended with a detailed table of the taxes to be collected by the Cameras in Pomerania. Table 22, presents examples of wood batches for shipbuilding, largely intended for export from the port of Szczecin/Stettin.[[27]](#footnote-27)

Table 22. Examples of tax fees for ship timber and masts from the 1777 Edict.

|  |  |  |  |
| --- | --- | --- | --- |
| **Tax on timber and masts for sale in the country** | **Western Pomerania**  **(*Vorpommern*)** | | **Pomeranian**  **(*Hinterpommern*)** |
| **Rhenish thalers** | **Pennies** | **Rhenish thalers** | **Pennies** |
| A shock of 64 pieces of oak ship nails | - | 8 | - | 8 |
| A shock *Bootsinholz* of 64 pieces, each piece up to 12 feet long and 3 to 5 inches square | 12 | - | 10 | - |
| A large ship's mast from 70 to 84 feet, 18 to 20 inches in the plait | 30 | - | 30 | - |
| A large ship's mast from 65 to 70 feet, 16 to 18 inches in the plait | 25 | - | 25 | - |
| A large ship's mast of 60 feet, 12 to 16 inches in the plait | 20 | - | 16 | - |
| An oak beam 45 to 50 feet long, 14 to 15 inches in the plait | 7 | - | 5 | - |
| An oak beam 40 to 45 feet long, 11 to 13 inches in the plait | 5 | - | 3 | - |
| A beech to the ship's keel is sold cubic by the cubic foot | - | 4 | - | 3 or 6 |

Source: APS, 65/34/0/-/5, f. 30-31. *Forstordnung für Pommern von Anweisung, Fällen, Verkauf, Taxe, und Lieferung, des Holzes, auch Einmiethen in der Heide.*

From the remaining royal edicts, it is worth paying some attention to the *Instruction* for laying clumps of acorns and, in general, on the improvement of forest management for better cultivation of oaks in the district of Łeba, published on 25 January 1780.[[28]](#footnote-28) The edict emphasizes the importance of oak for domestic, construction, and industrial uses. The text points out that despite the widespread use and high demand for oak wood, no regulations had been passed to that date to better manage this type of forest. The manual focuses on five main topics: the right time to collect acorns; storage conditions for acorns; selection of appropriate land for sowing oaks; guidance on sowing techniques; and transplanting. The document suggests, for example, that acorns are collected when a large number of them begin to fall, but that they are not collected from the ground; it is best to put a cloth underneath the tree and shake the acorns on it. The same applies to storage, where the seeds cannot lie on the ground and should be stored somewhere that is neither too dry nor too humid. The author of the manual, Schulenburg, emphasized that oak grows in many soils, often in bad ones, but that these affect growing and the wood is of poor quality. If the ground is very poor, the tree will be small, will not produce acorns, and will never have a good straight trunk. If the soil is too fertile, it will grow beautifully but its wood will not have the necessary softness, firmness, and durability, which are important when oak is used in the construction industry. Therefore, oak trees tend to yield the best wood in areas where the soil is neither too fertile nor too poor. When the young oaks have reached a height of ten to twelve feet and a thickness of one to two inches, all nearby trees of other species must be cut down as the young oaks must have room to grow. Oaks that grow too densely will be watched and the worst ones will be carefully dug up and planted elsewhere, eight to twelve feet apart. Otherwise, the density of oaks and other trees will affect their growth and the overshadowed ones will not grow.[[29]](#footnote-29)

All regulations issued in the second half of the 18th century in Silesia and Pomerania are examples of the progressive thinking of royal administration officials, who realized the importance of organizing forest management, which was an important branch of the local economy. Thanks to these measures and the support of foresters and fiscal and military cameras, it was possible to take control of tree felling and introduce taxes on various types of wood, depending on their destination. A tree planting system was introduced, which was to increase afforestation and thus lead to further use of wood as a strategic building material used in civil and industrial construction and in the shipbuilding industry. In contrast to the 1748 *Ordenanza*, which was issued to guarantee the forest resources of the Spanish Navy, the control and care of afforestation in Prussia was aimed at ensuring the continuity of wood supplies for various branches of the local and national economy, not only for shipbuilding. The common feature of the Spanish and Prussian edicts was the priority given to either economic or political interests (building warships), which took precedence over mere concerns about forest conservation or deforestation.

**Szczecin and the Spanish connection during the second half of the 18th century**

In the Early Modern Age, Szczecin/Stettin maintained its medieval commercial links with Hanseatic ports as well as Denmark, Sweden, the Netherlands, eastern England, and northern France. In the first half of the 18th century, both the merchants and the city council, as well as the Prussian king Frederick William I, were looking for opportunities to trade with other crowns, opening new shipping routes to Russia and East Prussia.[[30]](#footnote-30)

The next step in the development of Szczecin/Stettin and Prussian commercial networks were the countries of southern Europe, such as Portugal and Spain, which were seen as potential sources of wine, salt, colonial products and, naturally, silver and gold. In 1719, Frederick William I encouraged Szczecin/Stettin-based merchants to conduct direct transactions in Spain as a way to access the silver from the Spanish overseas colonies in America. The merchants from Szczecin/Stettin, however, were not particularly interested in direct trade with Spain due to the strong competition posed by the Dutch, British, and Scandinavian merchant fleets, which traditionally acted as middlemen in the trade between the Baltic and the Iberian crowns. Moreover, merchants from Szczecin/Stettin argued that their ships were too small to trade with Spain and that they did not have enough capital to enter the Iberian market permanently. One final issue was the lack of understanding of the goods demanded by Spain, as theretofore this trade had been based only on the sale of linen and cloth. The issue of trade with Spain reappeared virtually every decade during the 18th century. As a result, a Prussian consulate was established in Cadiz in 1748 to assist merchants from Szczecin/Stettin and other harbours.[[31]](#footnote-31) In 1751, a trade college was created in Szczecin/Stettin, which included influential merchants from the city. The institution aimed to develop the harbour and set the guidelines for cooperation with other countries. In 1755, the newly appointed board of the college, which included Andreas Barthold,[[32]](#footnote-32) Friedrich Schröder, Isaak Salingre, and others, tackled the issue of Szczecin's trade with Spain and Portugal.[[33]](#footnote-33) Breakthroughs were made in the 1770s and 1780s, when new consulates were established in Alicante (1770), Valencia (1770), and Barcelona (1777), and two new companies were set up. The first was the Trading Company to Cadiz (Ger. *Handlungs Compagnie nach Cadix*) created in 1771 with the active participation of Silesian merchants who had previously worked with Spanish contractors in the flax and linen sectors;[[34]](#footnote-34) the second, the Prussian Salt Company (Ger. *Saltzhandlungs-Compagnie*), was established in 1782 and had representatives in Madrid and Cadiz. Szczecin/Stettin merchants and their ships participated in both companies.[[35]](#footnote-35)

Going back to the issue of timber, as previously noted, firewood, construction timber, barrel timber, and ship timber were shipped from the port of Szczecin/Stettin. The main destinations were Denmark, the Netherlands, Britain, and, to a lesser extent, France. Spain was only a marginal player in the timber trade. However, the record is clear that Szczecin/Stettin was heavily involved in the trade of forest resources. According to data from maritime traffic in the Sund, in the second half of the 18th century a total of 50 ships left Szczecin/Stettin with timber for the shipbuilding industry.[[36]](#footnote-36) Partial confirmation of these data can be found in the maritime traffic registers kept by the publishers of the *Wochentlich-Stettinische Frag- und Anzeigungs-Nachrichten* newspaper, which in the 1750s record that 48 ships were sent from Szczecin/Stettin to three ports in Spain: Cadiz (twenty vessels), Malaga (twenty vessels), and San Sebastian (eight vessels); 31 of these ships hauled timber for barrels, and timber for shipbuilding was registered in ten instances. The other ships were loaded with grain or mixed cargoes.[[37]](#footnote-37)

**Filip Chone's visit to Szczecin and proposals for the supply of Prussian timber to the Spanish Navy in the 1770s**

Chapter 1 mentioned that, in 1768, Felipe Chone made his first trip to the Baltic to inspect the properties of local hemp and wood. In his following trip, in 1775, the *asentista* visited several harbours in the region, including Szczecin/Stettin. Chone stayed in the city in August, and at the end of his visit he wrote a report about the wood available there. His report, divided into three sections, describes the qualities and dimensions of oak boards, oak beams, and oak curves (see Tables 23 and 24).[[38]](#footnote-38)

Table 23: Dimensions and prices of oak boards in Szczecin/Stettin described in relation of Chone (1775).

|  |  |  |
| --- | --- | --- |
| Board thickness | Feet long | Price per cubic foot |
| 3-inch thick boards | 30 | 8 *Groschen*[[39]](#footnote-39) |
| 4-inch thick boards | 32-36 | 10 *Groschen* |
| 5, 6, 7, 8 and 9-inch thick boards | 32 and more | 12 *Groschen* |

Source: AGS, SMA, Asientos, leg. 624, Demostración sobre madera de roble.

Table 24: Dimensions and prices of oak beams in Szczecin/Stettin described in relation of Chone (1775).

|  |  |  |  |
| --- | --- | --- | --- |
| Beam class | Feet long | Inches in square | Price per cubic foot |
| First class | 24 | 12-16 | 9 *Groschen* |
| Second class | 23-18 | 12-16 | 8 *Groschen* |
| Third class | 17-12 | 12-16 | 7 *Groschen* |

Source: AGS, SMA, Asientos, leg. 624, Demostración sobre madera de roble.

Concerning curves and *ligazones*, the first-class pieces of oak wood were offered for 12 *Groschen* per cubic foot and the second-class ones for 8 *Groschen* per cubic foot. Chone stressed that the woods were of good quality and were always evaluated and examined by an inspector appointed by the magistrate. When carrying out the transaction, the wood was put in the water after taking its measurements. In this operation, the buyer or his representative could participate. In addition to this, Chone also added important information on measurement systems; Rhenish and Prussian feet were larger than the Spanish (91⅓ were equal to 100 Castilian feet). In addition, the *asentista*, whose calculations were in bullion *reales*, reckoned that the lion’s share of the cost went to freighting and insurance. Finally, Chone also pointed out that during his trips to the Baltic he was not only looking for timber and hemp for the Spanish Navy but also other goods. “In the ports of the Baltic, I have surveyed other resources that are also necessary for the Royal Navy, mainly salted meats, canvas, tin sheets”.[[40]](#footnote-40) This information was also in the notes that he shared with officials at the Secretary of the Navy.[[41]](#footnote-41)

In addition to Chone's activities, the Prussian side also began making overtures to supply the Spanish navy with timber for shipbuilding. In December 1776, the Prussian plenipotentiary minister in Paris, Neudi, presented a project for the supply of wood from Prussia for the construction of ships in Spain to the Spanish ambassador, Count of Aranda, including timber from Saxony, Brandenburg, and the upper banks of the Elbe River. As most of these forests belonged to the king, the general administration of the wood trade for the King of Prussia had been set up in Hamburg, and from 1776 this had supplied the French Navy with wood for shipbuilding. The destination harbour for this wood was Brest. In the offer he presented to Spain, Neudi committed Prussian contractors to serve different carved parts such as tables, curves, *genoles*, and others. In April 1777, the proposal was rejected by the Count of Aranda, who in his letter to Minister Grimaldi explained that the Prussians offered three different classes of wood at different prices, but that the offer did not improve on Spanish *asientos* already in place in the Baltic. Also, Neudi did not explain how this wood was to be shipped.[[42]](#footnote-42)

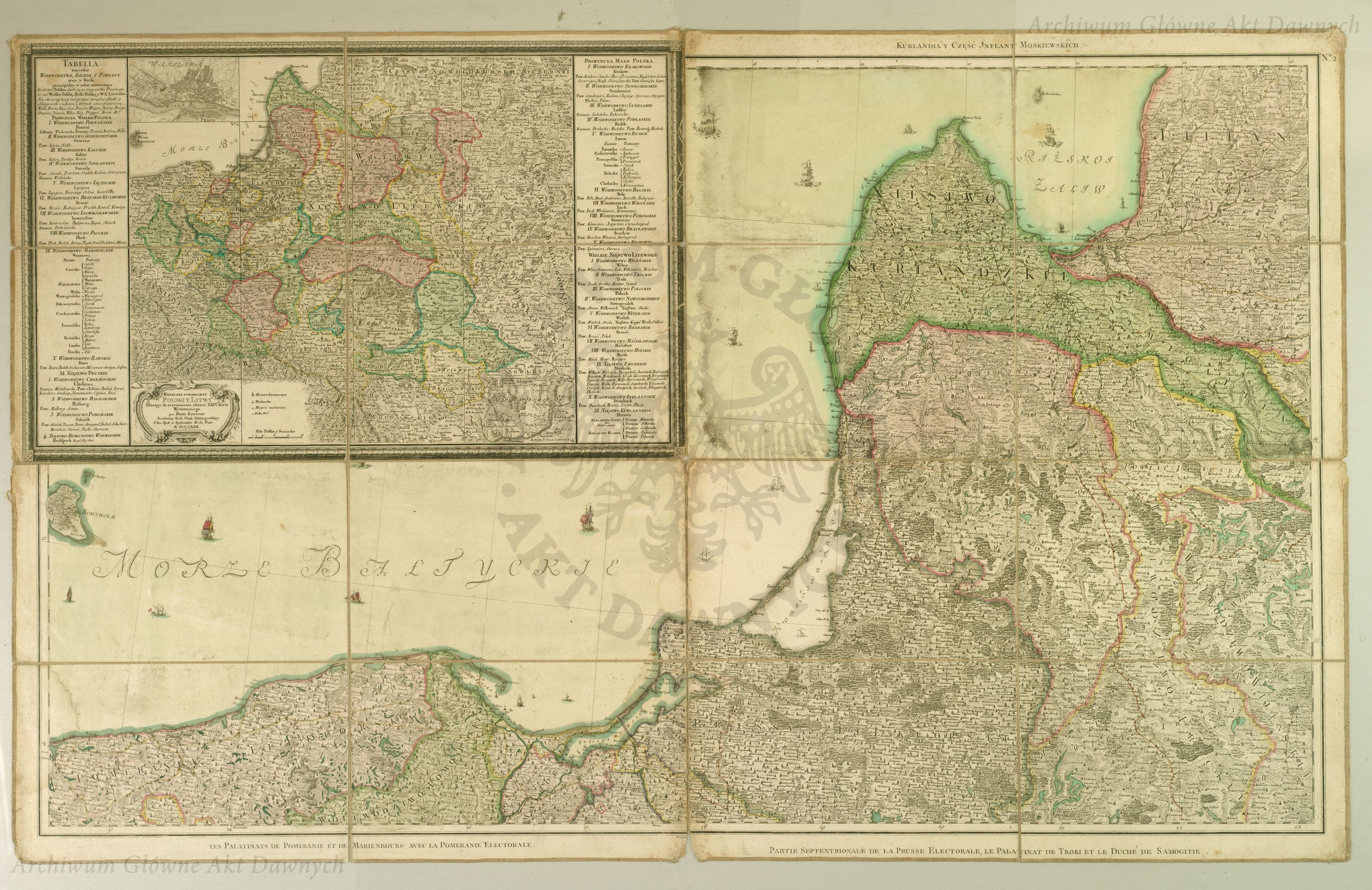
At the same time, a merchant from Szczecin/Stettin, Johann Gotte Hering,[[43]](#footnote-43) also made a proposal to provide oak and pine wood from Silesia and Poland to the Spanish Navy. On 13 May 1777, during a visit to Spain, Hering offered to bring to El Ferrol three shipments of straight wood, curves, *genoles*, and oak planks from three to nine inches, at different prices, ranging from 96 to 144 *reales de vellón* per cubic cubit for each carved piece. In his letter, Hering explained that he had experience in the wood trade, supplying Denmark and Sweden, which were crowns that, despite having their own forests, preferred to buy oak wood from Silesia and Poland, which they regarded as being of better quality. The merchant also offered to build war frigates in Szczecin/Stettin to the specifications of the Spanish Royal Navy.[[44]](#footnote-44)

