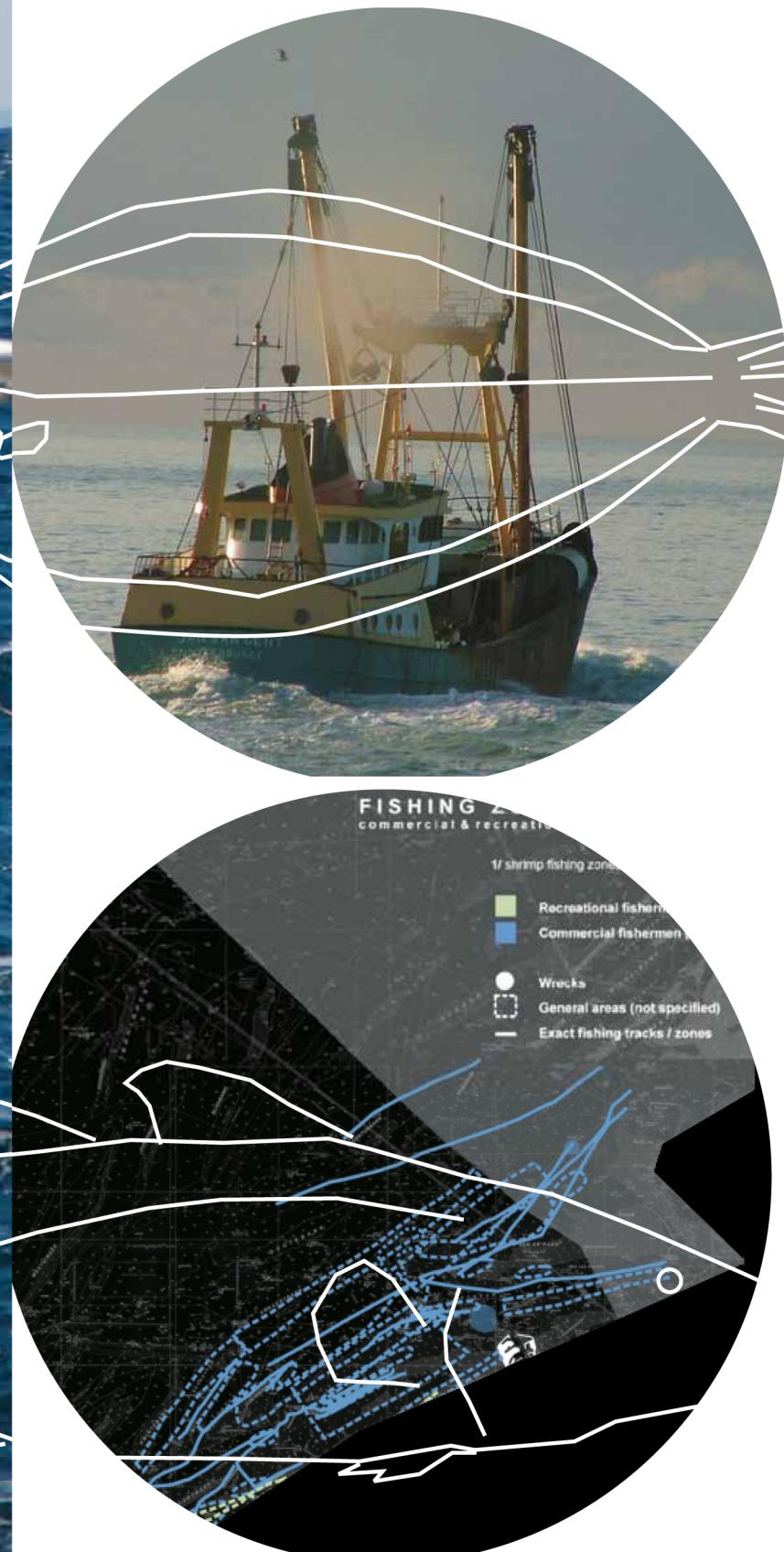


# LECOFISH

An ecosystem approach in sustainable  
fisheries management through  
local ecological knowledge

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Maritime institute  
Ghent University



## COLOFON

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#### MAPS SERIES I: COD

I.1.1/ Fishing zones cod - commercial & recreational fishermen 1950-2010 - overview	6
I.1.2/ Fishing zones cod - recreational fishermen - detailed maps	6
I.2/ Fishing zones cod - commercial & recreational fishermen	7
I.3/ Fishing zones cod - evolution - recreational fishermen 1950-2010	8
I.4/ Fishing zones cod - evolution - commercial fishermen 1950-2010	9
I.5/ Fishing zones cod - evolution - commercial & recreational fishermen 1950-2010	10
I.6/ Fishing zones cod - evolution - areas fished by 2 or more fishermen - commercial & recreational fishermen 1950-2010	11
I.7/ Fishing zones cod - seasonal changes (seasons)	12
I.8/ Fishing zones cod - seasonal changes (months)	13
I.9/ Cod fishing techniques	14
I.10/ Fishing zones cod - evolution & seasonal changes - structure maps	15

#### MAPS SERIES II: SOLE

II.1.1/ Fishing zones sole - commercial & recreational fishermen 1950-2010 - overview	18
II.1.2/ Fishing zones sole - recreational fishermen - detailed maps	18
II.2/ Fishing zones sole - commercial & recreational fishermen	19
II.3/ Fishing zones sole - evolution recreational fishermen 1950-2010	20
II.4/ Fishing zones sole - evolution commercial fishermen 1950-2010	21
II.5/ Fishing zones sole - evolution commercial & recreational fishermen 1950-2010	22
II.6/ Fishing zones sole - evolution areas fished by 2 or more fishermen - commercial & recreational fishermen 1950-2010	23
II.7/ Fishing zones sole - seasonal changes (seasons)	24
II.8/ Fishing zones sole - seasonal changes (months)	25
II.9/ Sole fishing techniques	26
II.10.1/ Sole - other locations	27
II.10.2/ Sole - spawning zones	27
II.11/ Fishing zones sole - evolution & seasonal changes - structure maps	28

#### MAPS SERIES III: SEA BASS

III.1/ Fishing zones sea bass - commercial & recreational fishermen 1950-2010 - overview - zones drawn and talked about	32
III.2/ Fishing zones sea bass - commercial & recreational fishermen	33
III.3/ Fishing zones sea bass - evolution commercial & recreational fishermen 1950-2010	34
III.4/ Fishing zones sea bass - evolution areas fished by 2 or more fishermen - commercial & recreational fishermen 1950-2010	35
III.5/ Fishing zones sea bass - seasonal changes (seasons)	36
III.6/ Fishing zones sea bass - seasonal changes (months)	37
III.7.1/ Sea bass - other locations	38
III.7.2/ Sea bass - spawning zones	38

#### MAPS SERIES IV: EEL

IV.1.1/ Fishing zones eel - commercial & recreational fishermen 1940-2010 - overview	42
IV.1.2/ Fishing zones eel - recreational fishermen - detailed maps	42
IV.2/ Fishing zones eel - commercial & recreational fishermen	43
IV.3/ Fishing zones eel - evolution commercial & recreational fishermen 1940-2010	44
IV.4/ Fishing zones eel - evolution areas fished by 2 or more fishermen - commercial & recreational fishermen 1940-2010	45
IV.5/ Fishing zones eel - seasonal changes (seasons)	46
IV.6/ Fishing zones eel - seasonal changes (months)	47

#### MAPS SERIES V: PLAICE

V.1/ Fishing zones plaice - commercial & recreational fishermen 1950-2010 - overview	50
V.2/ Fishing zones plaice - commercial & recreational fishermen	51
V.3/ Fishing zones plaice - evolution recreational fishermen 1960-2010	52
V.4/ Fishing zones plaice - evolution commercial fishermen 1960-2010	53
V.5/ Fishing zones plaice - evolution commercial & recreational fishermen 1960-2010	54
V.6/ Fishing zones plaice - evolution areas fished by 2 or more fishermen - commercial & recreational fishermen 1960-2010	55
V.7/ Fishing zones plaice - seasonal changes (seasons)	56
V.8/ Fishing zones plaice - seasonal changes (months)	57
V.9.1/ Plaice - other locations	58
V.9.2/ Plaice - spawning zones	58
V.10/ Fishing zones plaice - evolution & seasonal changes - structure maps	59

**MAPS SERIES VI: HERRING**

VI.1/ Fishing zones herring - commercial & recreational fishermen 1940-2010 - overview - zones drawn and talked about (separate)	61
VI.2/ Fishing zones herring - commercial & recreational fishermen	62
VI.3/ Fishing zones herring - evolution commercial & recreational fishermen 1940-2010	63
VI.4/ Fishing zones herring - evolution areas fished by 2 or more fishermen - commercial & recreational fishermen 1940-2010	64
VI.5/ Fishing zones herring - seasonal changes (seasons)	65
VI.6/ Fishing zones herring - seasonal changes (months)	66
VI.7/ Herring - other locations	67
VI.8/ Herring - spawning zones	68

**MAPS SERIES VII: SHRIMP**

VII.1/ Fishing zones shrimp - commercial & recreational fishermen 1950-2010 - overview	71
VII.2/ Fishing zones shrimp - recreational fishermen - detailed maps	72
VII.3/ Fishing zones shrimp - commercial & recreational fishermen	72
VII.4/ Fishing zones shrimp - evolution recreational fishermen 1960-2010	73
VII.5/ Fishing zones shrimp - evolution commercial fishermen 1960-2010	74
VII.6/ Fishing zones shrimp - evolution commercial & recreational fishermen 1960-2010	75
VII.7/ Fishing zones shrimp - evolution areas fished by 2 or more fishermen - commercial & recreational fishermen 1960-2010	76
VII.8/ Fishing zones shrimp - seasonal changes (months)	77
VII.9/ Shrimp spawning zones	78
VII.10/ Fishing zones shrimp - evolution & seasonal changes - structure maps	79

**MAPS SERIES VIII: SAND MASON AND OTHER WORMS**

VIII.1/ Worms - locations - commercial & recreational fishermen 1950-2010 - overview - zones drawn and talked about	83
VIII.2/ Tube worm/Sand mason - locations commercial & recreational fishermen 1950-2010 - overview - zones drawn and talked about	84
VIII.3/ Worms - locations commercial & recreational fishermen	85
VIII.4/ Worms - Tube worm/Sand mason excluded - locations - commercial & recreational fishermen 1950-2010 - overview - zones drawn and talked about (separate)	86
VIII.5/ Worms - locations - structure map	87

**MAPS SERIES IX: RAZOR CLAM**

IX.1/ Razor Clams - locations commercial & recreational fishermen 1950-2010 - overview - zones drawn and talked about	91
IX.2/ Razor Clams - locations commercial & recreational fishermen	92
IX.3/ Razor Clams - areas indicated by 2 or more fishermen	93

**MAPS SERIES X: STARFISH**

X.1/ Starfish - locations commercial & recreational fishermen 1950-2010 - overview - zones drawn and talked about	97
X.2/ Starfish - locations starfish and common/sand brittle star	98
X.3/ Starfish - locations commercial & recreational fishermen	99
X.4/ Starfish - locations - structure map	100

**MAPS SERIES XI: CRABS & LOBSTERS**

XI.1/ Crabs & Lobsters - locations commercial & recreational fishermen 1950-2010 - overview - zones drawn and talked about	103
XI.2/ Crabs & Lobsters - locations commercial & recreational fishermen	104
XI.3/ Crabs & Lobsters - locations specific species: Edible Crab & Great Spider Crab	105
XI.4/ Crabs & Lobsters - locations specific species: Swimming Crab & Velvet Swimming Crab	106
XI.5.1/ Crabs & Lobsters - locations specific species: Pea Crab	107
XI.5.2/ Crabs & Lobsters - locations Crab size	108
XI.6/ Crabs & Lobsters - locations specific species: Hermit Crab & Lobster	108
XI.7/ Crabs & Lobsters - locations structure map	109

**MAPS SERIES XII: MARINE MAMMALS**

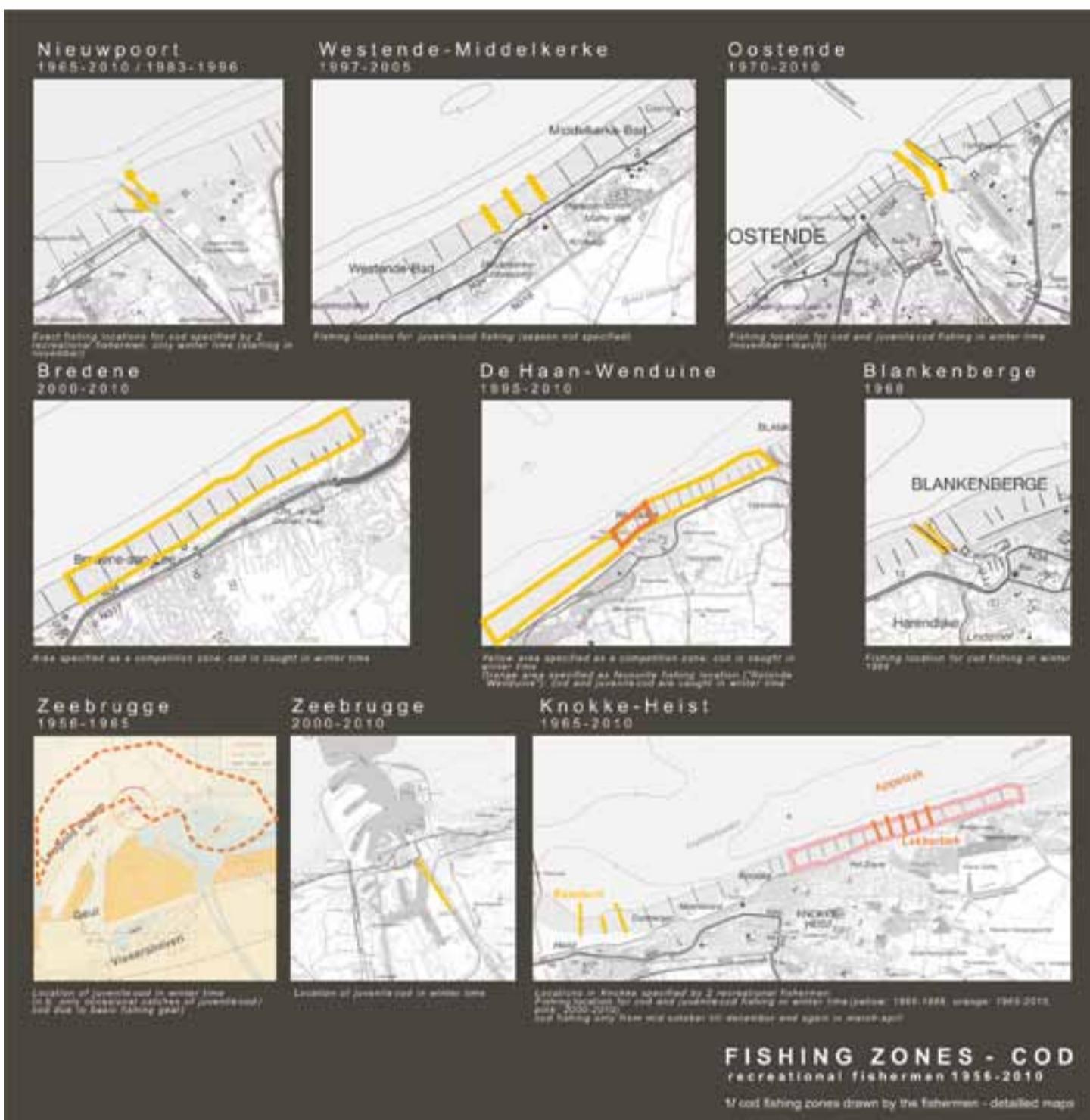
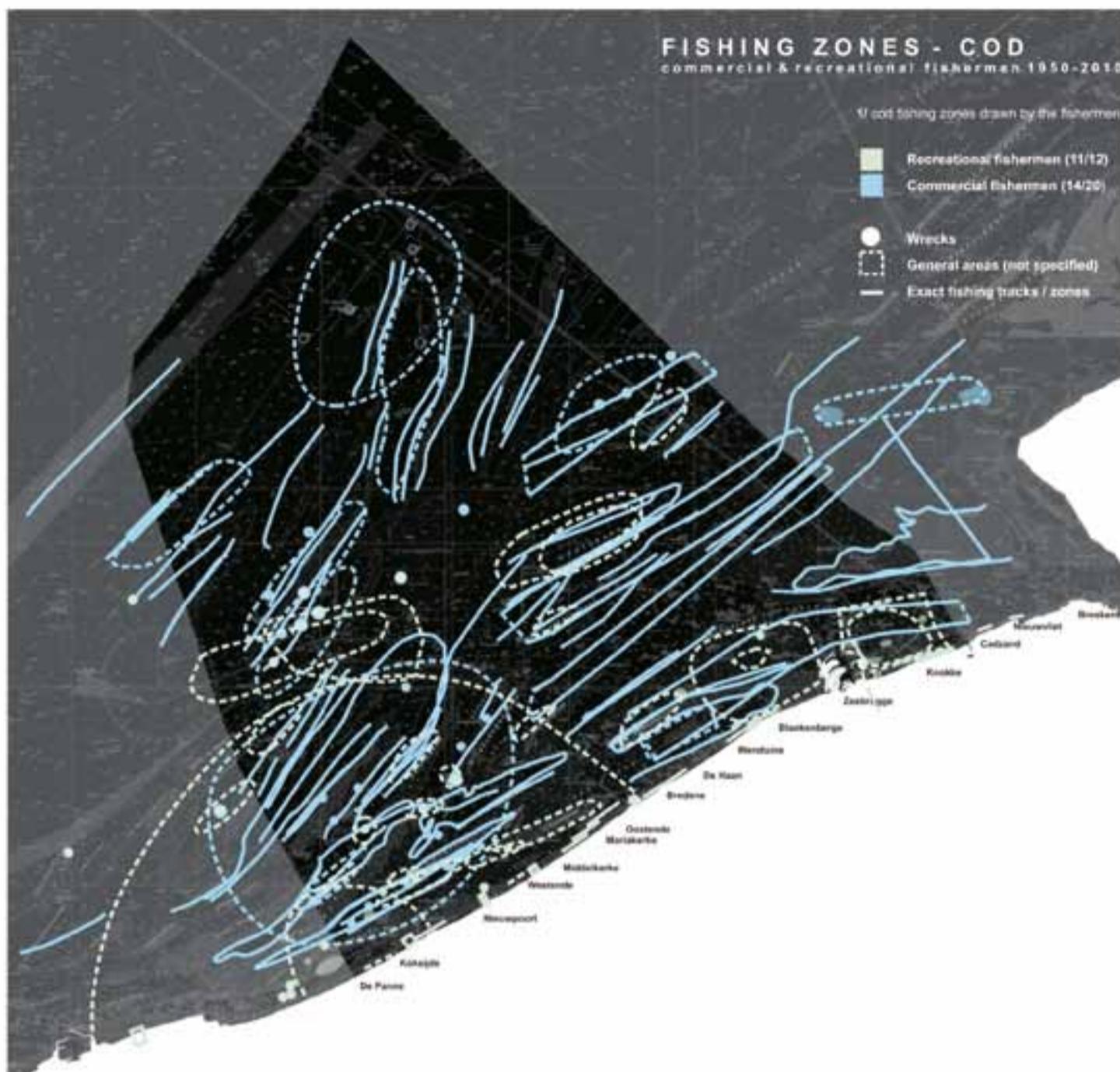
XII.1/ Sea mammals - locations commercial & recreational fishermen 1950-2010 - overview - zones drawn and talked about	113
XII.2/ Sea mammals - locations specific species : Seal & Porpoise	114
XII.3/ Sea mammals - locations specific species: Dolphin & Whale	115



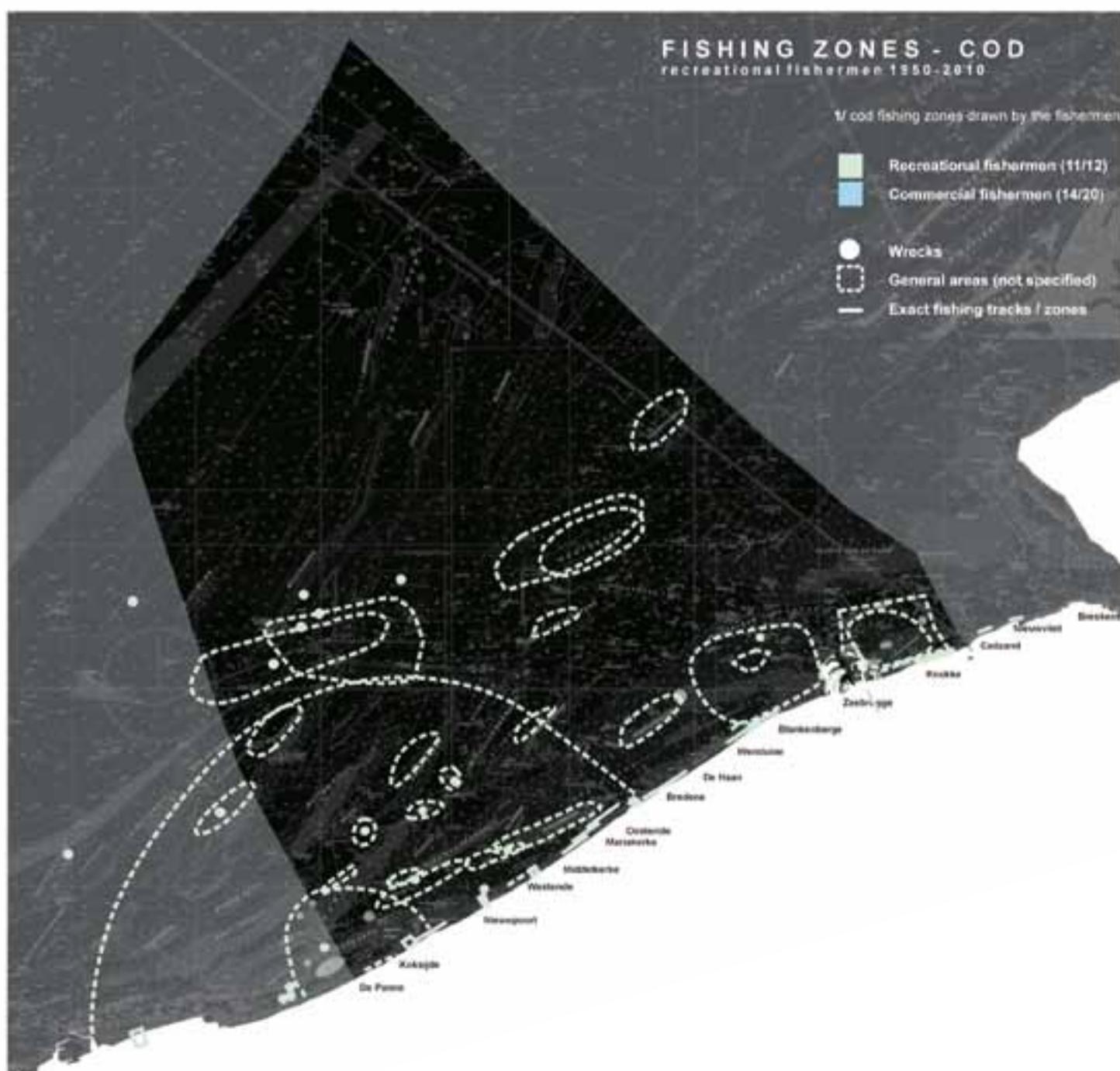
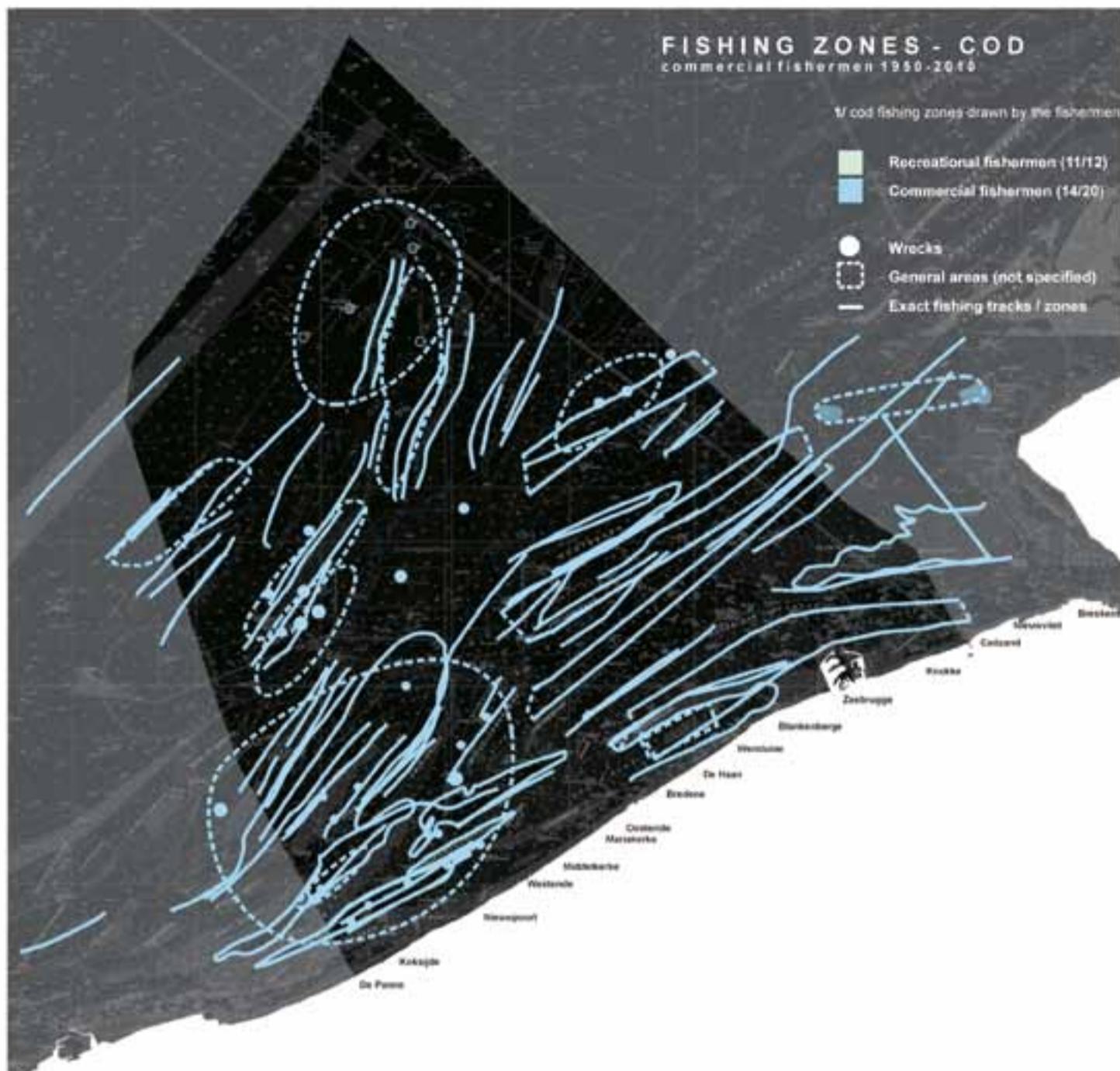


