

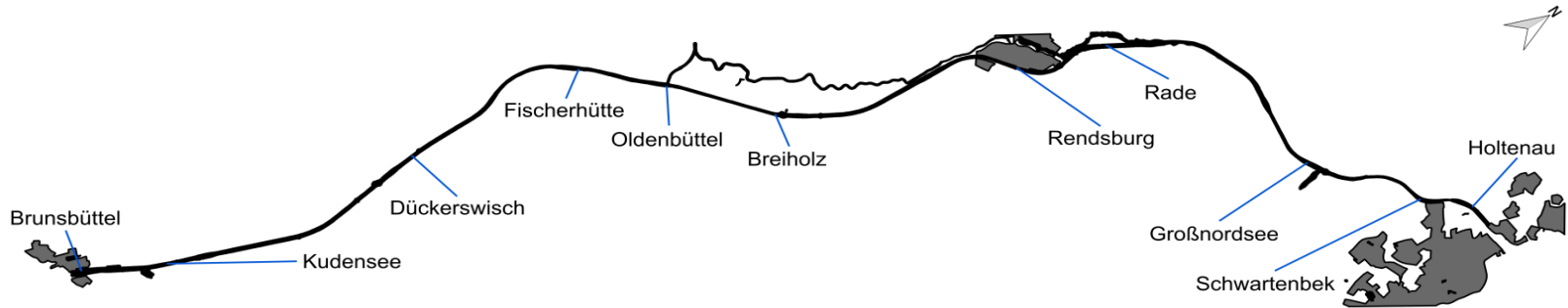
# Neobiota im Nordostsee-Kanal

- Eine Bestandsaufnahme 2016 -

[www.Dithmarschen-Wiki.de](http://www.Dithmarschen-Wiki.de)

# Neobiota

- Gebietsfremde Arten, die durch *anthropogene Mitwirkung* an die heimischen Küsten gelangt sind
- Synonyme: Alien, nicht-heimisch (non-native), gebietsfremd (NIS, non-indigenous) und eingeschleppt



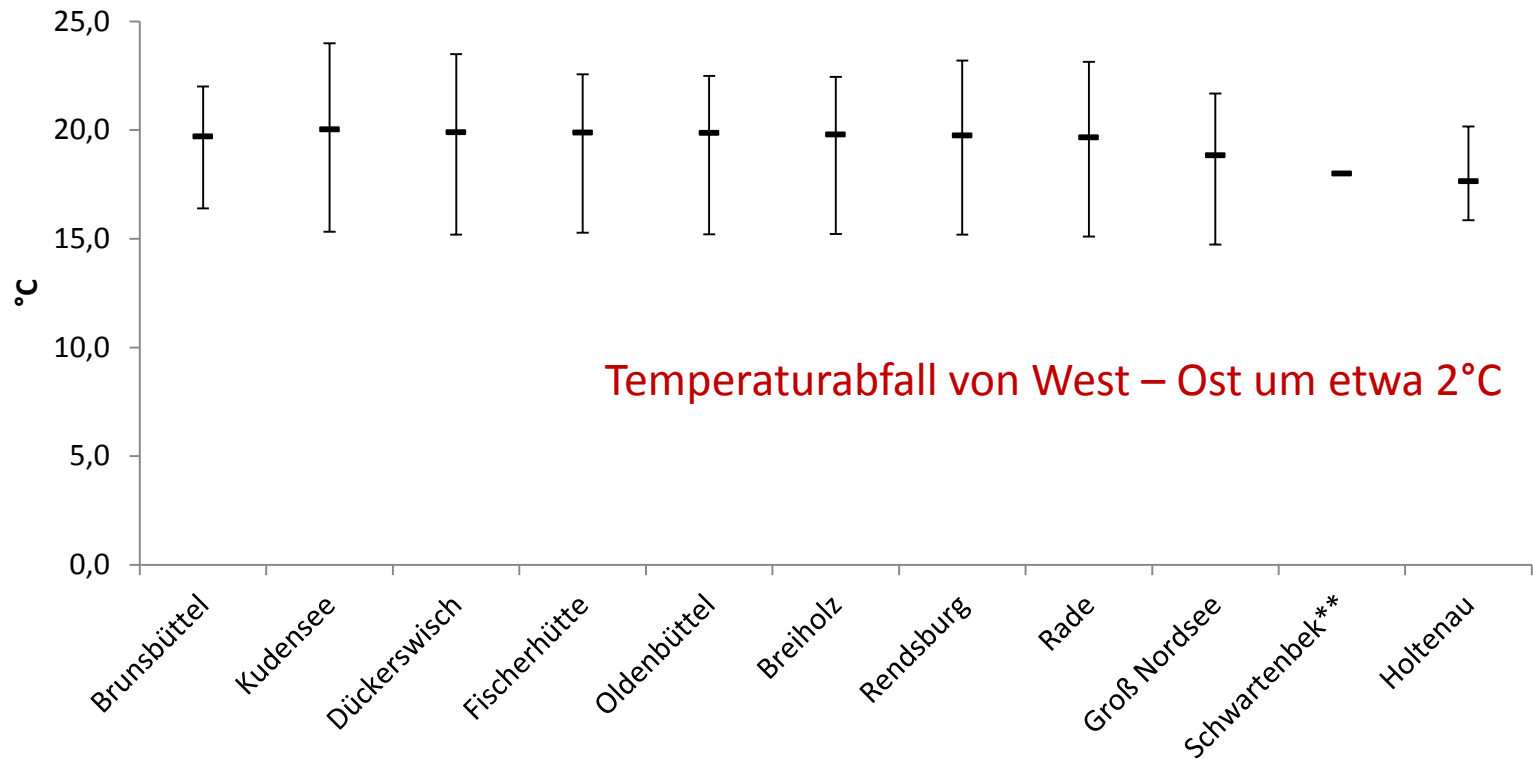
- 11 Standorte von West nach Ost
- Start mit Brunsbüttel im Westen bis Kiel-Holtenau im Osten
- Standorte etwa alle 10 km an den Weichen