In fact, after the end of the Seven Years' War in 1763, several frigates of between 30 and 50 guns were built at the Szczecin shipyard for Dutch and French contractors, as well as for King Frederick II, who later sold them to other monarchs. For example, in 1770 the Prussian king requested the construction of a large frigate at the Szczecin shipyard, which he later sold to the French Navy, which named it *Duc de Bievre*. However, the peak of shipbuilding in Szczecin/Stettin was yet to come: between 1781 and 1795, as many as 144 ships of various types were built at the shipyard.[[45]](#footnote-45)

**Timber and its trade in Gdańsk during the second half of the 18th century**

From the Middle Ages, Gdańsk/Danzig was an important commercial hub in the South Baltic, notably as a source of grain, potash, wood, linen, flax, and hemp for much of Western Europe. The port underwent significant commercial growth in the 16th and 17th centuries,[[46]](#footnote-46) but also in the 18th century, when Gdańsk/Danzig remained a major harbour, as shown by the shipping registers in the Sund[[47]](#footnote-47) and the local newspaper *Danzinger Nachrichten* (1765-1795),[[48]](#footnote-48) which published weekly freight data. The period between the end of the Seven Years' War (1763) and the outbreak of the American War of Independence (1775) was particularly profitable for the harbour (Table 25). The city’s obvious decline from 1773 onwards was related to the first partition of the Polish-Lithuanian Commonwealth, which was imposed a year earlier by Russia, Austria, and Prussia. Poland lost direct access to Gdańsk/Danzig through Prussia, and this was a major setback for the transport of goods from the interior of the Commonwealth down the Vistula River, especially with the creation of two new Prussian customs points in Nowy Port (Ger. *Nuefahrwasser*) and Fordon, which led to a diminution of trade (and the related shipping activity) between Gdańsk/Danzig and the kingdom of Poland.[[49]](#footnote-49)

Figure 6. 18th-century map showing the coast of the southern Baltic Sea from Pomerania to the Gulf of Riga.



Source: Archiwum Główne Akt Dawnych, 403 Zbiór geograficzny Stanisława Augusta, sygnatura 43, karta 33.

In the following years, Gdańsk's maritime traffic decreased, reaching its lowest level in the years 1780-1782 (see table 25), when under 500 vessels left the port every year on average. The figures indicate that in the period 1775-1784, that is, during the American War of Independence and its immediate aftermath, and average of 582 ships per year passed through the harbour. Traffic continued growing in 1784-1786, peaking in 1786 with 1011 ships (see Table 6). This was the last time in the period 1787-1795 that the number of vessels touching at Gdańsk/Danzig exceeded 1000 in a single year. Afterwards, the average dropped to 621 ships.

Table 25. Shipping in the port of Gdańsk/Danzig according to *Danzinger Nachrichten* (1765-1795).

|  |  |  |
| --- | --- | --- |
| **Year** | **Incoming ships** | **Departing ships** |
| 1765 | 1,293 | 1,273 |
| 1766 | 1,128 | 1,129 |
| 1767 | 1,127 | 1,112 |
| 1768 | 1,151 | 1,177 |
| 1769 | 1,037 | 1,024 |
| 1770 | 1,250 | 1,240 |
| 1771 | 870 | 874 |
| 1772 | 1,021 | 1,031 |
| 1773 | 785 | 757 |
| 1774 | 682 | 684 |
| 1775 | 616 | 622 |
| 1776 | 602 | 604 |
| 1777 | 652 | 615 |
| 1778 | 548 | 532 |
| 1779 | 537 | 536 |
| 1780 | 446 | 456 |
| 1781 | 502 | 489 |
| 1782 | 446 | 449 |
| 1783 | 694 | 683 |
| 1784 | 839 | 830 |
| 1785 | 844 | 857 |
| 1786 | 1,014 | 1,011 |
| 1787 | 658 | 658 |
| 1788 | 409 | 419 |
| 1789 | 518 | 511 |
| 1790 | 492 | 503 |
| 1791 | 600 | 597 |
| 1792 | 653 | 655 |
| 1793 | 761 | 833 |
| 1794 | 830 | 814 |
| 1795 | 580 | 598 |

Source: Polska Akademia Nauk Biblioteka Gdańska (Hereafter, PANBG), *Danzinger Nachrichten* exp. X3518, newspaper from 1765-1795.

The analysis of the maritime traffic recorded by the *Danzinger Nachrichten* shows that the largest number of ships loaded with timber went to Britain, which accounted for more than half of these cargoes.[[50]](#footnote-50) Ships loaded with timber arrived from the southern Baltic to Spain once every two or three weeks. However, convoys were also organized, with three or four ships sailing out at the same time. This is shown, for example, by issue 44 of the newspaper, dated 7 November 1778,[[51]](#footnote-51) and issue 22, dated 5 June 1779,[[52]](#footnote-52) which reported different batches of four ships leaving Gdańsk/Danzig for Spain. An analysis of the captains' names shows that 80% of them were Dutch, which suggests that Spain continued giving preference to their traditional Dutch freighters. More generally, it is interesting to note that in the years 1778 and 1779, when the shipment of Baltic wood to Spain from Gdánsk/Danzig peaked, Spain was the second largest customer, only behind Britain (see Table 26). In the period 1775-1785 Britain was always the main destination of timber from Gdańsk/Danzig. This confirms the Count of Aranda’s impressions during his visit to Gdańsk/Danzig: based on information provided by the city council, he calculated that 90 vessels had departed to Great Britain loaded with timber,[[53]](#footnote-53) which accounted for 53.89% of the total number of ships setting sail from Gdańsk/Danzig with wood for shipbuilding.

The British predominance is also attested in other Baltic ports during the second half of the 18th century. For instance, the British were the main recipients of Swedish iron in the period 1760-1780; in 1759, London and Hull received 43.4% of all Swedish iron, 34.7% in 1770, and 27.2% in 1780. Britain never lost its position as the leading importer of iron. From the 16th century, Sweden was the main supplier of iron in Europe, and during the second half of the 18th century almost 90% of its maritime trade involved this metal. The same situation is attested for Norwegian timber, the main destinations of which were London, Hull, and Liverpool; in 1755, for instance, 13,500 deals by the Hundred were sent to Great Britain and 12,000 to other European destinations; ten years later, in 1765, 14,000 deals by the Hundred were sent to Britain and 13,000 to other ports; and in 1780 12,500 deals by the Hundred went to Britain and 10,000 to other destinations. Britain was also the main customer for Norwegian medium and small masts in the second half of the 18th century.[[54]](#footnote-54)

The British predominance in the Baltic was also due to the size of the British merchant fleet, which in 1786 counted nearly 10,000 ships globally; the second largest fleet, the French, only had 5,268 ships, followed by the Danish-Norwegian (3,601), the Dutch (1,871), the Swedish (1,224), and the Spanish (1,202). This state of affairs allowed Britain, despite the armed conflicts in which it was involved, to hold a firm hegemonic position in most European markets, including the trade in timber for shipbuilding, a material that was not only key for the Royal Navy but also for the huge British merchant fleet.[[55]](#footnote-55)

Table 26. Number of ships loaded with timber dispatched to other European countries from Gdańsk/Danzig according to departure registers from *Danzinger Nachrichten* (1775-1784).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Year** | **Spain** | **France** | **Britain** | **Holland** | **Denmark** | **Other[[56]](#footnote-56)** | **Total** | **% of all maritime traffic** |
| 1775 | 15 | 21 | 50 | 44 | 29 | 5 | 164 | 26.37% |
| 1776 | 9 | 29 | 93 | 14 | 25 | 2 | 172 | 28.48% |
| 1777 | 21 | 23 | 101 | 3 | 27 | 2 | 177 | 28.78% |
| 1778 | 34 | 8 | 96 | 9 | 15 | 3 | 165 | 31.02% |
| 1779 | 31 | 3 | 81 | 13 | 28 | 5 | 161 | 30.04% |
| 1780 | 2 | 14 | 79 | 11 | 18 | 5 | 129 | 28.29% |
| 1781 | - | 23 | 110 | 4 | 43 | 2 | 182 | 37.22% |
| 1782 | 23 | 52 | 114 | 2 | 75 | 12 | 278 | 62.33% |
| 1783 | 9 | 17 | 70 | 15 | 36 | 6 | 153 | 22.40% |
| 1784 | 8 | 44 | 105 | 11 | 28 | 8 | 204 | 24.58% |
| 1785 | 3 | 34 | 88 | 14 | 8 | 3 | 150 | 17.51% |
| **Total** | **155** | **268** | **987** | **140** | **332** | **53** | **1,935** | **29.01%** |

Source: PANBG, *Danzinger Nachrichten* exp. X3518, newspaper from 1775-1785.

In addition to the traditional river route down the Vistula, wood was also brought to Gdańsk/Danzig by ships from Eastern Pomerania, as recorded by the sea traffic registers from the *Danzinger Nachrichten*. For example, issue 41, dated 14 October 1775, records the arrival of two timber-loaded ships, commanded by Friedrich Reuzte and Captain Jan Schonbect, in the port.[[57]](#footnote-57) These records and others –e.g. issue 31, dated 6 August 1785[[58]](#footnote-58)– confirm that Gdańsk/Danzig also acted as an *entrepôt* for timber coming from the Königsberg, Pillau, and Memel regions. Further confirmation is found in the contract suggested by Gabriel Gotlieb Schultz to Ambassador Conde de Aranda, who met this influential trader during his visit to Gdańsk/Danzig in August 1761. The proposal involved bringing timber from Riga and other East Prussian ports to Gdańsk/Danzig and forwarding them to the departments of the Spanish Navy. Schultz explained that Gdańsk/Danzig rarely received 12.5 palms thick masts, adding that the logs sailing down the Vistula to Gdańsk/Danzig were not of as good quality as the kind harvested in Riga, Memel, and Königsberg, for which reason the *asentistas* were bringing pines masts from Riga.[[59]](#footnote-59)

Data for the trade in timber coming from the hinterland of Gdansk and floated down the Vistula shows that the most desirable timber material was beams, and logs between 4 and 5 fathoms long and 3 and 4 inches thick (Table 27). Probably, this demonstrates that most of the timber harvested in the forests of the Kingdom of Poland was used to make planks, which were later mostly used in planking and dead works in European shipyards.

Table 27. Oak beams and logs floated down by the Vistula River (1775-1785).

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Years | | 1775 | 1776 | 1777 | 1778 | 1779 | 1780 | 1781 | 1782 | 1783 | 1784 | 1785 |  |
| Inches | Fathoms | Pieces | | | | | | | | | | | Total |
| 1½ | 3 | 27 | 50 | 27 | 119 | 54 | 148 | 130 | 13 | 10 | 51 | 10 | 639 |
|  | 4 | 23 | 57 | 67 | 37 | 160 | 702 | 279 | 189 | 110 | 29 | 27 | 1680 |
|  | 5 | - | 6 | 35 | 11 | 41 | 84 | 82 | 28 | 24 | 15 | 1 | 327 |
| 2 | 3 | 1840 | 2028 | 1051 | 3567 | 3615 | 2063 | 1190 | 886 | 1010 | 2110 | 971 | 20331 |
|  | 4 | 1918 | 2468 | 1574 | 2431 | 4105 | 4751 | 3740 | 2049 | 2127 | 1876 | 989 | 28028 |
|  | 5 | 432 | 908 | 523 | 848 | 1995 | 1292 | 1222 | 498 | 501 | 494 | 205 | 8918 |
|  | 6 | 24 | 136 | 81 | 107 | 193 | 186 | 129 | 53 | 49 | 67 | 31 | 1056 |
| 2½ | 4 | 877 | 1240 | 1810 | 2694 | 5254 | 3777 | 1748 | 2517 | 2802 | 3619 | 2236 | 28574 |
|  | 5 | 377 | 566 | 531 | 2015 | 2930 | 1471 | 1197 | 1233 | 1069 | 1950 | 1021 | 14360 |
|  | 6 | 22 | 91 | 96 | 188 | 322 | 336 | 409 | 208 | 307 | 564 | 314 | 2857 |
|  | 7 | 5 | 8 | 1 | 22 | 55 | 53 | 51 | 30 | 42 | 83 | 28 | 378 |
| 3 | 4 | 4288 | 2355 | 1994 | 6347 | 7667 | 8910 | 10474 | 9774 | 11360 | 11855 | 5742 | 80766 |
|  | 5 | 3970 | 3218 | 3498 | 7522 | 6366 | 8515 | 8493 | 9046 | 8039 | 9415 | 6777 | 74859 |
|  | 6 | 1102 | 1239 | 1014 | 2002 | 2750 | 2285 | 2898 | 3243 | 2817 | 4430 | 2453 | 26233 |
|  | 7 | 151 | 170 | 157 | 325 | 373 | 380 | 473 | 602 | 519 | 961 | 619 | 4730 |
|  | 8 | 15 | 8 | 1 | 26 | 31 | 75 | 60 | 74 | 77 | 140 | 82 | 589 |
| 4 | 5 | 3064 | 1786 | 2774 | 2494 | 5807 | 6062 | 7348 | 8103 | 10416 | 10251 | 4657 | 62762 |
|  | 6 | 2696 | 2266 | 2423 | 3582 | 4207 | 5781 | 6985 | 6899 | 7533 | 8846 | 3872 | 55090 |
|  | 7 | 974 | 1046 | 839 | 1257 | 1808 | 2133 | 2542 | 2471 | 2639 | 3708 | 1491 | 20908 |
|  | 8 | 191 | 116 | 142 | 222 | 307 | 376 | 527 | 472 | 604 | 946 | 302 | 4205 |
|  | 9 | 39 | 19 | 7 | 28 | 28 | 51 | 65 | 80 | 126 | 166 | 30 | 639 |
| 5 | 5 | 17 | 56 | 29 | 134 | 153 | 40 | 51 | 210 | 229 | 207 | 45 | 1171 |
|  | 6 | 9 | 34 | 20 | 5 | 42 | 39 | 34 | 48 | 140 | 32 | 36 | 439 |
|  | 7 | 2 | 10 | - | 5 | 12 | 4 | 5 | 20 | 27 | 1 | 12 | 98 |
| 6 | 5 | 32 | 145 | 65 | 69 | 72 | 61 | 106 | 186 | 258 | 18 | 4 | 1016 |
|  | 6 | 46 | 242 | 322 | 181 | 258 | 304 | 85 | 231 | 161 | 63 | 32 | 1925 |
|  | 7 | 14 | 78 | 35 | 48 | 41 | 35 | 8 | 50 | 119 | 5 | 8 | 441 |
|  | 8 | - | 7 | 6 | 2 | 1 | 2 | 2 | 23 | 22 | 1 | - | 66 |
| 7 | 5 | - | 4 | 2 | 9 | 4 | - | 9 | 19 | 29 | - | - | 76 |
|  | 6 | 3 | 15 | - | 22 | 23 | 23 | 45 | 20 | 49 | 3 | - | 203 |
|  | 7 | 4 | 10 | 12 | 12 | 16 | 57 | 14 | 12 | 15 | 15 | - | 167 |
|  | 8 | 1 | 1 | - | 3 | 3 | 4 | - | 1 | 3 | - | - | 14 |
| 8 | 5 | 4 | 4 | 2 | 2 | - | - | 73 | 16 | 32 | 1 | - | 134 |
|  | 6 | 3 | 89 | 10 | 15 | - | - | 23 | 44 | 28 | - | - | 212 |
|  | 7 | 5 | 21 | 1 | 5 | 2 | 4 | 4 | 14 | 7 | - | - | 63 |
|  | 8 | 1 | 5 | - | 3 | 1 | 1 | - | - | 2 | - | - | 13 |
| 9 | 5 | - | - | - | 2 | - | - | - | 2 | - | - | - | 4 |
|  | 6 | - | 1 | 1 | 5 | - | - | 19 | 1 | 1 | - | - | 28 |
|  | 7 | - | - | - | 1 | - | - | 2 | 1 | - | - | - | 4 |
| Total | | 22176 | 20503 | 19150 | 36367 | 48696 | 50005 | 50522 | 49366 | 53303 | 61922 | 31995 | 444005 |

Source: Czesław Biernat, *Statystyka obrotu towarowego Gdańska w latach 1651-1815*, (Warszawa: PWN, 1962), 224-225.