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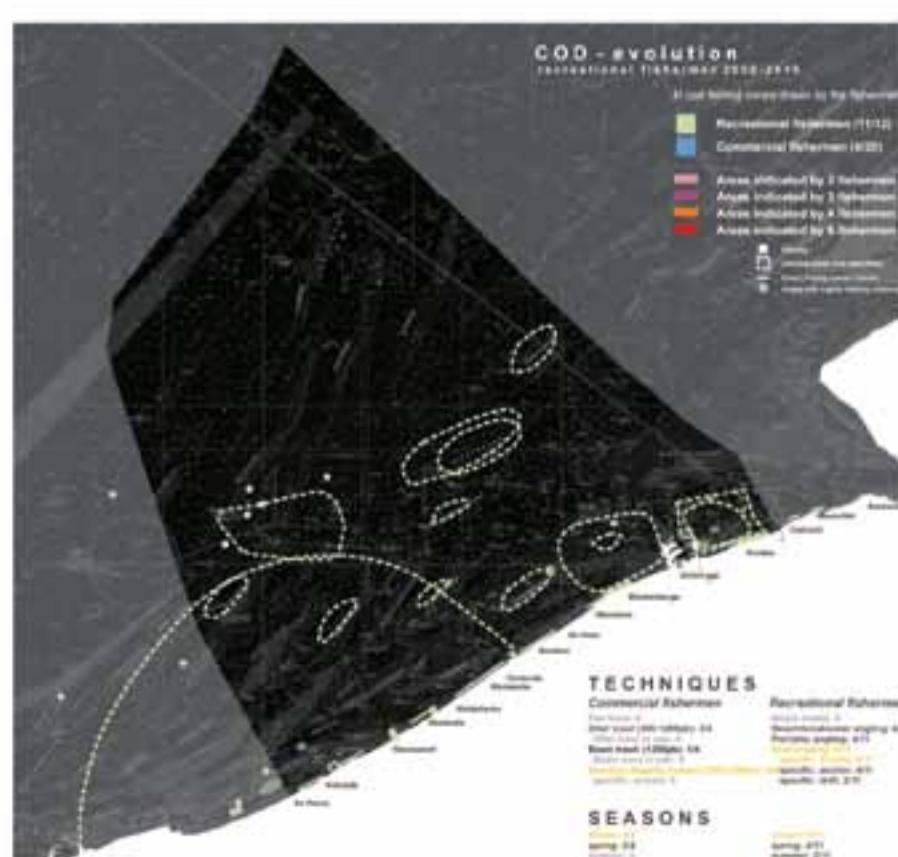
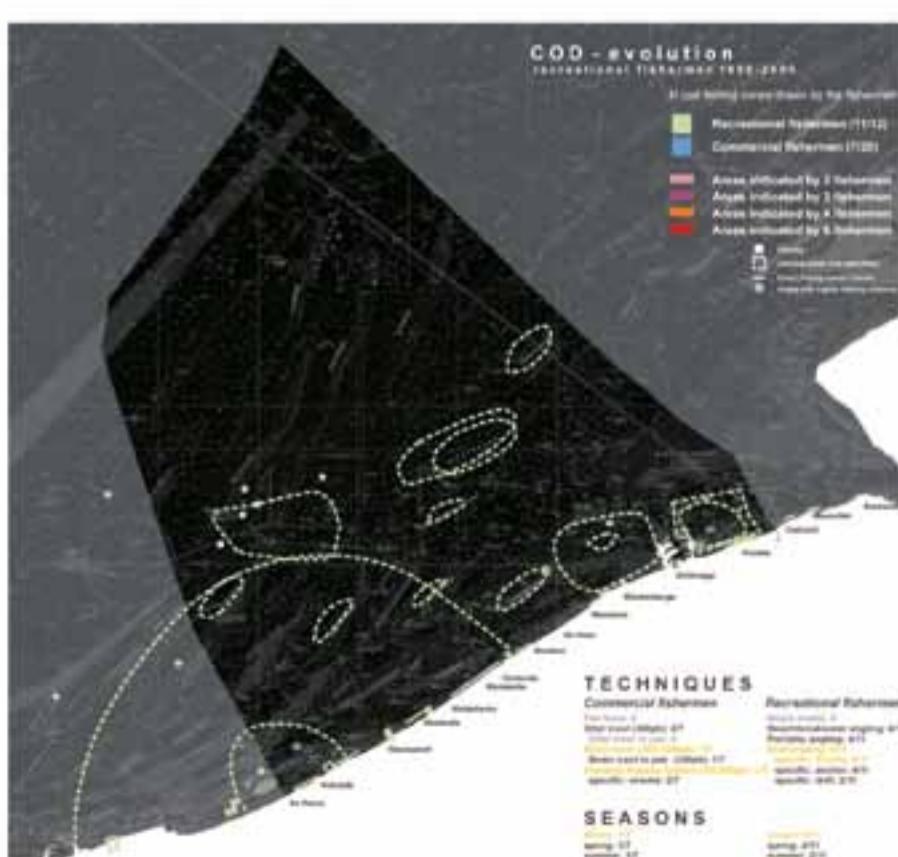
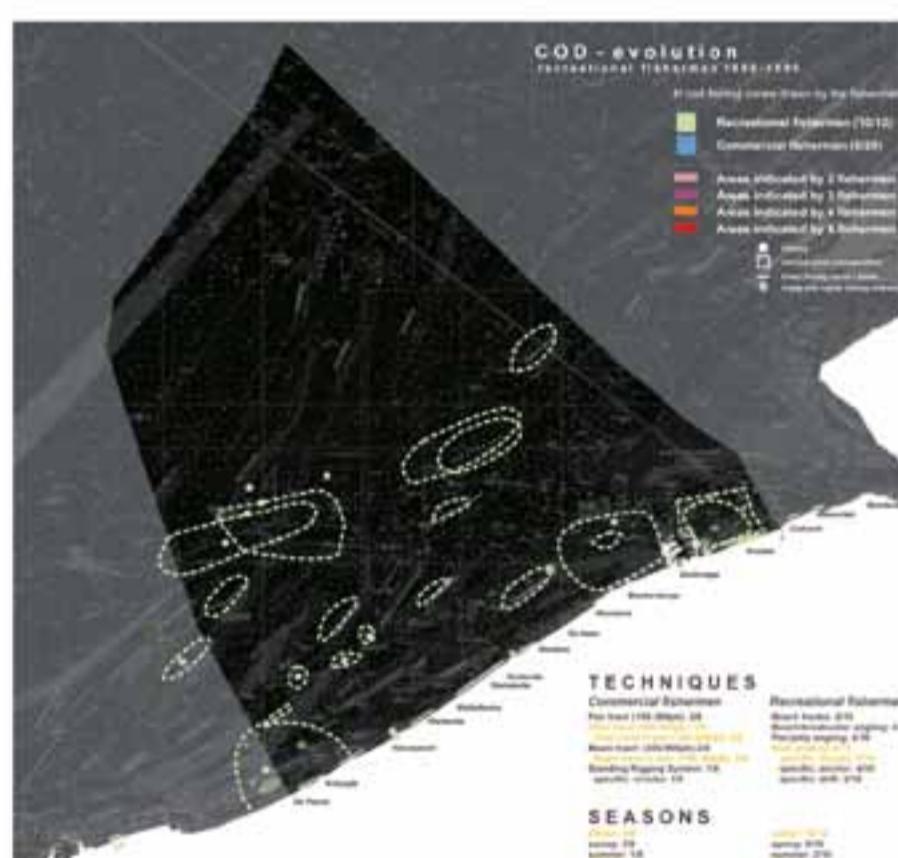
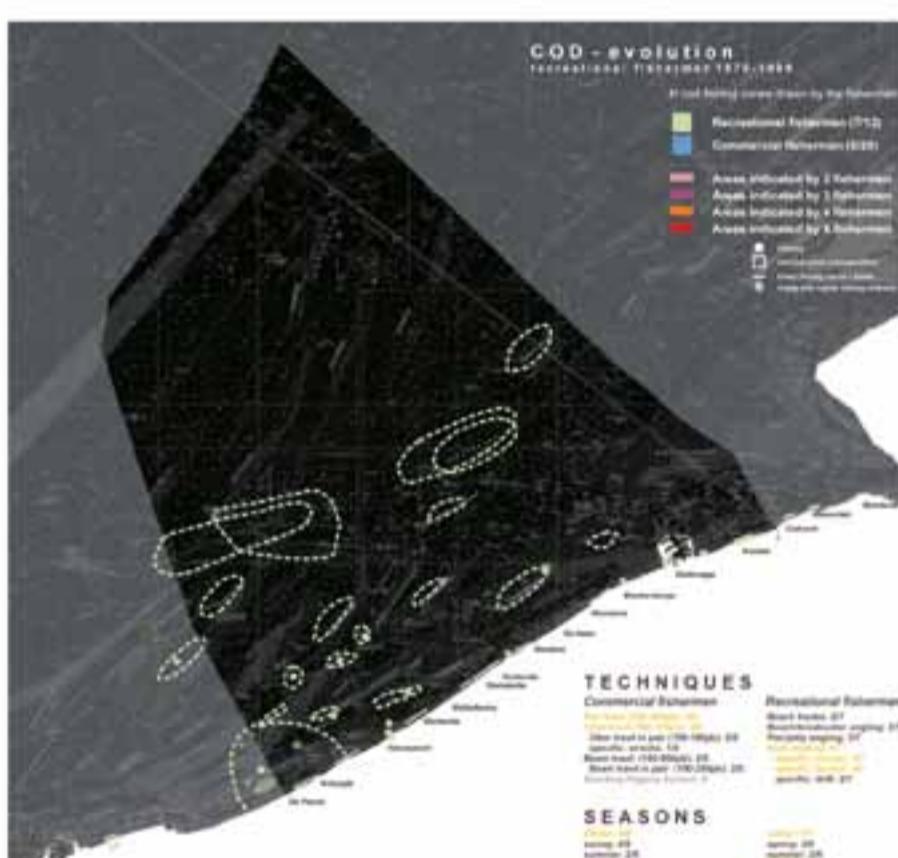
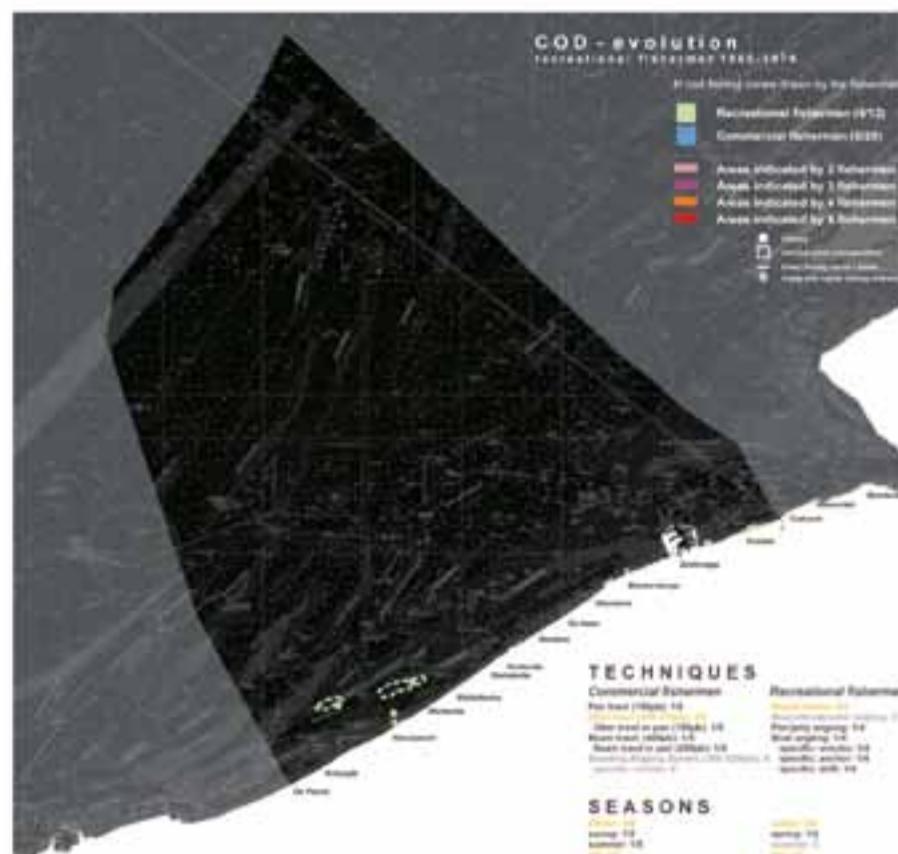
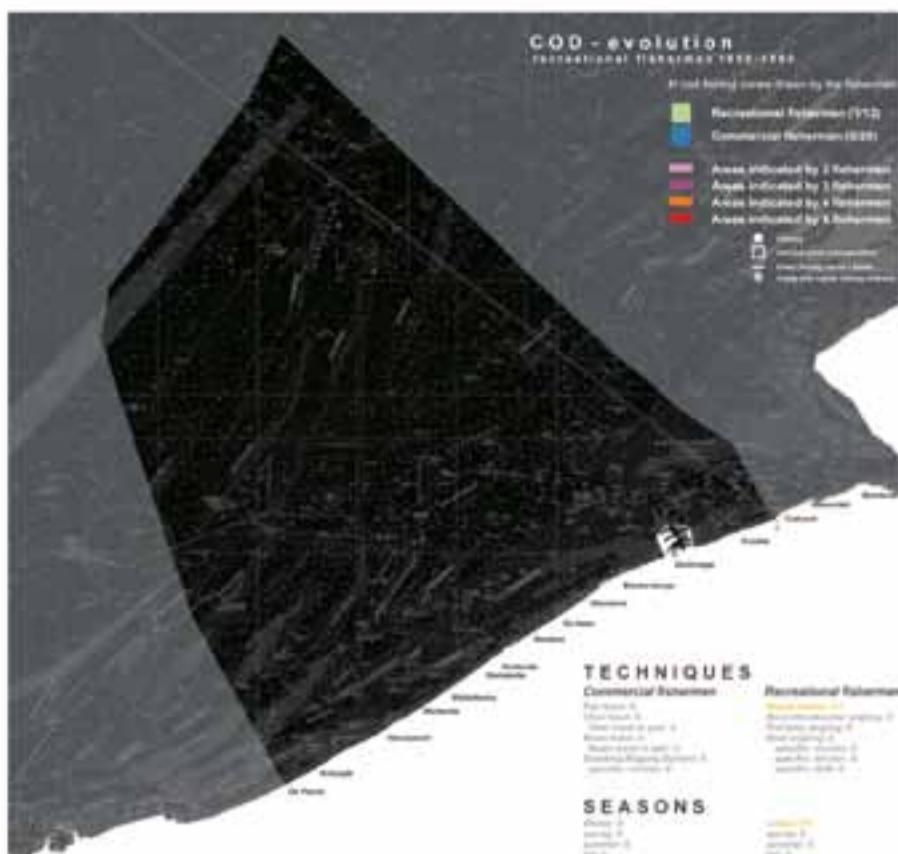
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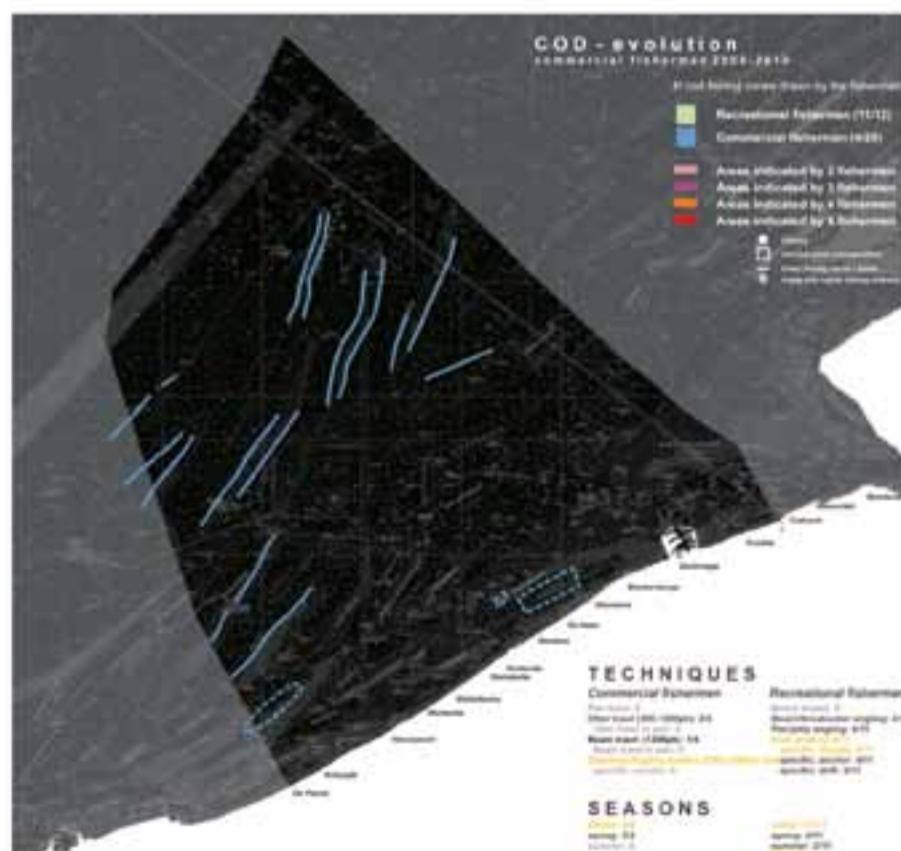
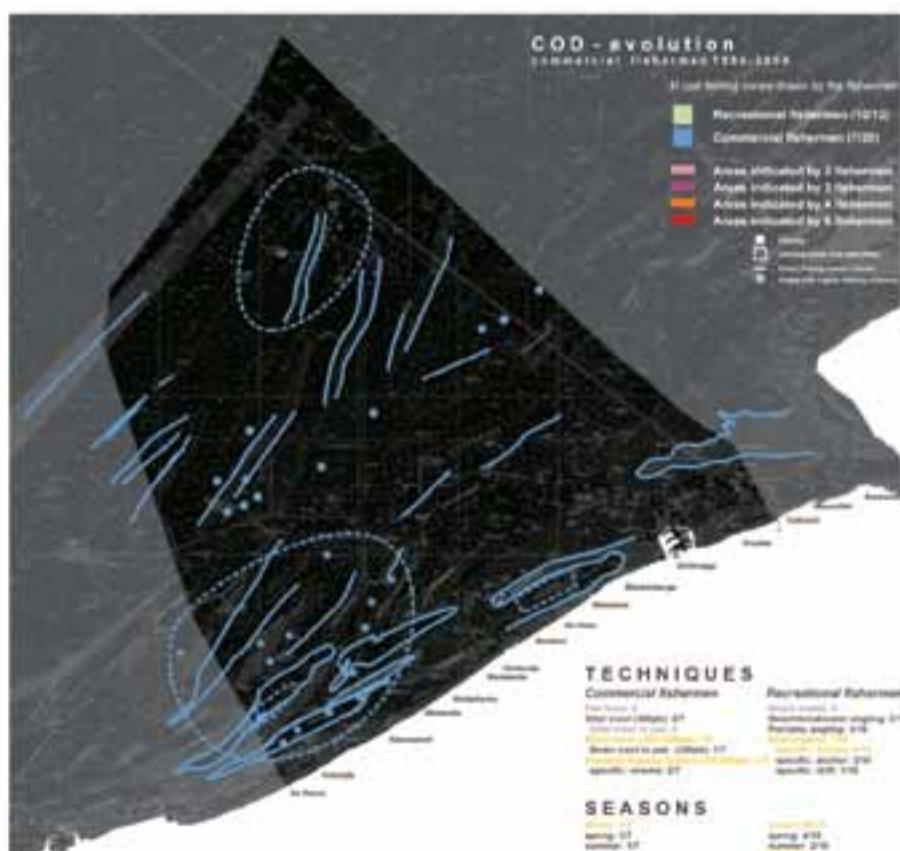
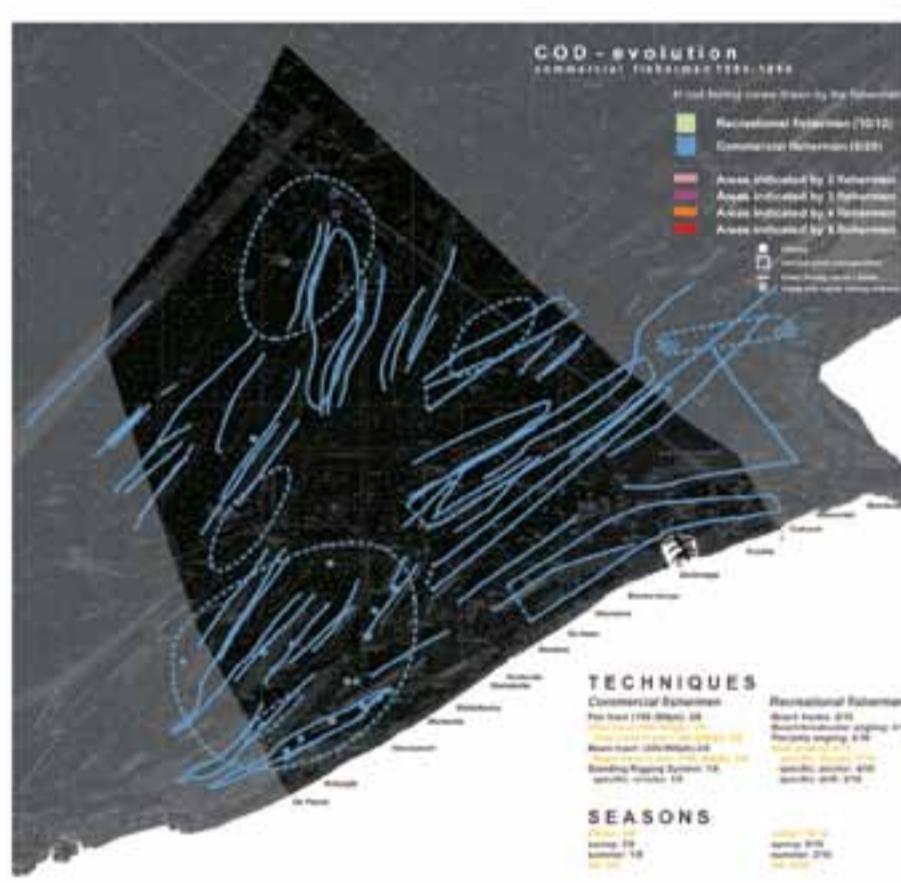
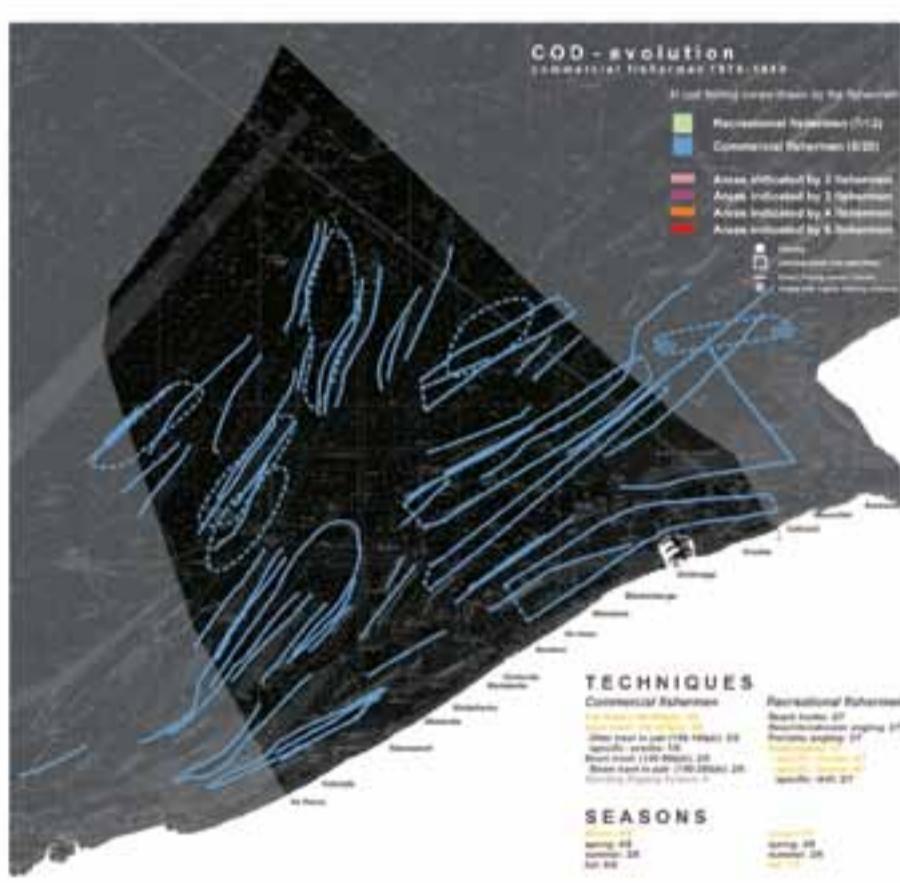
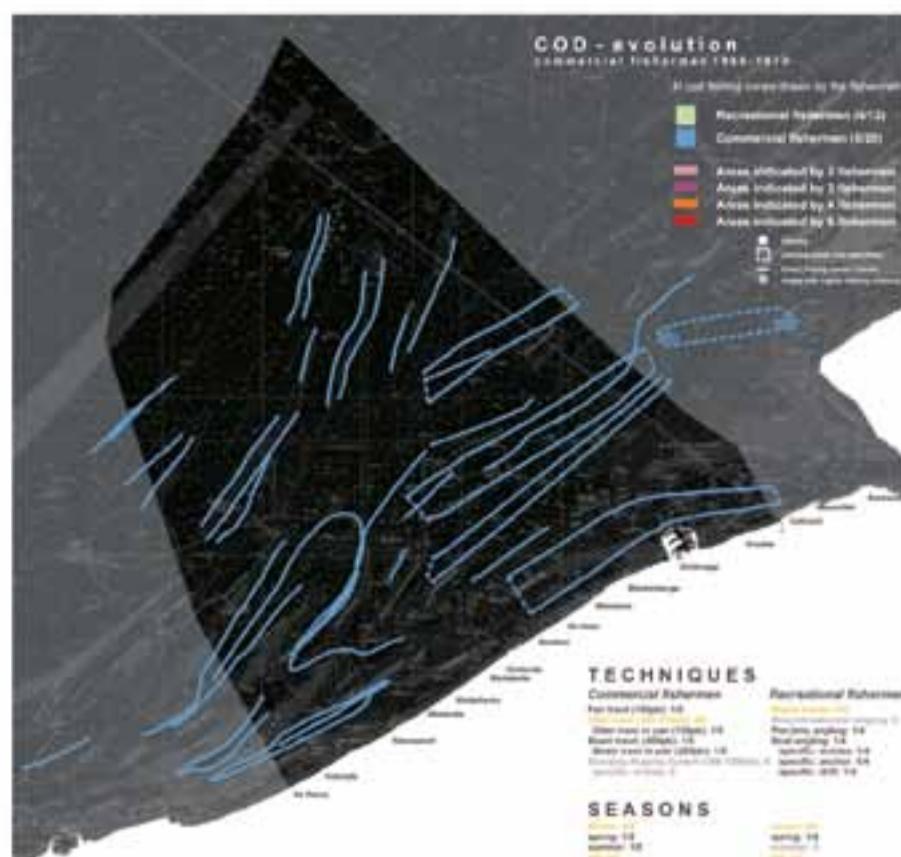
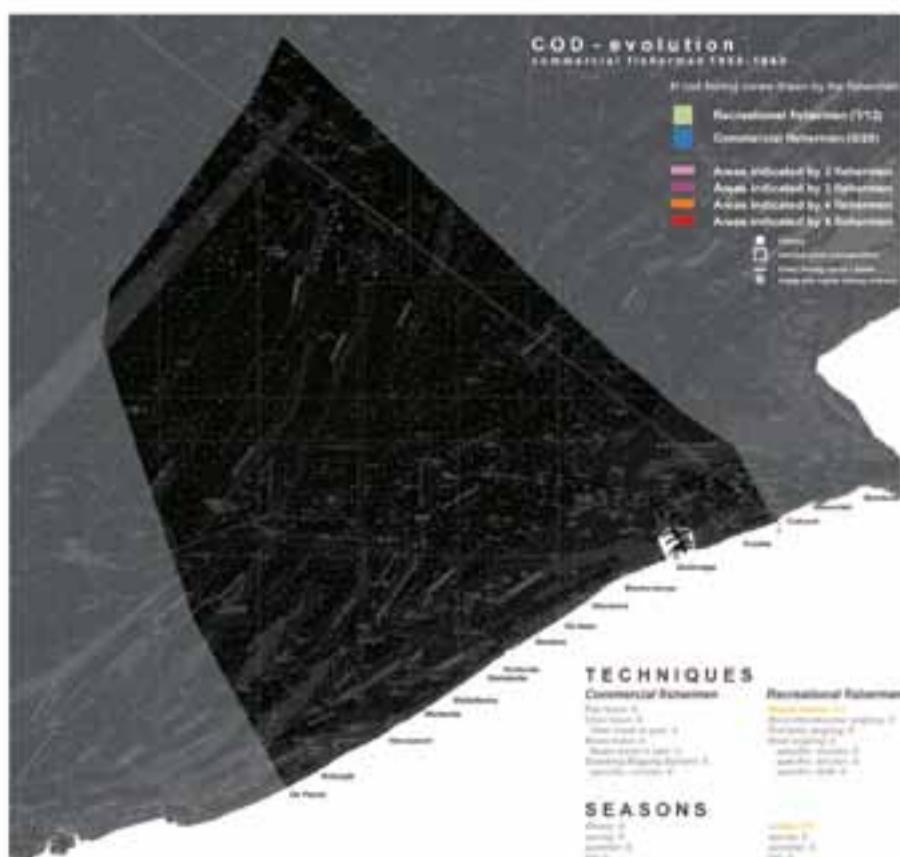
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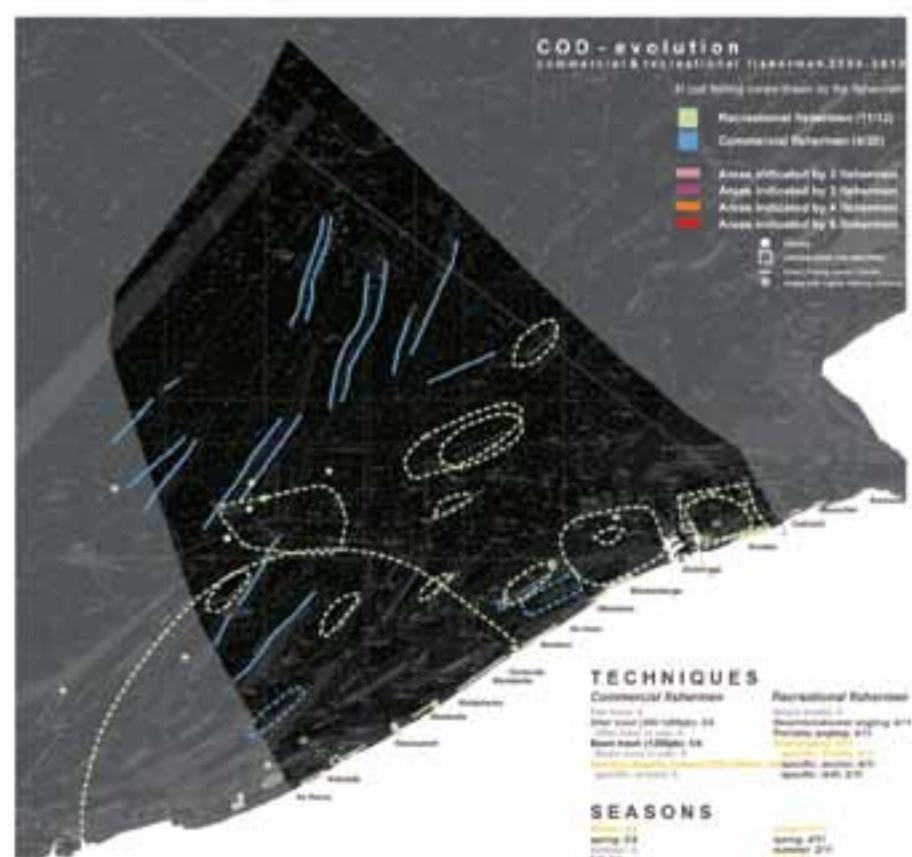
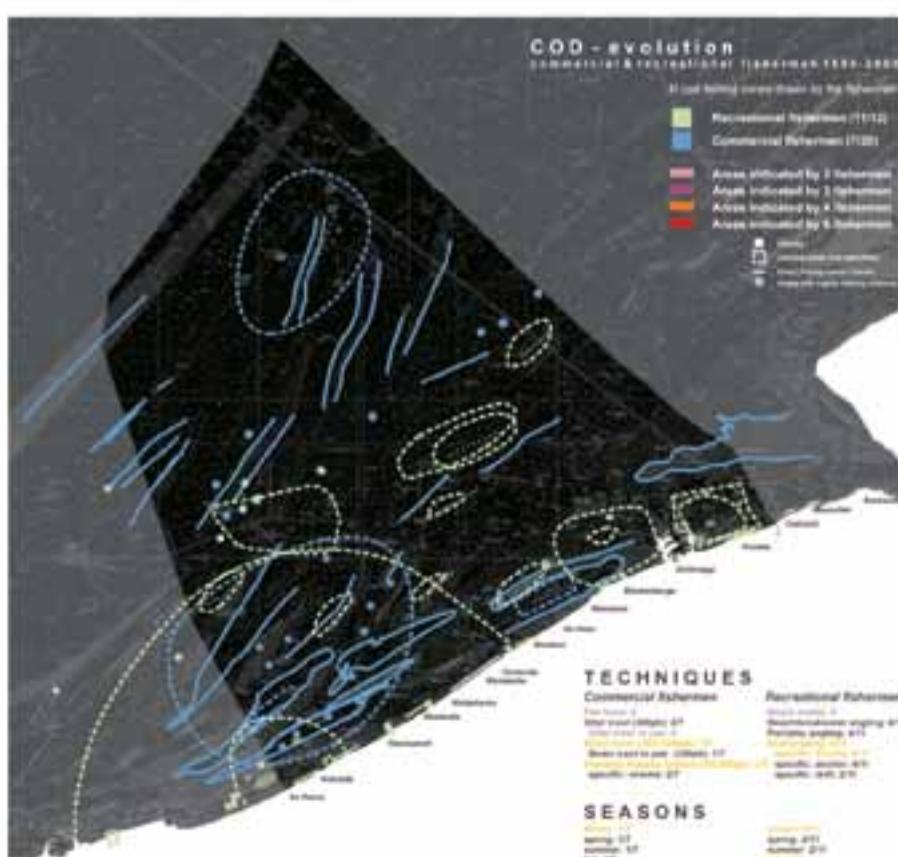
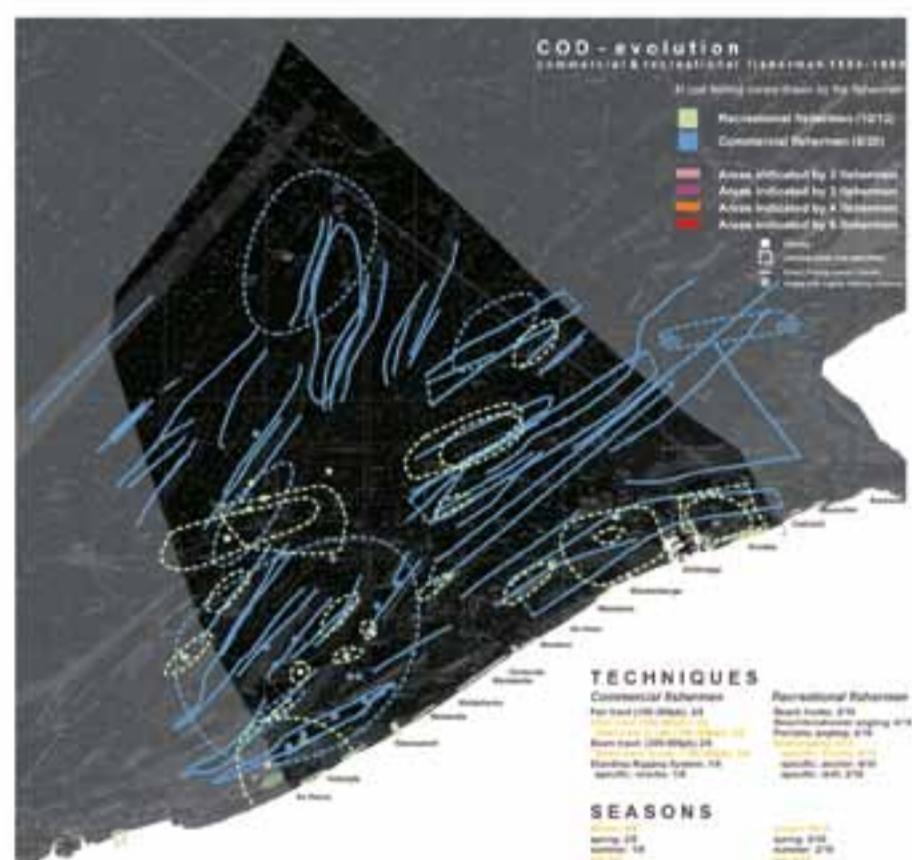
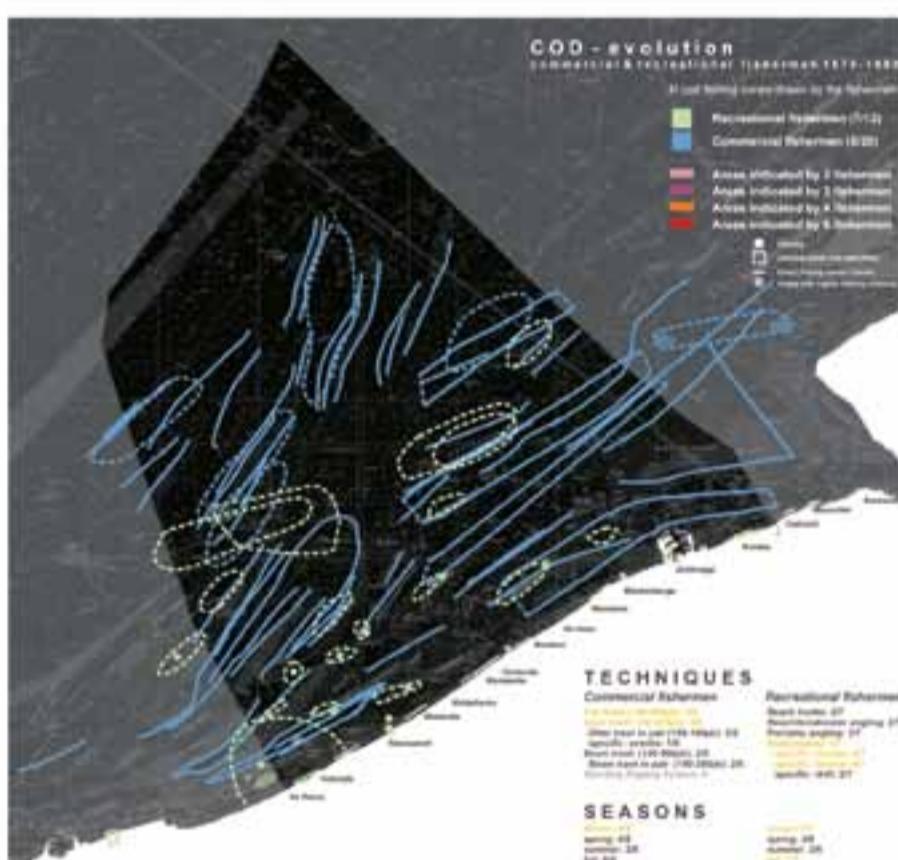
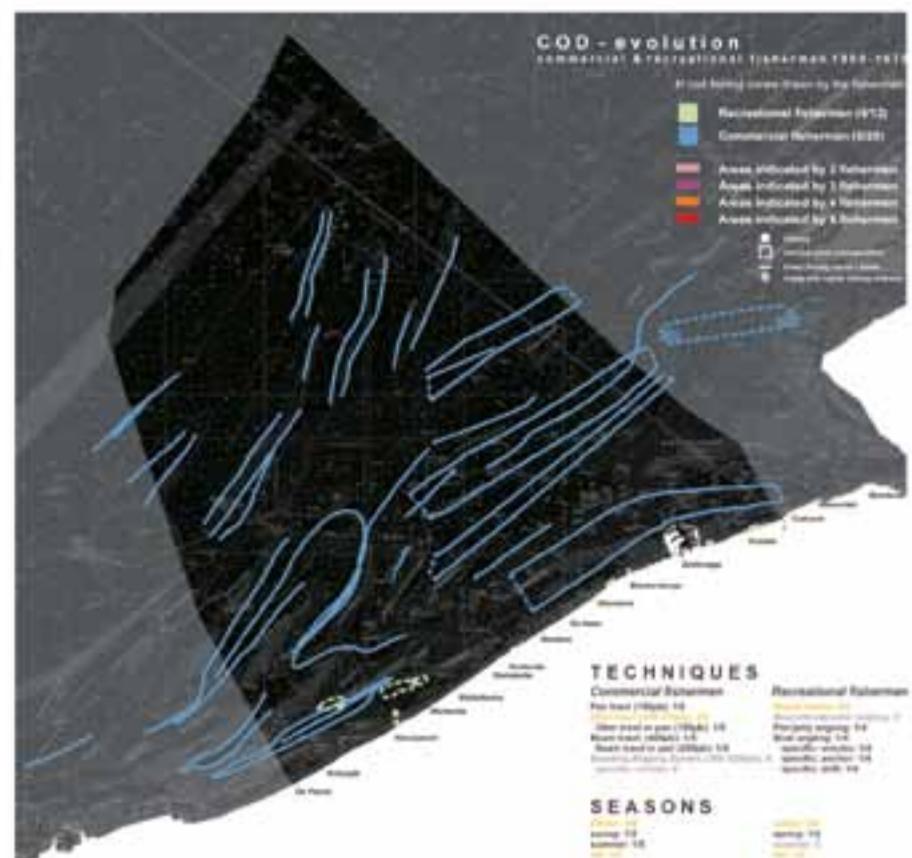
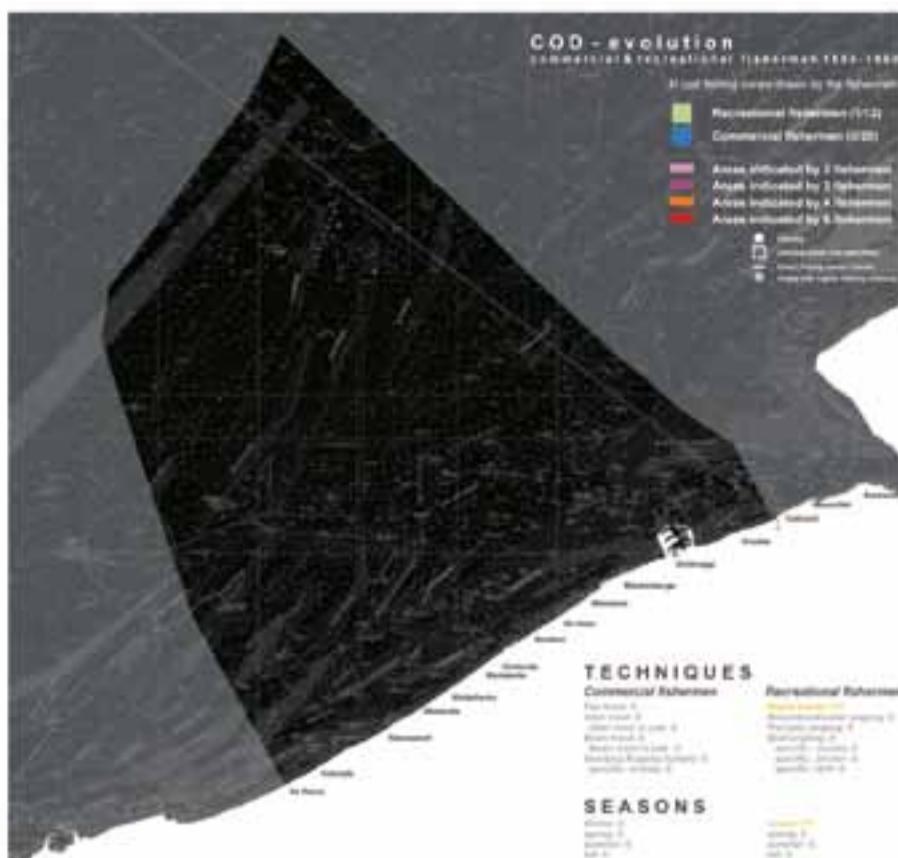
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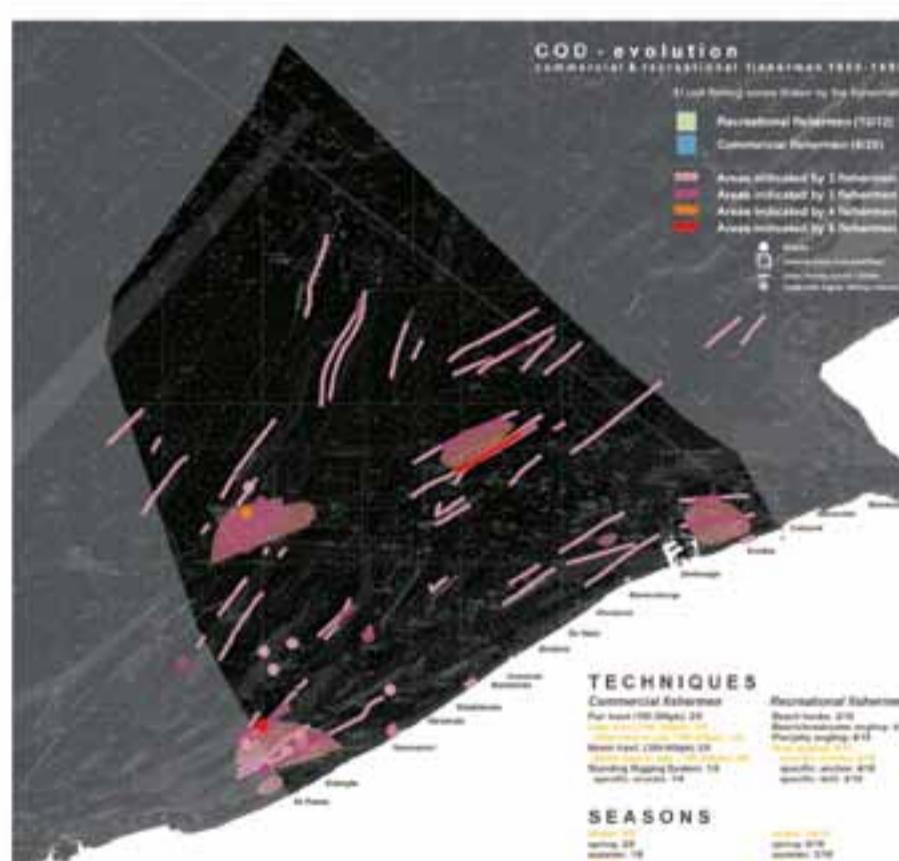
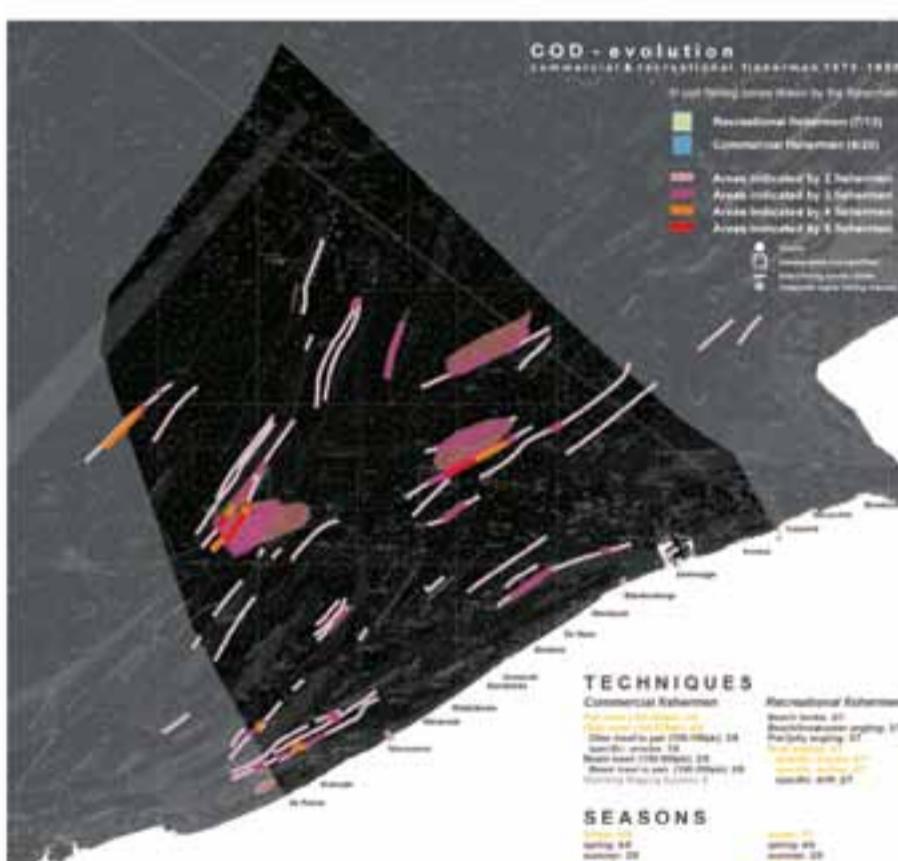
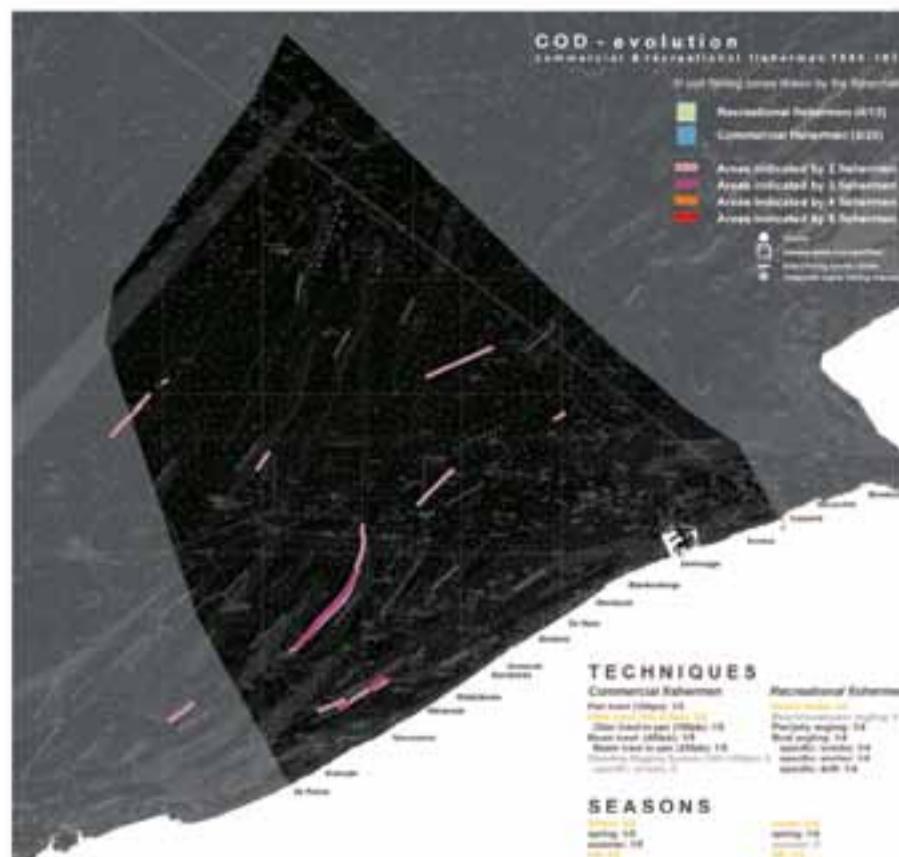
