

## Wood, Trade, and Spanish Naval Power (c.1740–1795)

# Brill's Series in the History of the Environment

*Series Editor*

Aleks Pluskowski, *University of Reading*

VOLUME 7

The titles published in this series are listed at [brill.com/bshe](http://brill.com/bshe)

# Wood, Trade, and Spanish Naval Power (c.1740–1795)

*By*

Rafał B. Reichert

*With the Participation of*

Karolina Juszczyk

Daniel Prusaczyk



BRILL

LEIDEN | BOSTON

Library of Congress Cataloging-in-Publication Data

Names: Reichert, Rafal, author.

Title: Wood, trade, and Spanish naval power (c.1740-1795) / by Rafal B. Reichert ; with the participation of Karolina Juszczyk, Daniel Prusaczyk.

Description: Leiden ; Boston : Brill, [2024] | Series: Brill's series in the history of the environment, 1876-6595 ; volume 7 | Includes bibliographical references and index. | Summary: "By focussing on timber sourcing, this book sheds light on the exploitation of forests in settings outside the Iberian Peninsula, including foreign states in the southern Baltic region and the colonial territory of New Spain between the c.1740-1795. Analysis of contracts, projects, and their implementation by the Spanish crown in the 18th century allow for a better understanding of the position of the Spanish monarchy's nearly global efforts to sustain its naval commitments in the Atlantic World"— Provided by publisher.

Identifiers: LCCN 2024010382 (print) | LCCN 2024010383 (ebook) | ISBN 9789004689633 (hardback) | ISBN 9789004689640 (ebook)

Subjects: LCSH: Lumber trade—Spain—History. | Spain—History, Naval.

Classification: LCC HD9765.S7 R453 2024 (print) | LCC HD9765.S7 (ebook) | DDC 338.4/76740946—dc23/eng/20240422

LC record available at <https://lcn.loc.gov/2024010382>

LC ebook record available at <https://lcn.loc.gov/2024010383>

Typeface for the Latin, Greek, and Cyrillic scripts: "Brill". See and download: [brill.com/brill-typeface](http://brill.com/brill-typeface).

ISSN 1876-6595

ISBN 978-90-04-68963-3 (hardback)

ISBN 978-90-04-68964-0 (e-book)

DOI 10.1016/9789004689640

Copyright 2024 by Koninklijke Brill BV, Leiden, The Netherlands.

Koninklijke Brill BV incorporates the imprints Brill, Brill Nijhoff, Brill Schöningh, Brill Fink, Brill mentis, Brill Wageningen Academic, Vandenhoeck & Ruprecht, Böhlau and V&R unipress.

Koninklijke Brill BV reserves the right to protect this publication against unauthorized use. Requests for re-use and/or translations must be addressed to Koninklijke Brill BV via [brill.com](http://brill.com) or [copyright.com](http://copyright.com).

This book is printed on acid-free paper and produced in a sustainable manner.

# Contents

Acknowledgements IX

List of Figures, Maps and Tables x

Introduction 1

## PART I

- 1 **Spanish Navy Wood Supplies from the Southern Baltic and Riga** 21
  - 1 The Marquis of Ensenada and the Supply of Timber for the Spanish Navy 22
  - 2 Mathy-Schultz Versus Gil de Meester 28
  - 3 Baltic Timber and the *Asiento* of the Gil de Meester Brothers (1751–1760) 34
  - 4 Retortillo and Aragonri's Wood *Asiento* (1761–1766) 40
  - 5 The French Naval Construction System and Soto's, Chone's, and Marraci's *Asientos* (1772–1782) 53
  - 6 Baltic Timber under the Control of the Banco de San Carlos and the *Asiento* of the Swedish Company Gahn 65
  