- Kratzproben (Dalben)
- Sedimentproben
- Platten (Stege)
- **LOGGER (Temperatur, Salinität)**

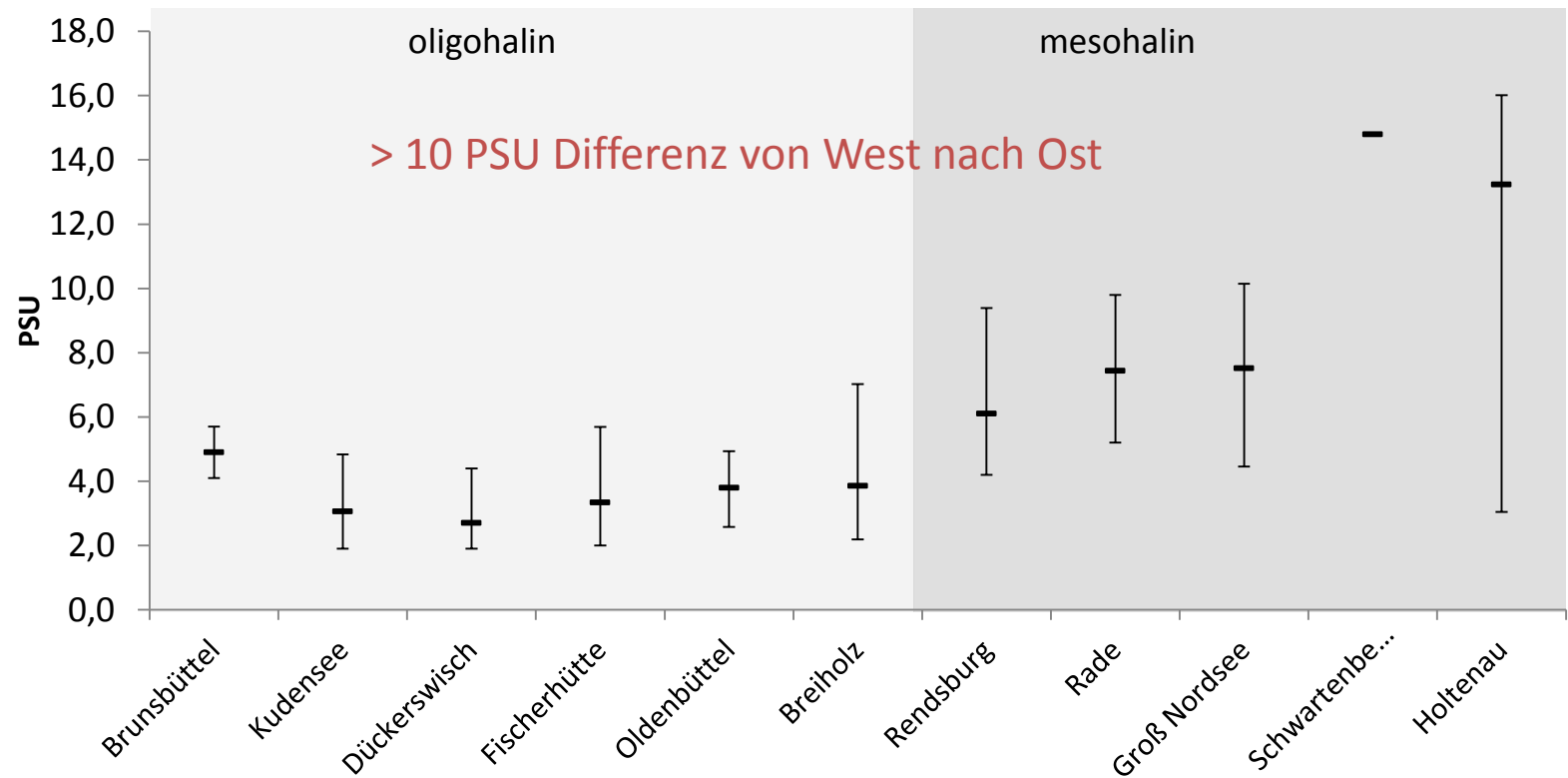


# Temperatur (Mittelwerte inkl. Schwankungsbereich)



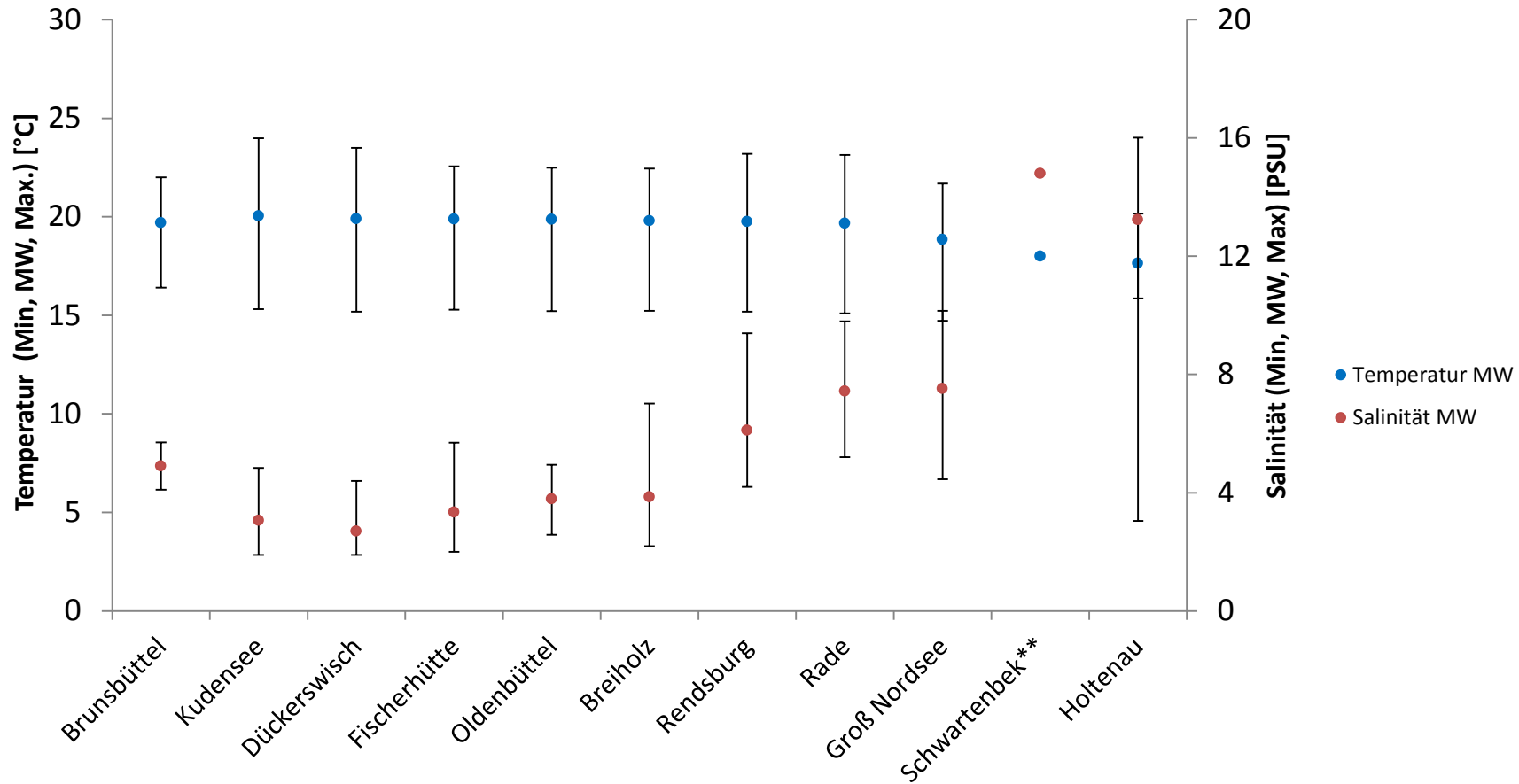
Loggerdaten vom 26.05.2017-22.09.2017

# Salinität (Mittelwerte inkl. Schwankungsbereich)



Loggerdaten vom 26.05.2017-22.09.2017

# Temperatur und Salinität





## Makrobenthos

- 136 heimische Arten
- 23 Neobiota
- 12 – 56% Anteil!