The shipment of large amounts of wood was possible through the convenient connection to Gdańsk’s hinterland provided by the Motława and Vistula rivers. From the Middle Ages, the Vistula and the Bug, its most important right-bank tributary, were strategic links between Gdańsk/Danzig and the Polish interior regions. In the 16th and 17th centuries, the Vistula witnessed a boom in inland navigation, linking the surrounding area of Krakow with important commercial cities such as Sandomierz, Kazimierz Dolny, Warsaw, Płock, Toruń, Bydgoszcz, Grudziądz, and, finally, Gdańsk/Danzig. The river was used to float grain, wood, potash, tar, wax, honey, flax, hemp, iron, lead, leather, meat, cloth, and linen. These commodities came from the regions of Wielkopolska, Kujawy, Mazowsze, Podlasie, and Małopolska, and even from the distant territories of Podole and Wołyń.[[60]](#footnote-60) No data exists to establish the volume of timber sailed down the Vistula River with any certainty. The data available mainly comes from the royal accounts in Gdańsk/Danzig and from customs offices on the Vistula River, which were located, among other places, in Kraków, Sandomierz, Kazimierz, Puławy, Warsaw, Włocławek, Grudziądz, and Biała Góra. River custom posts were often leased to Jewish merchants or the nobility in exchange for a fixed fee.[[61]](#footnote-61)

Concerning Crown-owned goods, we also have accounts of product turnover on the Narew and Vistula rivers for the period 1765-1767. The accounts concern timber harvested in the Białowieska Forest, because the ledgers were signed by A. Świętochowski, the commissar of Gdańsk Trade, who prepared them in the villages of Suchopol and Białowieża. The supervisor was Antoni Tyzenhauz,[[62]](#footnote-62) the general economic manager and administrator of the wood trade in the Grand Duchy of Lithuania, under the jurisdiction of which these virgin forests were at the time. The timber felled in Białowieska was sent by the Narew River to the Bug, which flows into the Vistula, and from there the wood was directly floated to Gdańsk/Danzig.[[63]](#footnote-63)

Table 28. Extraction, storage, and trade of timber from the Białowieska Forest in 1765.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Stave  [sixty] | Beams  [pieces] | Planks  [fathoms] | Logs  [fathoms] |
| Timber harvested in 1765 | 261 | 234 | - | - |
| Total timber stored in previous years | 985 | 383 | 2,940 | - |
| Timber floated and sold in Gdańsk/Danzig | 538 | 383 | 316 | - |

Source: Archiwum Główne Akt Dawnych (Hereafter, AGAD), unit Archiwum Kameralne (Hereafter, AK), reference number III/26, microfilm A-449944. Rachunek Handlowy Towarów Leśnych Spławu Gdańskiego.

Table 29. Extraction, storage, and trade of timber from the Białowieska Forest in 1766.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Stave  [sixty] | Beams  [pieces] | Planks  [fathoms] | Logs  [fathoms] |
| Timber harvested in 1766 | 1,033 | 1,091 | 1,087 | - |
| Total timber stored in previous years | 1,480 | 1,091 | 3,711 | - |
| Timber floated and sold in Gdańsk/Danzig | 926 | 380 | 890 | - |

Source: AGAD, unit AK, reference number III/264, microfilm A-449946. Rachunek Handlowy Towarów Leśnych Spławu Gdańskiego.

Table 30. Extraction, storage, and trade of timber from the Białowieska Forest in 1767.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Stave  [sixty] | Beams  [pieces] | Planks  [fathoms] | Logs  [fathoms] |
| Timber harvested in 1767 | 1,562 | 711 | 149 | 51 |
| Total timber stored in previous years | 2,116 | 1,422 | 2,970 | 51 |
| Timber floated and sold in Gdańsk/Danzig | 1,932 | 849 | 1,946 | 51 |

Source: AGAD, unit AK, reference number III/263, microfilm A-449945. Rachunek Handlowy Towarów Leśnych Spławu Gdańskiego.

Another interesting description of the royal forests is provided by a survey, carried out by a forester called Biernacki, of the Kozienice Forest, located in the upper reaches of the Vistula River, between Kazimierz and Warsaw, in April 1793. The official sent his report to the Economic Committee of the Treasury and the king Stanisław August Poniatowski. In the document, Biernacki distinguishes “barren and bare” from “good and dense” forest. He also divided the soils into different categories: sandy, dominated by shabby pines and birches; hard and good, populated by pines, birches, and oaks; and moist and fertile, inhabited by pines, birches, oaks, beeches, alders, firs, maples, ashes, lindens, white beeches, and other species. Biernacki points out that the lack of rational forest management had led to a scarcity of young pines, fir, and oak trees, and adds that trunk density did not allow for the easy growth of young trees. In addition, he points out that many handsome pines were being burned, which means that no profit could be made of them, because they could not be floated to Gdańsk/Danzig or sent to a sawmill and were only suitable for fuel. This was caused by the locals’ pernicious habit to set the forest on fire.[[64]](#footnote-64)

In the following sections of the report, the forester focused on tree-felling. He pointed to uncontrolled cutting and lack of effective clearing in felling areas, which made it difficult for young trees to grow. He claims that felling in the vicinity of the town of Kozienice was so intense that there were no trees left that could be sent to Gdańsk/Danzig and Warsaw. In addition, he drew attention to the fact that good construction timber was located far west of the Vistula, making transport to the river very expensive and unprofitable for the royal economy. On the other hand, the shallows of the Radomka River, a tributary of the Vistula, were so covered in wood that in 1793 rafting had ground to a complete halt. The official mentions that, in 1791, contracts were signed for the felling and floating of beams and staves, notably a contract granted by the local royal administration to the Jew Leybus from Kozienice, who that year produced 140 beams, which were sent to Gdańsk/Danzig. Also in 1791, the merchant Dangel signed a contract to cut wood to be delivered to the royal sawmill in Bronki to make logs and boards.[[65]](#footnote-65)

Biernacki also claims that the Royal Administrator had been trying to improve the situation in the Kozienice Forest for years, but that the foresters and rangers in his payroll did not want to fight the practice of burning or illegal logging. Similarly, they did not enforce logging contracts. The official's main conclusions were as follows:

1. Cutting was out of control, and no efforts were made to dispose of felled trees, although young ones were still planted, despite the abundance of trees.

2. Forests were not cleared of felled and blown-over trees, which posed no small obstacle for growing trees.

3. Due to recurrent fires, many of the trees were useless.

4. The clearing of large areas of the forest near Kozienice and near the village of Stanisławów for fields and meadows created a problem for the transport of wood to the Vistula by road.

5. The bad habit of constantly breaking up new soil prevented the forest from regenerating and left abandoned agricultural land barren.

6. Locals took livestock to graze in the forest, and this destroyed young trees, and adult trees lost their bark, leading to the release of resin and the trees drying out.

7. Young, healthy, and beautiful pines and oaks, from 30 to 40 years old, were cut down for fuel, charcoal, and fences, because pines burned easily and oaks were even and suitable for garden piles.

8. Due to the earlier felling of trees to be sent to Warsaw and Gdańsk/Danzig, the forest had thinned out, and violent winds broke trees more easily.

9. Some areas had become so overgrown with grass that the seeds falling from trees did not germinate or did so in untidy ground and decayed.

10. Most of the soil was poor, and trees required many years to grow.[[66]](#footnote-66)

**Some information about forestry knowledge and forest management policy in the Polish-Lithuanian Commonwealth during the second half of the 18th century**

It should be emphasized that the forests belonged to the crown and the nobility. Often, influential aristocratic families leased royal land (Pol. *królewszczyzny*) for their own use. In the Grand Duchy of Lithuania, large royal estates were managed by such families as the Radziwiłł, the Sapieha, the Massalki, and the Branicki.[[67]](#footnote-67) Royal forests, despite being managed directly by royal officials –the Grand Crown Huntsman or the Lithuanian Grand Huntsman– and their foresters, guards, and rangers, were not always adequately protected against the predatory activities of peasants and noblemen who illegally sourced them for wood or felled them to expand their agricultural estates.[[68]](#footnote-68) An attempt to reform the management of the royal forests of Niepołomicka, Kozienicka, Sandomierska, Tuchola (to 1772), Białowieska, Persztuńska, Przełomska, Nowodworska, Olicka, Kidulska, Stryjowska, and Bersztańska, located both in the Polish Crown and in the Grand Duchy of Lithuania, was undertaken in 1765-1780 by Antoni Tyzenhauz, an official that enjoyed the trust of King Stanisław August Poniatowski. Tyzenhauz separated forest areas from agricultural land, and divided forests into plots to measure them and create maps with which to improve their administration and increase control over the management of forest resources. However, his reforms met with resistance, especially among the aristocrats that leased royal land in the Grand Duchy of Lithuania, who resented their forestry practices being culled, notably the Radziwiłłs, who reaped enormous profits from these forests but left them devastated.[[69]](#footnote-69)

In any case, there were also powerful magnates who were interested in the protection of their forest resources, as did the Grand Chancellor of the Crown, Andrzej Zamoyski, who in 1775 issued a document entitled *Instruction on the Manner of Forest Management* for his estates in Krzeszów and Cieszanów.[[70]](#footnote-70) In this document, he regulates felling policies and ordered the planting of new trees to replace felled ones. Zamoyski renewed the ordinance in 1785. It is interesting to note that the Zamoyskis were familiarised with Prussian forest legislation, and that the Grand Chancellor invited German foresters to manage his woodland.[[71]](#footnote-71)

Also in the second half of the 18th century, the Seym debated the need to protect the royal forests. However, a specific legal act was issued only in 1778, when, already after the first partition of the Polish-Lithuanian Commonwealth, King Stanisław August Poniatowski issued the *Universal Relative to Forests and Conifer in the [Polish] Crown and in the Grand Duchy of Lithuania*,[[72]](#footnote-72) confirming the ravaged state of the country’s forests: “citizens show no moderation in managing the forests; encouraged by profit, they ravage them”.[[73]](#footnote-73) This damage was mainly related to the increased demand for wood for house and ship construction as well as for the production of tar and potash, largely intended for export to England, the Netherlands, Denmark, France, and Spain.

**Spanish knowledge about Poland, based on the description of the Count of Aranda during his trip to Gdańsk**

The Count of Aranda made a diplomatic trip to Warsaw and Gdańsk/Danzig in August 1761, with the aim to revive trade between Poland and Spain. During his journey down the Vistula, he wrote down an interesting description of the river. He begins by noting that the sources of the Vistula or Weixel River are in Upper Silesia and the Principality of Teschen (Pol. Cieszyn). Then the river enters Poland and passes through Krakow, Sendomir (Pol. Sandomierz), Warsaw, and many other towns, especially after it enters Royal Prussia. From the Silesian border, it is already navigable for timber rafts and other purposes, so that, counting with all its meanders, it forms a 120 miles-long navigable waterway. It always runs smoothly, and there is not a sector in its course that cannot be passed at night as well as during the day when the flow is strong enough. It is, in fact, too wide, but there is no solution for this because the whole country is flat and when the water rises it brings so much sand that the bed keeps rising and the waters spread more widely; this could only be solved with a continuous dam, which would be very costly. From Cracow to Thorn (Pol. Toruń), in Prussia, both shores are covered by forest, which only thins out in the vicinity of Warsaw; in Prussia, the forests are less thick and farther from the water. Five miles below Warsaw, the Buch (Pol. Bug), which flows down from Lithuania and is also navigable for most of the year, empties into the Vistula.[[74]](#footnote-74)

The Spanish ambassador noted that no other river in Europe would be more comfortable for navigation or could be more useful should the inhabitants of its banks be less indolent and make more of the goods brought by ships. Throughout its course, the banks are so equal that in the towpaths are no more than one or two yards above the river, so ferrying the boats could not be more comfortable for the horses. It is true that the river, particularly below Warsaw, has many islands; but all the channels on both banks have enough water, so only if the skipper is drunk, which they usually are, can boats run aground. The bottom of the river, which is frequently and carefully examined below Warsaw, has always been found to be firm and sandy and free from stones and mud. At Thorn, the first city of Prussia, the river passes under a wooden pilot bridge that usually suffers with the yearly floods, more because of the brush and sheets of ice that it brings than because of the speed of the water. Below Mewa, the Vistula River branches into two; the right arm goes through Marienburg (Pol. Malbork) towards Elbing (Pol. Elbląg) and ends in the Haff (Ger. Frisches Haff; Pol. Zalew Wiślany); this arm carries with it almost two thirds of the water; the left arm runs towards Dirschaw (Pol. Tczew) and Gdańsk/Danzig. Three miles below Dirschaw and three miles above Gdańsk/Danzig, the left arm branches again into two: the much larger right arm takes a sharp turn to the right and runs into the Haff after four miles; the left arm, which by this point only carries from 1/8 to 1/10 of the overall flow, turns towards Gdańsk/Danzig, which is three miles from the point where the river branches out, and one mile pass the city it enters the roadstead. Only the smaller branch that reaches Gdańsk/Danzig retains the name of Weixel or Vistula, because the largest branch goes by the name of Nogat and the other by that of Haff. The Vistula is so small and is loaded so much that the greatest bottleneck for the boats is found a mile above Gdańsk/Danzig; boats often find no more than two feet of water and it becomes necessary either to lighten small boats or wait for the water to rise to reach the city; it can thus be said that the biggest obstacle is found in the most unlikely place.[[75]](#footnote-75)

Finally, Aranda concludes that the largest branch of commerce in Gdańsk/Danzig is dealing with Polish goods, and that the entire region lives of trade. The Poles find many buyers for their grain, which is sold even before it has arrived, and have the certainty to find the same buyers again in the future. The people of Gdańsk/Danzig could not live without the Poles and, reciprocally, neither could the latter live without the former. The Poles carry out this trade by going downriver themselves, bringing top, medium, and inferior quality wheat; barley; ashes, which they call “*potasse*” and “*wedasse*”; construction timber and firewood for use in the city; hemp; linens; oils of different seeds to burn; wax; honey; Hungarian wines; coarse fabrics to pack meat for the supply of Gdańsk/Danzig, all of which are key for the Gdańsk/Danzig export trade.[[76]](#footnote-76)