- 2 **The Southern Baltic Hinterland and Timber Extraction** 73
  - 1 Timber Cutting in Pomerania and along the Odra River and Its Trade in Szczecin 73
  - 2 Examples of Forest Management by the Prussian Crown in Silesia, Kłodzko, and Pomerania in the Second Half of the 18th Century 82
  - 3 Szczecin and the Spanish Connection during the Second Half of the 18th Century 86
  - 4 Filip Chone's Visit to Szczecin and Proposals for the Supply of Prussian Timber to the Spanish Navy in the 1770s 88
  - 5 Timber and Its Trade in Gdańsk During the Second Half of the 18th Century 91
  - 6 Some Information about Forestry Knowledge and Forest Management Policy in the Polish-Lithuanian Commonwealth during the Second Half of the 18th Century 102
  - 7 Spanish Knowledge about Poland, Based on the Description of the Count of Aranda During His Trip to Gdańsk 104
  - 8 The Radziwiłł: Timber Felling and Trade with Königsberg, Memel, and Riga 106

- 9 The Radziwiłłs' Land and Forest Estates 107
- 10 Production and Shipment of Wood from the Radziwiłł Estates in 1744–1793 116
- 11 Examples of Radziwiłł Timber Trade in Southern Baltic Ports 120

## PART 2

- 3 **The Survey of New Spain's Woodlands** 129
  - 1 The Exploitation of Timber for the Shipbuilding Industry in the Viceroyalty of New Spain in the 18th Century 129
  - 2 Pine Felling in the Hills of Chimalapas 134
  - 3 Pine Felling in Chimalapas under Royal Supervision (1765–1771) 136
  - 4 Expenses: Wages and Oxen for the Chimalapas Enterprise 140
  - 5 Forest Resources and Naval Wood Sourcing in Sierra Madre Oriental 144
  - 6 Antonio María de Bucareli y Ursúa's Land Survey Instructions 147
  - 7 Miguel del Corral and His Contribution to the Scientific Knowledge of New Spain 149
  - 8 Relation of the Survey Carried out in the Hills of Teziutlán and Perote (Veracruz) 151
  - 9 The Major Survey Expedition of Miguel del Corral and Joaquín de Aranda to South of Veracruz 154
  - 10 Information about the Exploitation of Natural Resources in Miguel Del Corral's *Relación* 159
  - 11 The Survey of the Antigua and Nautla Rivers and the Mecacalco Hills 161
  - 12 Survey of the Antigua River in August 1778 and Inspection of a Pine Forest in Mecacalco, Santa María Tlapacoya, and Nautla Rivers in September 1778 163
  - 13 Projects to Source Wood in Other Regions in New Spain, Such as the Usumacinta River and Laguna de Términos 166
  - 14 Wood Species in New Spain, Based on Subdelegate Pedro Cabezas's Survey of Huejutla 172
- 4 **Timber *Asientos* for the Spanish Royal Navy in New Spain** 178
  - 1 Early Timber *Asientos* in the Viceroyalty of New Spain in the Second Half of the 18th Century 178
  - 2 An Attempted *Asiento* for Masting in Favour of Domingo Ramón Balcarsel in 1768 180

3	The 1783 Order by the Secretary of the Navy, Antonio Valdés, to Undertake Large-Scale Felling in New Spain	183
4	The <i>Asientos</i> Awarded in Veracruz in 1784–1787	186
5	The Balance of the Wood <i>Asientos</i> Signed in New Spain (1784–1787)	198
6	Wood Extraction Areas under the Jurisdiction of the Viceroyalty of New Spain in the Second Half of the 18th Century: Examples from Cuba and Louisiana	205
7	Use of Cuban Wood by Havana’s Shipbuilding Industry	205
8	Garibaldi’s Project as the Model for State-Sponsored Exploitation of Wood in Cuba	210
9	Illegal British Timber-Felling Operations in Cuba	219
10	The Wood Business in Louisiana and New Orleans in the Late 18th Century	220
11	Wood Sourcing Projects Elsewhere in the Greater Caribbean	224
12	Woodland Areas in Cartagena de Indias and the Magdalena River	226
	<b>General Conclusions</b>	229
	<b>Appendix</b>	236
	<b>Glossary of Spanish Words</b>	242
	<b>Bibliography</b>	244
	<b>Index</b>	260

# Acknowledgements

Here, I would like to thank the individuals and the institutions who supported me during the writing and editing of this book.