<http://coastsandreefs.net/>



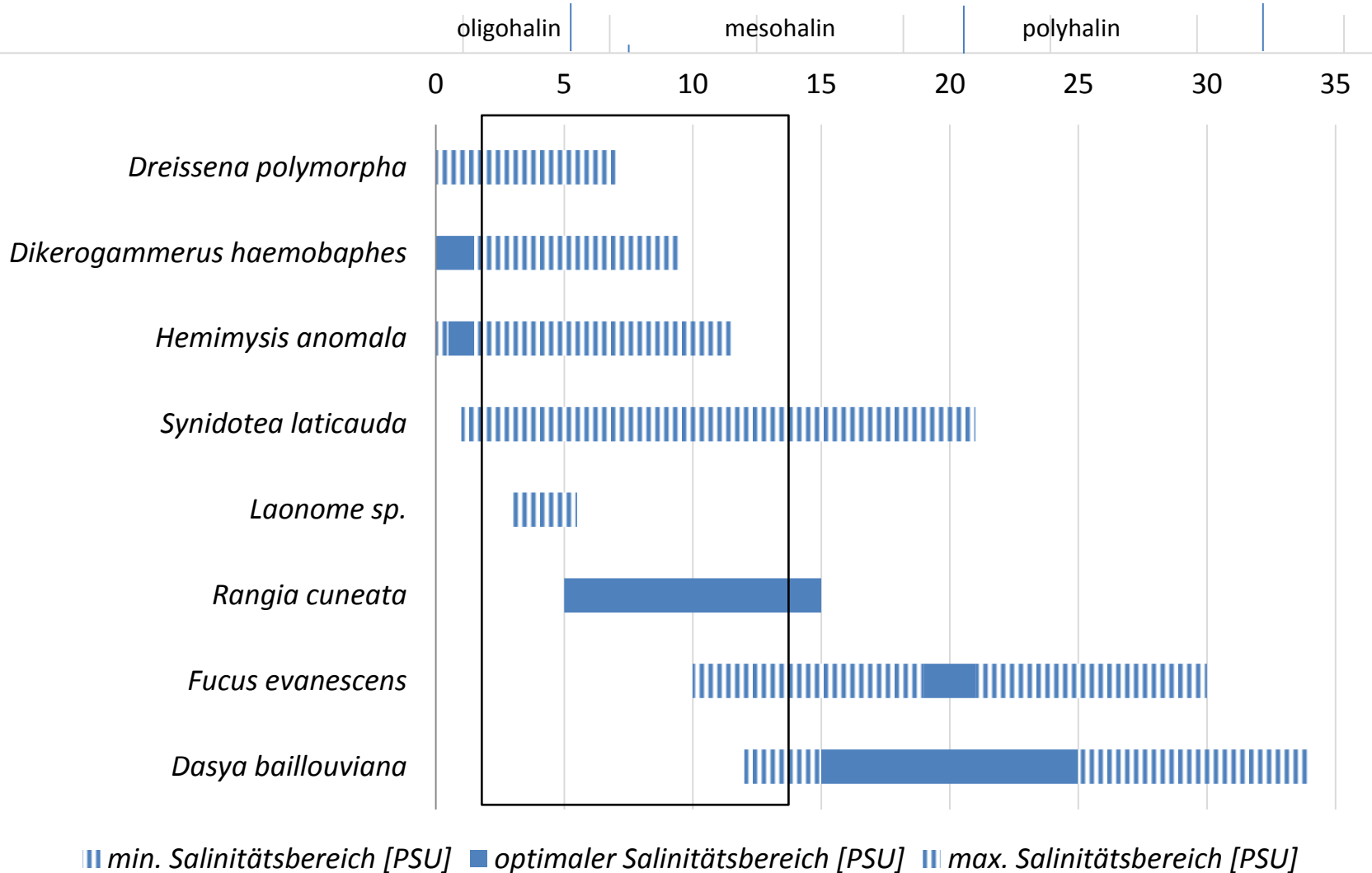
		Brunsbüttel*	Kudensee	Dückerwisch	Fischerhütte	Oldenbüttel	Breiholz	Rendsburg	Rade	Groß Nordsee	Schwarzenbek**	Holtenau
Rhodophyceae	<i>Dasya baillouviana</i>											x
Phaeophyceae	<i>Fucus evanescens</i>										x	x
Hydrozoa	<i>Cordylophora caspia</i>	x	x	x	x	x	x				x	
	<i>Garveia franciscana</i>				x	x	x	x	x			
Insecta	<i>Telmatogeton</i> sp.	x	x	x	x	x	x	x	x	x	x	x
Bivalvia	<i>Dreissena polymorpha</i>		x	x								
	<i>Mya arenaria</i>								x	x		x
	<i>Mytilopsis leucophaeata</i>	x	x	x	x	x	x	x	x	x		x
	<i>Rangia cuneata</i>		x	x	x	x	x	x				
Gastropoda	<i>Potamopyrgus antipodarum</i>			x		x		x	x			
Polychaeta	<i>Laonome</i> sp.						x	x	x			
	<i>Marenzelleria</i> cf. <i>viridis</i>		x	x	x	x	x	x	x	x	x	
	<i>Boccardiella ligerica</i>						x	x				
Crustacea	<i>Amphibalanus improvisus</i>	x	x		x	x	x	x	x	x	x	x
	<i>Dikerogammarus haemobaphes</i>			x		x	x	x				
	<i>Eriocheir sinensis</i> -Larve	x		x	x		x	x	x	x		
	<i>Gammarus tigrinus</i>	x	x	x	x	x	x	x			x	
	<i>Hemimysis anomala</i>					x						
	<i>Melita nitida</i>					x	x	x	x	x	x	x
	<i>Rhithropanopeus harrisii</i>	x	x	x	x	x	x	x	x	x	x	
	<i>Sinelobus vanhaareni</i>	x	x	x	x	x	x	x	x	x	x	x
	<i>Synidotea laticauda</i>		x									
Pisces	<i>Neogobius melanostomus</i>			x				x		x		

