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Aria of the Dutch North Sea

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Citation
Sertlek, H. O. (2016, June 9). *Aria of the Dutch North Sea*. Retrieved from https://hdl.handle.net/1887/40158

Version:	Not Applicable (or Unknown)
License:	Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden
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Note: To cite this publication please use the final published version (if applicable).

Cover Page

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Title: Aria of the Dutch North Sea
Issue Date: 2016-06-09

Chapter 4 BIOLOGICAL RELEVANCE OF SOUND MAPS

In this chapter, I included several examples of applications of sound maps to biological research. The sound maps for underwater explosions are integrated with biological models on animal distribution and behaviour. The impact of explosive clearance activities of historical unexploded ordnance (UXO) on harbour porpoises in the southern North Sea is assessed in Chapter 4.1. The uncertainty in the calculation of energy source level of explosions for shallow water is also investigated in the same chapter. Chapter 4.2 is the complementary part of Chapter 4.1 from a biological point of view. Chapter 4.2 shows that increased movement rate increases the cumulative number of individuals within a population that will be exposed to a repetitive anthropogenic sound. However, repeated exposure probability is reduced.