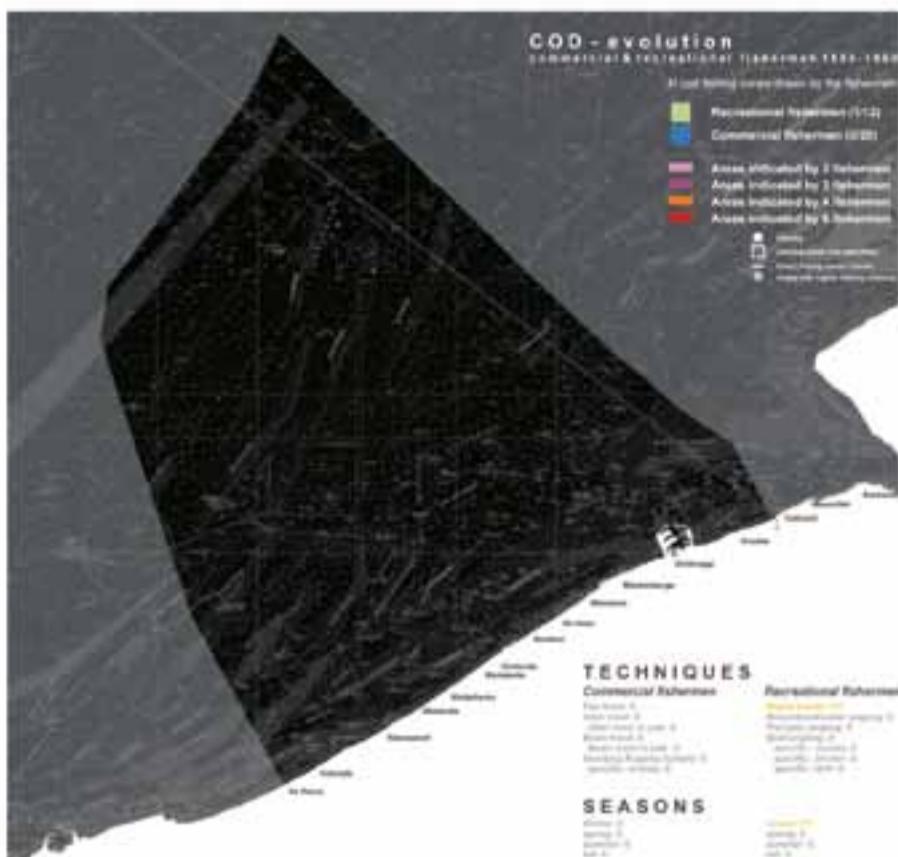
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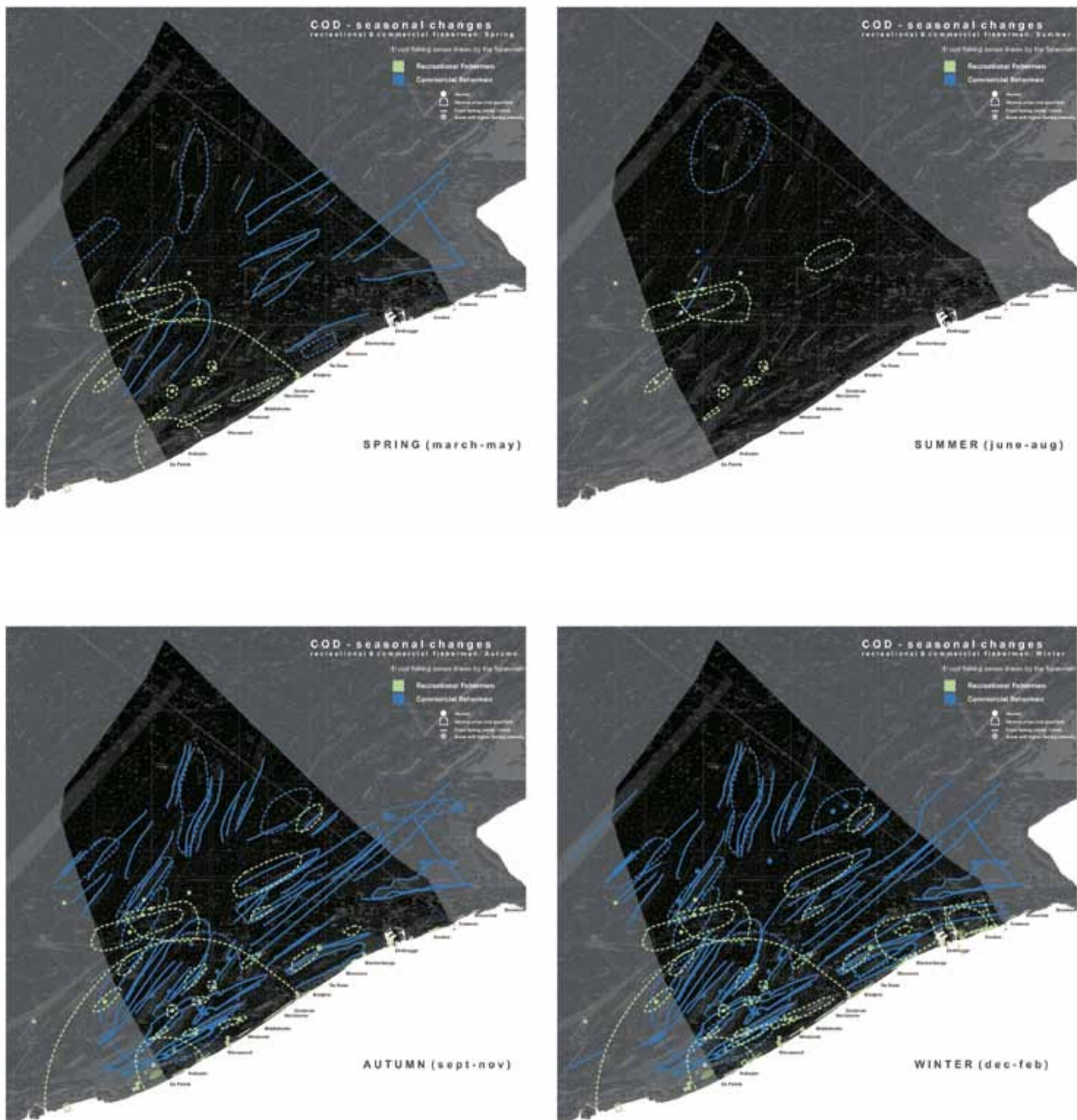
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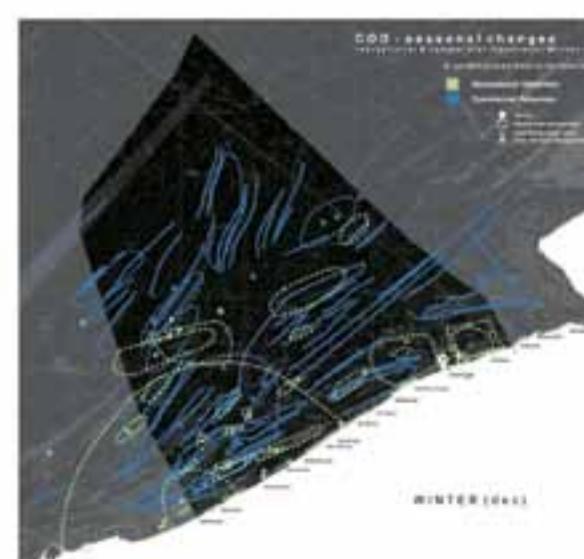
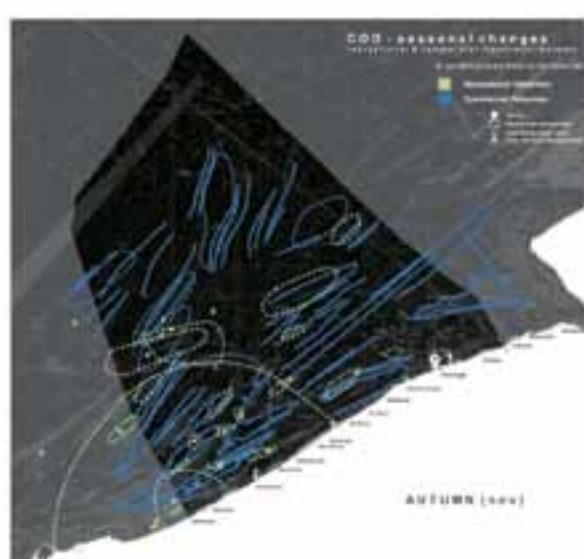
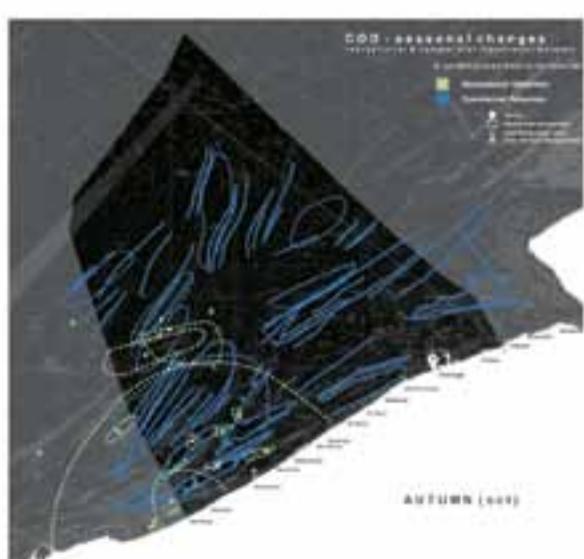
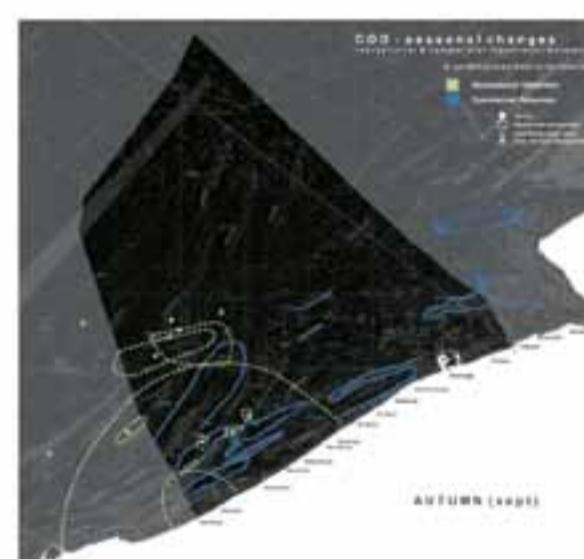
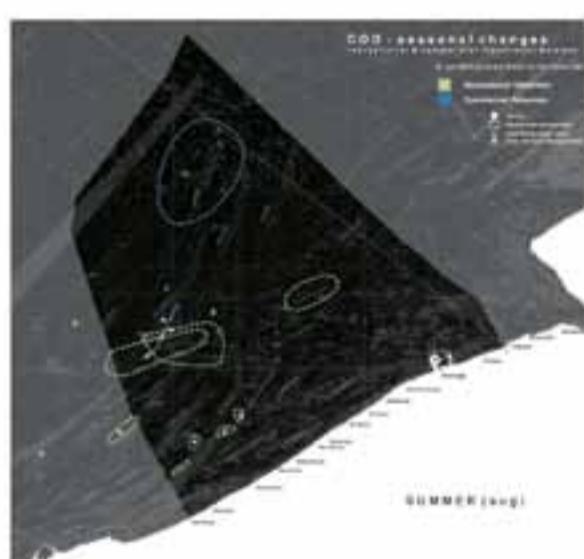
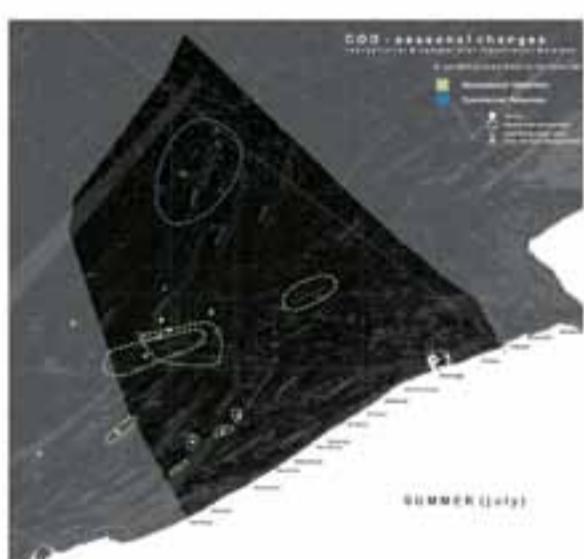
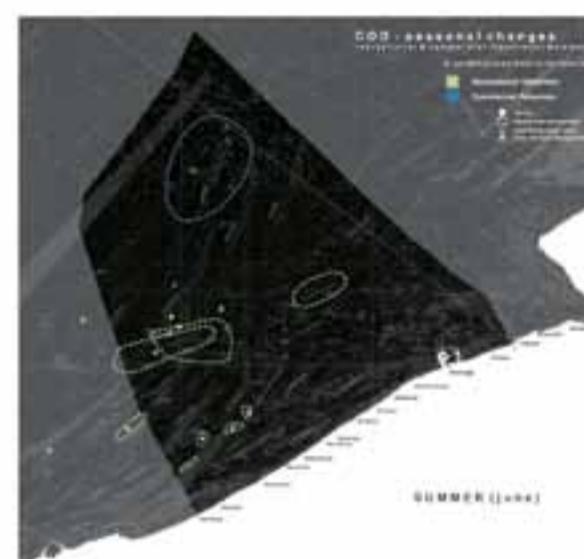
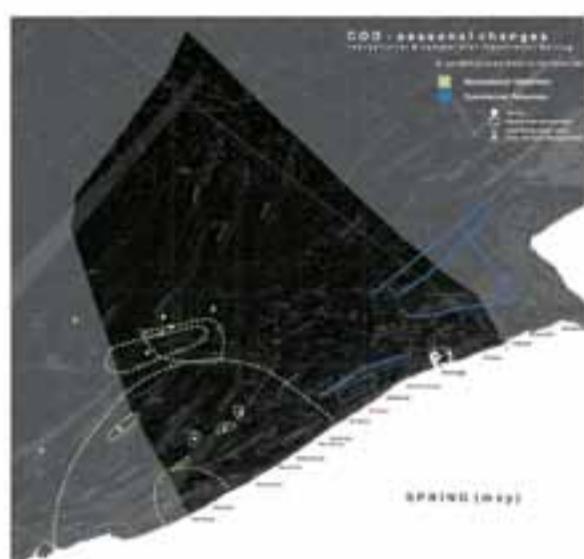
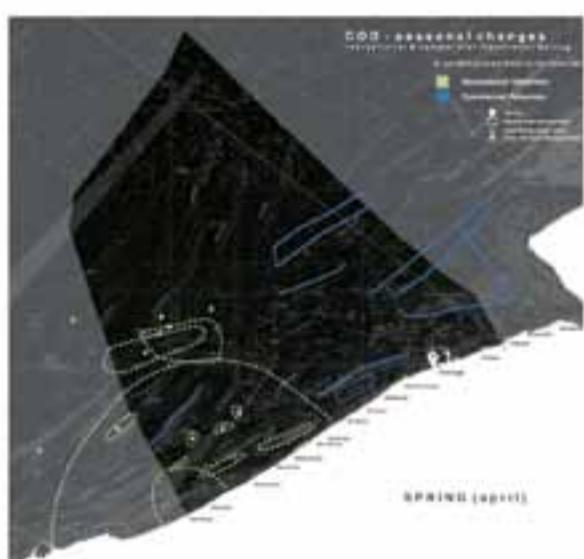
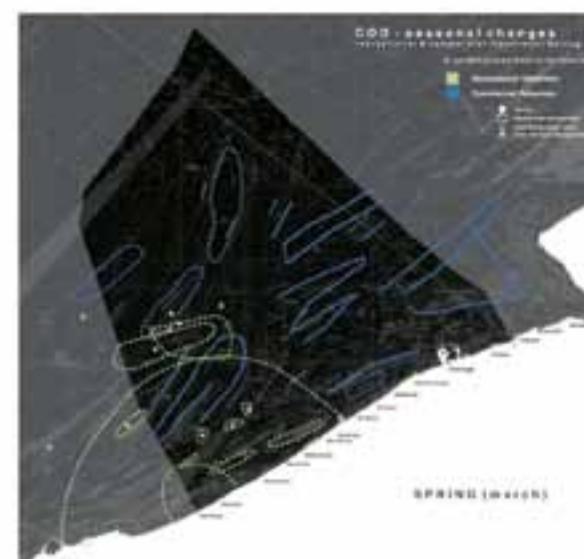
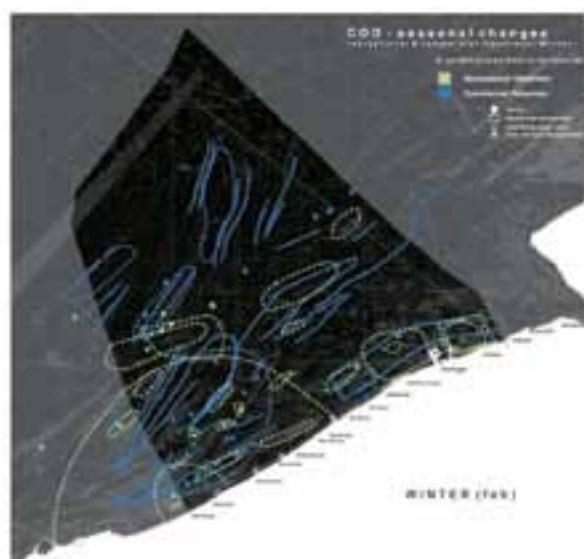
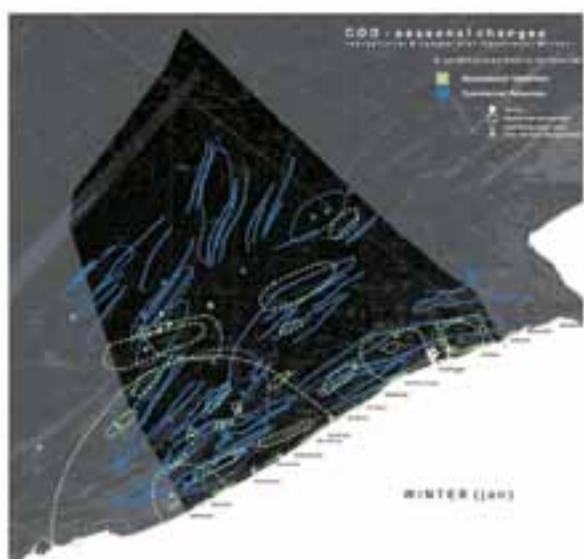
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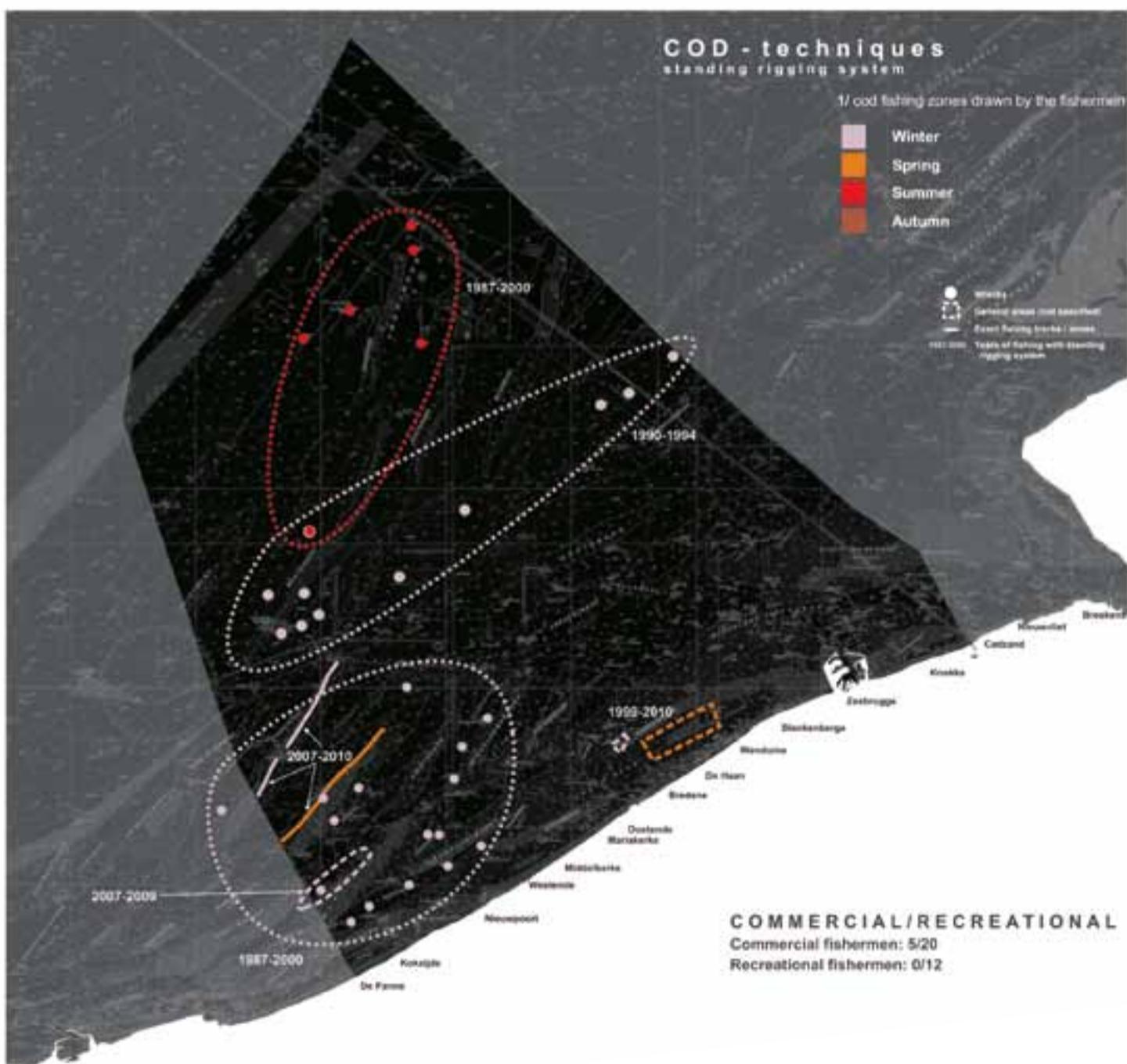
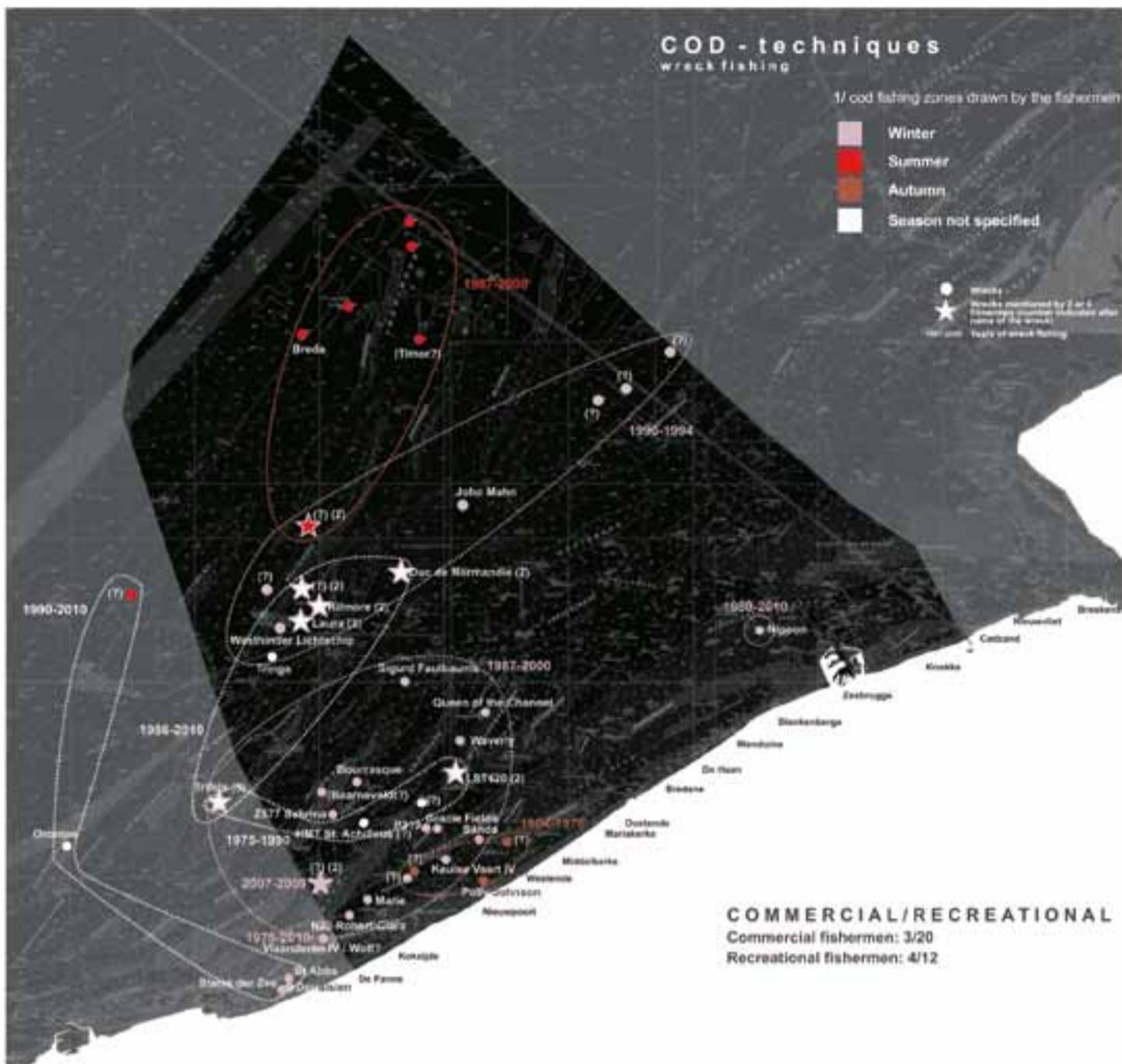
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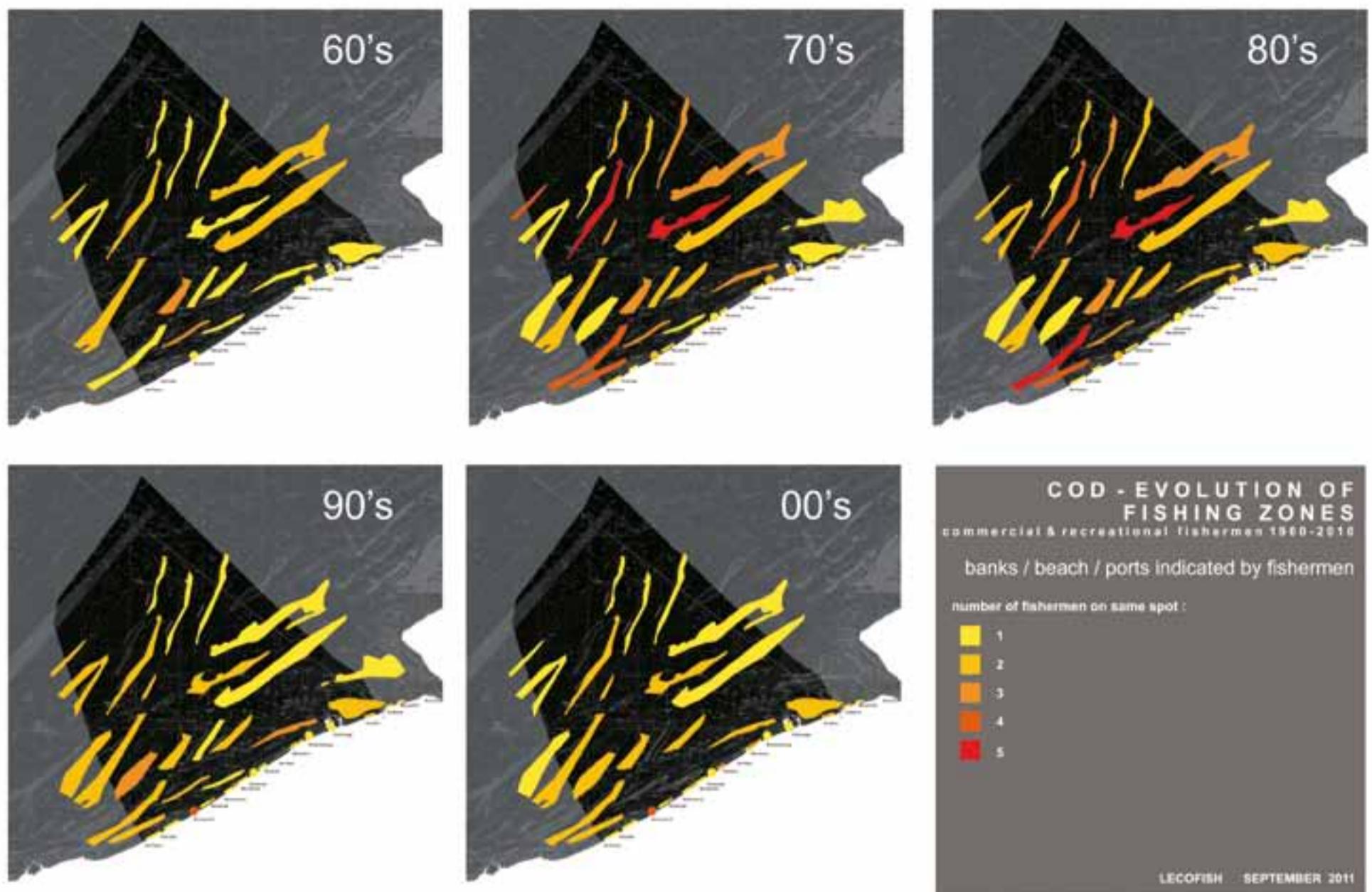
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**COD - seasonal changes  
january-december**  
commercial & recreational fishermen 1950 - 2010