		Brunsbüttel*	Kudensee	Dückerwisch	Fischerhütte	Oldenbüttel	Breiholz	Rendsburg	Rade	Groß Nordsee	Schwarzenbek**	Holtenau	Kiel
Rhodophyceae	<i>Dasya baillouviana</i>											x	(x)
Phaeophyceae	<i>Fucus evanescens</i>										x	x	(x)
Hydrozoa	<i>Cordylophora caspia</i>	x	x	x	x	x	x	(x)			x		(x)
	<i>Garveia franciscana</i>	(x)			x	x	x	x	x				(x)
Insecta	<i>Telmatogeton</i> sp.	x	x	x	x	x	x	x	x	x	x	x	(x)
Bivalvia	<i>Dreissena polymorpha</i>	(x)	x	x				(x)					
	<i>Mya arenaria</i>								x	x		x	(x)
	<i>Mytilopsis leucophaea</i>	x	x	x	x	x	x	x	x	x		x	(x)
	<i>Rangia cuneata</i>	(x)	x	x	x	x	x	x	x				
Gastropoda	<i>Potamopyrgus antipodarum</i>	(x)		x		x		x	x				(x)
Polychaeta	<i>Laonome</i> sp.						x	x	x				
	<i>Marenzelleria</i> cf. <i>viridis</i>	(x)	x	x	x	x	x	x	x	x	x		(x)
	<i>Boccardiella ligERICA</i>	(x)					x	x					(x)
Crustacea	<i>Amphibalanus improvisus</i>	x	x		x	x	x	x	x	x	x	x	(x)
	<i>Dikerogammarus haemobaphes</i>			x		x	x	x					
	<i>Eriocheir sinensis</i> -Larve	x		x	x		x	x	x	x			(x)
	<i>Gammarus tigrinus</i>	x	x	x	x	x	x	x			x		
	<i>Hemimysis anomala</i>					x							
	<i>Melita nitida</i>					x	x	x	x	x	x	x	(x)
	<i>Rhithropanopeus harrisii</i>	x	x	x	x	x	x	x	x	x	x		(x)
	<i>Sinelobus vanhaareni</i>	x	x	x	x	x	x	x	x	x	x	x	(x)
	<i>Synidotea laticauda</i>	(x)	x										
Pisces	<i>Neogobius melanostomus</i>	(x)		x				x		x			(x)