First, I would like to thank my beloved Małgosia and Marysia, for their love, and constant support and for enduring my changing moods and hours of absence during the writing of this book. Also, to my parents Anna and Henryk, my sister Magda, my brother Andrzej, and other members of my family. As well as friends and colleagues from Mexico, Spain, and Poland for supporting my research and advising me during the writing of the manuscript. Especial thanks must go to Johanna von Grafenstein for her friendship from our doctoral days to today, when she often helped me on important wood-related issues, and Iván Valdez Bubnov, for the time spent on our maritime-naval discussions and projects, and for socializing at Coyoacán.

I would like to thank the National Science Centre for the funding granted to the project; the University of Warsaw, and especially the Dean's office (Robert Małecki and Anna Wojtyś) and the employees of the economic section of the Faculty of Modern Languages (Marta Zaręba and Izabela Poniatowska), for all their administrative help during the project and during the writing of this book.

I would like to thank my collaborators on the project Inez Beszterda, Łukasz Brylak, Emil Chróściak, Karolina Juszczak, and Daniel Prusaczyk, whose professionalism helped the project to run smoothly, facilitated research and, finally, made the writing of this book possible.

Many thanks to María Isabel Rodríguez Ramos for the excellent editing and proofreading of the first draft of the text in Spanish and the professional English translation, editing, and proofreading made by David J. Govantes-Edwards.

Special thanks to my dear friends Hermano Ric, Amigocha Margarita, and Vecina Perla.

I thank the Centro de Estudios Superiores de México y Centroamérica of the Universidad de Ciencias y Artes de Chiapas, where I worked and where, for the first time, I had the opportunity to research the subject of the Spanish timber supply.

I would like to thank the archives of Mexico City (AGNM), Seville (AGI), Simancas (AGS), Madrid (Archivo Histórico de la Armada sede "Elcano"), and Warsaw (AGAD) for providing the maps and illustrations that enriched this book.

Finally, I would like to emphasize that this book is the main result of 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" (register no. 2017/25/B/HS3/01017), which was funded by the National Science Centre, Poland.

# Figures, Maps and Tables

## Figures

- 1 Image of the cedar tree from the map of San Miguel Chiquistepeque y San Francisco Puctla, New Spain (1757) xiv
- 2 The Polish-Lithuanian Commonwealth before and after the 1772 partition 31
- 3 Pine Mast from Riga 39
- 4 Foot and Span Measurements Used in the Timber Trade in Baltic Ports 40
- 5 Ships loaded with timber in 1760, according to the Count of Aranda's report 41
- 6 18th-century map showing the coast of the southern Baltic Sea from Pomerania to the Gulf of Riga 92
- 7 Map from 1793 showing the layout of mountains and rivers in the provinces of Veracruz and Oaxaca. With marked cedars felling sites. Made by Miguel del Corral & Joaquín de Aranda 135
- 8 The royal *tinglado* project in Veracruz for timber storage (1764). Made by Miguel de Santiestevan 137
- 9 Plan that includes the bar and entrance of the Coatzacoalcos River from the Gulf of Mexico 150
- 10 Plans and sections of a fort to defend the entrance of the bar and river of Alvarado and Tlacotalpan village 151
- 11 Map of the coast of the Mexican Sound from Puntilla de Piedra to Coatzacoalcos, which also includes the Isthmus of Tehuantepec (1777) 155
- 12 Laguna de Términos, the *presidio* of Carmen on the Isla del Carmen and main villages and rivers (1792). Made by Juan Manuel de Bonilla 168
- 13 The map shows the territorial draft of Intendencia of Oaxaca (1774) 171
- 14 The map shows the territorial draft of Intendencia of Veracruz (1774) 171
- 15 The map shows the territorial draft of Intendencia of Yucatan (1774) 172
- 16 View of a *tinglado* or *tillado*, where the boats and launches of the ships were built, and painted in order to preserve all the cedar planking for use in the ships 182
- 17 Wooden *genoles* for the construction of ships designed by del Toral with the details of each carved part 187
- 18 Plan of the island and settlement of Tlacotalpan, an important site for shipbuilding and logging in the province of Veracruz (1786) 199
- 19 Arrival of New Spanish wood to naval departments (1784–1787) 203
- 20 Wood sent to naval departments and stored in Veracruz (1784–1787) 204
- 21 Representation of a frigate in the shipyard 237
- 22 English method of cutting timber using large saws 237
- 23 Different figures of tree trunks and branches to give an idea of how to appropriate them to all the parts that go into the construction of a ship 238