**The Radziwill: timber felling and trade with Königsberg, Memel, and Riga[[77]](#footnote-77)**

This section presents the network created by the Radziwiłłs, one of the most influential families in the Polish-Lithuanian Commonwealth, for the extraction and commerce of timber in the forests under their stewardship.The profits reaped from trade in various products constituted the basic, if not the main, source of income for this wealthy family.[[78]](#footnote-78) The family’s economic records present an extensive and well-organized system of production and trade, a veritable economic powerhouse in the eastern territories of the Polish-Lithuanian Commonwealth. The Radziwiłłs, like other aristocratic families, set up a complex system of trade, managed by qualified officials who controlled different branches of production and transport.[[79]](#footnote-79) The Radziwiłłs, who exported most of their goods through the Baltic ports, had close contacts with the most important European merchants and commercial organizations in the territory of the Commonwealth.[[80]](#footnote-80) Their complex manufacturing and commercial system provided the Radziwiłłs with financial stability and not only economic but also significant political leverage in the region in the turn of the 19th century.[[81]](#footnote-81) It was during this period, after a short period of stagnation caused by the fall in demand for Polish grain (which was the Polish-Lithuanian Commonwealth's main export ), that Polish wealthy families found their place also in the timber trade.[[82]](#footnote-82) The main route used by Polish magnates to float the timber was the Vistula, but also its tributary, the Bug, which connected the fertile and forested south-eastern territories of Podole, Wołyń, and Podlasie with Elbląg and Gdańsk/Danzig. On the other hand, the aristocratic estates to the east and north-east of the Polish-Lithuanian Commonwealth depended on the Pregoła, Łyna/Alle, Neman, and Daugava rivers to bring their goods to the harbours of Königsberg, Memel and Riga.[[83]](#footnote-83)

The development of the British, Dutch, French, Spanish, Danish, and Swedish navies raised the demand for shipbuilding timber in the 18th century, leading merchants and wealthy aristocrats to create new centres of wood production around the forests in the Grand Duchy of Lithuania, in particular around the rivers Neman and Daugava. These changes, in turn, resulted in the development of a complex system of production, rafting, and sale of wood in aristocratic estates, and the intensification of contacts between Polish-Lithuanian nobles and merchants and their European counterparts.[[84]](#footnote-84)

**The Radziwiłłs’s land and forest estates**

The first stage in the wood trade cycle was the preparation and selection of logging and wood-dressing areas. The analysis of this process is an important aspect in the study of the business model set up by the Radziwiłłs in the 18th century, and it first requires logging areas to be determined and the administration system to be understood. The records mention thirty-three toponyms that refer to forests or afforested estates. Almost all of them were located in modern Belarus, the few exceptions being in modern Lithuania, Russia, and Poland. These estates belong to a category known as “magnate estates”. In the 18th century, there were over twenty “magnate estates” in the hands of over a dozen of the most important families in the Polish-Lithuanian Commonwealth. These estates, which were divided into *królewszczyzny* and *ordynacje* estates, were the largest and best managed aristocratic estates in the country*.*[[85]](#footnote-85) As aristocratic authority increased, some crown-owned lands were leased to noble families, who also took over their administration.[[86]](#footnote-86) The profits reaped from these leases were an important source of income for these magnate families. In the 18th century, the Radziwiłłs were in control of several royal estates, both in the Kingdom of Poland and in the Grand Duchy of Lithuania. Most of these leases were granted while Karol Stanisław was the head of the family in the 1680s and 1690s.[[87]](#footnote-87) Karol was the nephew of the reigning king, Jan III Sobieski, who, in support of his nephew, handed him over the Crown’s richest estates in Poland, including, among others, the Człuchów and Przemyśl *starostwo*,[[88]](#footnote-88) and also a number of Lithuanian estates in the Krzyczew, Kamieniec, Brasław, Niżyn, and Vilnius districts. Despite their great economic importance, at least officially these lands were not the main sources of the timber sold by the Radziwiłłs.[[89]](#footnote-89) According to forest laws, which began developing in the 16th century, royal forests were spared from tree logging, at least in relative terms. The regulations stated that, in the crown lands, access to wood or brushwood was to be limited to local logging, organized by individual subjects in time of need and intended for construction and fuel.[[90]](#footnote-90)

As a result, the activity of aristocratic families on leased land was also limited. It is now known, however, that the Radziwiłłs and other magnates clandestinely carried out mass felling also in crown lands even if, in order to dodge the law, the records make no mention of royal forests as a source of timber. The toponyms and geographical names mentioned in the record suggest that the forests in the vicinity of Vilnius (north of the Jašiūnai forest, which belonged to the Radziwiłł family) [[91]](#footnote-91) and in the vicinity of Newel and Połock (areas of the Newel, Uświat and Sieruck forests) were exploited intensively. At any rate, based on the record, it can be assumed that crown lands provided only a small proportion of all the wood. They are also mentioned mainly in early documents from the 1740s and 1760s. The main source of wood for the Radziwiłłs, based on the number of mentions, were forest areas located within their family estates, called *ordynacje*, which constituted the main part of their “magnate states”.

*Ordynacje*[[92]](#footnote-92) meant both the institution and the land on which it applied. This form of ownership is understood as a large noble estate with a characteristic inheritance system, which ensured that it remained undivided and in the hands of the family. The laws of *ordynacje* of the Radziwiłłs, established in 1586, categorically forbade daughters and their descendants to inherit. In the absence of a male successor, *ordynacje* assets were to fall to the second line of the family (and therefore to the owner's brother or his male descendants). *Ordynacje* existed across the Polish-Lithuanian Commonwealth and had parallels in other European regions, such as entails or *mayorazgos*, among others.[[93]](#footnote-93)

The Radziwiłłs' most important landed properties were the territories around the cities of Ołyka, Kleck, and Nieśwież. These *ordynacje*, apart from their important administrative role for the family, were also their main source of income. Particularly important was the area of Nieśwież, which included, among others, Naliboki with its glassworks and a huge forest complex. The exploitation of the woodland was extremely important for the Radziwiłłs’ economy. The Naliboki forest, later divided into smaller forests, was their basic source not only of wood, but also meat and other forest commodities throughout the 18th century.[[94]](#footnote-94) At the same time, in the Nieśwież district, forest areas located to the south, such as the forests of Nieśwież, Arciuchowska, and Odcedzka, along with the primeval forests in the vicinity of Mikołajewszczyzna, were also exploited. In 1760, the property of the Radziwiłł expanded to include Birże, Dubingiai, Biała, Słuck, and Kopyła. The forests located there were also used to harvest wood, especially after they were incorporated into the Radziwiłł "state". However, especially in the late18th century, the Neśwież district played a dominant role in the production and trade of wood (see Map 7).[[95]](#footnote-95)

Table 31. Radziwiłł wood production centres (1744-1766)[[96]](#footnote-96)

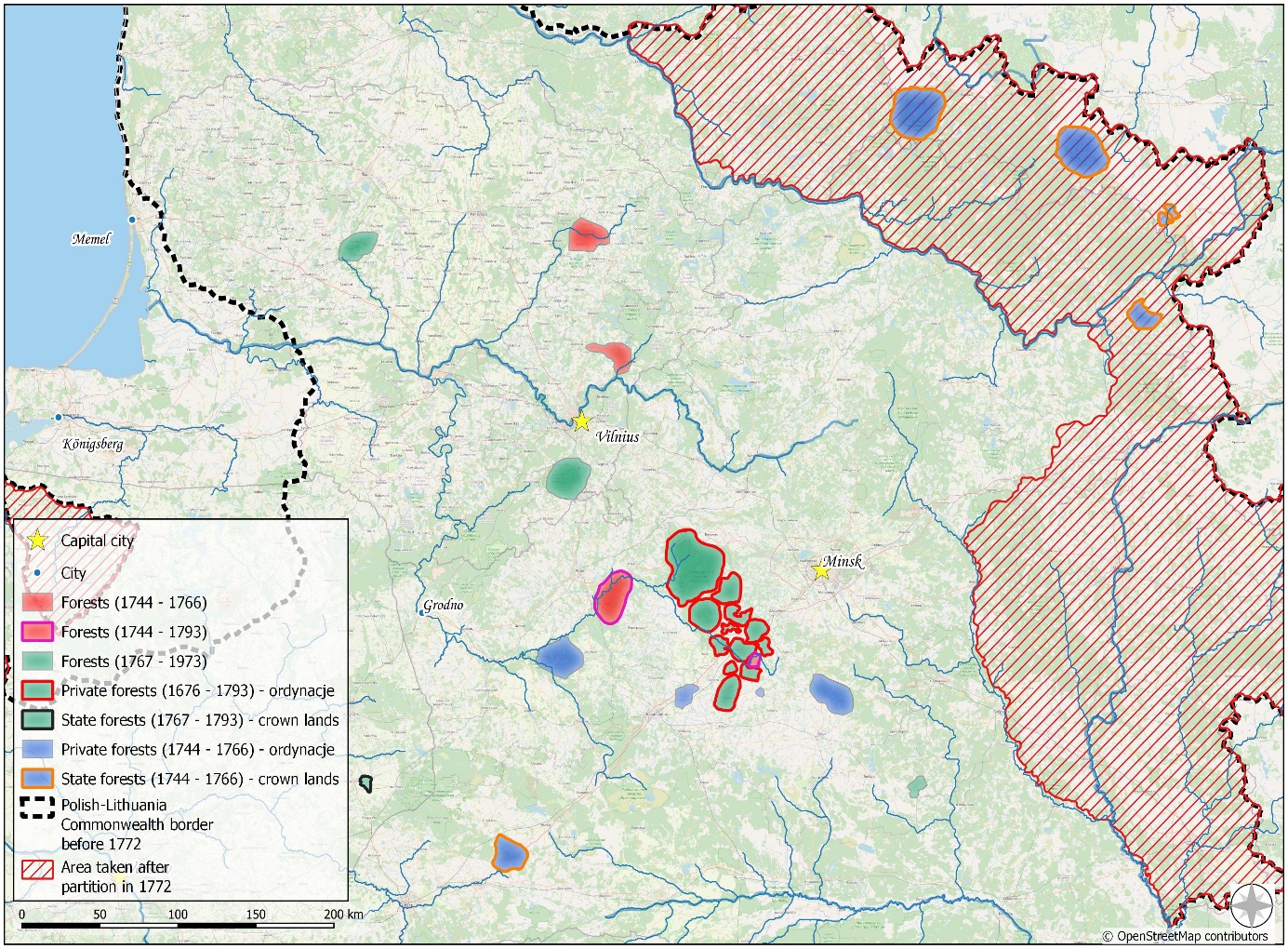
|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Forest** | **1744** | **1745** | **1746** | **1747** | **1761** | **1763** | **1765** | **1766** |
| Amhowicka |  |  |  |  |  |  | X |  |
| Dokudava |  |  |  |  |  |  | X |  |
| Dubingiai |  |  |  |  |  | X |  | X |
| Hresk |  |  |  |  |  |  | X |  |
| Lipiczańska |  |  |  |  |  |  | X |  |
| Mogilno |  |  |  |  |  |  | X |  |
| Newel | X | X | X | X | X |  |  |  |
| Pogorzelce |  |  |  |  |  |  | X |  |
| Ryhalska |  |  |  |  |  |  | X |  |
| Siebież | X | X | X | X | X |  |  |  |
| Sieruck |  |  |  |  | X |  |  |  |
| Uświat |  |  |  | X |  |  |  |  |
| Sverinovo |  |  |  |  |  |  | X |  |
| Szichowicka |  |  |  |  |  |  | X |  |
| Szutkowska |  |  |  |  |  |  | X |  |
| Vyžuonos |  |  |  |  |  | X |  | X |

Source: AGAD, WAR, Kolekcja XX-Handel Rzeczny exp. 32, 80, 112 for the period 1744-1766.

The earliest register of wood logging in the Radziwiłł estates dates to 1744-47, specifically in the three primeval forests located in the Połock region, next to the northern Belarusian-Russian border.[[97]](#footnote-97) As noted earlier, in lands that were not under the *ordynacje* regime, the royal law was in force, which was also applied to forest management. Despite the restrictions, however, the Newel and Siebież forests were used by the Radziwiłł family, especially as a source of wood for masts, which were generally rafted to Riga. In 1746, there is also a single mention of the rafting of logs from the Uświat *starostwo*.[[98]](#footnote-98) Despite this single mention, the harvesting of wood in Radziwiłł estates took place mainly in the vicinity of Newel and Siebież. Even in 1761, when this locality frequently features in the record, this includes only one mention of wood harvesting, in the Sieruck Forest, which was situated in the Połock region, east of Vitebsk (see Table 31).[[99]](#footnote-99)

In the following years, the Lithuanian estates became the dominant sources of wood for the Radziwiłłs.[[100]](#footnote-100) At that time, the Dubingiai and Vyžuonos forests played a significant role. They were the only places mentioned as sources of wood in 1763,[[101]](#footnote-101) 1766,[[102]](#footnote-102) and 1767.[[103]](#footnote-103) As noted, both forests are located in the Duchy of Lithuania. The main locations for this branch of the Radziwiłł family were the towns of Dubingiai, located about 45 km north of Vilnius, and Vyžuonos (about 100 km north of the Lithuanian capital). This *ordynacje*, which also included forest complexes, played a crucial role for this magnate family. These forests are mentioned as production centres for different types of wood product, like logs, timbers, masts, and staves.[[104]](#footnote-104) One key advantage of the Dubingiai and Vyžuonos Forests was their location in the north-eastern region of the Polish-Lithuanian Commonwealth, a relatively short distance away from two important Baltic ports: Königsberg and Memel.[[105]](#footnote-105) During the period 1763-1767, these cities were the main hubs for the exportation of wood to other European countries. In addition, there is also information about the rafting of logs to Vilnius, which was probably the main storage centre for timber. The dominance of Lithuanian forests ended after 1767. In later years, there is only one mention about wood harvesting at the Dubingiai forest in 1778.[[106]](#footnote-106)

Map 7. Forests belonging to the Radziwiłł family from timbres were sent to Baltic ports in Königsberg, Memel and Riga.



Source: Look4GIS-Lukasz Brylak, Karolina Juszczyk and Daniel Prusaczyk based on QGIS software.