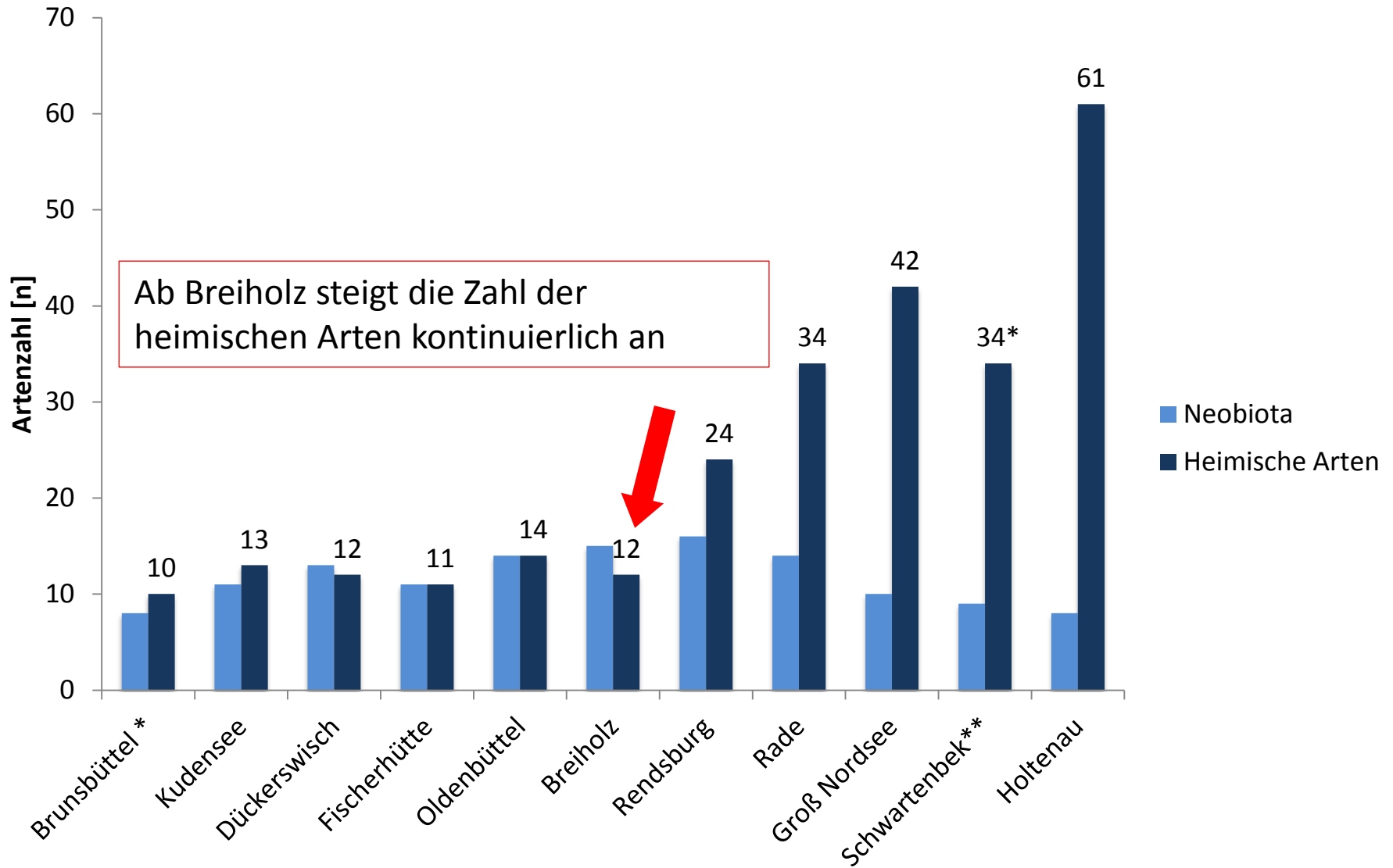
		Brunsbüttel*	Kudensee	Dückerwisch	Fischerhütte	Oldenbüttel	Breiholz	Rendsburg	Rade	Groß Nordsee	Schwarzenbek**	Holtenau	Kiel
Rhodophyceae	<i>Dasya baillouviana</i>												(x)
Phaeophyceae	<i>Fucus evanescens</i>										x	x	(x)
Hydrozoa	<i>Cordylophora caspia</i>	x	x	x	x	x	x	(x)			x		(x)
	<i>Garveia franciscana</i>	(x)			x	x	x	x	x				(x)
Insecta	<i>Telmatogeton</i> sp.	x	x	x	x	x	x	x	x	x	x	x	(x)
Bivalvia	<i>Dreissena polymorpha</i>	(x)	x	x				(x)					
	<i>Mya arenaria</i>												(x)
	<i>Mytilopsis leucophaeata</i>	x	x	x	x	x	x	x	x	x		x	(x)
	<i>Rangia cuneata</i>												
Gastropoda	<i>Potamopyrgus antipodarum</i>	(x)		x		x		x	x				(x)
Polychaeta	<i>Laonome</i> sp.												
	<i>Marenzelleria</i> cf. <i>viridis</i>	(x)	x	x	x	x	x	x	x	x	x		(x)
	<i>Boccardiella ligerica</i>												(x)
Crustacea	<i>Amphibalanus improvisus</i>	x	x		x	x	x	x	x	x	x	x	(x)
	<i>Dikerogammarus haemobaphes</i>												
	<i>Eriocheir sinensis</i> -Larve	x		x	x		x	x	x	x			(x)
	<i>Gammarus tigrinus</i>	x	x	x	x	x	x	x			x		
	<i>Hemimysis anomala</i>					x							
	<i>Melita nitida</i>												(x)
	<i>Rhithropanopeus harrisii</i>	x	x	x	x	x	x	x	x	x	x		(x)
	<i>Sinelobus vanhaareni</i>	x	x	x	x	x	x	x	x	x	x	x	(x)
	<i>Synidotea laticauda</i>	(x)	x										
Pisces	<i>Neogobius melanostomus</i>	(x)		x				x		x			(x)

		Brunsbüttel*	Kudensee	Dückerwisch	Fischerhütte	Oldenbüttel	Breiholz	Rendsburg	Rade	Groß Nordsee	Schwarzenbek**	Holtenau	Kiel
Rhodophyceae	<i>Dasya baillouviana</i>											x	(x)
Phaeophyceae	<i>Fucus evanescens</i>										x	x	(x)
Hydrozoa													
	<i>Garveia franciscana</i>	(x)			x	x	x	x	x				(x)
Insecta													
Bivalvia	<i>Dreissena polymorpha</i>	(x)	x	x				(x)					
	<i>Mytilopsis leucophaeata</i>	x	x	x	x	x	x	x	x	x		x	(x)
	<i>Rangia cuneata</i>	(x)	x	x	x	x	x	x	x				
Gastropoda	<i>Potamopyrgus antipodarum</i>	(x)		x		x		x	x				(x)
Polychaeta	<i>Laonome</i> sp.						x	x	x				
	<i>Marenzelleria</i> cf. <i>viridis</i>	(x)	x	x	x	x	x	x	x	x	x		(x)
Crustacea													
	<i>Amphibalanus improvisus</i>	x	x		x	x	x	x	x	x	x	x	(x)
	<i>Dikerogammarus haemobaphes</i>			x		x	x	x					
	<i>Eriocheir sinensis</i> -Larve	x		x	x		x	x	x	x			(x)
	<i>Hemimysis anomala</i>					x							
	<i>Melita nitida</i>					x	x	x	x	x	x	x	(x)
	<i>Rhithropanopeus harrisi</i>	x	x	x	x	x	x	x	x	x	x		(x)
	<i>Synidotea laticauda</i>	(x)	x										
Pisces													