**COD - technique**  
commercial & recreational fishermen 1950 - 2010

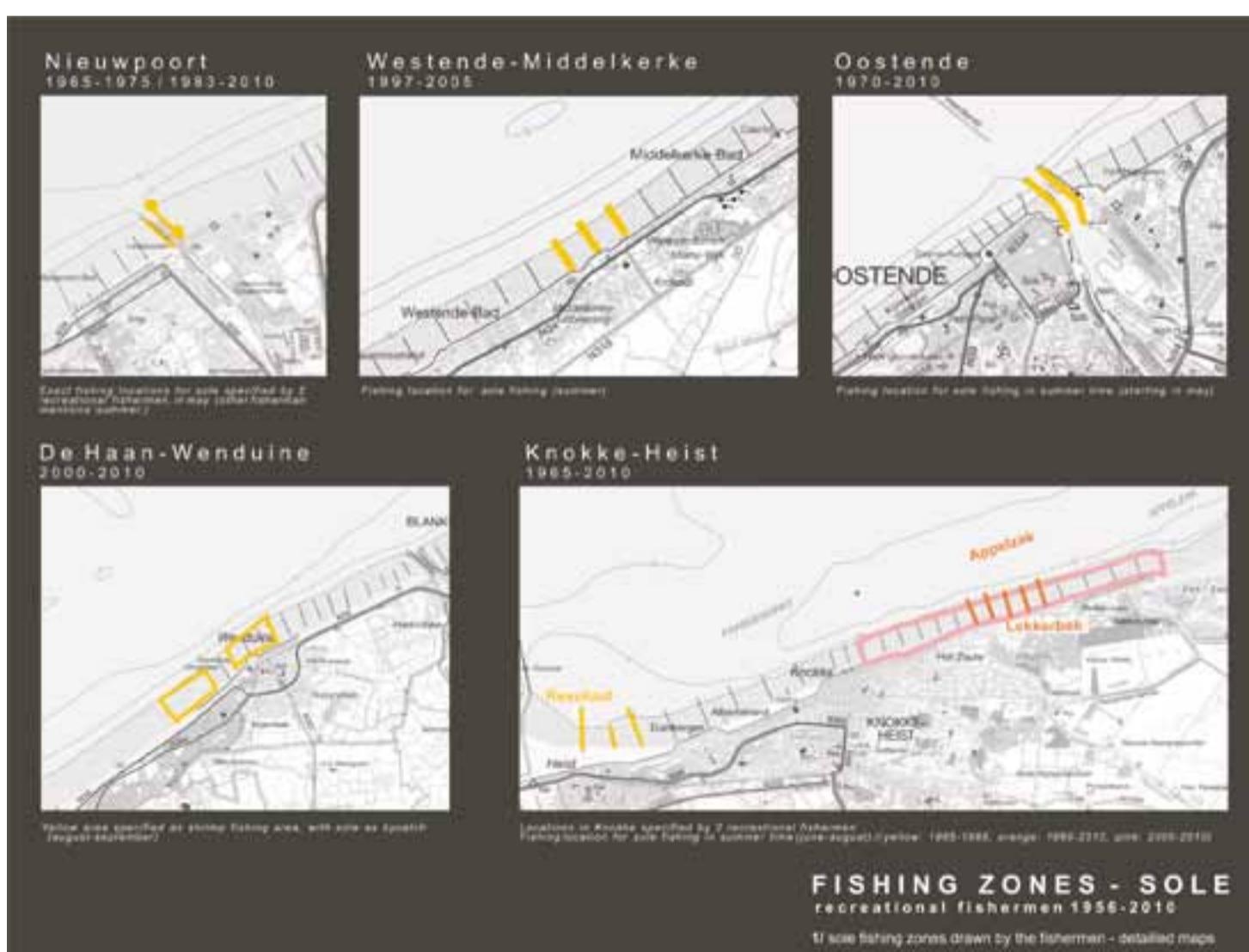
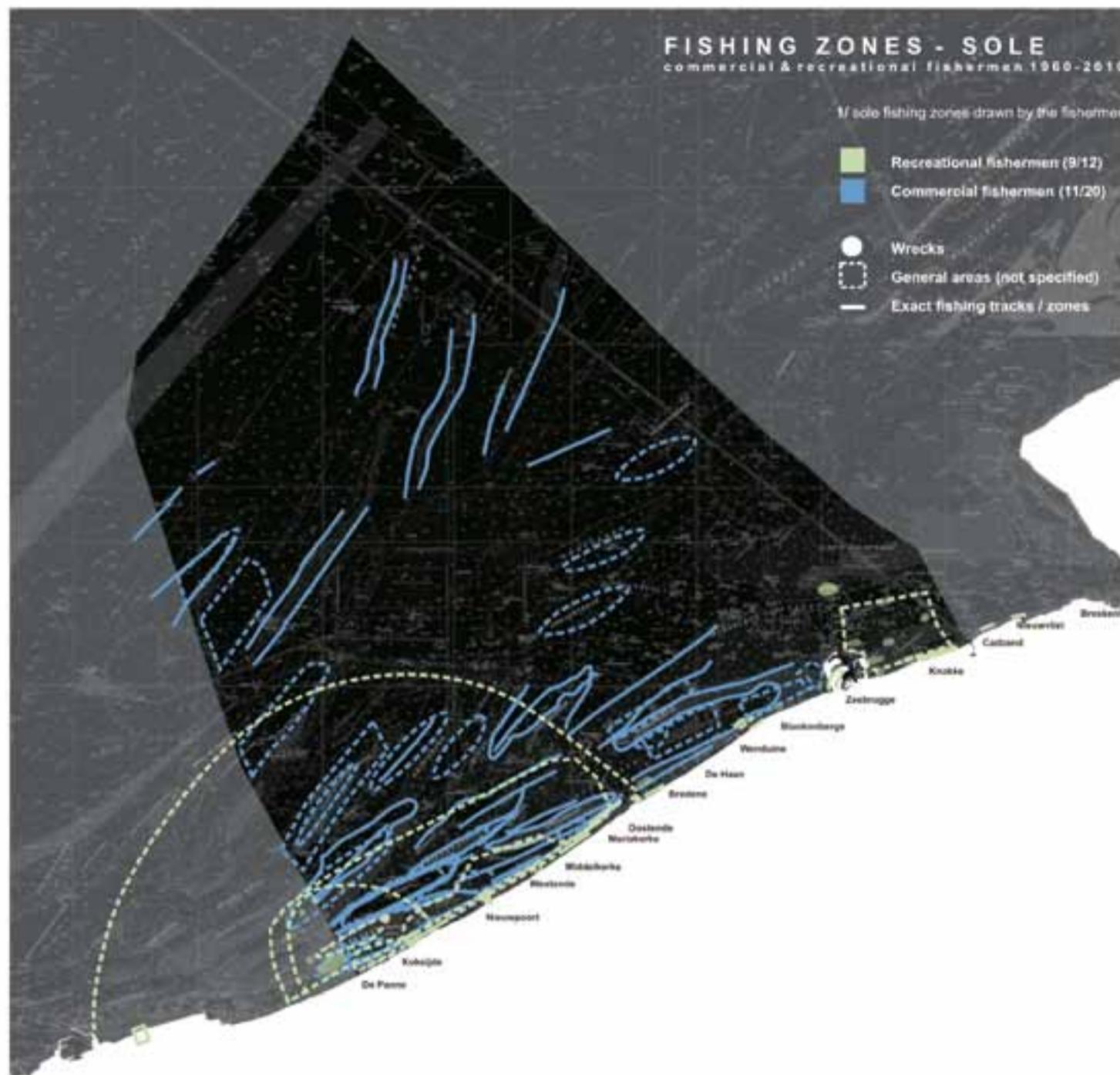


**COD - structure maps**  
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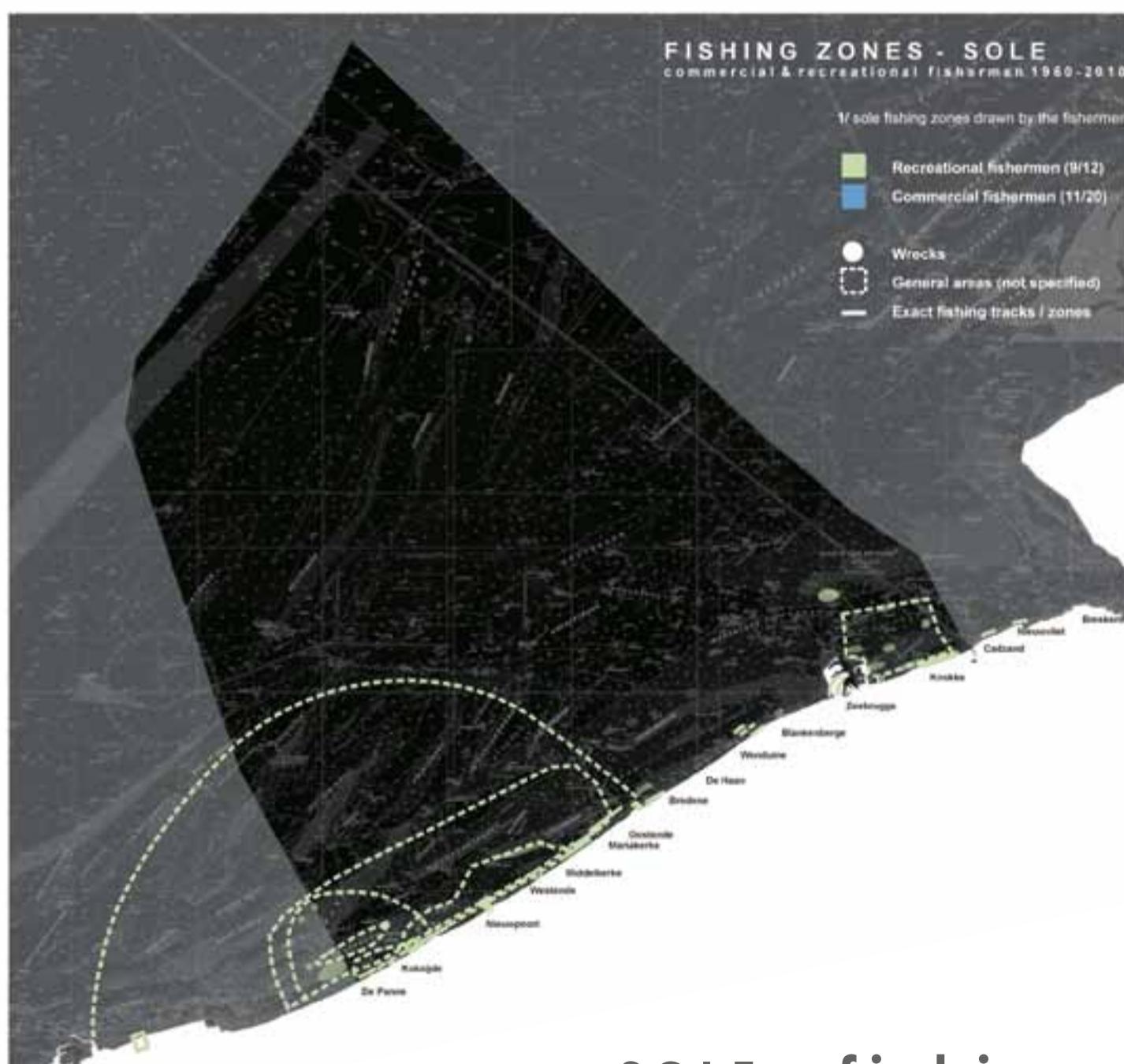
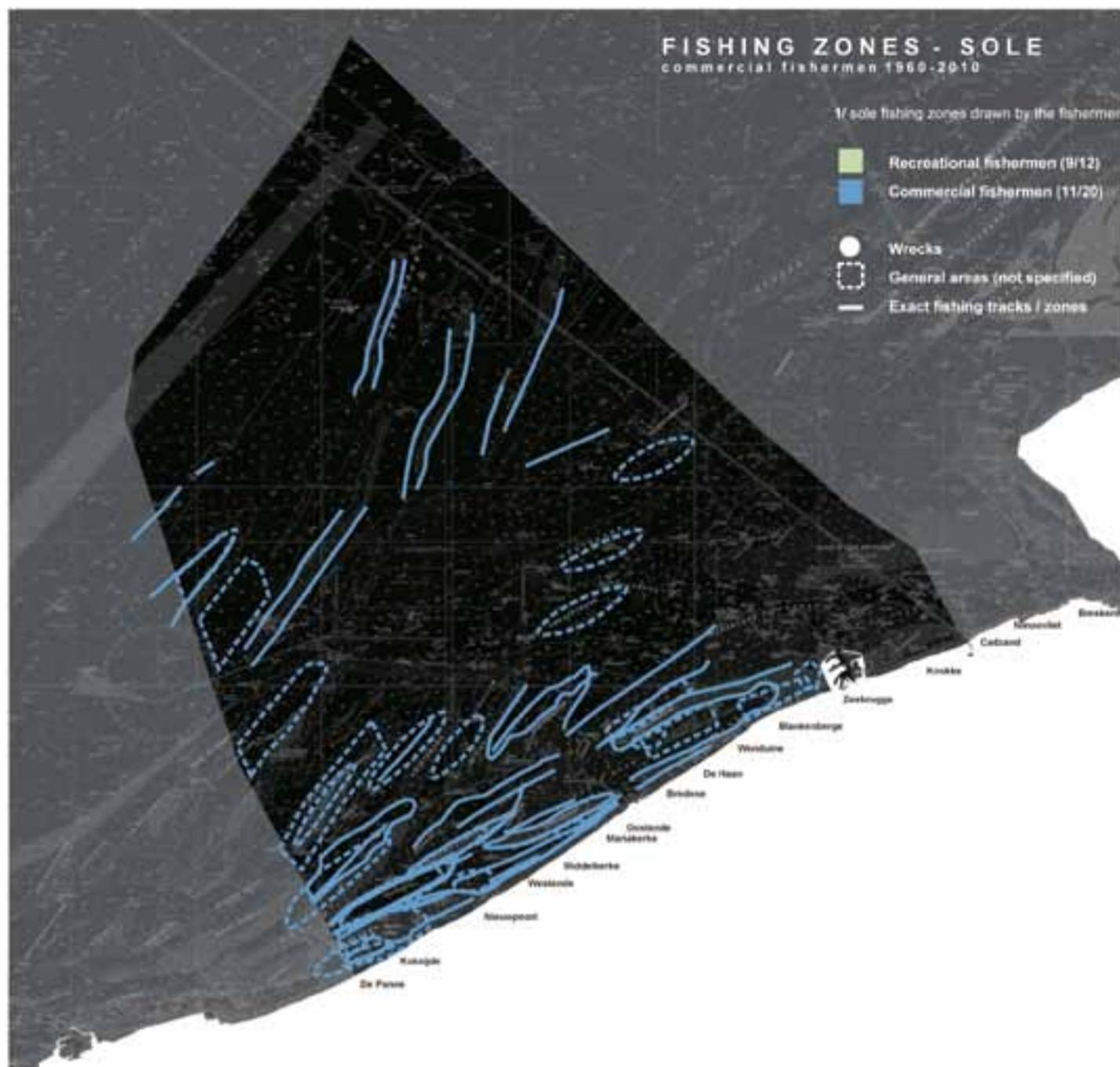