The situation in 1765 is of great interest. It is the only year in the 1760s in which forests outside Lithuania are mentioned in the record. Two documents from this period yield information about the mass production of wood of various types in ten different forests:[[107]](#footnote-107) Dokudava, Hresk, Lipiczańska, Mogilno, Pogorzelce, Ryhalska, Sverinovo, Amhowicka, Szichowicka, and Szutkowska. Most of them were part of the *ordynacja* of Nieśwież or were in its immediate vicinity. Dokudava and Lipiczańska are located in the western part of the *ordynacja*, where the Radziwiłłs used the wide local roads to transport their wood; the Mogilno, Pogorzelce and Sverinovo forests, located in the southern part of the Nieśwież district, also played an important role as sources of wood for construction and also of potash; the Hresk forest was part of the former Novgorod province; only the Ryhalska forests were located outside the *ordynacja*, in the former jurisdiction of Polesie, to the south-west; this estate was famous for its vast forest complexes, used as sources of timber for masts, but also due to the proximity of the Białowieża, This estate was not, strictly speaking, owned by the Radziwiłłs, but was a crown-owned estate. This sometimes led to frictions between the magnate and royal officials, as the Radziwiłł’s loggers trespassed into the royal forests (see Map 7).[[108]](#footnote-108)

From 1768, these forests were overshadowed by the Żahalska forest. This complex is mentioned time and time again in the years 1768-1780. It was located near the town of Żahale, in the jurisdiction of Novgorod,[[109]](#footnote-109) under the administration of the Hlusk *starostwo* and part of the Radziwiłł estates from 1690, when they took over the city from the Czartoryski family. The region grew in importance owing to its extensive forest resources and good communication with Nieśwież, two factors that convinced the Radziwiłł family to develop a new wood production centre in the area.[[110]](#footnote-110)

At the same time, the importance of the production centres at the Naliboki forest also increased. The complexes at the Swierzno forest and Włość Tulonka began to emerge as early as 1770 and 1774, at the same time as in Żahalska. Both areas were part of the *ordynacja* of Nieśwież, north of the town of Stołpce. Neither forest had been exploited on a large scale for wood production before, but these mentions indicate the growing role played by the region for the Radziwiłłs. In the second half of the 1770s, yet further wood production areas appeared. For example, between 1776 and 1778, the central part of the *ordynacja* of Nieśwież became increasingly prominent. There, the records especially mention the Orciuchy forest, located next to the southern borders of the Naliboki. This forest usually features in the record next to the Żahalska forest and was one of two main sources of wood for the Radziwiłłs during the 1770s.[[111]](#footnote-111)

Apart from these sites, the Naliboki complex, which occupied a large part of the *ordynacja* of Nieśwież, often features in 18th-century records. Currently, the Naliboki forest covers about 240,000 hectares, but during the rule of the Radziwiłłs the forest expanded over 350,000 hectares. This valuable woodland was exploited by the Radziwiłłs with great care. Tree felling and wood production moved seasonally across different areas of the forest in order to keep the woodland in balance.[[112]](#footnote-112) This policy was probably behind the emergence of new logging areas, such as the Derevnoe and Tikhonova Sloboda forests.[[113]](#footnote-113) The Khotova woodlands occupied the central sector of the Naliboki jurisdiction. This toponym is among the most frequently mentioned in the record in the period 1777-1779 and seems to have overtaken the Żahalska and Orciuchy forests in terms of production. The area is usually associated with the extensive production of beams and was regarded as the Radziwiłłs’ main source of wood (see Table 32).[[114]](#footnote-114)

In 1776 and 1778 there are also mentions to the Jašiūnai forest, located in Lithuania. This area, like Vyžuonos and Dubingiai, were owned by the Calvinist line of the Radziwiłł family,[[115]](#footnote-115) showing that wood sources were an important source of income for all family branches.[[116]](#footnote-116) On the other hand, wood harvesting in the Parcewo forest, the area and town located inside the Białowieża forest, is interesting, because the name appears only once, in 1776. The exceptional nature of this operation may be confirmed by the fact that only the wood produced there was exported to Warsaw, and not, as was the case elsewhere, to Baltic ports. This register may also show the Radziwiłłs violating royal prohibitions, which forbade trees to be felled in Białowieża without permission.[[117]](#footnote-117)

In 1788, for which the record is exceptionally rich, seven logging areas can be identified, mainly the Naliboki forest and some of its smaller sections, like the Derenvoe and Tikhonova Sloboda,[[118]](#footnote-118) which were located to the south of the estate. In addition, the woodlands in the central sector of the *ordynacja* of Nieśwież, such as Marchaczewszczyzna[[119]](#footnote-119) and Odceda[[120]](#footnote-120) (see Table 32), are mentioned as beam production areas. Also, the vicinity of Orciuchy still played an important role as a source of timber. Interestingly, the Dokudava Forest reappears in the record for the first time in 23 years. This shows that this forest regained its former importance during this period and was one of the most productive logging areas in 1788.[[121]](#footnote-121) The Hościmska forest is also mentioned;[[122]](#footnote-122) the context of these mentions, and the fact that it is generally paired with the Marchaczewszczyzna forest, may suggest that it was one of the smaller forest areas located north of Nieśwież, at the centre of the *ordynacja*.

Table 32. Radziwiłł wood production centres (1767-1793)[[123]](#footnote-123)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Forest | 1767 | 1768 | 1769 | 1770 | 1771 | 1772 | 1774 | 1776 | 1777 | 1778 | 1779 | 1780 | 1788 | 1789 | 1790 | 1792 | 1793 |
| Orciuchy |  |  |  |  |  |  |  | X | X | X |  |  | X | X | X |  | X |
| Khotova |  |  |  |  |  |  |  |  | X | X | X |  |  |  |  |  |  |
| Tytuvenai |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |
| Derevnoe |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |
| Dokudava |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |
| Dubingiai | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |
| Hościmska |  |  |  |  |  |  |  |  |  |  |  |  | X |  | X |  |  |
| Jašiūnai |  |  |  |  |  |  |  | X |  | X |  |  |  |  |  |  |  |
| Marchaczewszczyzna |  |  |  |  |  |  |  |  |  |  |  |  | X |  | X |  |  |
| Mikołajewszczyzna |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |
| Naliboki |  |  |  |  |  |  |  | X | X | X |  | X |  |  |  |  |  |
| Parcewo |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |
| Nieśwież |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |
| Odceda |  |  |  |  |  |  |  |  |  |  |  |  | X | X |  |  | X |
| Pukhovshchina |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |
| Tikhonova Sloboda |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |
| Sverinovo |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |
| Swierzno |  |  |  | X |  |  | X |  |  |  |  |  |  |  |  |  |  |
| Vyžuonos | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Włość Tulonka |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |
| Żahalska |  | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |

Source: AGAD, WAR, Kolekcja XX-Handel Rzeczny exp. 10, 31, 32, 77, 80, 112 from years 1767-1793.

In the early 1790s, despite a clear decline in the importance of the wood trade, the Radziwiłłs still exploited the densely forested areas of Nieśwież, particularly in the Orciuchy,[[124]](#footnote-124) Marchaczewszczyzna,[[125]](#footnote-125) Mikołajewszczyzna,[[126]](#footnote-126) and Sverinovo districts.[[127]](#footnote-127) The economic records also mention the continued production of wood in the Naliboki forest. During this period, the production of timber in the Żahalska and Dokudava forests completely disappears and there is no mention of the exploitation of woodland in the vicinity of Vilnius (see Table 32). There is a single mention of the Tytuvenai forest,[[128]](#footnote-128) which did not feature in the earlier records. This city belonged to the Radziwiłł family from 1706, when it was granted to Karol Stanisław Radziwiłł, after a long lawsuit. From that moment on, the house and *latifundia* of Tytuvenai came under the possession of the Nieśwież branch of the family. Due to the distance from the main *ordynacja*, the Radziwiłłs gave the tenants jurisdictional authority over Tytuvenai. Later, the forests on these estates may have become one of the most productive logging areas, taking advantage of their proximity to the port of Memel and their location, directly on the route between Memel and Vilnius.[[129]](#footnote-129)

**Production and shipment of wood from the Radziwiłł estates in 1744-1793**

The production of timber products such as baulks, beams, logs, planks, masts, spikes, bowsprits, staves, and potash in the Radziwiłł estates was most often counted in pieces, and less frequently in other measurement units, such as fathoms or cubits. In the period 1744-1766, the production of a total of 23,026 different pieces of wood is attested (see Table 33).[[130]](#footnote-130) The year 1765 is particularly interesting, because all the wood came from the Nieśwież ordynacja. Despite this, the official registers mention the production of 10,679 pieces of wood, which accounts for over 45% of the total for 1744-1766. This was driven by the orders put down by the European powers to restore their navies after the Seven Years' War. The Spanish Navy, for instance, made an order of at least 60 masts with a thickness of between 9¼ and 12 spans, which were to be brought from the Radziwiłł estates to Riga, and thence, together with beams and planks, forward to Cadiz.[[131]](#footnote-131)

Table 33. Wood types (in pieces) produced in the Nieśwież *ordynacja* (1744-1766)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1744** | **1745** | **1746** | **1747** | **1761** | **1763** | **1765** | **1766** | **Total** |
| Baulks-beams | - | 1,436 | 564 | - | 729 | 668 | 4,956 | 957 | **9,310** |
| Logs | 116 | - | - | 117 | 247 | - | - | - | **480** |
| Masts | - |  | 24 | 161 | - | 14 | 295 | 3 | **497** |
| Spikes | - | 119 | 206 | - | - | 79 | 669 | - | **1,073** |
| Bowsprits | 32 | 52 | 85 | 33 | - | 686 | 90 | - | **978** |
| Staves | - | 2,891 | 99 | - | - | - | 4,199 | - | **7,189** |
| Trees | 3,180 | - | 180 | - | - | - | 139 | - | **3,499** |
| **TOTAL** | **3,328** | **4,498** | **1,158** | **311** | **976** | **1,447** | **10,348** | **960** | **23,026** |

Source: AGAD, WAR, Kolekcja XX-Handel Rzeczny exp. 32, 80, 85, 112 from years 1744-1766.

However, in the years 1767-1793, there was no such a large felling of trees at the Nieświż ordynacja, and the burden of logging was spread over other smaller forest areas, such as the Orcichy, Hościmska, Marchaczewszczyzna, and Odceda forests in the 1780s. In these years, a large number of beams and baulks were harvested in the Radziwiłł estates (30,736 pieces), much more than in the period 1744-1766. Additional output from their forests included 100 logs, 1,847 masts and spikes, 280 planks, 148 timbers, 737 “Dutch trees”, and 309 undefined pieces (see Table 34).[[132]](#footnote-132)

The data for both periods (1744-1766 and 1767-1793) shows that in the second half of the 18th century there was a change in production patterns, when beams and baulks became the main product to come out of the Radziwiłł forests, which in the second of these periods accounted for as much as 89% of the entire production. In contrast, in the first period, spanning the 1740s and 1760s, production was much more diversified, and beams-baulks accounted for only 41% of the harvested wood. This reflects the rapid economic development undergone by the Polish-Lithuanian Commonwealth in the second half of the 18th century, when there was a great demand for wood from the industrial sector,[[133]](#footnote-133) and also for shipbuilding, with the large orders placed by Britain, France, and Spain in the 1760s, 1770s, and 1780s.[[134]](#footnote-134)

Table 34. Wood types (in pieces) produced in the Nieśwież *ordynacja* (1767-1793)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1767** | **1768** | **1769** | **1770** | **1771** | **1772** | **1774** | **1776** | **1777** | **1778** | **1779** | **1780** | **1788** | **1789** | **1790** | **1793** |
| Baulks-beams | 2,195 | 561 | 180 | 1,192 | 1,071 | 348 | 741 | 1,274 | 4,054 | 5,742 | 1,595 | 727 | 4,854 | 1,129 | 2,394 | 2,679 |
| Logs | - | - | - | - | - | - | - | 41 | - | 59 | - | - | - | - | - | - |
| Masts and spikes | 1,846 | - | - | - | - | - | - | - | - | 1 | - | - | - | - | - | - |
| Planks | - | - | - | - | - | - | - | 280 | - | - | - | - | - | - | - | - |
| Timbers | - | - | - | - | - | - | - | 148 | - | - | - | - | - | - | - | - |
| “Dutch trees” | - | - | 737 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Undefined | - | - | 309 | - | - | - | - | - | - | - | - | - | 445 | - | - | - |
| **TOTAL** | **4,041** | **561** | **1,226** | **1,192** | **1,071** | **348** | **741** | **1,743** | **4,054** | **5,802** | **1,595** | **727** | **5,299** | **1,129** | **2,394** | **2,679** |

Source: AGAD, WAR, Kolekcja XX-Handel Rzeczny exp. 10, 31, 32, 77, 112 for the period 1767-1793.

Looking at beams and baulks produced in 1767-1793 (see Tables 35 and 36), it is of note that most beams were cut to lengths of 5, 6, 7, and 8 fathoms, the most suitable sizes for construction and shipbuilding. The largest number of beams-baulks corresponds to the 6-fathom length, with 11,219 pieces, a large proportion of which went to the ports of Riga, Königsberg, and Memel.[[135]](#footnote-135) In Gdańsk/Danzig,[[136]](#footnote-136) in contrast, the most popular beams and baulks were those cut to a length of 4 and 5 fathoms and, to a lesser extent, 6 fathoms, which proves that the wood harvested in the Radziwiłł forests was better than that harvested along the Vistula.

Table 35. Number of beams and baulks (in pieces) obtained from the Radziwiłł forests divided by length (1767-1780)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1767** | **1768** | **1769** | **1770** | **1771** | **1772** | **1774** | **1776** | **1777** | **1778** | **1779** | **1780** | **Total** |
| 3-fathoms | - | - | - | - | - | - | - | 16 | 38 | 79 | 4 | 7 | **144** |
| 4-fathoms | 114 | - | - | - | - | - | - | 163 | 284 | 342 | 49 | 44 | **996** |
| 5-fathoms | 528 | - | - | - | - | 4 | - | 574 | 850 | 1,009 | 280 | 133 | **3,378** |
| 6-fathoms | 708 | 272 | 60 | 336 | 271 | 147 | 175 | 236 | 1,406 | 2,402 | 753 | 249 | **7,015** |
| 7-fathoms | 456 | 138 | 60 | 415 | 495 | 52 | 335 | 169 | 764 | 1,190 | 353 | 130 | **4,557** |
| 8-fathoms | 243 | 151 | 60 | 390 | 505 | 145 | 231 | 29 | 610 | 519 | 116 | 78 | **3,077** |
| 9-fathoms | 146 | - | - | - | - | - | - | 1 | 87 | 114 | 35 | 84 | **467** |
| 10-fathoms | - | - | - | - | - | - | - | - | 7 | 8 | 4 | 2 | **21** |
| 11-fathoms | - | - | - | - | - | - | - | - | - | 1 | 1 |  | **2** |
| **TOTAL** | **2,195** | **561** | **180** | **1,141** | **1,271** | **348** | **741** | **1,188** | **4,046** | **5,664** | **1,595** | **727** | **19,657** |

Source: AGAD, WAR, Kolekcja XX-Handel Rzeczny exp. 10, 31, 32, 77, 112 period 1767-1780.

Table 36. Number of beams and baulks (in pieces) obtained from the Radziwiłł forests divided by length (1788-1793)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **1788** | **1789** | **1790** | **1791-1792** | **1793** | **Total** |
| 3-fathoms | 24 | 3 | 16 | **?** | 12 | **55** |
| 4-fathoms | 680 | 116 | 283 | **?** | 205 | **1,284** |
| 5-fathoms | 1,787 | 378 | 1,003 | **?** | 858 | **4,026** |
| 6-fathoms | 1,758 | 532 | 835 | **?** | 1079 | **4,204** |
| 7-fathoms | 494 | 82 | 219 | **?** | 393 | **1,188** |
| 8-fathoms | 111 | 17 | 33 | **?** | 115 | **276** |
| 9-fathoms | **-** | 1 | 5 | **?** | 20 | **26** |
| 10-fathoms | **-** | **-** | **-** | **?** | **-** | **-** |
| 11-fathoms | **-** | **-** | **-** | **?** | **-** | **-** |
| **TOTAL** | **4,854** | **1,129** | **2,394** | **?** | **2,682** | **11,059** |

Source: AGAD, WAR, Kolekcja XX-Handel Rzeczny exp. 10, 32, period 1788-1793.