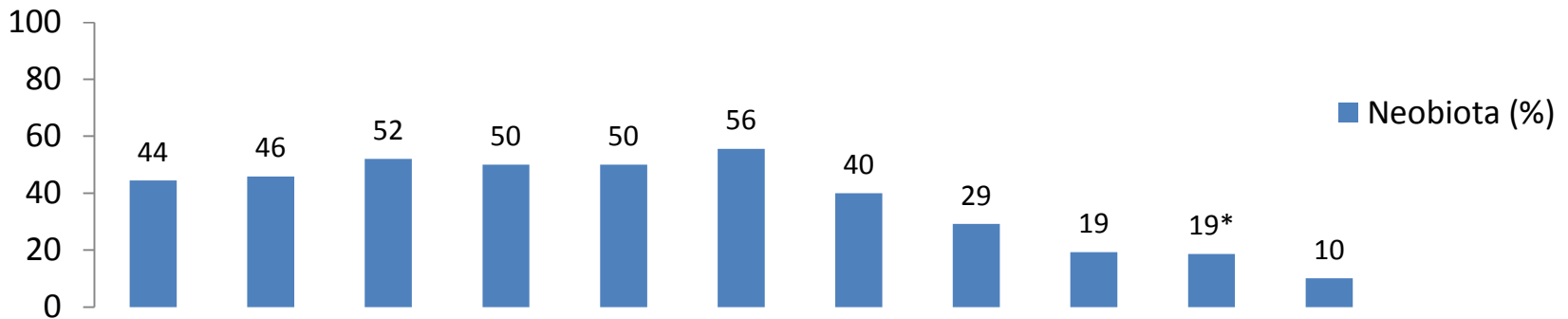
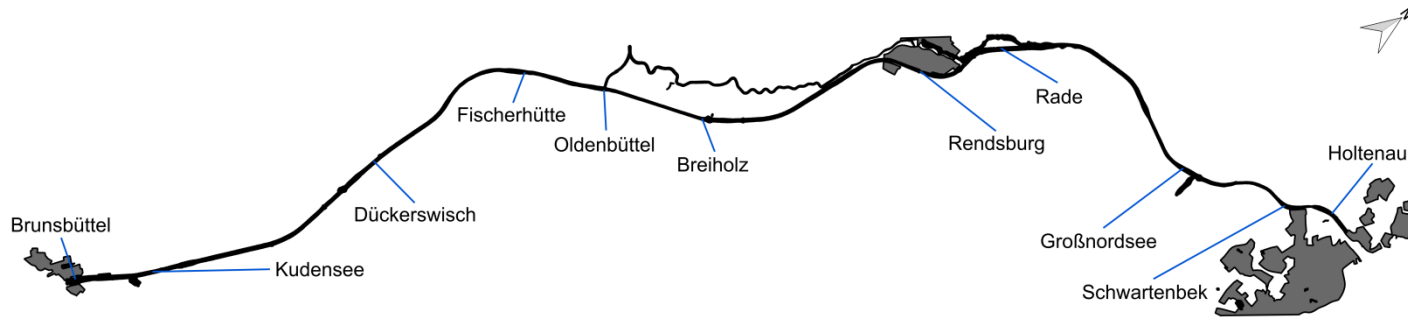
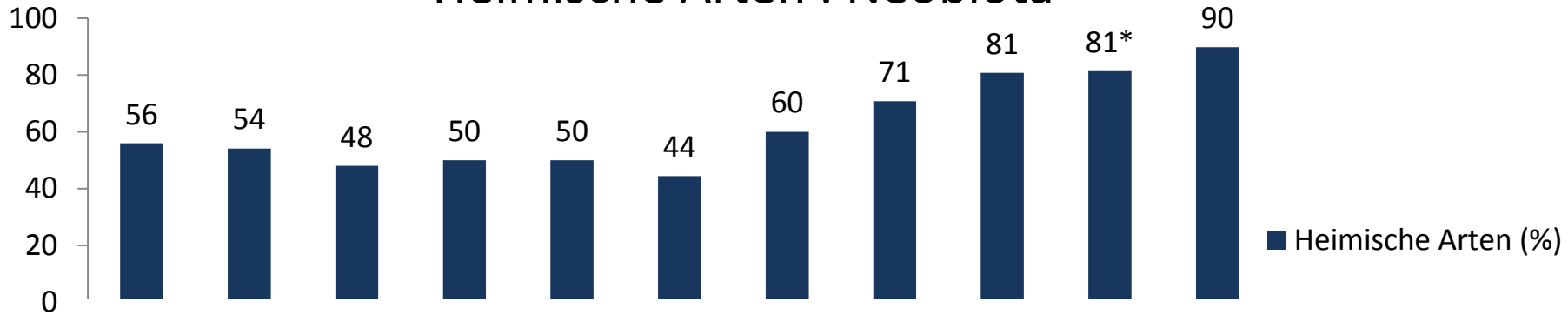
# Salinitätsansprüche