MAPS SERIES II

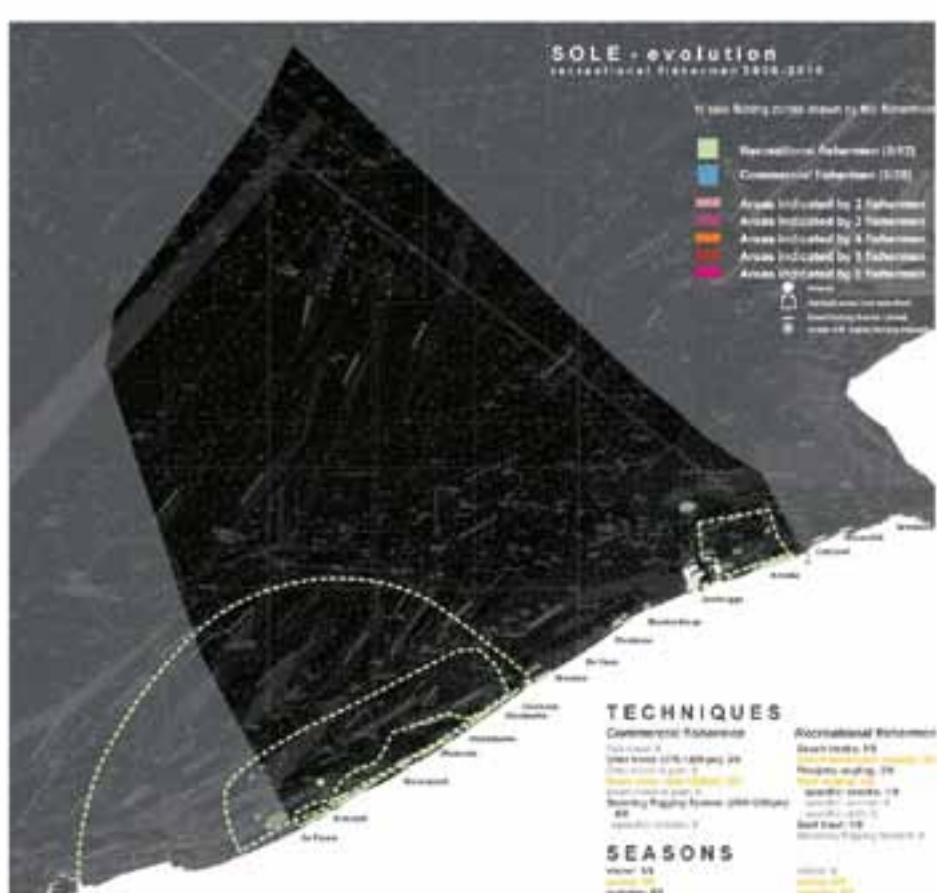
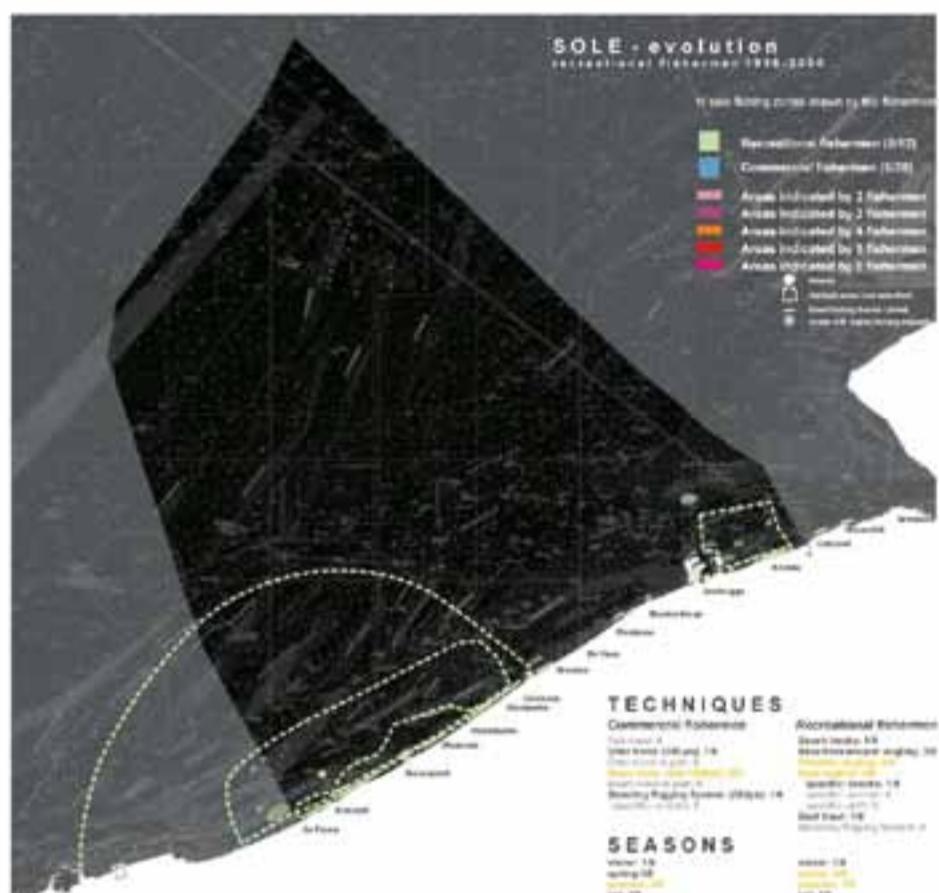
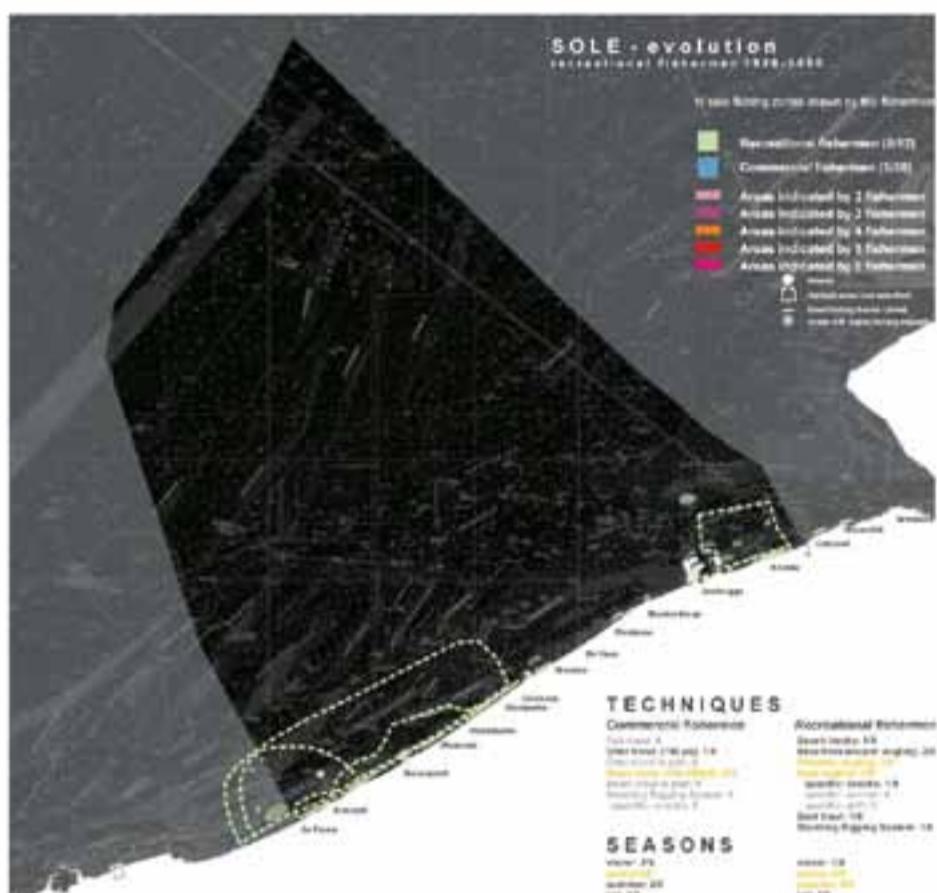
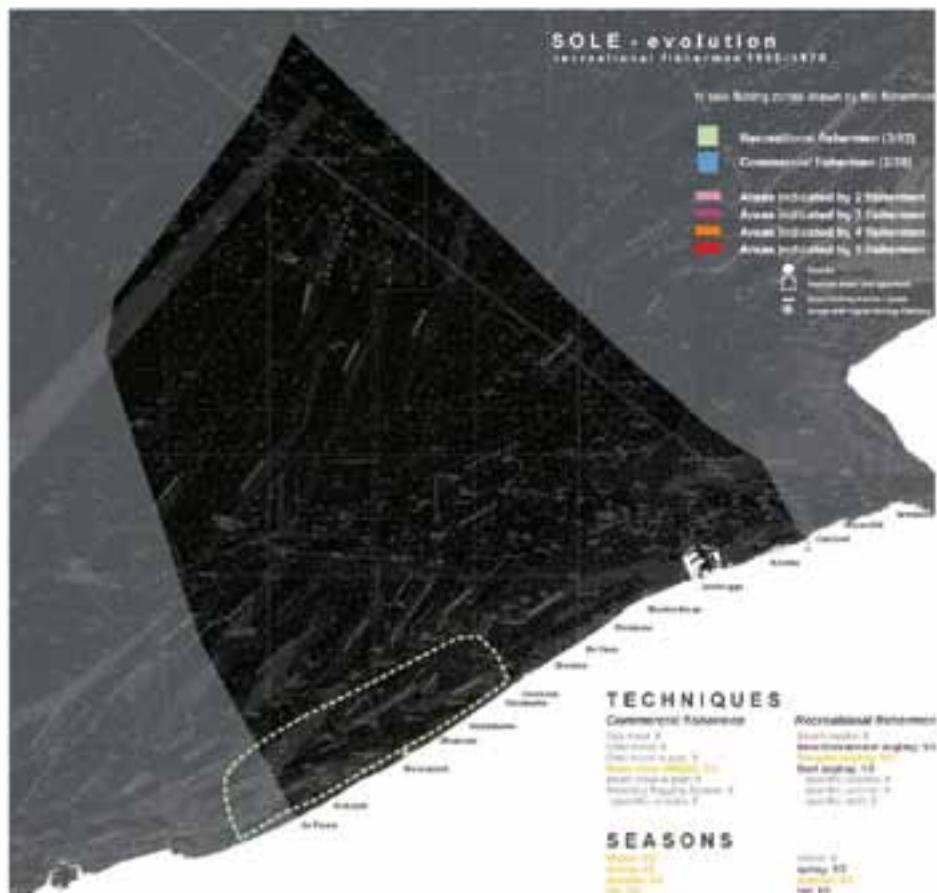
**SOLE**



**SOLE - fishing zones**  
commercial & recreational fishermen 1950 - 2010

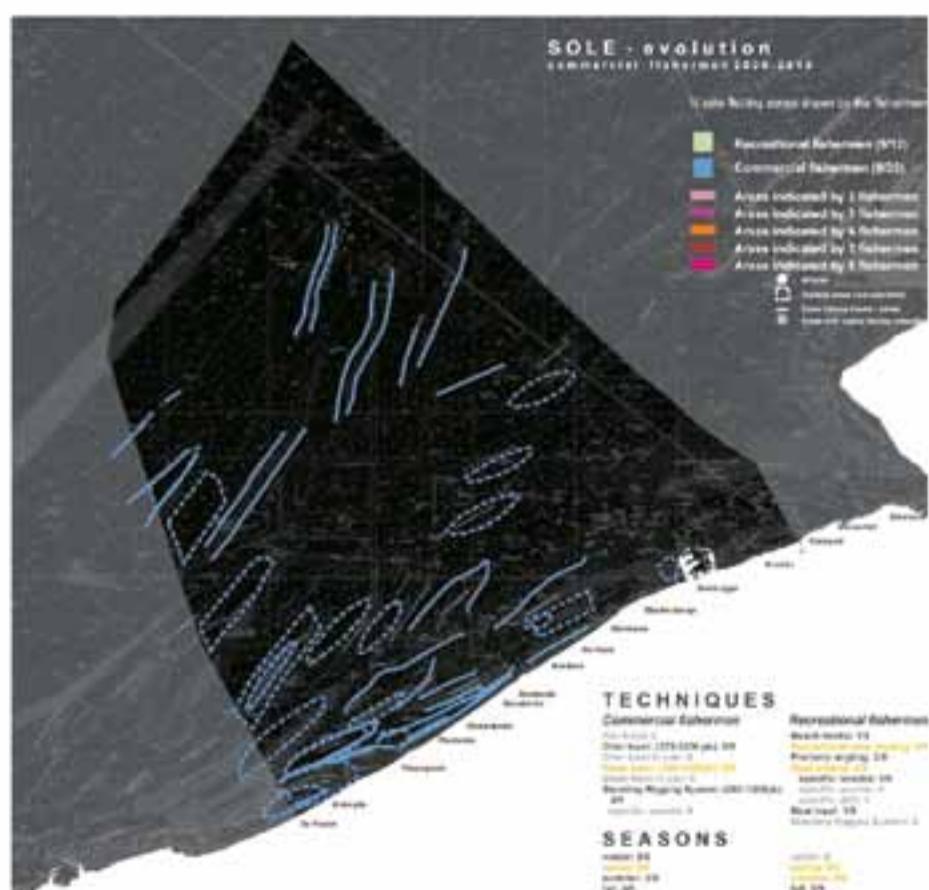
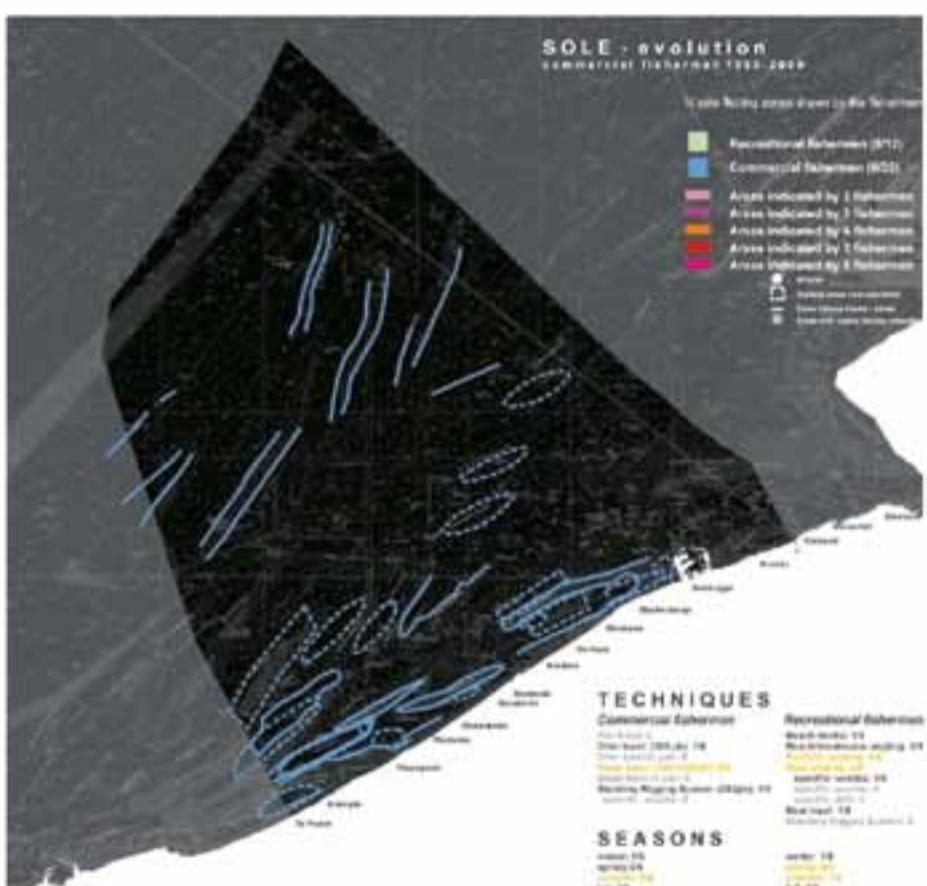
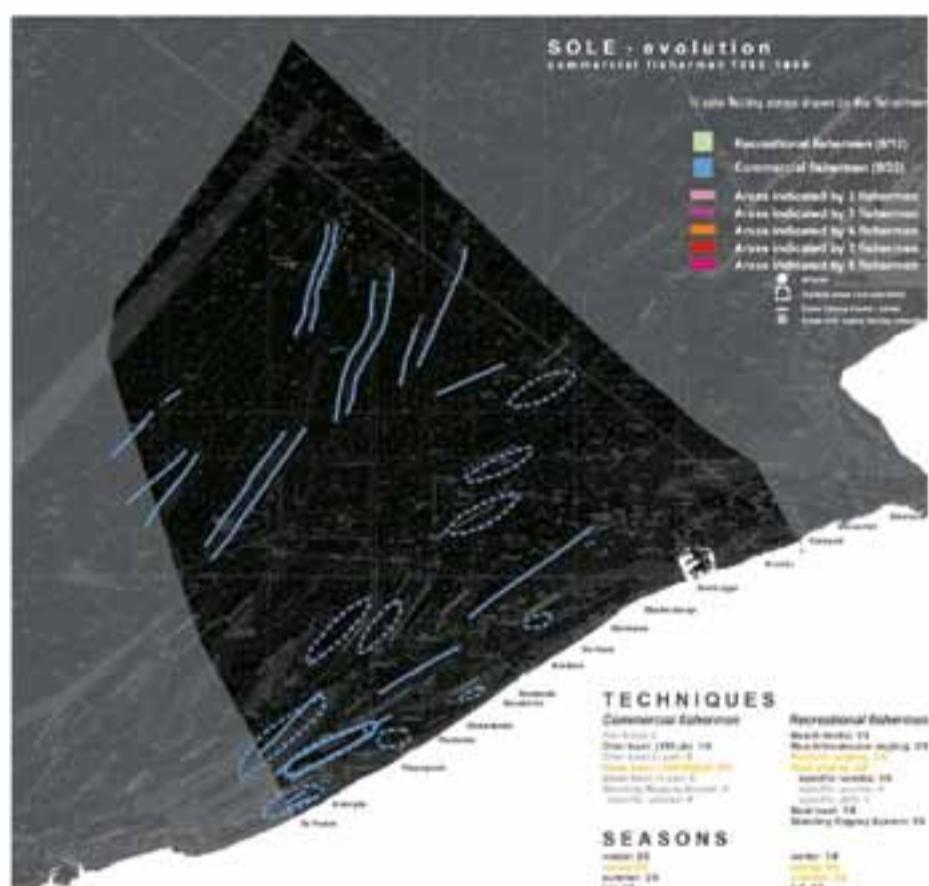
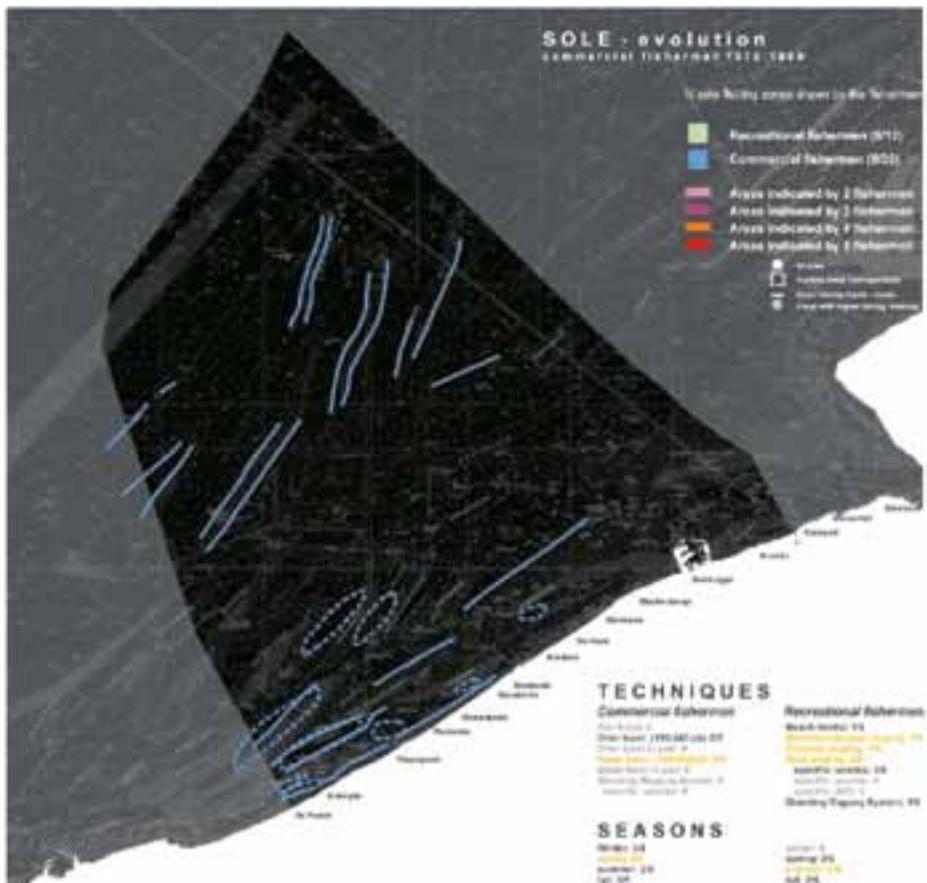
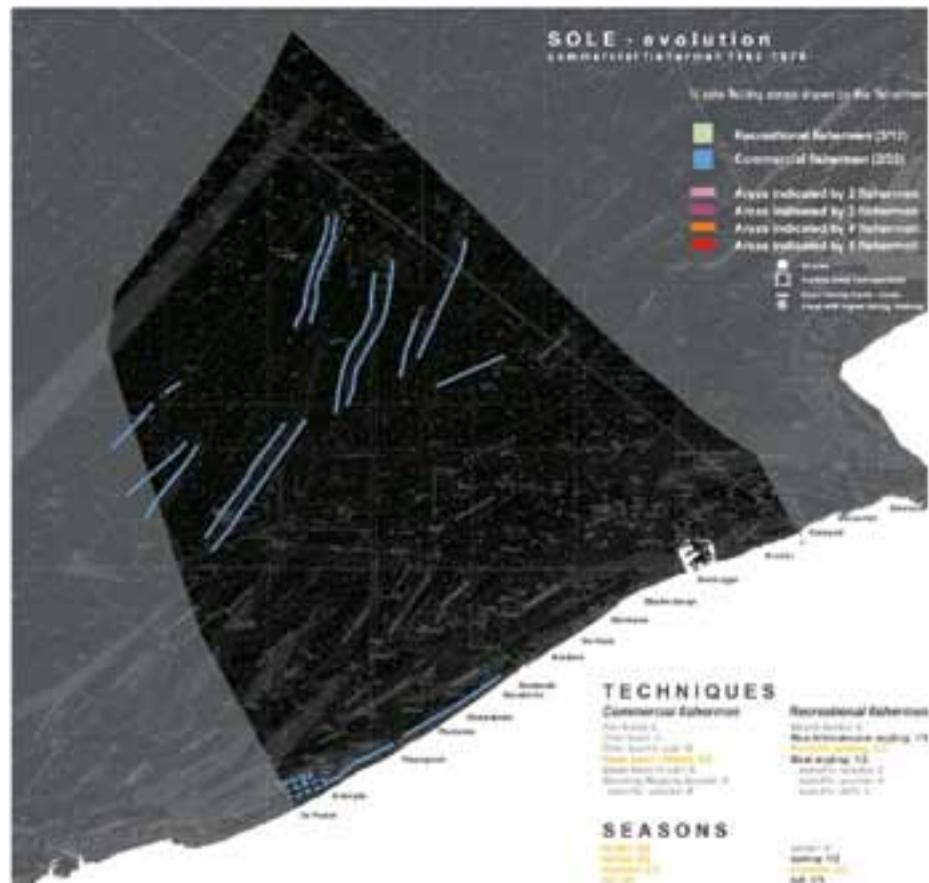


**SOLE - fishing zones**  
commercial & recreational fishermen 1960 - 2010



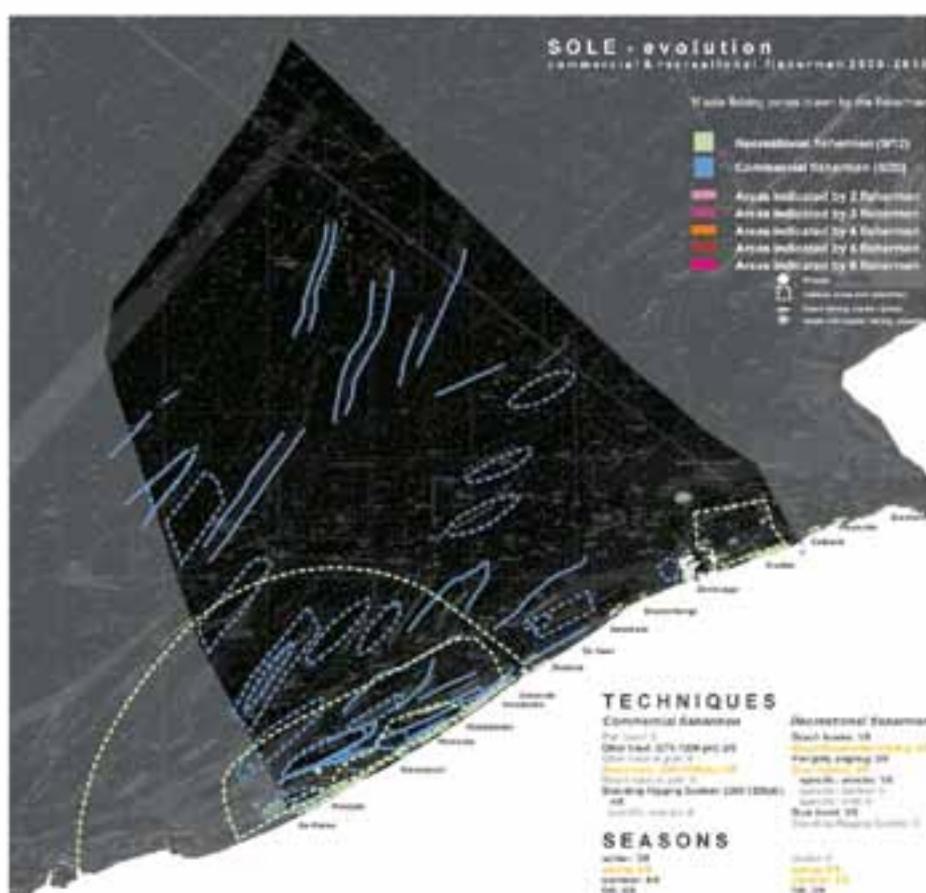
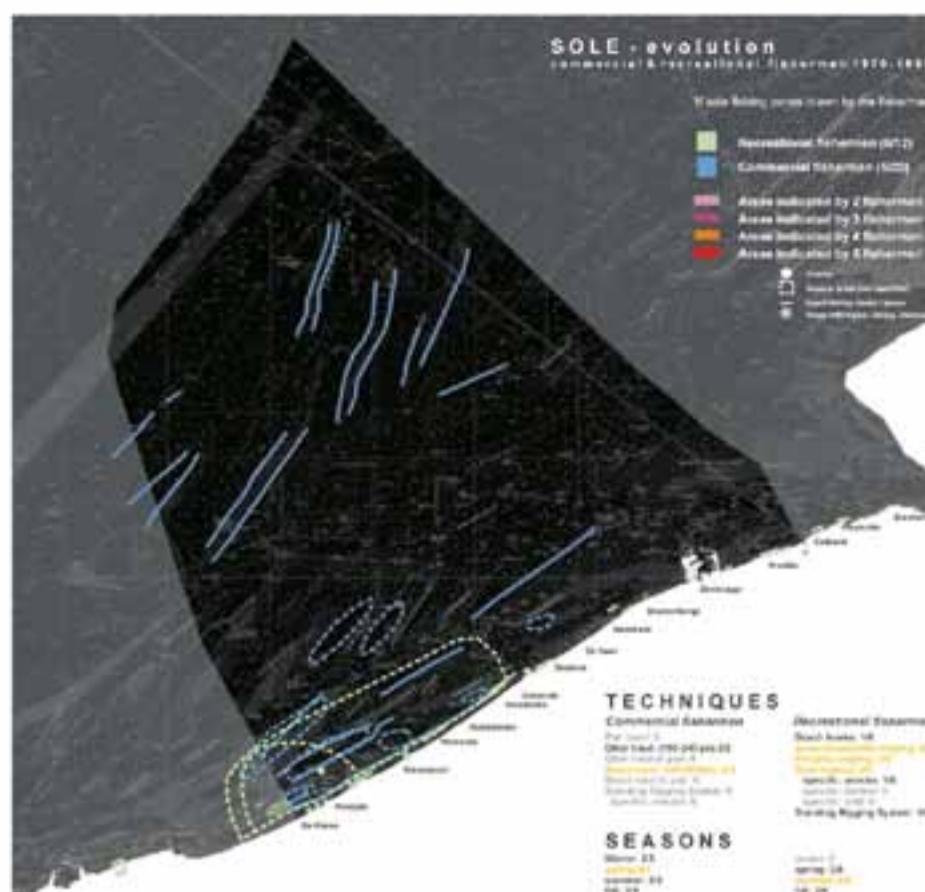
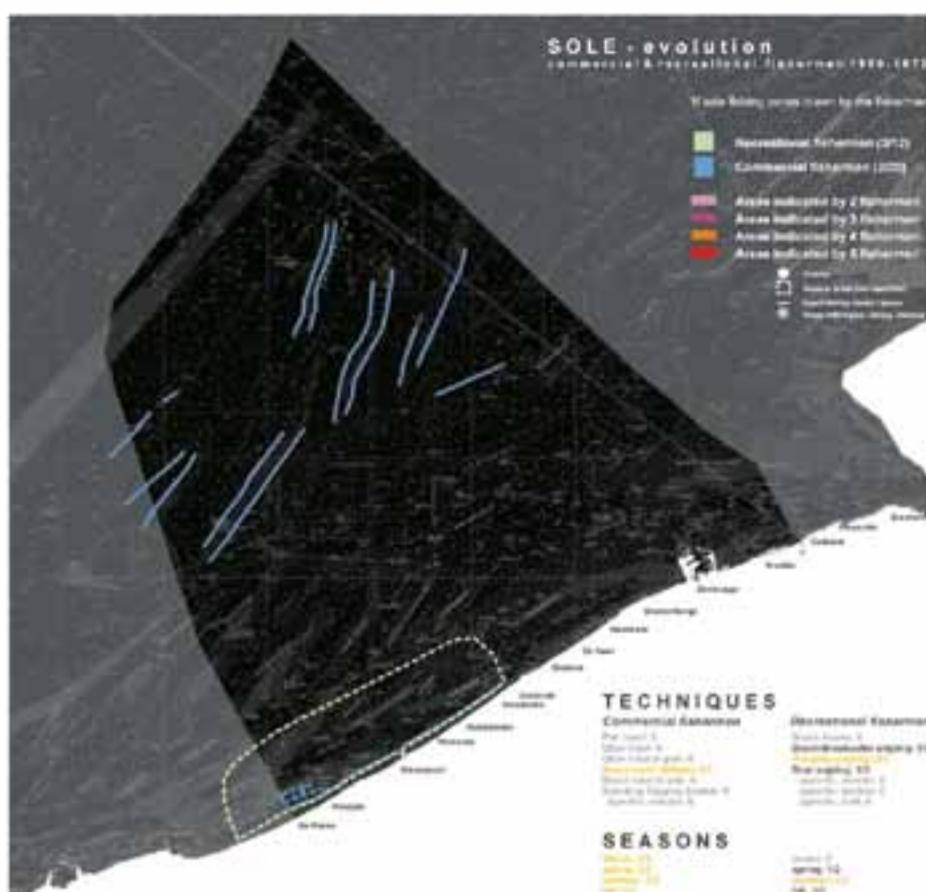
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recreational fishermen 1960 - 2010