**Examples of Radziwiłł timber trade in southern Baltic ports**

Riga was the main gateway for the timber purchased by the navies of Great Britain, France, the Netherlands, Sweden, Denmark, and Spain in the southeast Baltic.[[137]](#footnote-137) By the end of the 17th century, Riga had become an important centre for the trade in forest products, and the timber sourced from its hinterland was approximately 25-30% cheaper than in the main western harbours. This was because the forests near the Daugava River and in the Grand Duchy of Lithuania began to be exploited on a large scale in the second half of the 17th century, unlike the forests in the Polish Crown, whose mass exploitation began much earlier, between the 15th and the late 16th centuries. In addition, these wood sources were located far from the main rafting rivers, which substantially increased the final price.[[138]](#footnote-138)

To obtain timber, merchants from Riga sent their representatives deep inland, especially into the Daugava River basin, where these agents secured logging permits from local officials. The practice began in the 17th century, but it gained traction especially in the 18th century, when European powers began to show enormous interest in Riga’s wood. This can be illustrated by two contracts: one was signed in 1728 by an Orszański huntsman, Michał Żuk, and a man called Wiśniewski, who owned vast forests; the contract was for the preparation of masts and baupers for the Riga-based merchant Barklaj de Tolli; the other was the contract signed by Rafał Ślizień and two Jewish merchants from Połock in in 1781, to source wood, mainly timber and mast logs, during a six-year period.[[139]](#footnote-139)

Concerning the transport of the wood from the Radziwiłł forests, the main outlets, apart from Riga, were the ports of Memel and Königsberg, and to a lesser extent Kaunas and Świeżno. Interestingly, merchant records for the years 1763-1793 show that the Radziwiłł family kept the largest network of commercial associates in Königsberg, where their most famous trading partner was the Saturgus family, descendants of the famous entrepreneur Fridrich Saturgus (1697-1754), who began working with the Radziwiłłs as early as 1741. In the years 1763-1781, the Saturgus family worked closely with the Radziwiłł, selling wood, potash, and other products for them, and holding a virtual monopoly over the Radziwiłł’s goods in Königsberg. Other important figures for trade in this harbour, who also worked with the Radziwiłłs, were Józef Jabłoński, Michał Kloppmann, and Kondratowicz, as well as the Königsberg rafting commissioner between 1763-1794.[[140]](#footnote-140)

Other Königsberg merchants employed by the Radziwiłłs in the second half of the 18th century were Joachim Mojzesz Fridlander, Salomon Hirsz, Aleksander Boris, Hirsz Jankielowicz, Toussaint Laval, Timotheus Anderson, Scheress, Bekensztein, Schindelmeisser, and others (see Table 37). Most of these traders were of Jewish origin and often had their own commercial network in the Radziwiłł estates. This is shown by documents that prove that in 1763, Friedrich II Saturgus had a network in Karol Radziwiłł’s (1734-1790) estates; for instance, the merchant Abel and Szeresz served his interests in Kiejdany, and Fernet and the pharmacist Szmyt in Nieśwież.[[141]](#footnote-141)

Table 37. List of merchants in the Radziwiłł family commercial network (1741-1794)

|  |  |  |
| --- | --- | --- |
| **Period or year** | **Name** | **Place** |
| 1741-1781 | Saturgus family | Königsberg |
| 1777-1779 | Bekensztein | Königsberg |
| 1778 | Joachim Mojzesz Fridlander | Königsberg |
| 1779-1785 | Scheress | Königsberg |
| 1781 | Ludwik Grave | Riga |
| 1782-1787 | Aleksander Boris | Königsberg |
| 1784 | Hirsz Jankielowicz | ? |
| 1784 | Timotheus Anderson | ? |
| 1785 | Schindelmeisser | Königsberg |
| 1787 | Salomon Hirsz | ? |
| 1789 | Ogilvie | Memel |
| 1789 | Waterson | Memel |
| 1790-1794 | Rupel | Memel |
| 1793 | Robinson | Memel |
| 1793-1794 | Durno | Memel |
| 1793 | Toussaint Laval | Königsberg |

Source: AGAD, WAR, Kolekcja XX-Handel Rzeczny exp. 10, 13, 15, 77 period 1741-1794.

These examples clearly show that the Radziwiłł family had much stronger ties with smaller Baltic ports such as Memel and Königsberg than with the large harbour of Riga. This was most likely due to distance and greater competition, since, as noted, Riga merchants sought trade agreements by sending their intermediaries to the hinterland, rather than dealing with the Radziwiłł family. This data is also confirmed by records of shipped timber from the years 1767-1788 (see Tables 38, 39, and 40). The available registers for 1767-1788 suggest that the port of Königsberg was the one to which the largest number of timber transports were sent (six transports), followed by Riga (three) and Memel (three). Wood was also sent to other places, such as Kaunas, Swierzno and Mikołajewszczyzna, and the forest in which the most wood was harvested was Żahalska. Importantly, some of the batches were brought overland and some down the Pregoła, Neman, and Daugava rivers.

Table 38. Examples of amount of wood hauled in the Radziwiłł forests (1767-1776)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1767** | **1768** | **1769** | **1770** | **1771** | **1772** | **1774** | **1776** |
| **Production centres** | Vyžuonos, Dubingiai | Żahalska | Żahalska | Żahalska | Żahalska | Żahalska | Żahalska | Żahalska, Orciuchy |
| **Destination** | Kaunas | Königsberg | Swierzno, Königsberg | Swierzno | Kaunas | Mikołajewszczyzna | Königsberg | Riga |
| **Land transport** | 587 | 111 | 180 | 262 | 300 | 348 | ? | 798 |
| **Amount of wood** |
| **Rafting** | 131 | 306 | 357 | ? | ? | ? | 205 | 1,491 |
| **Amount of wood** |

Source: AGAD, WAR, Kolekcja XX-Handel Rzeczny exp. 31, 32, 77, 112 from years 1767-1776.

Table 39. Examples of amount of wood hauled in the Radziwiłł forests (1777-1788)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **1777** | **1778** | **1779** | **1780** | **1788** |
| **Production centers** | Żahalska, | Żahalska, Dubingiai | Żahalska, Khotova | Żahalska | *ordynacja* of Nieśwież |
| **Destination** | Riga | Königsberg, Riga | Königsberg | Königsberg | Memel |
| **Land transport** | ? | ? | ? | 600 | 4,624 |
| **Amount of wood** |
| **Rafting** | 2,849 | 2,555 | 474 | ? | ? |
| **Amount of wood** |

Source: AGAD, WAR, Kolekcja XX-Handel Rzeczny exp. 32, 77 from years 1767-1776.

Table 40. Examples of profits for the Radziwiłł family from the wood trade (1776-1778)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **1776** | | **1777** | | **1778** | |
| Sale place | Memel | | Riga | | Riga, Königsberg, Memel | |
| Production place | Jašiūnai, Naliboki, Nieśwież | | Naliboki, Khotova, Orciuchy, Żahalska | | Naliboki, Khotova, Orciuchy, Żahalska, Dubingiai | |
| Type | **Amount** | **Price** | **Amount** | **Price** | **Amount** | **Price** |
| Baulks-Beams | 2,776 | 49,271 zł | 3,935 | 73,636 zł 15 gr | 5,983 | 80,501 zł 18 gr |
| Spikes | 60 | 6 000 zł | 95 | 6,270 | 1 | 108 zł |
| Bowsprits | 242 | 968 zł | 101 | 404 | - | - |
| Logs | 3 | 24 zł | 25 | 25 | 59 | 360 zł |
| Undefined | ? | 17,176 zł 24 gr | ? | 28,046 zł 6 gr | - | - |
| **TOTAL** | **?** | **56,263 zł 24 gr** | **?** | **108,556 zł 21 gr** | **6,043** | **80,969 zł 15 gr** |

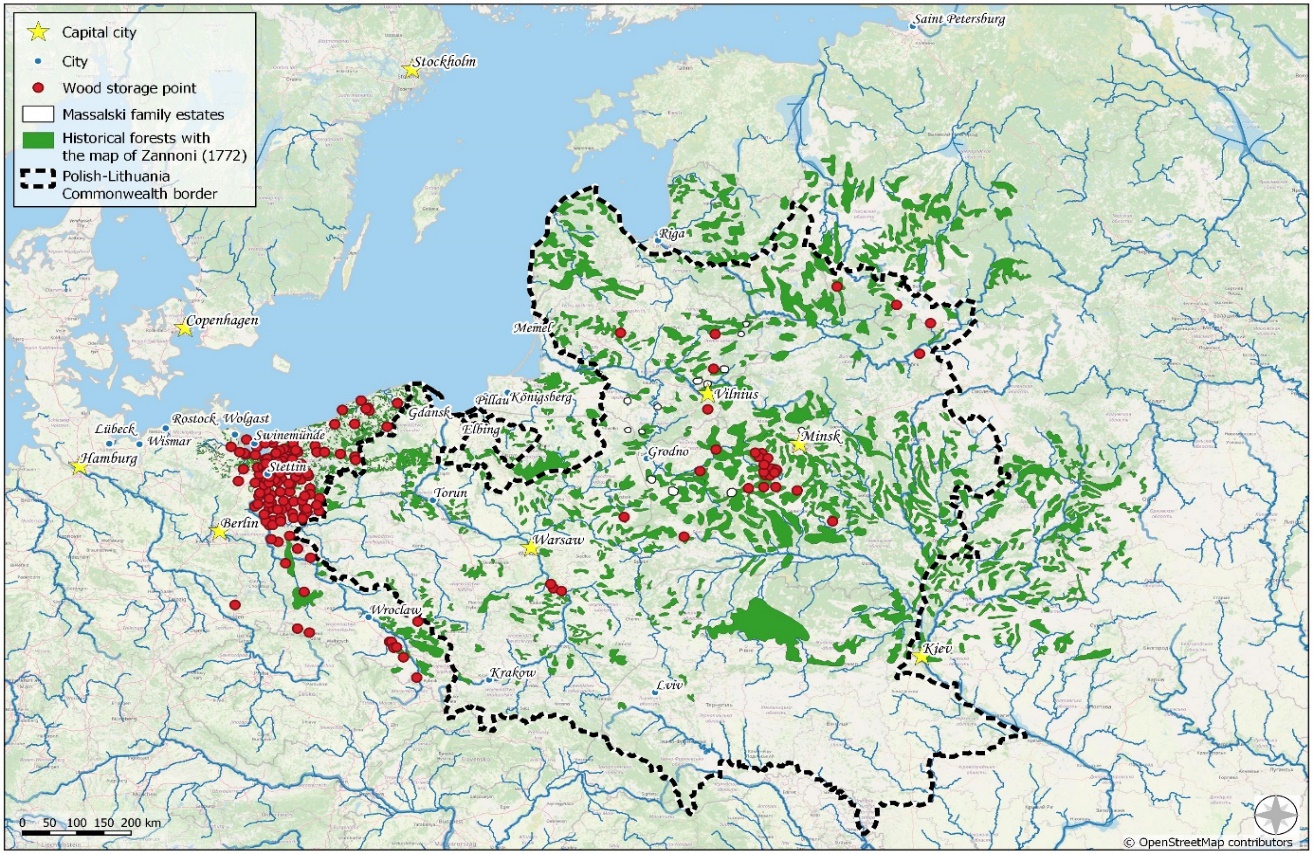
Source: AGAD, WAR, Kolekcja XX-Handel Rzeczny exp. 32, 77, 112 from years

1776-1778.

Finally, looking at the network of trade links and locations whence wood from forests under the jurisdiction of the Radziwiłłs were shipped, it can be argued that most sales of forest products, but also of cloth, wine, and weapons were smaller Baltic ports that specialised in forest goods, like Memel and Königsberg. It seems that Riga was only rarely used as an alternative to these, and not as the main gateway for the Radziwiłł estate products, which is also confirmed by the accounts for the masts ordered in the second half of the 1760s by the Spanish Navy (see Chapter I), in which the Radziwiłłs were only one among the many contractors supplying the masts.

To close this second chapter, Map 7 illustrates timber extraction areas and its transport to the main south Baltic ports, such as Szczecin/Stettin, Gdańsk/Danzig, Königsberg, Memel, and Riga in the second half of the 18th century. It is clear that in the Polish-Lithuanian Commonwealth, timber was harvested in inland forests and then shipped to the coast down the main rivers (Vistula, Bug, Niemen, Priegola, and Daugava). The situation was different in Szczecin/Stettin, which mainly used the forest resources of Pomerania and the Szczecin Bay, and only occasionally timber rafted down the Oder from the regions in the interior.

Map 8. Places of felling and storing wood, which was later sent by the rivers to the ports of Szczecin, Gdańsk, Königsberg, Memel and Riga.



Source: Look4GIS-Lukasz Brylak and Inez Beszterda based on QGIS software.