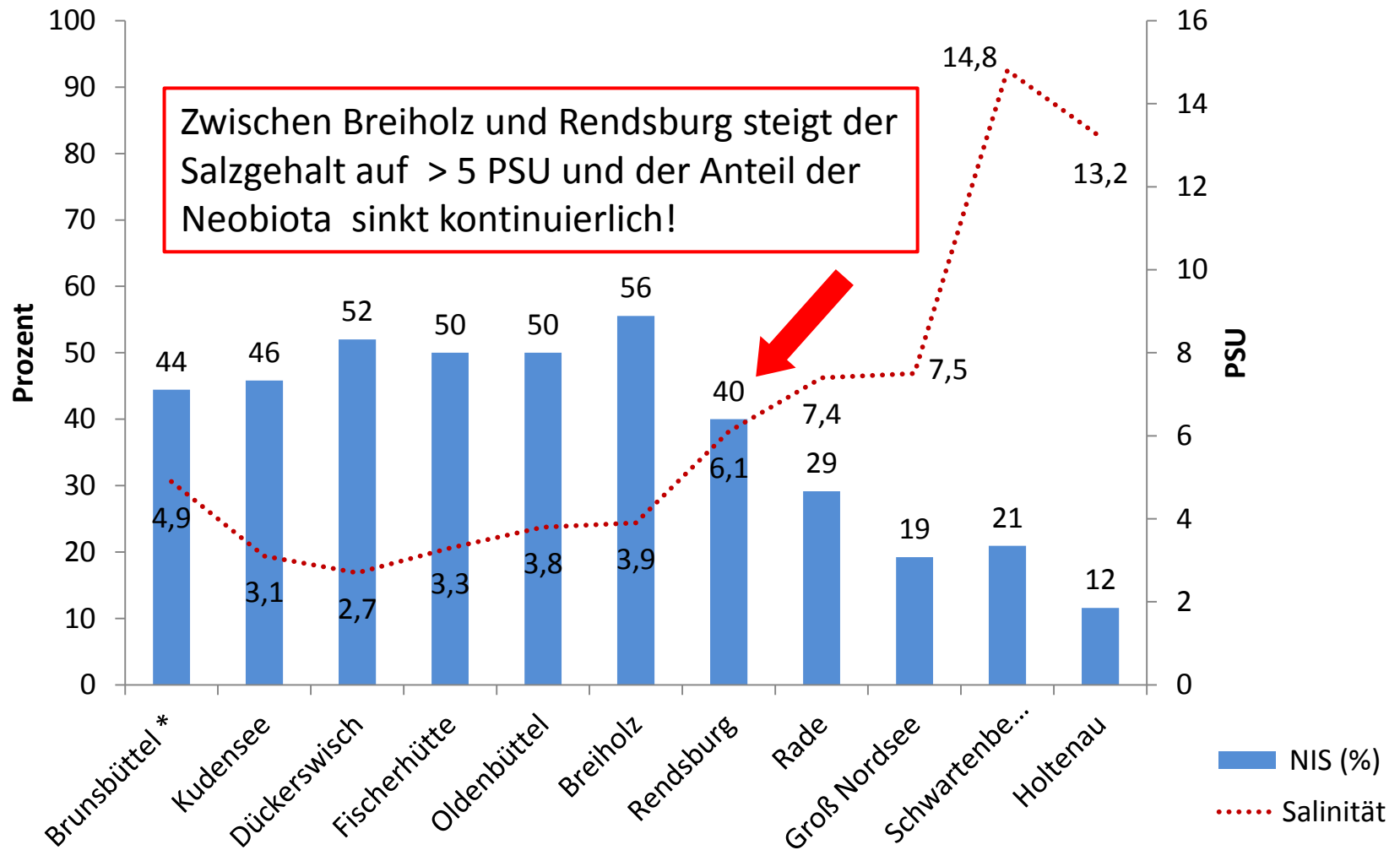
# Heimische Arten: Neobiota



# Prozentuale Anteile Heimische Arten : Neobiota



# Neobiota und Salzgehalt







- Vielen Dank für Ihre Aufmerksamkeit!
- Unser besonderer Dank gilt unserer TA Renate Schütt mit ihrer großartigen Artenkenntnis!
- Weiterhin Dank an alle Experten, die wir immer wieder um Rat fragen konnten!