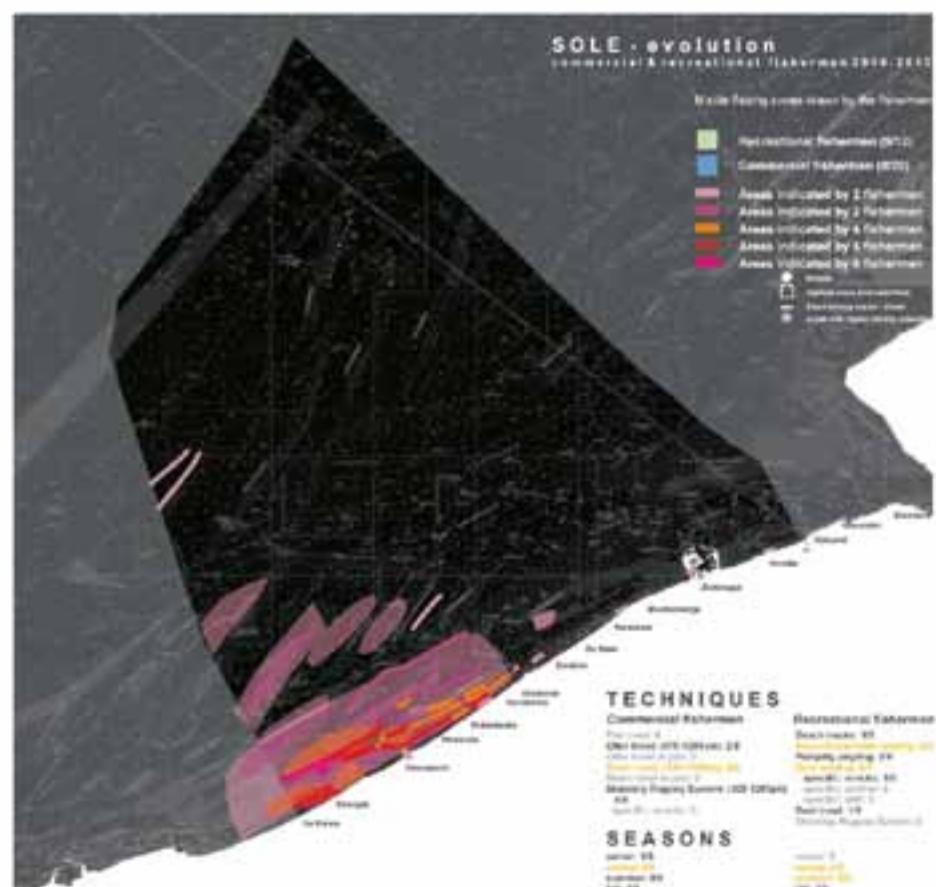
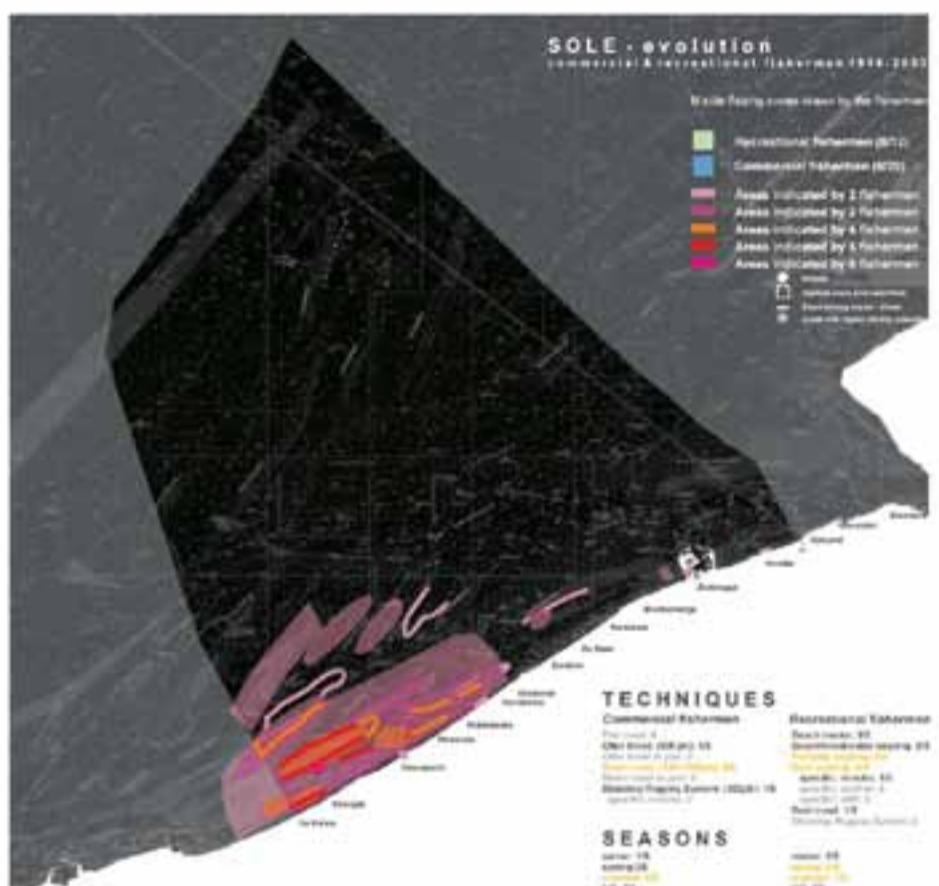
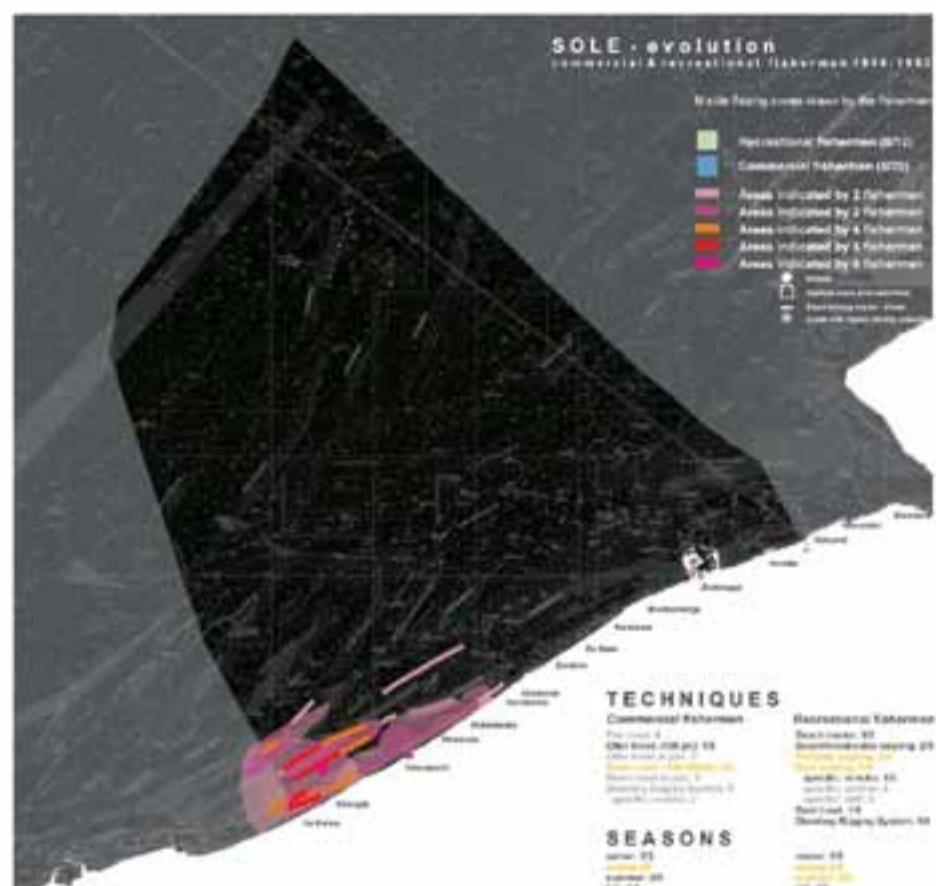
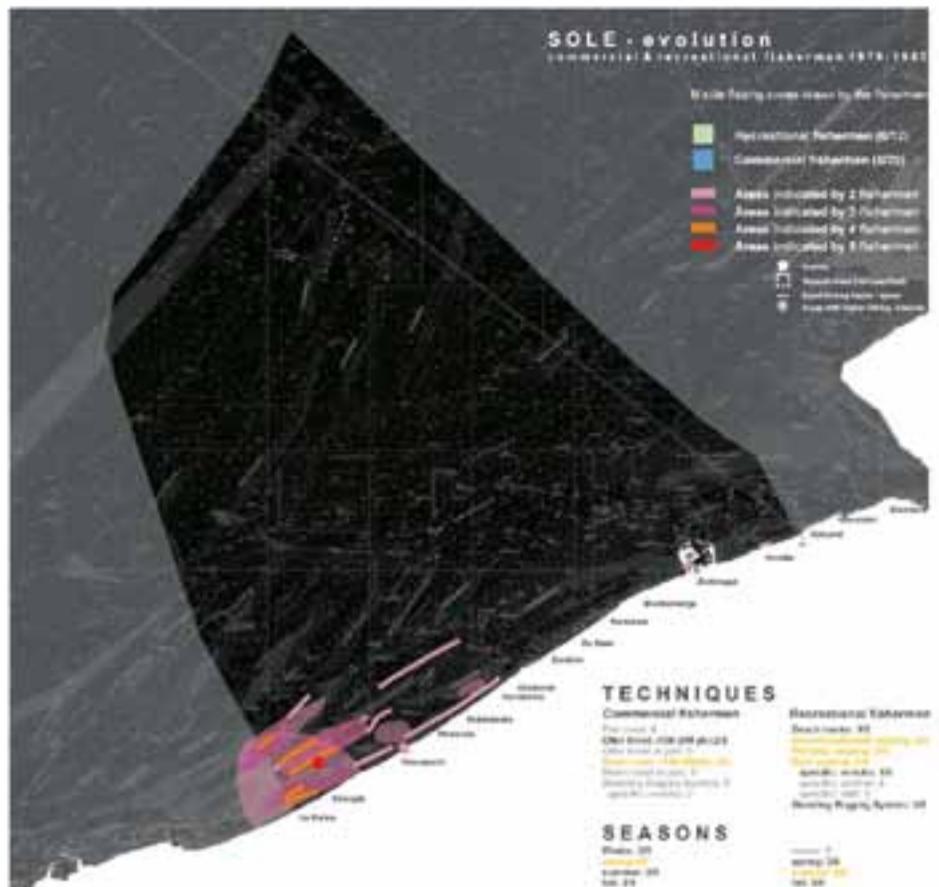
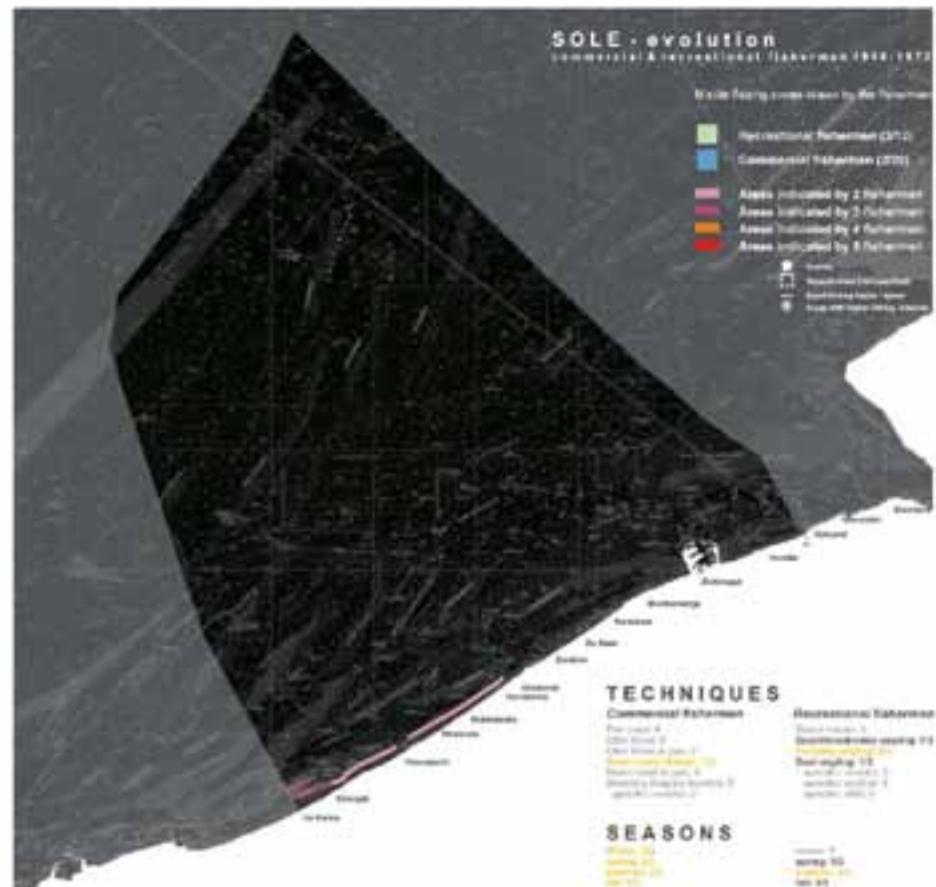


# **SOLE - evolution**

**commercial fishermen 1960 - 2010**



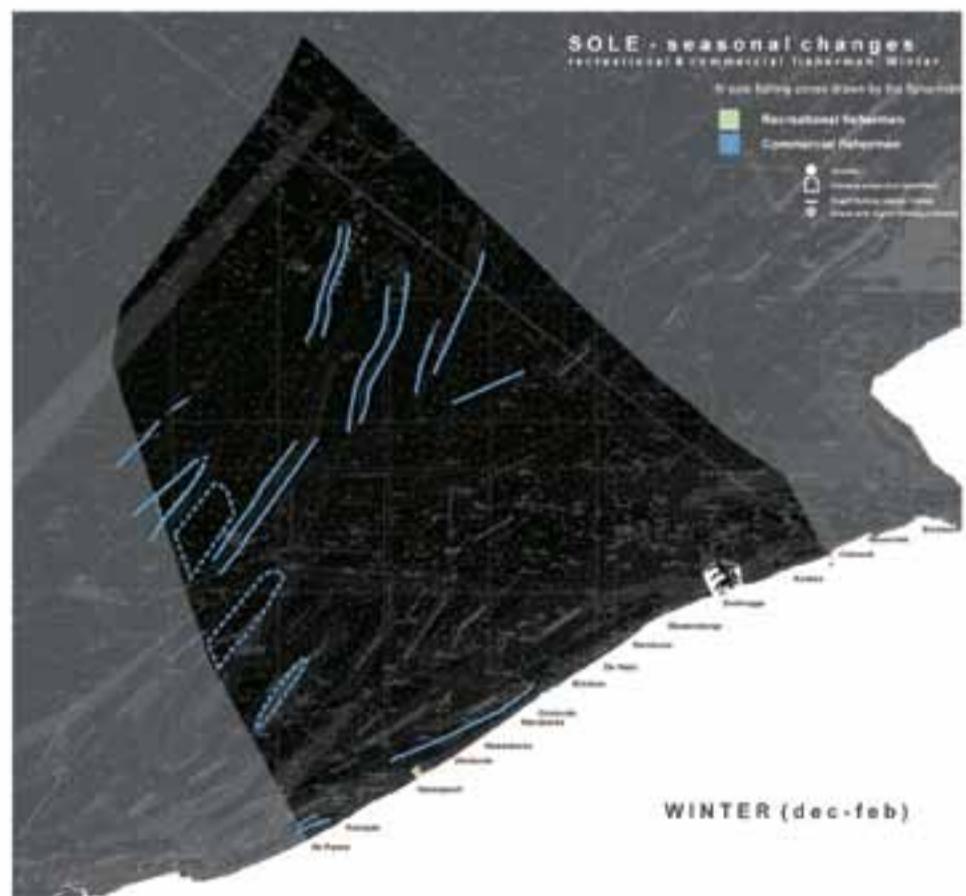
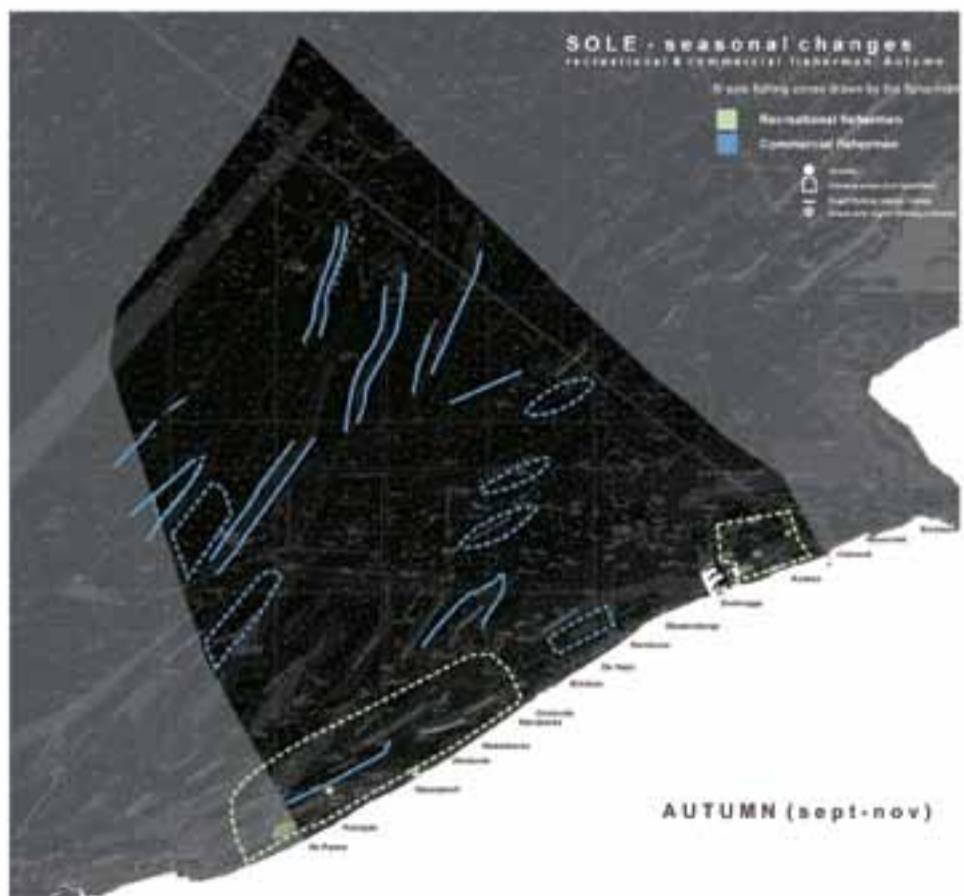
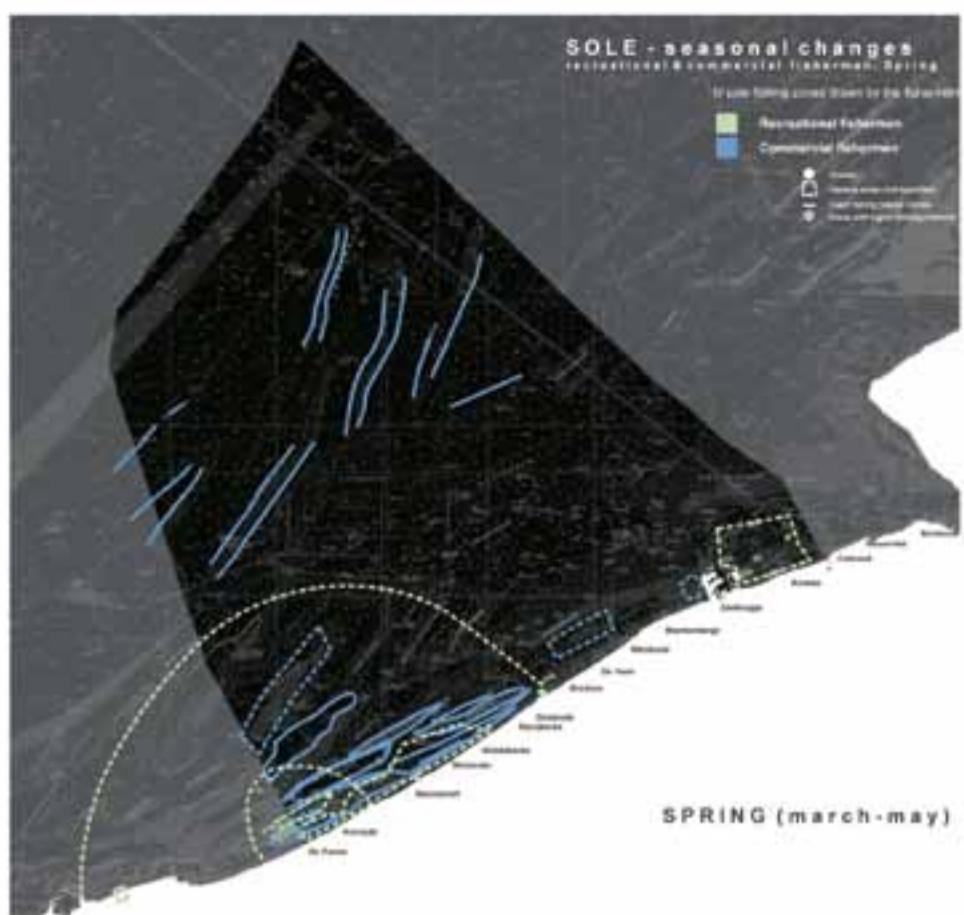
**SOLE - evolution**  
commercial & recreational  
fishermen 1960 - 2010



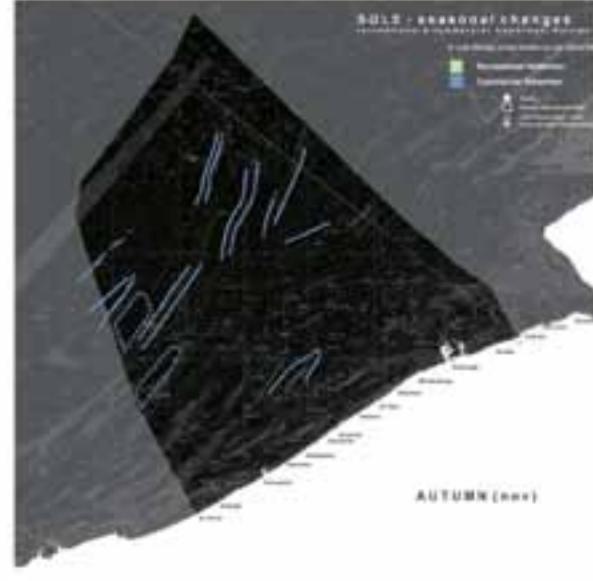
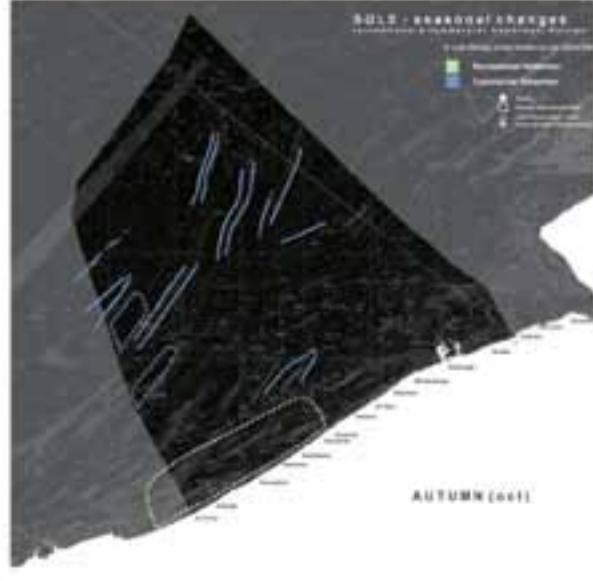
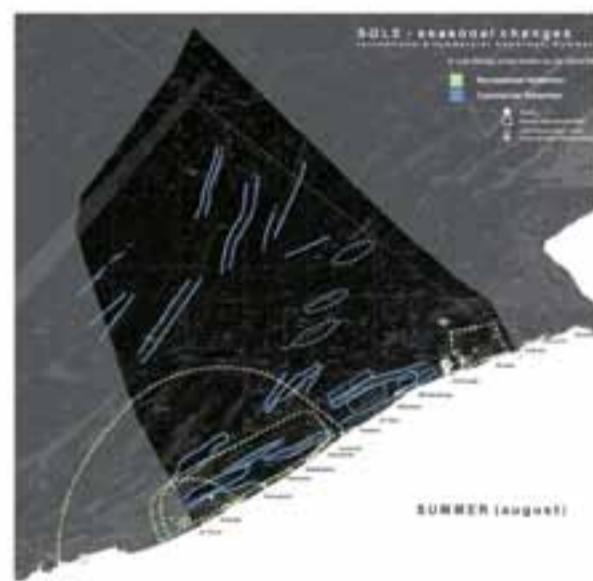
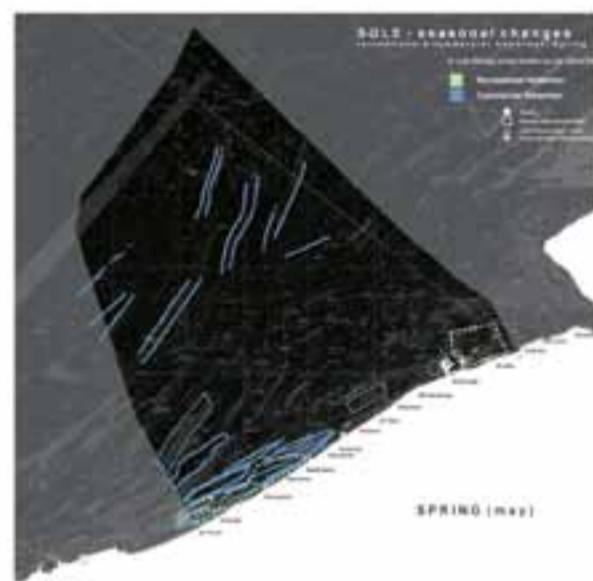
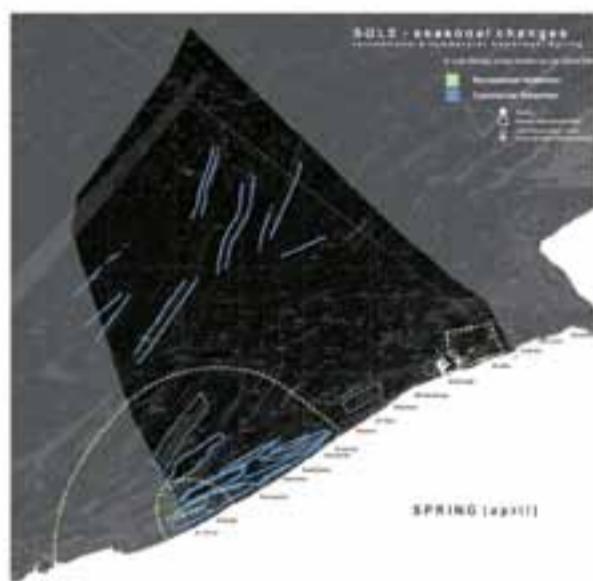
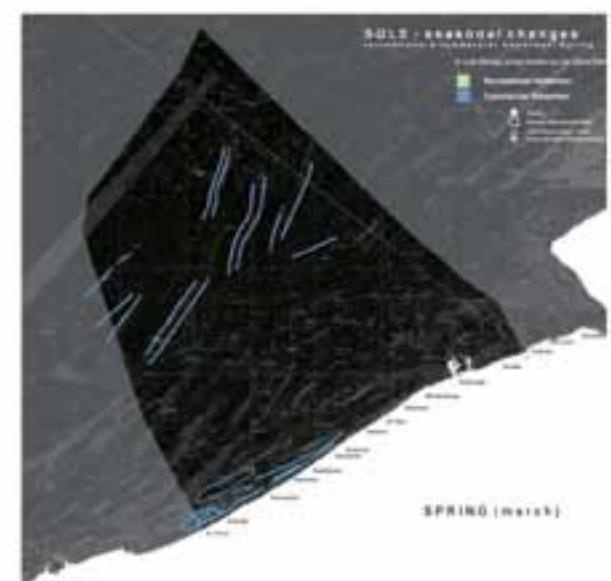
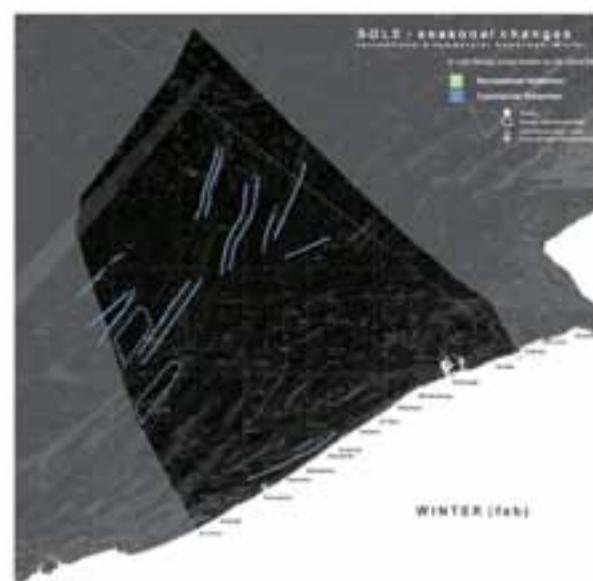
# **SOLE - evolution**