1. Petri Karonen, “Coping with Peace after a Debacle: the Crisis of the Transition to Peace in Sweden after the Great Northern War (1700–1721),” *Scandinavian Journal of History* 33 (2008), 203-225. [↑](#footnote-ref-1)
2. Henryk Lesiński, “Handel morski Szczecina w okresie szwedzkim 1639–1713,” *Materiały Zachodniopomorskie* 31 (1985), 277-295; Radosław Gaziński, *Handel morski Szczecina w latach 1720–1805*, (Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, 2000), 273–277; Józef Stanielewicz, “Zarys rozwoju portu i handlu morskiego Szczecina od XVI do XVIII wieku,” in Paweł Bartnik and Kazimierz Kozłowski (ed.) *Pomorze Zachodnie w tysiącleciu* (Szczecin: Wydawnictwo AP, 2000), 121-128; Henryk Lesiński, “Przemiany w stosunkach handlowych miast Pomorza Zachodniego w drugiej połowie XVII i początkach XVIII wieku,” in Gerard Labuda (ed.) *Historia Pomorza (do roku 1815)* vol. 2 (Poznań: Wydawnictwo Poznańskie, 1984), 173-216; Bogdan Wachowiak, “Wybrane problemy handlu warciańsko-odrzańskiego w latach 1618-1750,” *Przegląd Zachodniopomorski* 26 (2011), 49-66; Knitter, Michał. “Verifizierung von Schifffahrtsstatistiken des Stettiner Hafens in der zweiten Hälfte des 18. und Aufgang das 19. Jahrhunderts,” *Studia Maritima* 25 (2012), 23-51; Emil Chróściak “Szczecin’s Maritime Timber Trade and Deliveries to Spain Between 1750 and 1760 on the Basis of Wochentlich-Stettinische Frag- und Anzeigungs-Nachrichten,” *Studia Maritima* 33 (2020), 150-164. [↑](#footnote-ref-2)
3. Emil Chróściak “Szczecin’s Maritime Timber Trade and Deliveries to Spain,” *Studia Maritima* 33 (2020), 152-153. Książnica Pomorska, Szczecin (hereafter, KPS), *Wöchentlich-Stettinische Frag…*, the reference number XVIII.15123.I/10,ST6947, for the period 1761-1771. These places were: Jasenitz, Kolbatz, Neugard, Bahn, Rothenfier, Greifenberg, Kaseburg, Pyritz, Mühlembeck, Anclam, Gotzlow, Lauenburg, Marienfließ, Marsdorf, Messenthin, Pölitz, Schwedt, Stolp, Stecklin, Wildenbruch, Schivelbein, Bärwalde, Basenthin, Bütow, Freienwalde, Temnick, Neuenhagen, Ferdinandstein, Rügenwalde, Jungferberg, Ganserin, Gülzow, Greifenhagen, Ihnamünde, Nörenberg, Gerzlow, Körlin an der Persante, Klütz, Kublitz, Köslin, Köstin, Krangen, Krampe, Cremzow, Hackenwalde, Kranzin, Kucklow, Külz, Leopoldshaben, Holzhagen, Matzdorf, Massow, Bärwalde in der Neumark, Münchendorf, Barenbruch, Neuwarp, Pasewalk, Plathe an der Rega, Pranzlau, Pribbernow, Kuhdamm, Retzowsfelde, Redel, Reckow, Nassenheide, Groß Karzenbur, Pollychen, Rehdorf, Karlsbach, Neustettin, Falkenwalde, Thurow, Stargard, Stolpmünde, Warsow, Fiddichow, Wollin, Wittstock, Finkenwalde, Schwerin, and Züllchow (see Map 5). [↑](#footnote-ref-3)
4. Emil Chróściak “Szczecin’s Maritime Timber Trade and Deliveries to Spain,” *Studia Maritima* 33 (2020), 155-157. [↑](#footnote-ref-4)
5. KPS, *Wöchentlich-Stettinische Frag…*, XVIII.15123.I/10,ST6947, for the period 1750-1771. [↑](#footnote-ref-5)
6. For example, in 1766, fourteen pine trees for masts came out for sale in the Szczecin/Stettin market. KPS, *Wöchentlich-Stettinische Frag…*, XVIII.15123.I/10,ST6947. [↑](#footnote-ref-6)
7. For example, in 1763, twelve ship curves and 100 planks from Ganserin came out for sale. KPS, *Wöchentlich-Stettinische Frag…*, XVIII.15123.I/10,ST6947. [↑](#footnote-ref-7)
8. For example, in 1751, 94 planks of oak wood from the monastery of Podejuschen came out for sale. KPS, *Wöchentlich-Stettinische Frag…*, XVIII.15123.I/10,ST6947. [↑](#footnote-ref-8)
9. KPS, *Wöchentlich-Stettinische Frag…*, XVIII.15123.I/10,ST6947, for the period 1750-1771. [↑](#footnote-ref-9)
10. KPS, *Wöchentlich-Stettinische Frag…*, XVIII.15123.I/10,ST6947, for the period 1750-1771. [↑](#footnote-ref-10)
11. KPS, *Wöchentlich-Stettinische Frag…*, XVIII.15123.I/10,ST6947, for the period1759-1770. Towns and villages of Neumark, which are listed in *Wöchentlich-Stettinische Frag…*, from which timber was shipped to Szczecin/Stettin: Bischofsee, Braschen, Wartenberg, Schwachenwald, Zicher, Zachow, Driesen, Drewitz, Görlsdorf, Cartzig, Cladow, Neuhaus, Leine, Himmelstädt, Massin, Neumühl, Neuenburg, Regentlin, Reppen, Mückenburg, Schlanow, Staffelde, Stölpchen, Züllichow, Schönfließ, Wildenow, Stabenow, Sellnow, Braschen, Lippehne, Berlinchen, Landsberg an der Warthe, Friedeberg, Zielenzig, Custrin, and Vietz. [↑](#footnote-ref-11)
12. KPS, *Wöchentlich-Stettinische Frag…*, XVIII.15123.I/10,ST6947, for the period 1750-1771. [↑](#footnote-ref-12)
13. Offer to sell wood from the Staffelde forests. KPS, *Wöchentlich-Stettinische Frag…*, XVIII.15123.I/10,ST6947, 1763, Nr. Nr. 26, 437-438. [↑](#footnote-ref-13)
14. Offer to sell wood from the Massin forests. KPS, *Wöchentlich-Stettinische Frag…*, XVIII.15123.I/10,ST6947, 1768, Nr. 26, 550-551. [↑](#footnote-ref-14)
15. Wachowiak, “Wybrane problemy handlu warciańsko-odrzańskiego,” 49-66. [↑](#footnote-ref-15)
16. Robert B. Asprey, *Frederick the Great: The Magnificent Enigma* (New York: Ticknor and Fields, 1986), 177-181; David Fraser, *Frederick the Great: King of Prussia* (London: Allen Lane, 2000), 120-121. [↑](#footnote-ref-16)
17. Archiwum Państwowe Opole (Hereafter, APO): reference numbers: 45/1191/0/5/497, 45/1191/0/5/4987, 45/1191/0/5/4972, 45/1242/0/16.1/4786 and KPS *Wöchentlich-Stettinische Frag…*: reference number XVIII.15123.I/10,ST6947, for the period 1750-1771. [↑](#footnote-ref-17)
18. APO, 45/1191/0/5/4972, “Holz-Flössung Gerechtigkeit des Dom. Domerau auf dem Stoberbache”. [↑](#footnote-ref-18)
19. APO, 45/1242/0/16.1/4786, “Regulatif nach welchem die Königlichen Domainen- Forsten in Schlesien behandelt“. [↑](#footnote-ref-19)
20. Archiwum Państwowe Wrocław (hereafter, APW), Hochberg, exp. 1419, fs. 1-35. [↑](#footnote-ref-20)
21. APW, Hochberg, exp. 1419, fs. 3-8. [↑](#footnote-ref-21)
22. Aleksander Nyrek, *Gospodarka leśna na Górnym Śląsku od połowy XVII do połowy XIX wieku* (Wrocław: Zakład Narodowy im. Ossolińskich, 1975); Aleksander Nyrek, “Stan i praktyki wiedzy leśnej na Śląsku do połowy XIX wieku,” *Śląski Kwartalnik Historyczny Sobótka* 3 (1972), 427. [↑](#footnote-ref-22)
23. Bernhard E. Fernow, *A Brief History of forestry in Europe, the United States and Other Countries* (Toronto: Toronto University Press, 1911), 56. [↑](#footnote-ref-23)
24. Archiwum Państwowe Szczecin (Hereafter, APS), Akta pomorskich superintendentur, reference numbers: 65/34/0/-/5, fs. 26-31. [↑](#footnote-ref-24)
25. APS, Akta pomorskich superintendentur, 65/34/0/-/5, fs. 2-7. [↑](#footnote-ref-25)
26. APS, Akta pomorskich superintendentur, 65/34/0/-/5, fs 2-7 and 26-31. [↑](#footnote-ref-26)
27. APS, Akta pomorskich superintendentur, 65/34/0/-/5, f. 30-31. [↑](#footnote-ref-27)
28. APS, Akta miasta Łeby, exp. 65/205/0/6/28, fs. 41–47. Anweisung zum Anlegen der Eichel-Kämpe, und überhaupt zum besseren Fortbringen des so nützlichen als unentbehrlichen Eich-Baums. [↑](#footnote-ref-28)
29. APS, Akta miasta Łeby, exp. 65/205/0/6/28, fs. 42–45. [↑](#footnote-ref-29)
30. Henryk Lesiński “Rozwój handlu morskiego Szczecina XVI-XVIII” in Hubert Bronk (ed.) *Estuarium Odry i Zatoka Pomorska w rozwoju społeczno-gospodarczym Polski* (Szczecin: Uniwersytet Szczeciński, 1990); Józef Stanielewicz, „Zarys rozwoju portu i handlu morskiego Szczecina od XVI do XVIII wieku”, in Paweł Bartnik and Kazimierz Kozłowski (ed.) *Pomorze Zachodnie w tysiącleciu* (Szczecin: Uniwersytet Szczeciński, 2000), 121-128. [↑](#footnote-ref-30)
31. The first Prussian consul in Cadiz was Silvester de Livorn. [↑](#footnote-ref-31)
32. From the decade of 1740 onwards, this merchant was active in the wood trade with Swedish contractors, selling them boards and beams, for instance in 1742, when he sent 800 pieces of 3–4-inch boards, 400 pieces of 5-8-inch boards and 60 oak beams from Szczecin/Stettin. Radosław Gaziński, *Handel morski Szczecina w latach 1720–1805*, (Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, 2000), 284. [↑](#footnote-ref-32)
33. Radosław Gaziński, *Handel morski Szczecina w latach 1720–1805*, (Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, 2000), 276-277. [↑](#footnote-ref-33)
34. APW, Archiwum Giełdy Kupieckiej, exp. 82/304/0/-/347, fs. 18-52 “Acta von Etablierung einer Handlungs Copagnie und eines Handlungs Hausses Cadix Bedarf eines unmittelbahren Commerci mit Spanien und denen sich dabey zu Interessierenden Schlesien Kaufleuthen“. [↑](#footnote-ref-34)
35. Radosław Gaziński, *Handel morski Szczecina w latach 1720–1805*, (Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, 2000), 240 and 253. [↑](#footnote-ref-35)
36. Rafał Reichert “Direct supplies of timbers from the southern Baltic region” *Studia Maritima* 33 (2020), 137-138. 10 ships in the 1750s; seven in the 1760s; twenty in the 1770s; ten vessels in the 1780s; and two in the 1790s. [↑](#footnote-ref-36)
37. Emil Chróściak “Szczecin’s Maritime Timber Trade and Deliveries to Spain,” *Studia Maritima* 33 (2020), 158. [↑](#footnote-ref-37)
38. AGS, SMA, Asientos, leg. 624, Demostración sobre madera de roble. [↑](#footnote-ref-38)
39. Eng. Pennies. [↑](#footnote-ref-39)
40. “En los puertos del Báltico me ha dedicado al conocimiento de otros objetos que son necesarios al consumo de la Real Armada, y principalmente al de las carnes saladas, lienzos vitres, hojas de lata”. [↑](#footnote-ref-40)
41. AGS, SMA, Asientos, leg. 624, En cumplimiento del venerado precepto de V. Ex. y de mi anhelo de hacerme útil al Real servicio. [↑](#footnote-ref-41)
42. AGS, SMA, Asientos, leg. 624, Tratado de surtimiento de maderas de construcción de la Sajonia. [↑](#footnote-ref-42)
43. The merchant had contact with Felipe Chone during his visit to Szczecin in August 1775 and for this reason he presented the proposal for the contract for the supply of wood to the Spanish Navy. AGS, SMA, Asientos, leg. 624, Demostración sobre madera de roble. [↑](#footnote-ref-43)
44. AGS, SMA, Asientos, leg. 624, Don Juan de Hering, vecino de Stetin, en Prusia. [↑](#footnote-ref-44)
45. Radosław Gaziński, *Handel morski Szczecina w latach 1720–1805*, (Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, 2000), 175-176. [↑](#footnote-ref-45)
46. Maria Bogucka, *Gdańsk jako ośrodek produkcyjny w XIV-XVII wieku*, (Warszawa: Wydawnictwo Naukowe PWN, 1962); Czesław Biernat, *Statystyka obrotu towarowego Gdańska w latach 1651-1815*, (Warszawa: PWN, 1962); Stanisław Gierszewski, *Statystyka żeglugi Gdańska w latach 1670-1815*, (Warszawa: PAN, 1963); Bogucka Maria, *Handel zagraniczny Gdańska w pierwszej połowie XVII wieku*, (Warszawa-Kraków: Ossolineum-PAN, 1970); Andrzej Groth, *Rozwój floty i żeglugi gdańskiej 1660–1700*, (Gdańsk: Zakład Narodowy Ossolińkich, 1974); Artur Attman, *The Russian and Polish markets in international trade, 1500-1650*, (Göteborg: The Institute of Economic History of Gothenburg University, 1973); Heeres, W. & Noordegraaf, L., *From Dunkirk to Dantzig: Shipping and Trade in the North Sea and the Baltic, 1350-1850*, (Hilversum: Verloren, 1988). [↑](#footnote-ref-46)
47. According to records of direct trade from the Sund toll, from 1700 to 1783, Gdańsk/Danzig sent more ships to Spain (551 vessels) than any other South Baltic port. The total number of ships sailing out of the southern Baltic was 1099, which means that Gdańsk/Danzig accounted for 50.14% of the total, significantly ahead of Szczecin/Stettin (200 vessels, 18.20%), Memel (113 vessels, 10.28%), and Königsberg (94 vessels, 8.55%). Rafal Reichert, “El comercio directo de maderas para la construcción naval española y de otros bienes provenientes de la región del Báltico sur, 1700-1783”, *Hispania* 76 no. 252 (2016), 141-142. [↑](#footnote-ref-47)
48. In the years 1741-1757 the newspaper came out under various names: *Danziger Erfahrungen*; *Danziger Nachrichten, Erfahrungen und Erläuterungen allerley nützlicher Dinge und Seltenheite* and *Gemeinnützige Danziger Anzeigen, Erfahrungen und Erläuterungen alleringe alleringe Seltenheiten*. From 1758 to 1795 the newspaper used the name *Wöchentliche Danziger Anzeigen und dienliche Nachrichten*. Here I use the simplified form *Danziger Nachrichten*. [↑](#footnote-ref-48)
49. Edmund Coeślak “The influence of the first partion of Poland on the overseas trade of Gdańska” in Heeres, W. & Noordegraaf, L (eds)., *From Dunkirk to Dantzig: Shipping and Trade in the North Sea and the Baltic, 1350-1850*, (Hilversum, Verloren, 1988), 203-215; Czesław Biernat, *Statystyka obrotu towarowego Gdańska w latach 1651-1815*, (Warszawa: PWN, 1962), 22; Szymon Kazusek, *Spław wiślany w drugiej połowie XVIII wieku (do 1772 roku)* part 2 “Statystyka spławu wiślanego” (Kielce: Wydawnictwo Uniwersytetu Jana Kochanowskiego, 2016). [↑](#footnote-ref-49)
50. The registers only contain a basic description like “holz” (wood) and “holzwaar” (woodware) which makes the exact purpose of the wood uncertain. However, it can be assumed that it was wood for naval construction because the registers of the *Danzinger Nachrichten* also distinguish wood for barrels and firewood. [↑](#footnote-ref-50)