- 24 Representation of the principal parts of which the 12 main frames of a ship are composed, all the parts of the keel, stern and stem, and the members of the main frame 238
- 25 View of a stern and bow of a ship from the inside, showing most of its parts 239
- 26 Preservation of construction timbers in stacks, and sheds; recognition after felling, of their quality and manner of placing them anywhere so that they were ventilated 239
- 27 Tools and utensils used by carpenters in construction and shipbuilding, such as a set of drill, hammers, screwdrivers, chisels, etc. 240
- 28 Representation and figure of the main parts of a ship's transom, fins and plans, bowsprits, curved *orcazes*, sleepers and hogsheds, *orcón* and coral curve 240
- 29 Pieces of oak and elm wood, which are used in a ship of 68 or 70 guns of English system, being the same as those of the frigates, although in smaller proportion 241
- 30 Representation and figure of the formation of the masting of a ship such as masts, spars, spars, bends, bowsprits, etc. 241

## Maps

- 1 Main Naval Routes for Timber between the Baltic Sea and Spain 28
- 2 European rivers and forests and the borders of the Polish-Lithuanian Commonwealth before 1772 29
- 3 South Baltic ports and borders of the Polish-Lithuanian Commonwealth before 1772 30
- 4 Forests belonging to the Massalski family, from which wood was obtained 51
- 5 Timber shipped from the southern Baltic ports to Spain (1750–1799) 64
- 6 Wood felling and storage places in Pomerania mentioned in *Wöchentlich-Stettinische* 75
- 7 Forests belonging to the Radziwiłł family from timbers were sent to Baltic ports in Königsberg, Memel, and Riga 110
- 8 Places of felling and storing wood, which was later sent by the rivers to the ports of Szczecin, Gdańsk, Königsberg, Memel, and Riga 125
- 9 Forests, storage sites, and ports where timber harvested in the provinces of Oaxaca, Veracruz, and Yucatan was shipped 170
- 10 Maritime routes used to transport wood from logging sites to main ports and then to Havana and the metropolis 206
- 11 Places where the Spanish Crown obtained wood, as well as those where inspections were carried out to discover more forests that could provide timber for shipbuilding 225

## Tables

- 1 Estimate of the pine planking needed to build 19 70-gun ships in the departments of El Ferrol, Cádiz, and Cartagena 32
- 2 Direct trade between Gdańsk/Danzig and Spain in the 1750s, according to the customs office of the Sund (Denmark) 34
- 3 Examples of prices of different kinds of mast in the Gil de Meesters' *asiento* (1751) 38
- 4 Number of ships-of-the-line built in the royal shipyards between 1751 and 1756 38
- 5 Estimate of masting needs for the construction of ships-of-the-line in Cartagena (1761) 43
- 6 Estimate of masting needs for the construction of frigates in Cartagena (1761) 44
- 7 Estimate of masting needs for the construction of *chambequines* in Cartagena (1761) 45
- 8 Estimate of masting needs for the construction of *xebecs* in Cartagena (1761) 45
- 9 Invoice for the boards leaving from Gdańsk/Danzig to El Ferrol aboard the Dutch ship *Santa Cornelia Germina* on 31 October 1761 47
- 10 Landholders from the Polish-Lithuanian Commonwealth with whom contracts were signed to supply masting to Cádiz in 1765 48
- 11 Landholders from the Polish-Lithuanian Commonwealth with whom contracts were signed to supply masting to Cádiz in 1766 49
- 12 Landholders from the Polish-Lithuanian Commonwealth with whom contracts were signed to supply masting to Cádiz in 1767 50
- 13 Ships with timber for naval construction sourced from the Baltic by *asentista* Carlos María Marraci (1779) 59
- 14 Report of ships arriving at El Ferrol from the Baltic in Prussian and Russian ships in 1781 62
- 15 Total number of Spain-bound ships from the southern Baltic recorded by the Sound Toll (1740–1799) 63
- 16 Number of Spain-bound southern Baltic ships loaded with timber recorded by the Sound Toll (1740–1799) 63
- 17 Ships-of-the-line and frigates launched in the 1770s, during the northern timber *asientos* awarded to Chone and Marraci 64
- 18 Ships with timber rejected by the intendent of La Carraca in 1794 68
- 19 Annual maintenance expenses of the *Marina Real* after the American War of Independence 72
- 20 Adverts for the sale of ship timber in Szczecin/Stettin according to the *Wöchentlich-Stettinische Frag* (1750–1771) 76
- 21 Adverts for the sale of shipbuilding wood from the Province of Neumark in Szczecin/Stettin according to the *Wöchentlich-Stettinische Frag* (1759–1770) 79