## **commercial & recreational fishermen 1960 - 2010**

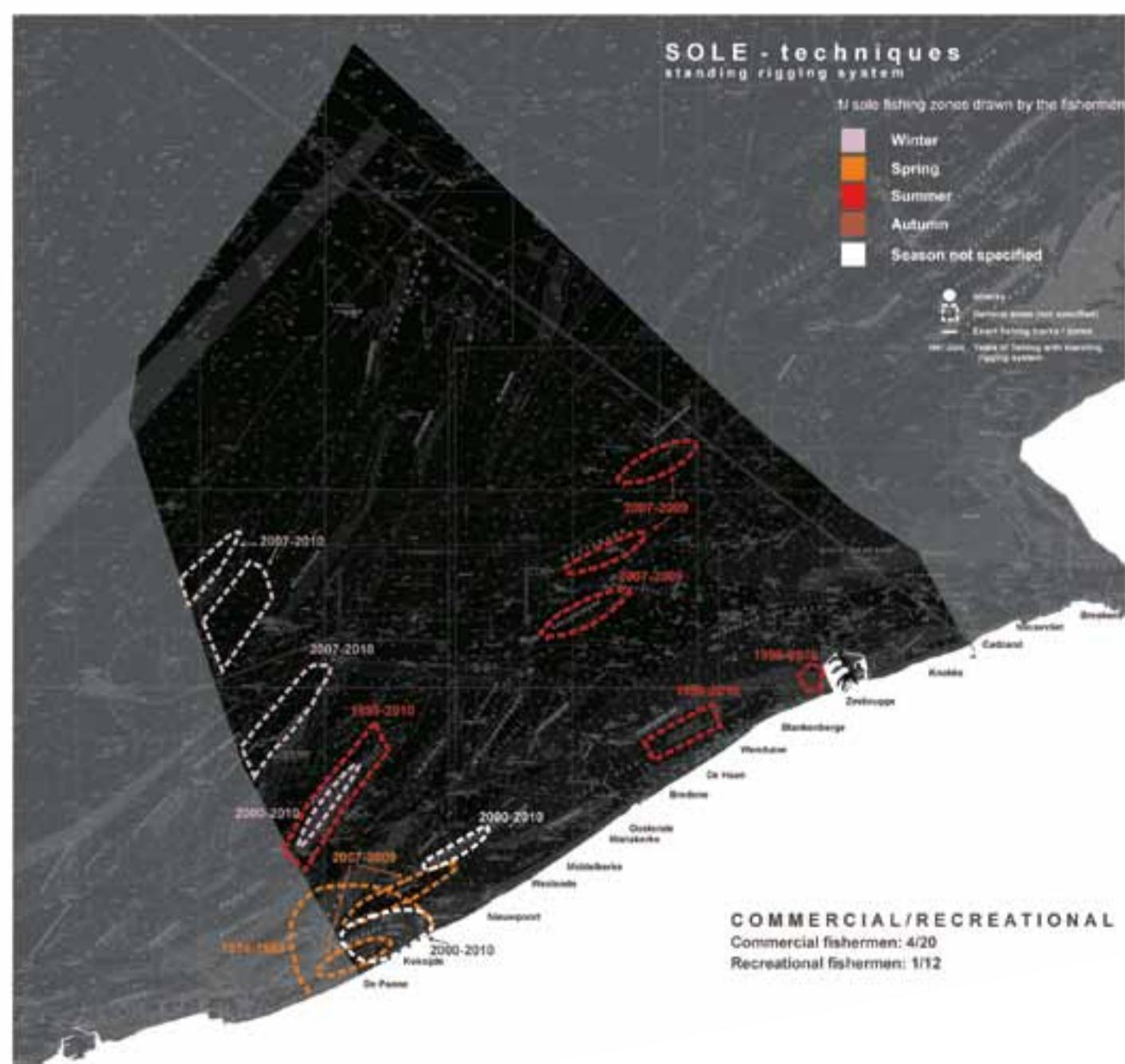
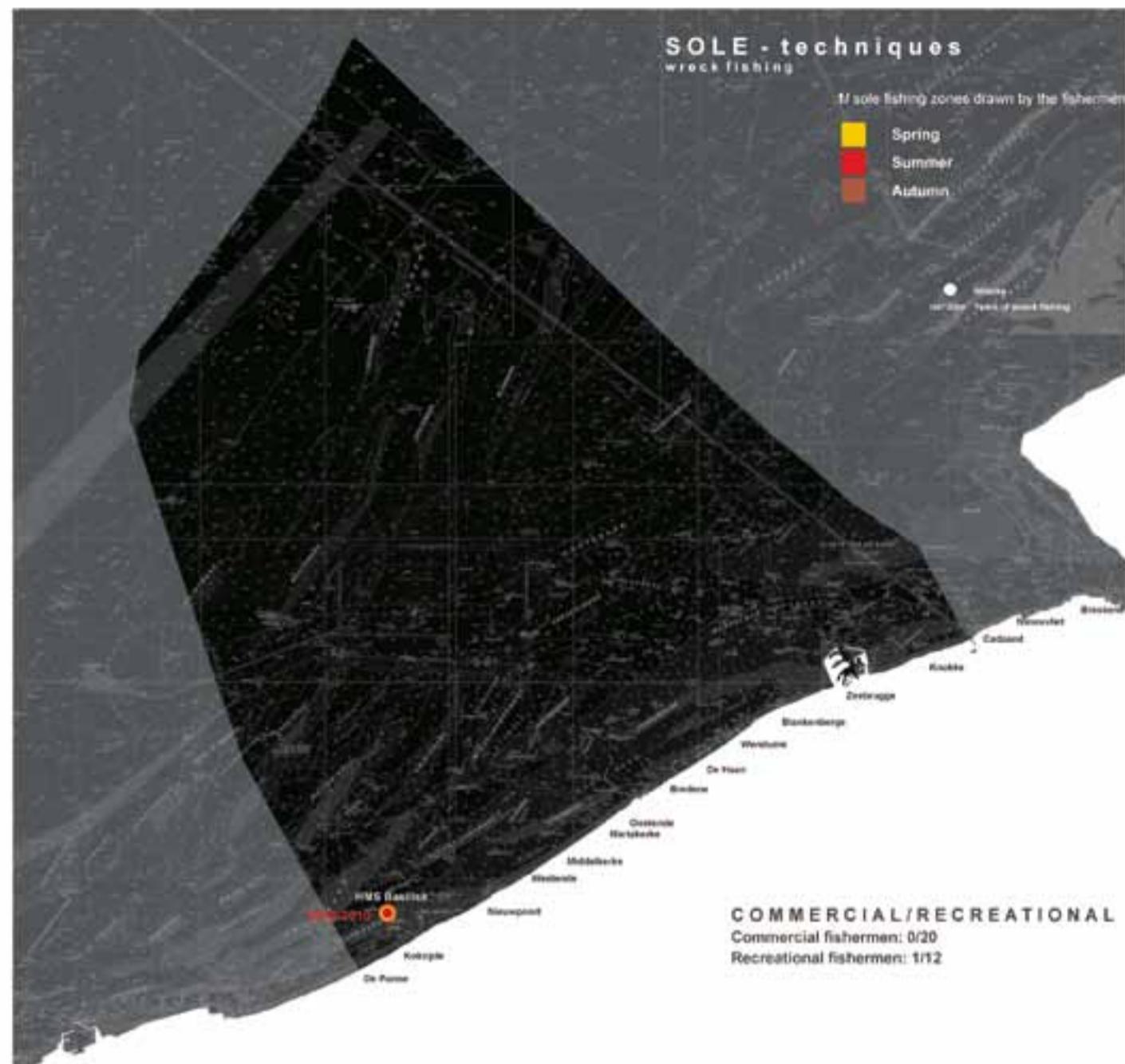
### **areas fished by 2 or more fishermen**



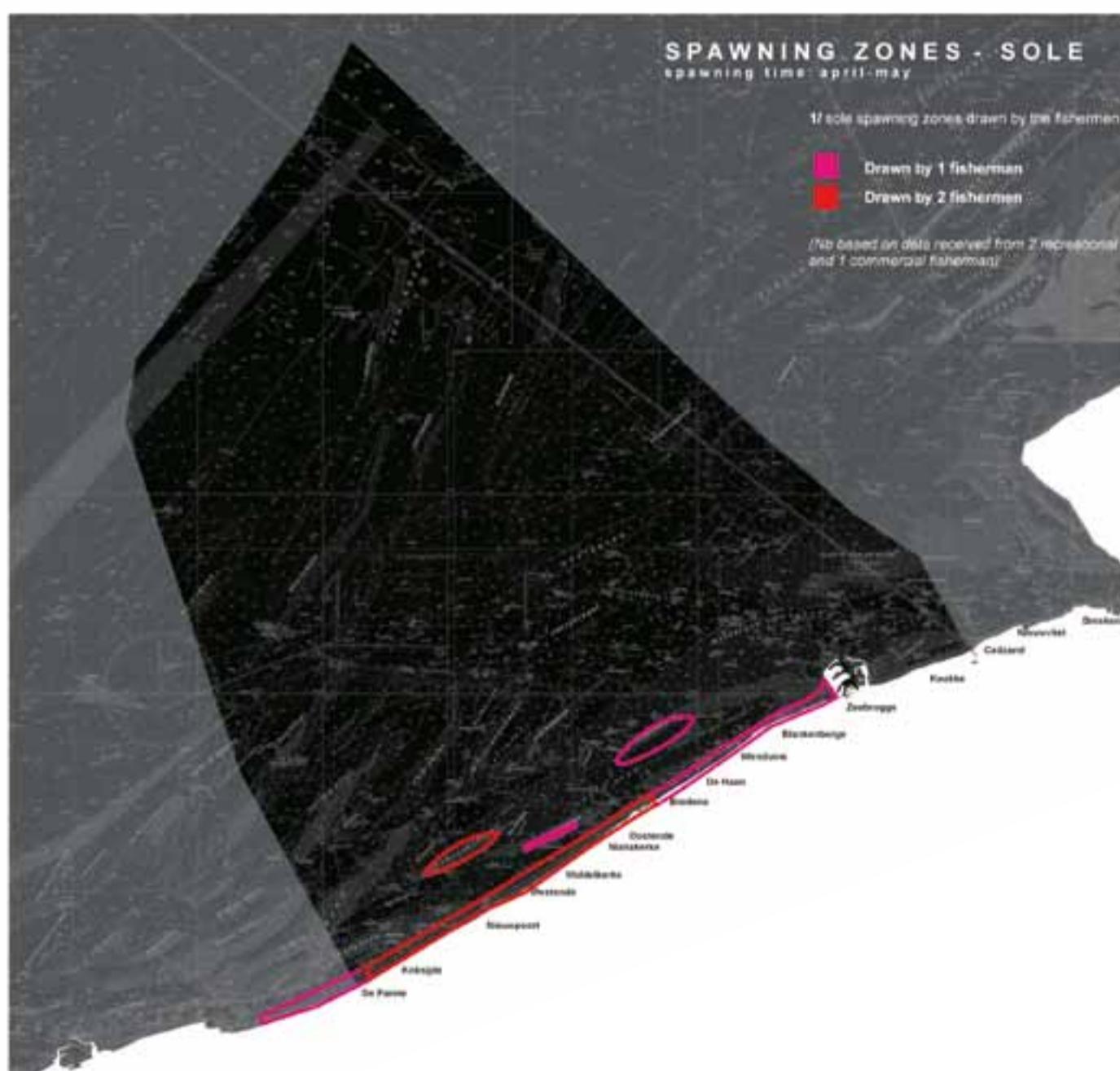
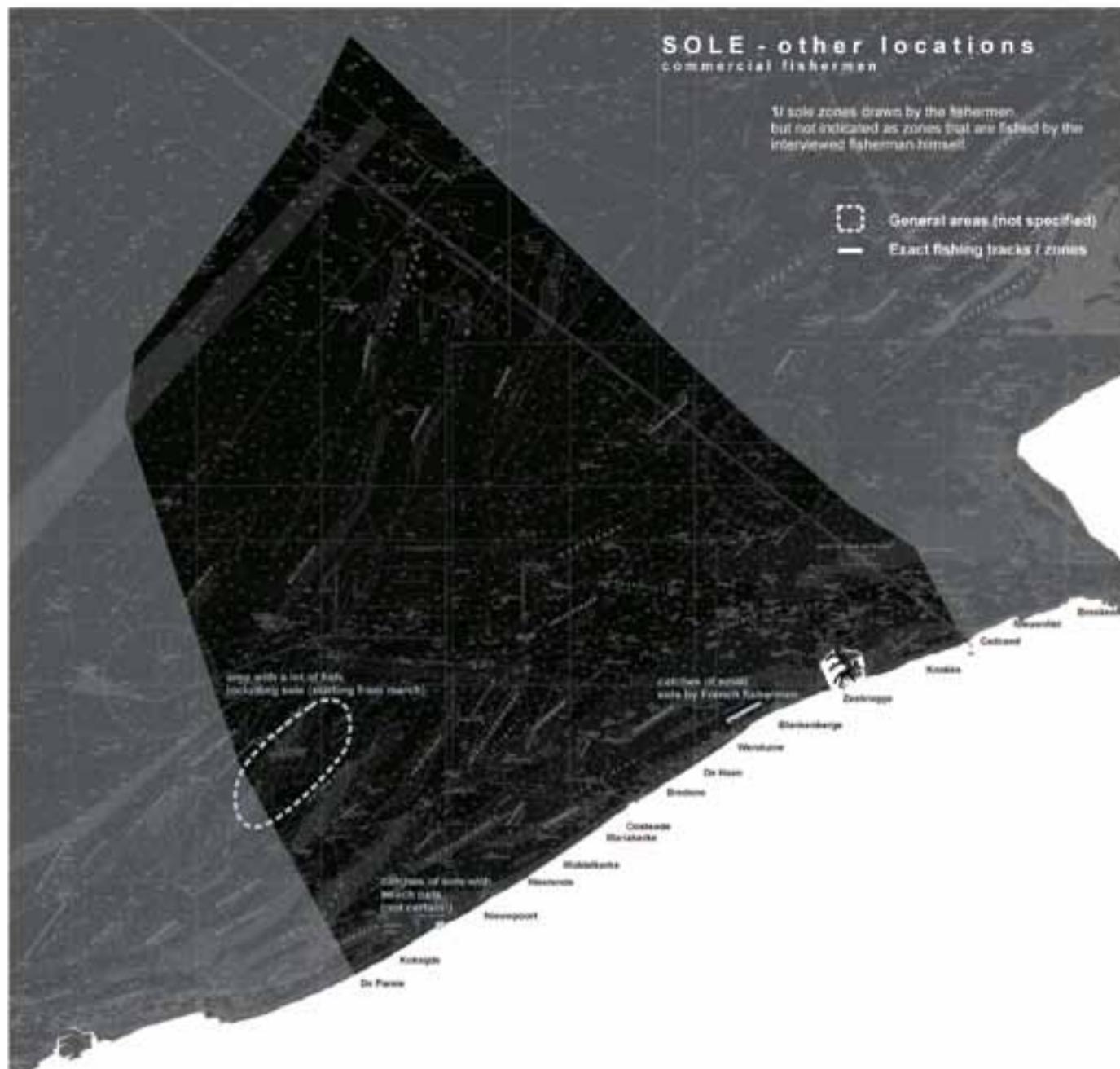
**SOLE - seasonal changes**  
commercial & recreational fishermen 1960 - 2010



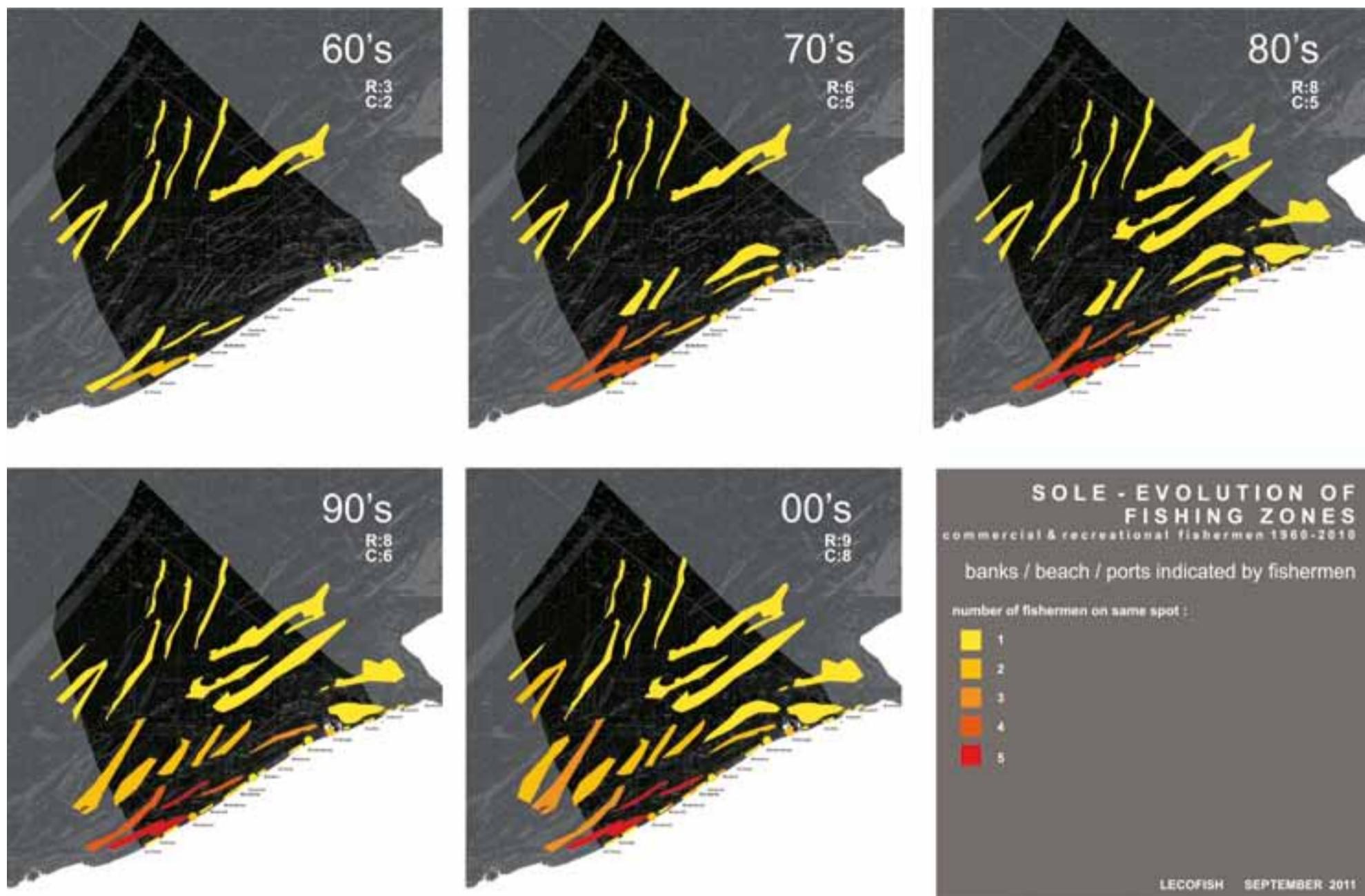
**SOLE - seasonal changes  
january-december**  
commercial & recreational fishermen 1960 - 2010



**SOLE - techniques**  
commercial & recreational fishermen 1960 - 2010



**SOLE - other locations  
& spawning zones**  
commercial & recreational fishermen 1950 - 2010



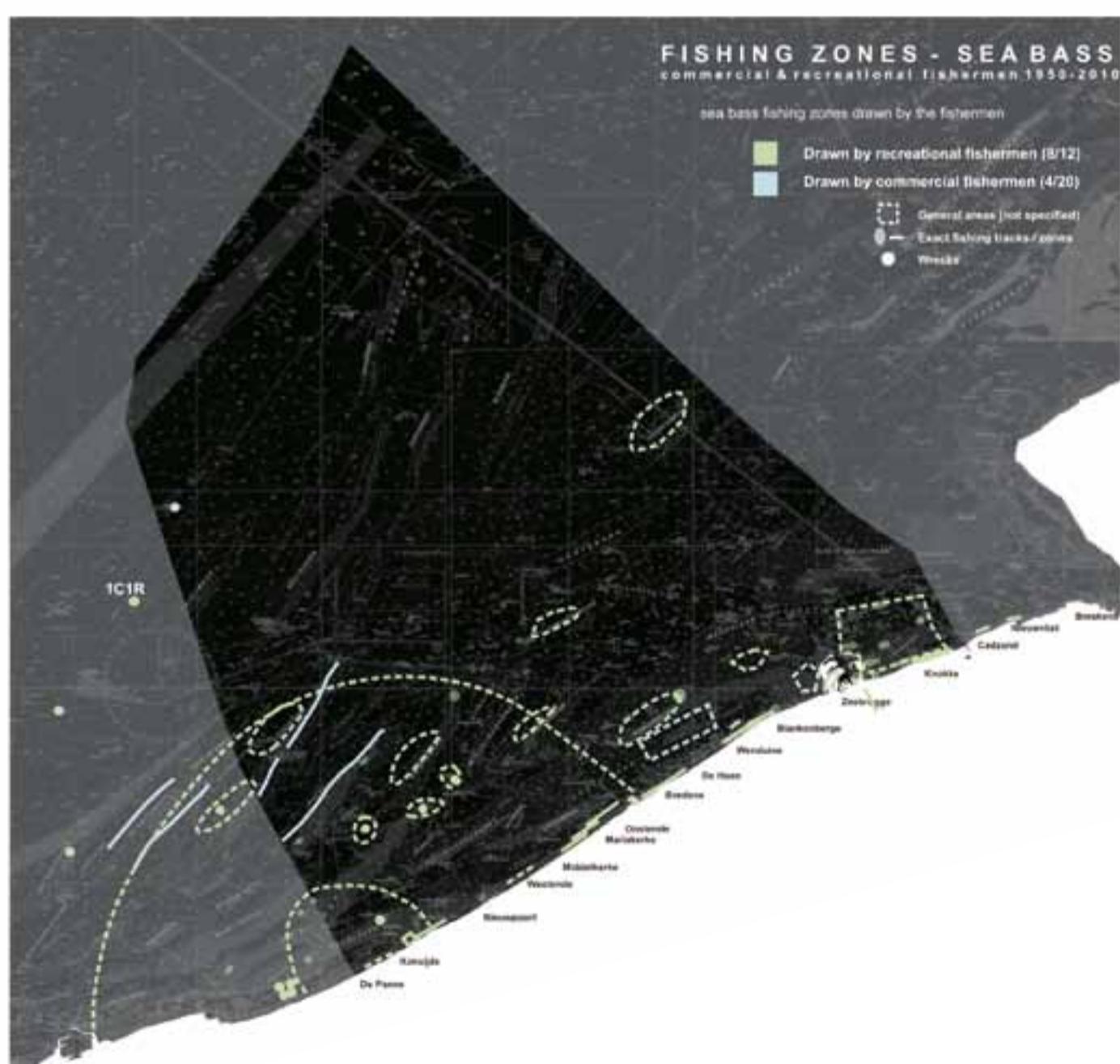
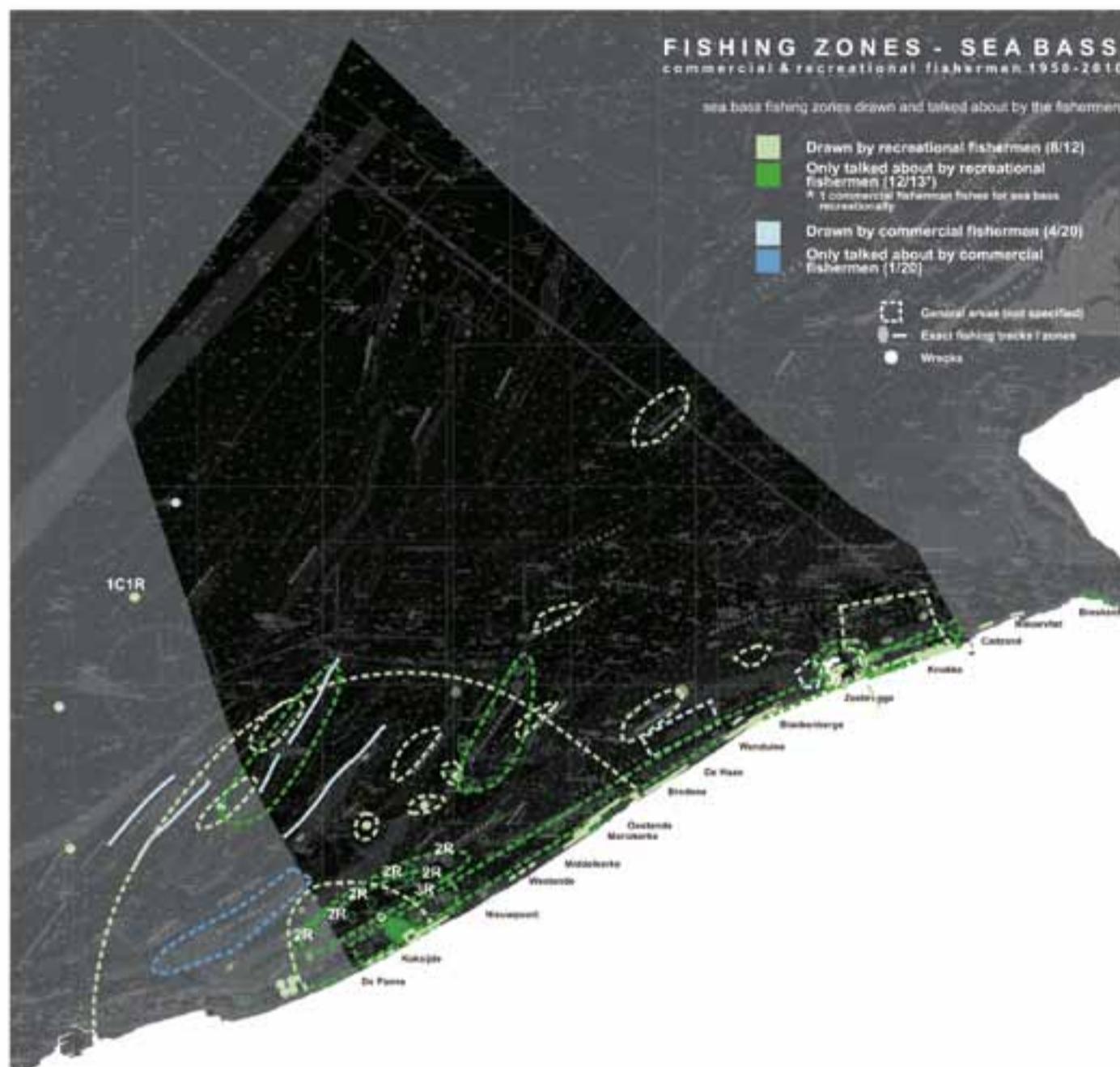
**SOLE - structure maps**  
commercial & recreational fishermen 1950 - 2010



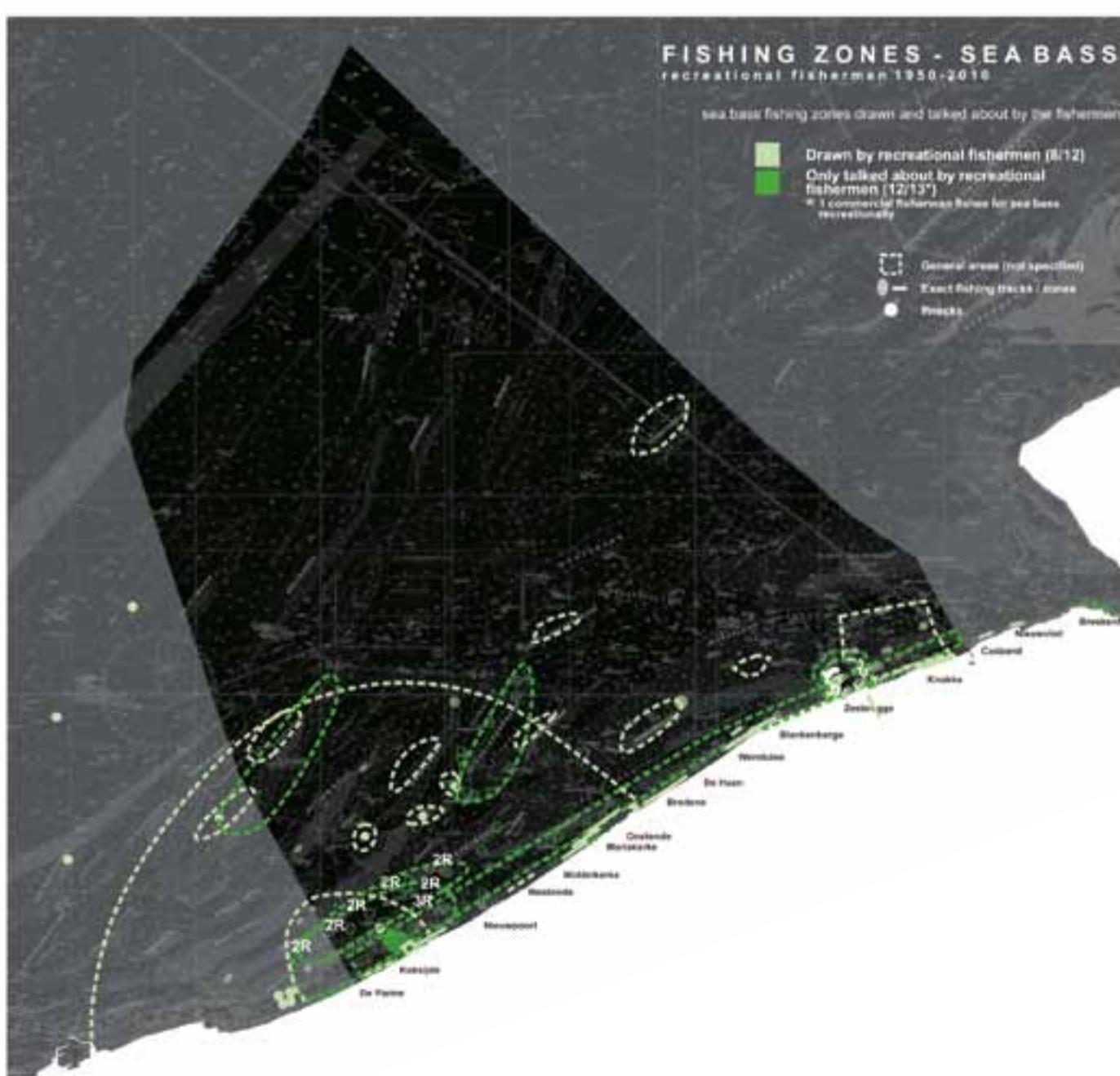
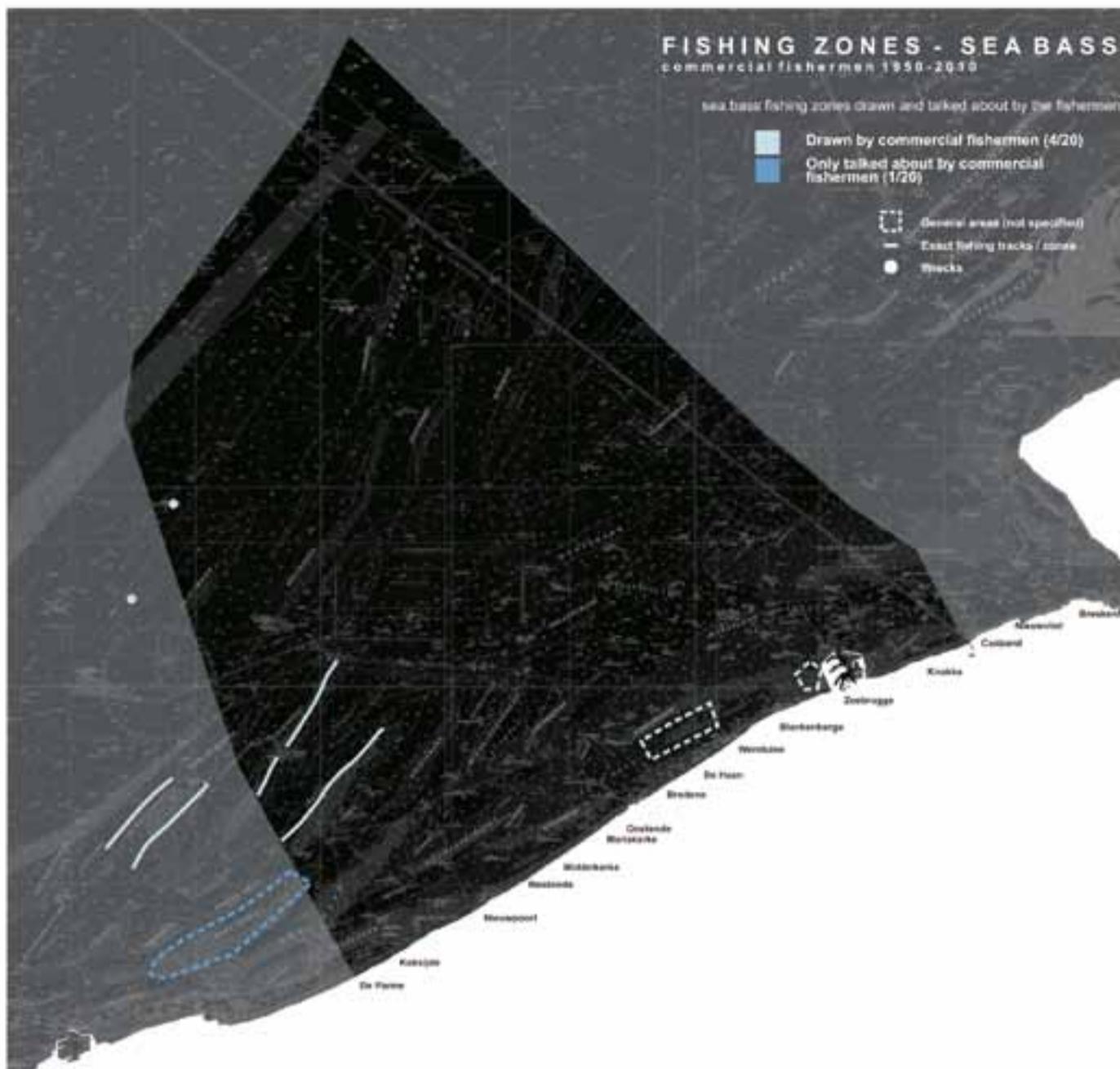