51. PANBG, *Danzinger Nachrichten* exp. X3518, newspaper issue 44, 7 November 1778, p. 523. [↑](#footnote-ref-51)
52. PANBG, *Danzinger Nachrichten* exp. X3518, newspaper issue 22, 5 June 1779, p. 263. [↑](#footnote-ref-52)
53. AHN, Estado, leg. 4758, exp. 3. Noticias concernientes al comercio de la ciudad de Danzig. Año de 1761. [↑](#footnote-ref-53)
54. H. S. K. Kent “The Anglo-Norwegian Timber Trade in the Eighteenth Century,” *The Economic History Review* 8, no. 1 (1955), 64-71; Ragnhild Hutchison, “The Norwegian and Baltic Timber Trade to Britain 1780–1835 and its Interconnections,” *Scandinavian Journal of History* 37, no. 5 (2012), 578-596. [↑](#footnote-ref-54)
55. Hans Johansen, “Scandinavian Shipping in the Late Eighteenth Century in a European Perspective,” *The Economic History Review* 45, no. 3, (1992), 482. [↑](#footnote-ref-55)
56. Other ports and countries to which Gdańsk/Danzig timber was shipped: Memel, Lubeck, Hamburg, Bremen, Oostende, Porto, Livonia, Sweden, Norway, Ireland, Portugal. [↑](#footnote-ref-56)
57. PANBG, *Danzinger Nachrichten* exp. X3518, newspaper issue 41, 14 October 1779, p. 606. [↑](#footnote-ref-57)
58. PANBG, *Danzinger Nachrichten* exp. X3518, newspaper issue 31, 6 August 1785, p. 387. Captain George Bobl brought timber from the ports of East Pomerania. [↑](#footnote-ref-58)
59. AGS, SMA, Asientos, leg. 616. “El Conde de Aranda dice que habiendo estado en Dantzick, le propusieron porción de Arboladuras”. [↑](#footnote-ref-59)
60. Jan Małecki, *Związki handlowe miast polskich z Gdańskiem w XVI i pierwszej połowie XVII wieku* (Wrocław: Zakład Narodowy Ossolińskich, 1968), 7; Stanisław Gierszewski, *Wisła w dziejach Polski* (Gdańsk: Wydawnictwo Morskie, 1982), 22; Zbigniew Binerowski, “Transport wiślany w dawnej Rzeczypospolitej”, in *Dolina Dolnej Wisły* (Wrocław-Warszawa-Kraków-Gdańsk-Łódź: Wydawnictwo Polskiej Akademii Nauk Ossolineum, 1982), 283-297. [↑](#footnote-ref-60)
61. Czesław Biernat, *Statystyka obrotu towarowego Gdańska w latach 1651-1815* (Warszawa: PWN, 1962), Edward Stańczak, *Kamera saska za czasów Augusta III* (Warszawa: PWN, 1973), 52-57; Maria Bogucka i Henryk Samsonowicz, *Dzieje miast i mieszczaństwa w Polsce przedrozbiorowe*j, (Wrocław-Warszawa-Kraków-Gdańsk-Łódź: Ossolineum, 1986), 198, 417-428; Józef Kus “Z dziejów handlu Kazimierza Dolnego w XVII-XVIII wieku: instruktarze cła wodnego z 1616 i 1763 roku,” *Rocznik Lubelski* 31-32 (1989-1990), 235; Szymon Kazusek, *Spław wiślany w drugiej połowie XVIII wieku (do 1772 roku)* part 2 “Statystyka spławu wiślanego” (Kielce: Wydawnictwo Uniwersytetu Jana Kochanowskiego, 2016). [↑](#footnote-ref-61)
62. Stanisław Kościałkowski, *Antoni Tyzenhauz, podskarbi nadworny litewski*, vol. 1, (London: Wydawnictwo Społeczności Akademickiej Uniwersytetu Stefana Batorego, 1970). [↑](#footnote-ref-62)
63. Archiwum Główne Akt Dawnych (hereafter, AGAD), Archiwum Kameralne (Hereafter, AK), reference number III/262, microfilm A-44994. “Rachunek Handlowy Towarów Leśnych Spławu Gdańskiego”. [↑](#footnote-ref-63)
64. AGAD, unit AK, reference number III/260, Dopełniwszy obowiązek zalecony mi w objechaniu y zlustrowaniu Lasów JKMC Kozienickich, 112-114. [↑](#footnote-ref-64)
65. AGAD, unit AK, reference number III/260, Dopełniwszy obowiązek zalecony mi w objechaniu y zlustrowaniu Lasów JKMC Kozienickich,115-116. [↑](#footnote-ref-65)
66. AGAD, unit AK, reference number III/260, Dopełniwszy obowiązek zalecony mi w objechaniu y zlustrowaniu Lasów JKMC Kozienickich, pages 117-118. [↑](#footnote-ref-66)
67. Otton Hedemann, *Dawne puszcze i wody* (Wilno: Księgarnia Św. Wojciecha, 1934); Antonii Mączak, *Klientela. Nieformalne systemy władzy w Polsce i Europie XVI–XVIII w.* (Warszawa: Państwowy Instytut Wydawniczy, 1994); Ewa Dubas-Urwanowicz and Jerzy Urwanowicz, *Magnateria Rzeczypospolitej w XVI–XVIII wieku*, (Białystok: Wydawnictwo Uniwersytetu w Białymstoku, 2003). [↑](#footnote-ref-67)
68. Michał Kargul, “Administracja leśna w dobrach królewskich w świetle lustracji województwa pomorskiego z 1765 roku,” *Acta Cassubiana* 10 (2008), 60; Grzegorz Buczyński, “Podejście prawne do ochrony lasów w Polsce w ujęciu historycznym,” *Kwartalnik Prawa Publicznego* 8 no. 3-4 (2008), 11. [↑](#footnote-ref-68)
69. Otton Hedemann, *Dzieje puszczy Białowieskiej w Polsce przedrozbiorowej w okresie do 1798 roku* (Warszawa: Instytut Badań Lasów Państwowych, 1939), 48; Otton Hedemann, “Wrąb Radziwiłłowski,” *Echa leśne* no. 38, (1935), 4. [↑](#footnote-ref-69)
70. Pol. *Instrukcja o sposobie prowadzenia lasu*. Krzysztof Okła, *O początkach regulacji leśnej w Puszczy Kozienickiej* (Kozienice: Nadleśnictwo Kozienice, 2019), 30. [↑](#footnote-ref-70)
71. Józef Broda, *Historia leśnictwa w Polsce* (Poznań: Wydawnictwo Akademii Rolniczej im. Augusta Cieszkowskiego, 2000), 48-49. [↑](#footnote-ref-71)
72. Pol. *Uniwersał Względem Borów y Lasów w Koronie y w Wielkim Xięstwie Litewskim*. Grzegorz Buczyński, “Podejście prawne do ochrony lasów w Polsce w ujęciu historycznym,” 11. [↑](#footnote-ref-72)
73. *Ibidem*. [↑](#footnote-ref-73)
74. AHN, Estado, leg. 4758 exp 3, Relación del comercio de la ciudad de Dantzig (en latín Gedanum) antiguamente ciudad hanseática; y hoy dependiente de la Polonia. Como una de las ciudades de la Prusia que conservaban aun su gobierno interior con libertad. [↑](#footnote-ref-74)
75. AHN, Estado, leg. 4758 exp 3, Relación del comercio de la ciudad de Dantzig (en latín Gedanum). [↑](#footnote-ref-75)
76. AHN, Estado, leg. 4758 exp 3, Relación del comercio de la ciudad de Dantzig (en latín Gedanum). [↑](#footnote-ref-76)
77. This subchapter was elaborated and written by Ph.D. students Karolina Juszczyk and Daniel Prusaczyk (who were scholarship holders in the project *The role of wood supplies from the southern Baltic region and the viceroyalty of New Spain in the development of the Spanish seaborne empire in the eighteenth century* funded by the National Science Centre), and their work was supervised by the author of this monograph, Rafal Reichert. [↑](#footnote-ref-77)
78. Dagnosław Demski, “Naliboki i Puszcza Nalibocka –zarys dziejów i problematyki,” *Etnografia Polska* 38, no. 1-2 (1994), 68-69. [↑](#footnote-ref-78)
79. Darius Žiemelis, “The Structure and Scope of the Foreign Trade of the Polish–Lithuanian Commonwealth in the 16th to 18th Centuries: The Case of the Grand Duchy of Lithuania,” *Lithuanian Historical Studies*, 17 (2012), 111-113. [↑](#footnote-ref-79)
80. Maria Bogucka, “Żegluga bałtycka w XVII –XVIII wieku w świetle materiałów z archiwum w Amsterdamie,” *Zapiski Historyczne* 84 no. 4 (2017), 126-127. [↑](#footnote-ref-80)
81. Anna Lesiak, “Kobiety z rodu Radziwiłłów w świetle inwentarzy i testamentów (XVI-XVIII w.)” in Urszula Augustyniak (ed.), *Administracja i życie codzienne w dobrach Radziwiłłów XVI-XVIII wieku* (Warszawa: Wydawnictwo DiG, 2009), 113. Maria Bogucka, “Żegluga bałtycka w XVII –XVIII wieku w świetle materiałów z archiwum w Amsterdamie,” *Zapiski Historyczne* 84 no. 4 (2017), [↑](#footnote-ref-81)
82. Maria Bogucka, “Żegluga bałtycka w XVII –XVIII wieku w świetle materiałów z archiwum w Amsterdamie,” *Zapiski Historyczne* 84 no. 4 (2017), 124-125. [↑](#footnote-ref-82)
83. Otton Hedemann, *Dawne puszcze i wody* (Wilno: Księgarnia Św. Wojciecha, 1934), 37-38. [↑](#footnote-ref-83)
84. Otton Hedemann, *Dawne puszcze i wody* (Wilno: Księgarnia Św. Wojciecha, 1934), 38. [↑](#footnote-ref-84)
85. Mariusz Kowalski, “Księstwa Rzeczpospolitej. Państwo magnackie jako region polityczny” in Grzegorz Węcławowicz (ed.) *Prace Geograficzne* (Warszawa: IGiPZ-PAN, 2013), 236-238. [↑](#footnote-ref-85)
86. Andrzej Jezierski and Cecylia Leszczyńska, *Historia gospodarcza Polski*, (Warszawa: Wydawnictwo Key Text, 2010), 60-61. [↑](#footnote-ref-86)
87. Bernadetta Manyś, “Przyczynek do badań nad rolą i funkcją lasów w XVIII-wiecznych dobrach radziwiłłowskich w Wielkim Księstwie Litewskim,” *Studia i Materiały Ośrodka Kultury Leśnej* 15 (2016), 160-163. [↑](#footnote-ref-87)
88. Literally "eldership", an administrative unit established in the 14th century in the Polish Crown and later in the Polish–Lithuanian Commonwealth until the partitions of Poland in 1795. [↑](#footnote-ref-88)
89. Zbigniew Anusik and Andrzej Stroynowski, “Radziwiłłowie w epoce saskiej. Zarys dziejów politycznych i majątkowych,” *Acta Universitatis Lodziensis* 33 (1989), 36. [↑](#footnote-ref-89)
90. Dagnosław Demski, “Naliboki i Puszcza Nalibocka –zarys dziejów i problematyki,” *Etnografia Polska* 38, no. 1-2 (1994), 51-52. [↑](#footnote-ref-90)
91. These are the original names of forests in the Lithuanian and Polish languages. [↑](#footnote-ref-91)
92. Latin: ordinatio. [↑](#footnote-ref-92)
93. Tomasz Brodacki, “Uwarunkowania prawne ordynacji Radziwiłłowskiej i jej wojsk w Rzeczypospolitej Obojga Narodów,” *Zeszyty Naukowe Uniwersytetu Przyrodniczo-Humanistycznego w Siedlcach* 109 (2016), 223-227. [↑](#footnote-ref-93)
94. Karl Friedrich Einchorn, *Stosunek xiążęgo domu Radziwiłłow do domów xiążęcych w Niemczech uważany ze stanowiska historycznego i pod względem praw niemieckich poltycznych i xiążęcych* (Warszawa: Księgarnia Aug. Emm. Glücksberga, 1843), 81-88. [↑](#footnote-ref-94)
95. Dagnosław Demski, “Naliboki i Puszcza Nalibocka –zarys dziejów i problematyki,” *Etnografia Polska* 38, no. 1-2 (1994), 58; Bernadetta Manyś, “Przyczynek do badań nad rolą i funkcją lasów w XVIII-wiecznych dobrach radziwiłłowskich w Wielkim Księstwie Litewskim,” *Studia i Materiały Ośrodka Kultury Leśnej* 15 (2016), 161-162. [↑](#footnote-ref-95)
96. It should be emphasized that data from the years 1748-1760 are missing for this period. Therefore, they must be considered partial data, but sufficiently solid and reliable for the purposes of this monograph. [↑](#footnote-ref-96)
97. AGAD, Warszawskie Archiwum Radziwiłłów (Hereafter WAR), Kolekcja XX-Handel Rzeczny (1608-1892), exp. 32 and 80 for 1744-1746. [↑](#footnote-ref-97)
98. AGAD, WAR, Kolekcja XX-Handel Rzeczny, exp. 80 f. 13 (1746). [↑](#footnote-ref-98)
99. AGAD, WAR, Kolekcja XX-Handel Rzeczny, exp. 32, fs. 1-4 (1761). [↑](#footnote-ref-99)
100. AGAD, WAR, Kolekcja XX-Handel Rzeczny, exp. 32 fs. 18-24 and 112 f. 27 (1767). [↑](#footnote-ref-100)
101. AGAD, WAR, Kolekcja XX-Handel Rzeczny, exp. 112 fs. 23-24 (1763). [↑](#footnote-ref-101)
102. AGAD, WAR, Kolekcja XX-Handel Rzeczny, exp. 32 fs. 10-16 and 112 f. 25 (1766). [↑](#footnote-ref-102)
103. AGAD, WAR, Kolekcja XX-Handel Rzeczny, exp. 32; 18-24 and 112 f. 27 (1767). [↑](#footnote-ref-103)
104. Zbigniew Anusik and Andrzej Stroynowski “Radziwiłłowie w epoce saskiej. Zarys dziejów politycznych i majątkowych,” *Acta Universitatis Lodziensis* 33 (1989), 44-45. [↑](#footnote-ref-104)
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106. AGAD, WAR, Kolekcja XX-Handel Rzeczny, exp. 112, fs. 23-24 (1763); 112, f. 25 (1766); 112, f. 27 (1767) and exp. 32, fs. 10-16 (1778). [↑](#footnote-ref-106)
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108. AGAD, WAR, Kolekcja XX-Handel Rzeczny, exp. 32, f. 118 (1788). [↑](#footnote-ref-108)
109. AGAD, WAR, Kolekcja XX-Handel Rzeczny, exp. 32, f. 30 (1768) and exp. 112, f 35 (1768). [↑](#footnote-ref-109)
110. Filip Sulimierski and Władysław Walewski, *Słownik geograficzny Królestwa Polskiego i innych krajów słowiańskich* vol. 7 (Warszawa: Druk Wieku, 1886), 78. [↑](#footnote-ref-110)
111. AGAD, WAR, Kolekcja XX-Handel Rzeczny, exp. 77, f. 48 (1776), exp. 32, fs. 82-83 (1777) and exp. 77, f . 84-85 (1778). [↑](#footnote-ref-111)
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114. AGAD, WAR, Kolekcja XX-Handel Rzeczny, exp. 32 fs. 82-83 (1777); exp. 77, fs. 30-31 (1777); exp. 32, fs. 92-99 (1778); exp. 77 fs. 84-85 (1778) and exp. 77 f. 133 (1779). [↑](#footnote-ref-114)
115. Zbigniew Anusik and Andrzej Stroynowski “Radziwiłłowie w epoce saskiej. Zarys dziejów politycznych i majątkowych,” *Acta Universitatis Lodziensis* 33 (1989), 44. [↑](#footnote-ref-115)
116. AGAD, WAR, Kolekcja XX-Handel Rzeczny, exp. 77 f. 48 (1776) and exp. 77 f. 85 (1778). [↑](#footnote-ref-116)
117. AGAD, WAR, Kolekcja XX-Handel Rzeczny, exp. 31 f. 201 (1776). [↑](#footnote-ref-117)
118. AGAD, WAR, Kolekcja XX-Handel Rzeczny, exp. 32 fs. 114-120 (1788). [↑](#footnote-ref-118)
119. AGAD, WAR, Kolekcja XX-Handel Rzeczny, exp. 32, fs. 115, 120 (1788). [↑](#footnote-ref-119)
120. AGAD, WAR, Kolekcja XX-Handel Rzeczny, exp. 32, fs. 115, 117 (1788). [↑](#footnote-ref-120)
121. AGAD, WAR, Kolekcja XX-Handel Rzeczny, exp. 32, fs. 118-120 (1788). [↑](#footnote-ref-121)
122. AGAD, WAR, Kolekcja XX-Handel Rzeczny, exp. 32, fs. 115-117, 120 (1788). [↑](#footnote-ref-122)
123. It should be emphasized that data from the years 1773, 1775, 1781-1788, and 1791 are missing. Therefore, the data must be regarded as partial, but solid and reliable for the purposes of this monograph. [↑](#footnote-ref-123)
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