- 22 Examples of tax fees for ship timber and masts from the 1777 edict 85
- 23 Dimensions and prices of oak boards in Szczecin/Stettin as described by Chone (1775) 89
- 24 Dimensions and prices of oak beams in Szczecin/Stettin as described by Chone (1775) 89
- 25 Shipping in the port of Gdańsk/Danzig according to *Danzinger Nachrichten* (1765–1795) 93
- 26 Number of ships loaded with timber dispatched to other European countries from Gdańsk/Danzig according to departure registers from *Danzinger Nachrichten* (1775–1784) 94
- 27 Oak beams and logs floated down the Vistula River (1775–1785) 97
- 28 Extraction, storage, and trade of timber from the Białowieska Forest in 1765 100
- 29 Extraction, storage, and trade of timber from the Białowieska Forest in 1766 100
- 30 Extraction, storage, and trade of timber from the Białowieska Forest in 1767 100
- 31 Radziwiłł wood production centres (1744–1766) 111
- 32 Radziwiłł wood production centres (1767–1793) 114
- 33 Wood types (in pieces) produced in the Radziwiłł estates (1744–1766) 117
- 34 Wood types (in pieces) produced in the Radziwiłł estates (1767–1793) 118
- 35 Number of beams and baulks (in pieces) obtained from the Radziwiłł forests divided by length (1767–1780) 119
- 36 Number of beams and baulks (in pieces) obtained from the Radziwiłł forests divided by length (1788–1793) 120
- 37 List of merchants in the Radziwiłł family commercial network (1741–1794) 122
- 38 Examples of amount of wood hauled in the Radziwiłł forests (1767–1776) 123
- 39 Examples of the amount of wood hauled in the Radziwiłł forests (1777–1788) 124
- 40 Examples of profits for the Radziwiłł family from the wood trade (1776–1778) 124
- 41 Length of timber for masting from Chimalapas, according to Antonio de Gregorio (in cubits) 138
- 42 Felling, dragging, and transport costs for one full masting from the hills of Ysguacan de los Reyes to La Antigua 153
- 43 Masting requested by the Havana arsenal 162
- 44 Trees identified as useful for masting in Monte Tadquapan 164
- 45 Trees identified as useful for masting in La Pila 166
- 46 Dimension of keels set out in Luis del Toral's specifications for José Jiménez's *asiento* 193
- 47 Inventory of woods delivered by *asentistas* in Veracruz (1787) 200
- 48 Amounts of wood delivered in Veracruz and sent to the naval departments in 1784–1787, according to del Toral's estimates 202
- 49 Wood parts required for two 60-gun ships-of-the-line in the Havana shipyard, according to Manuel Carlos Garibaldo's 1777 proposal 213



FIGURE 1 Image of the cedar tree from the map of San Miguel Chiquistepeque y San Francisco Puctla, New Spain (1757) (Archivo General de la Nación de México, Mapas, Planos e Ilustraciones (280), MAPILU/210100/2322 San Miguel Chiquistepeque y San Francisco Puctla; Minas de Sacualpa. Edo. de Méx., 2231)