MAPS SERIES III

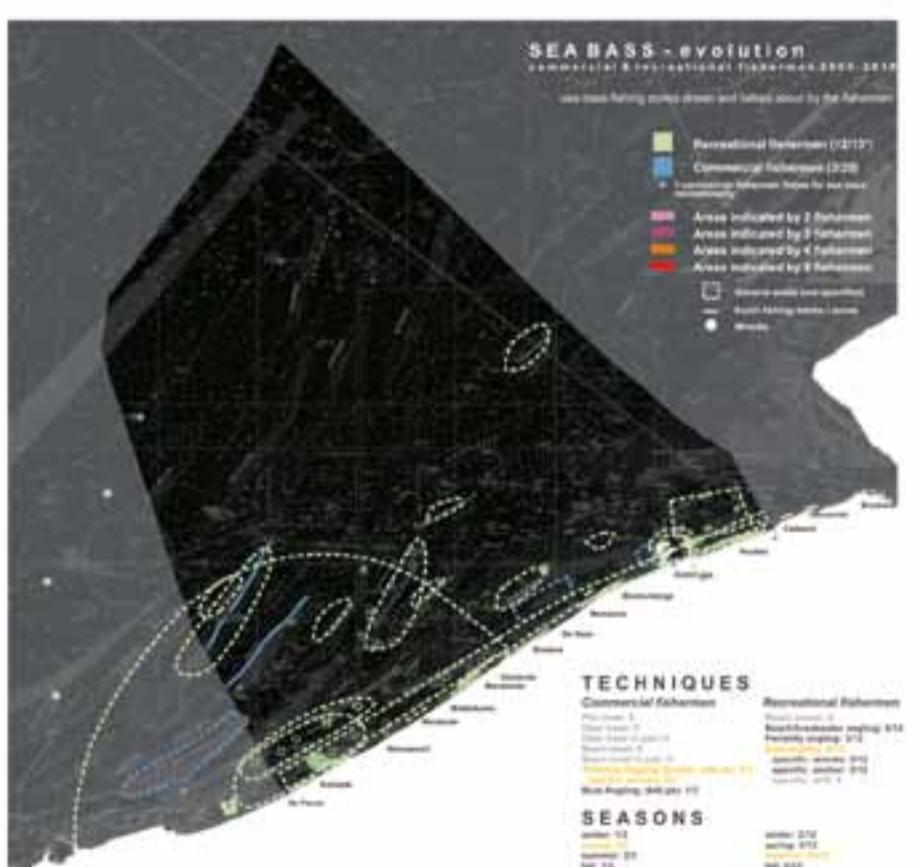
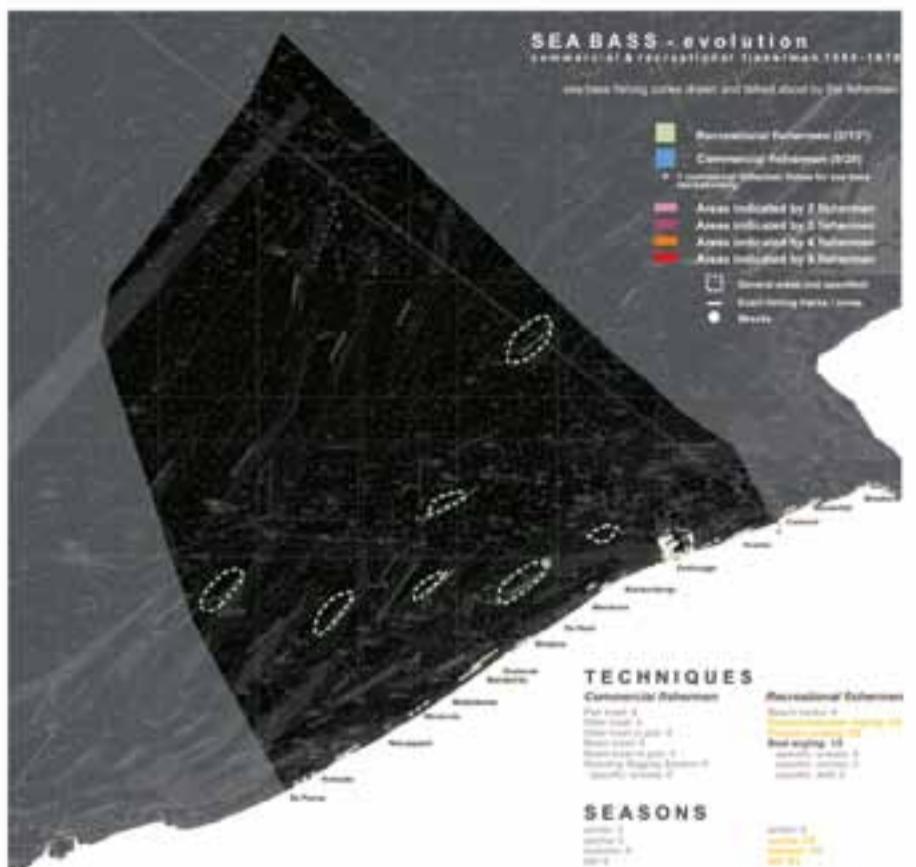
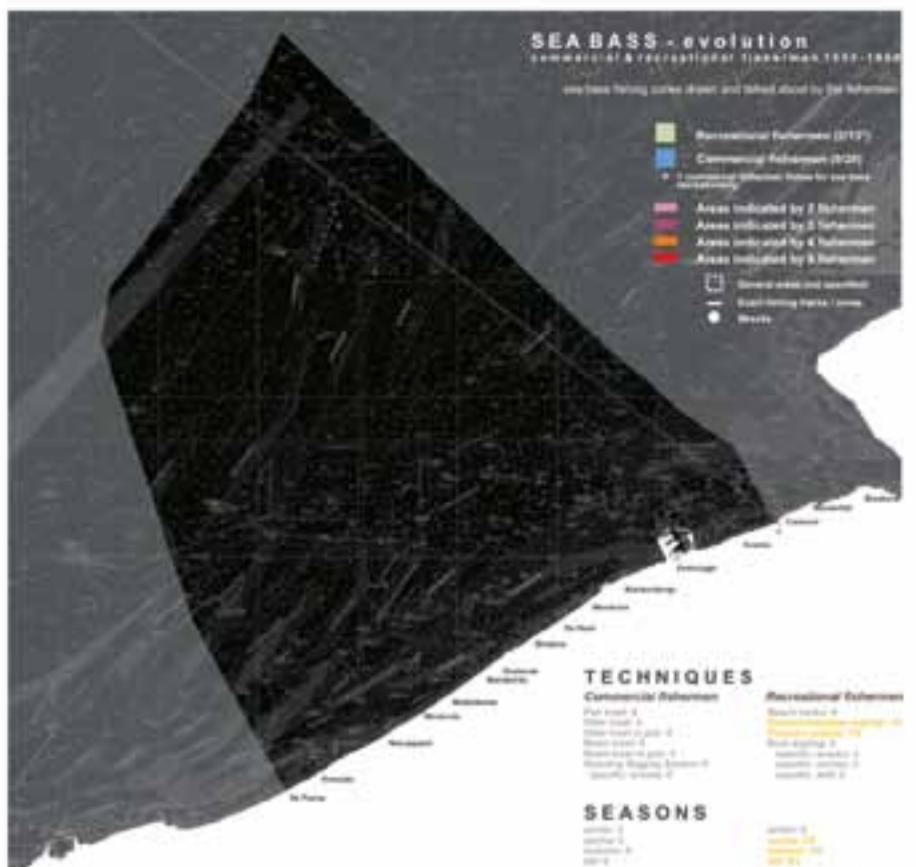
**SEA BASS**



**SEA BASS - fishing zones  
drawn and talked about  
commercial & recreational fishermen 1950 - 2010**

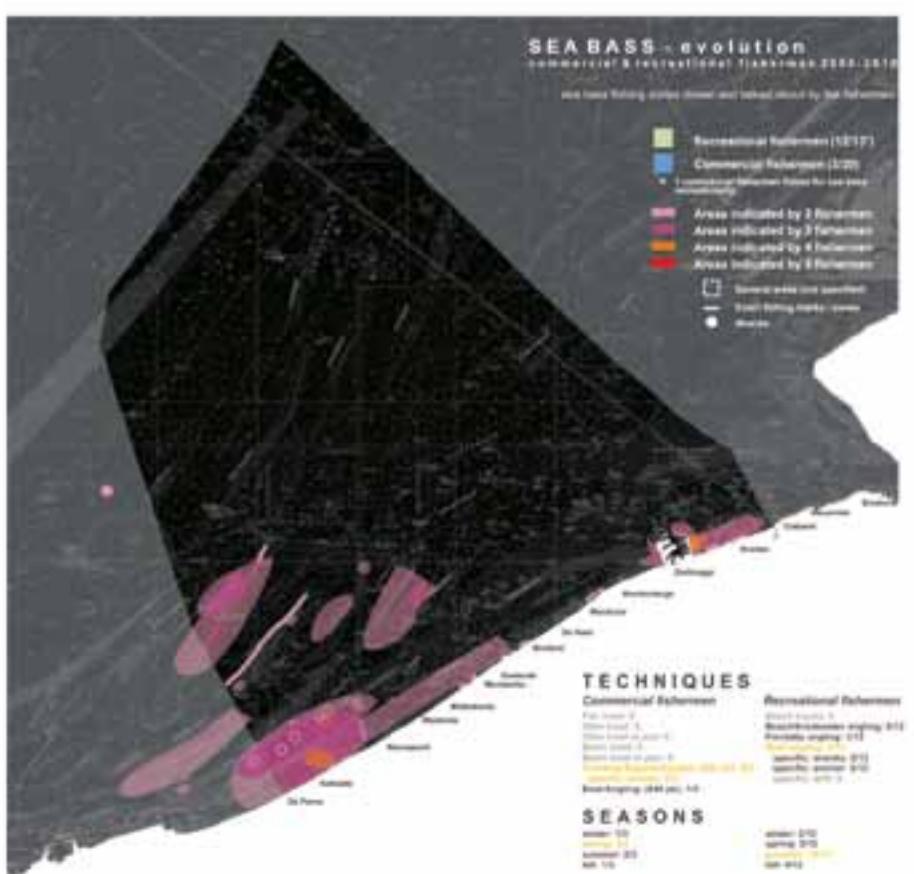
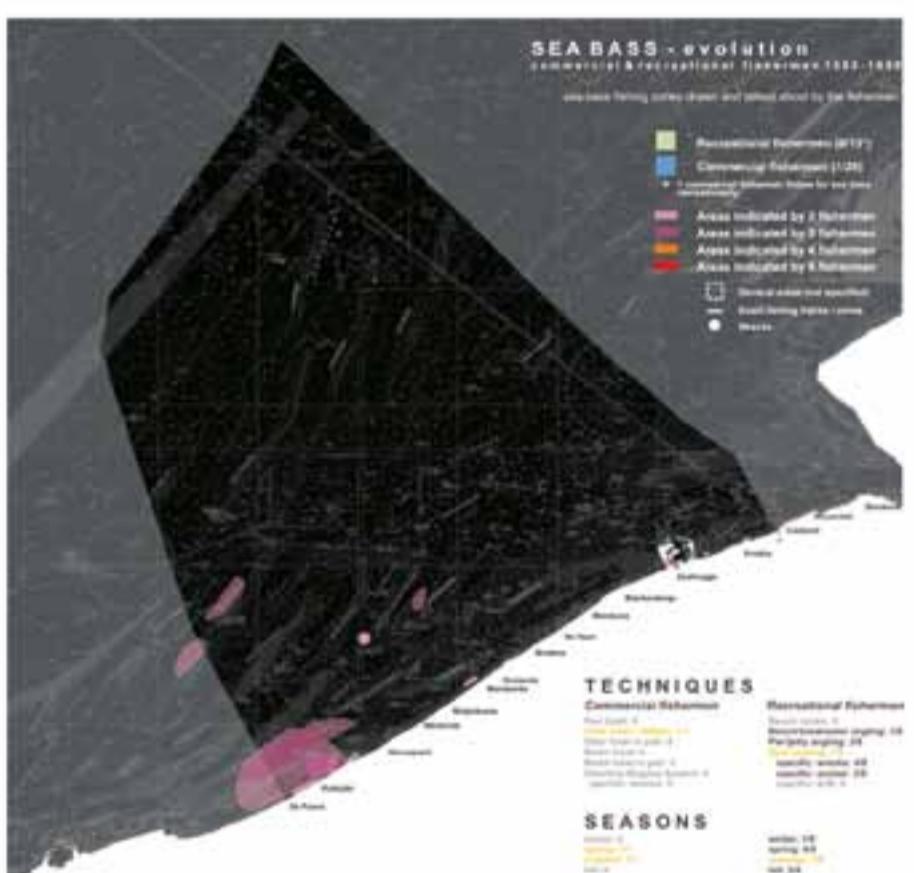
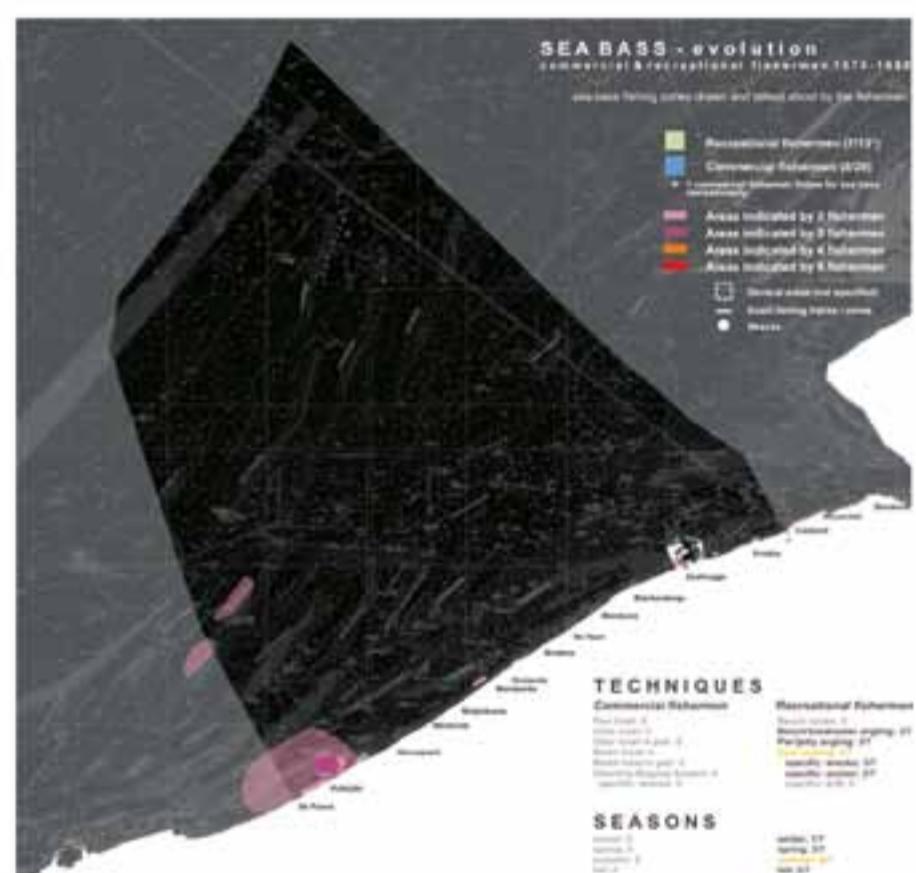
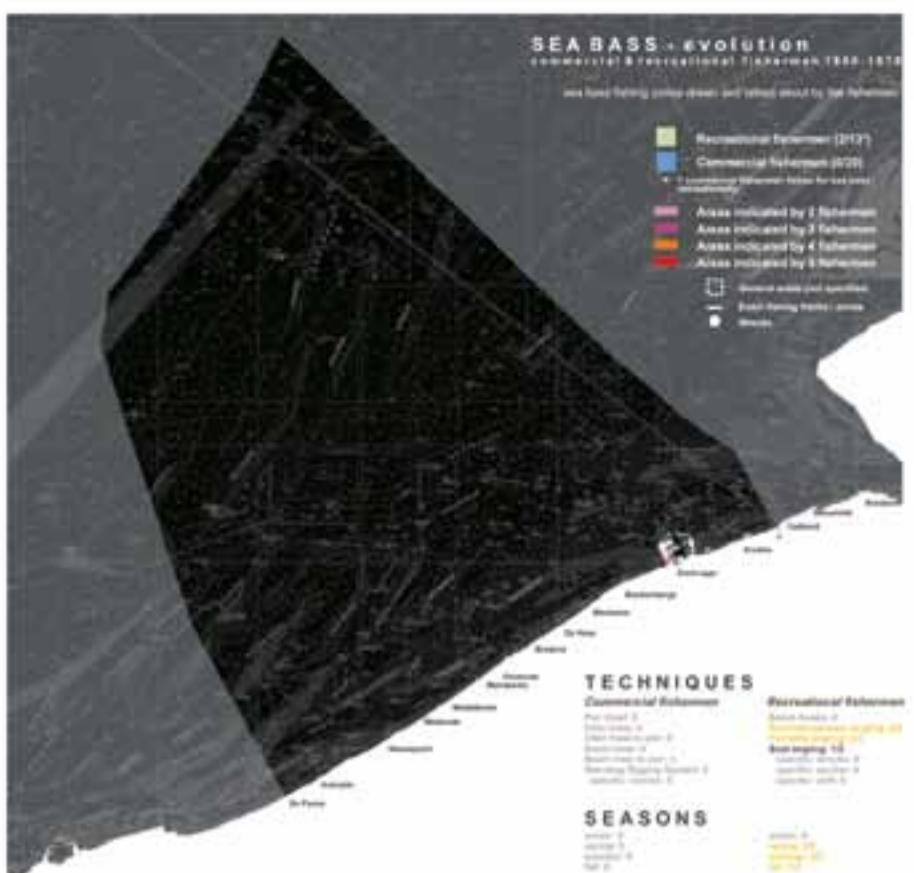
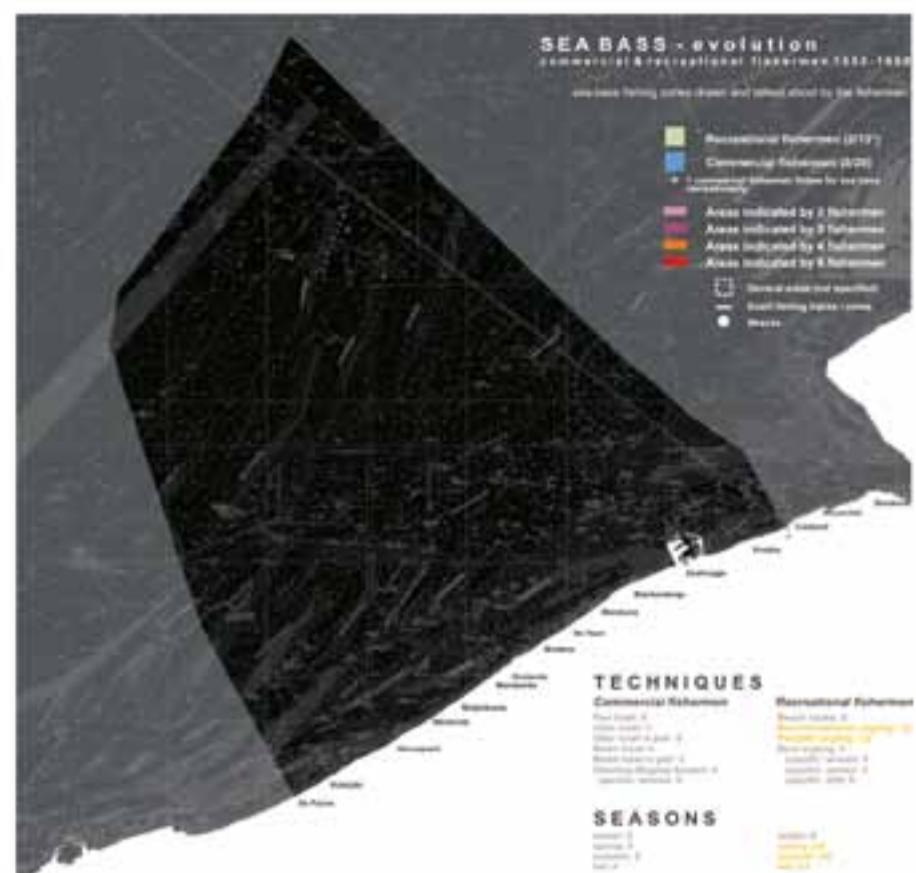


**SEA BASS - fishing zones**  
commercial & recreational fishermen 1950 - 2010



# **SEA BASS - evolution**

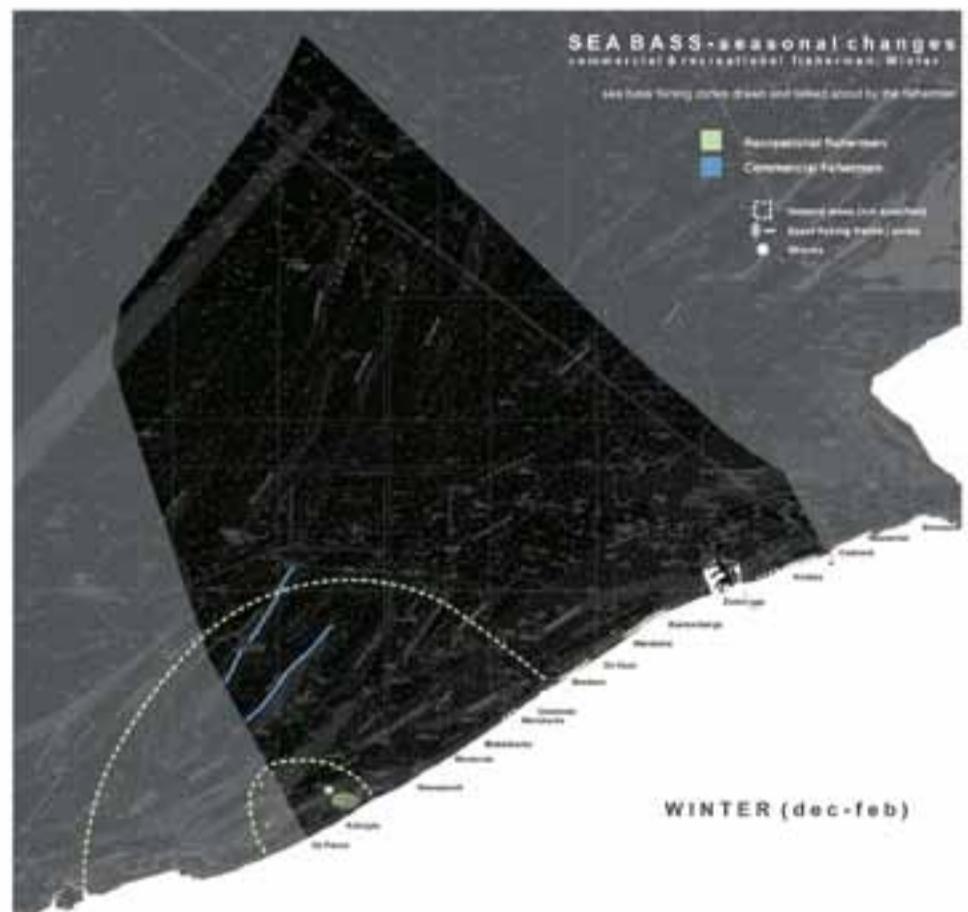
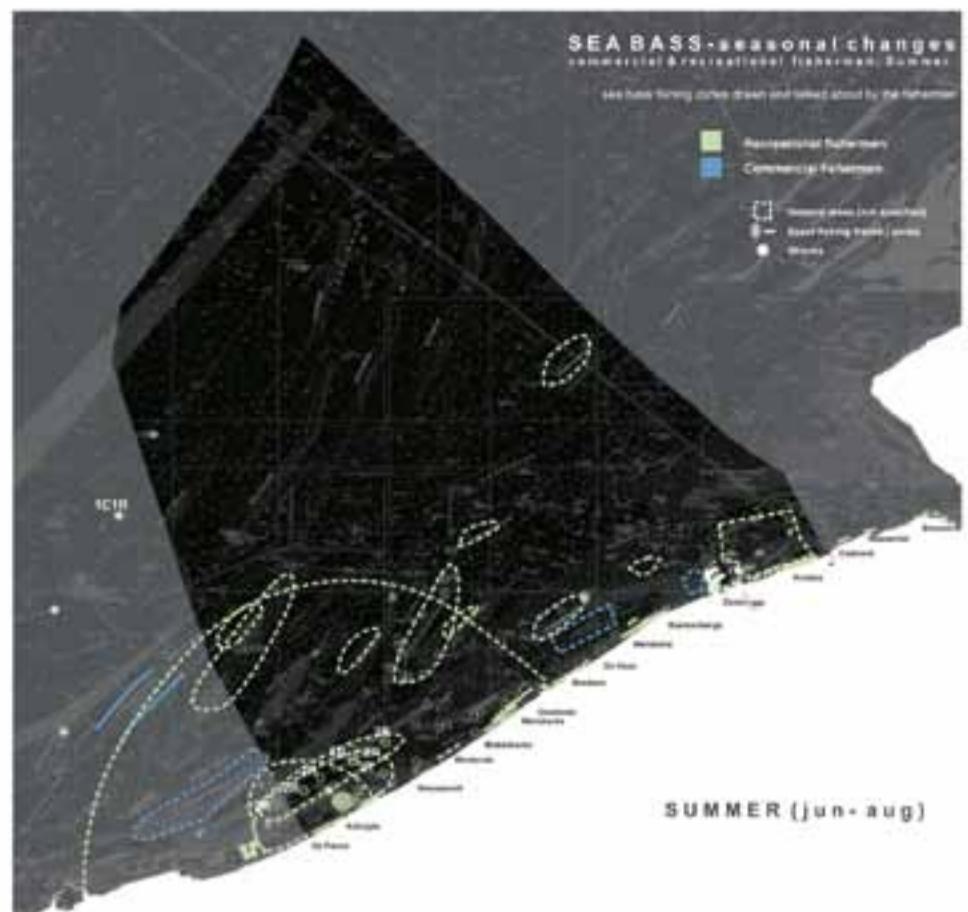
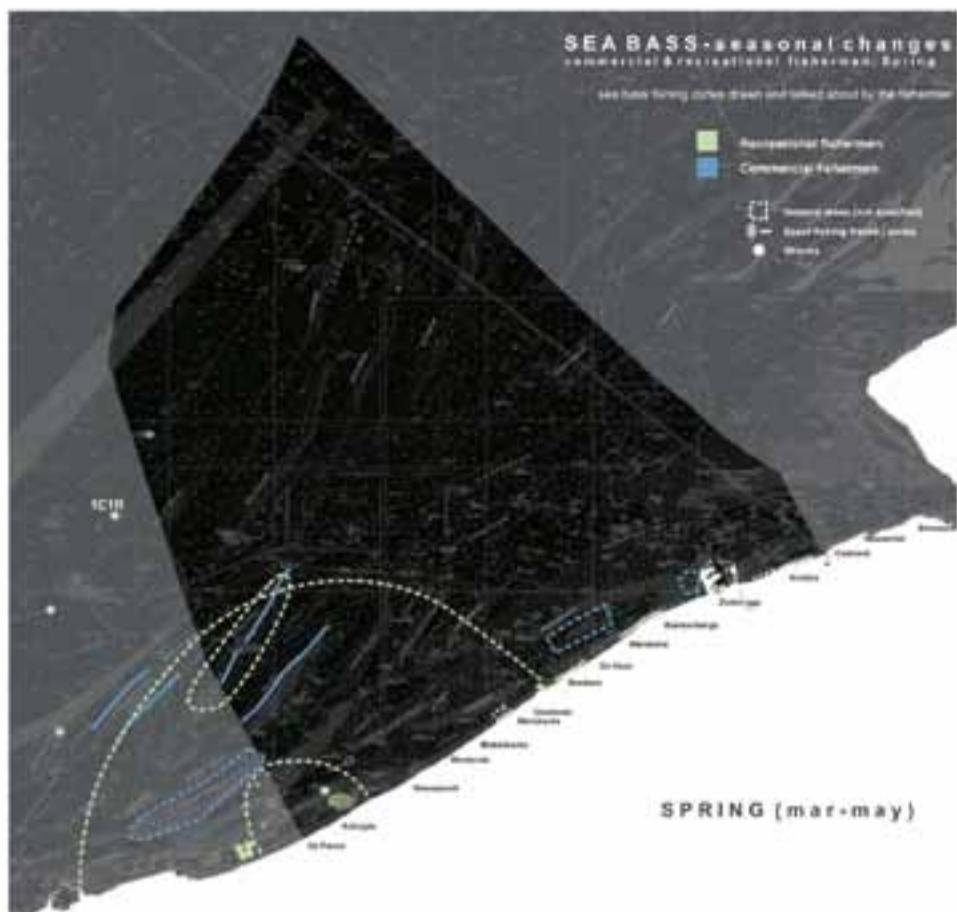
recreational & commercial fishermen 1950 - 2010



# SEA BASS - evolution

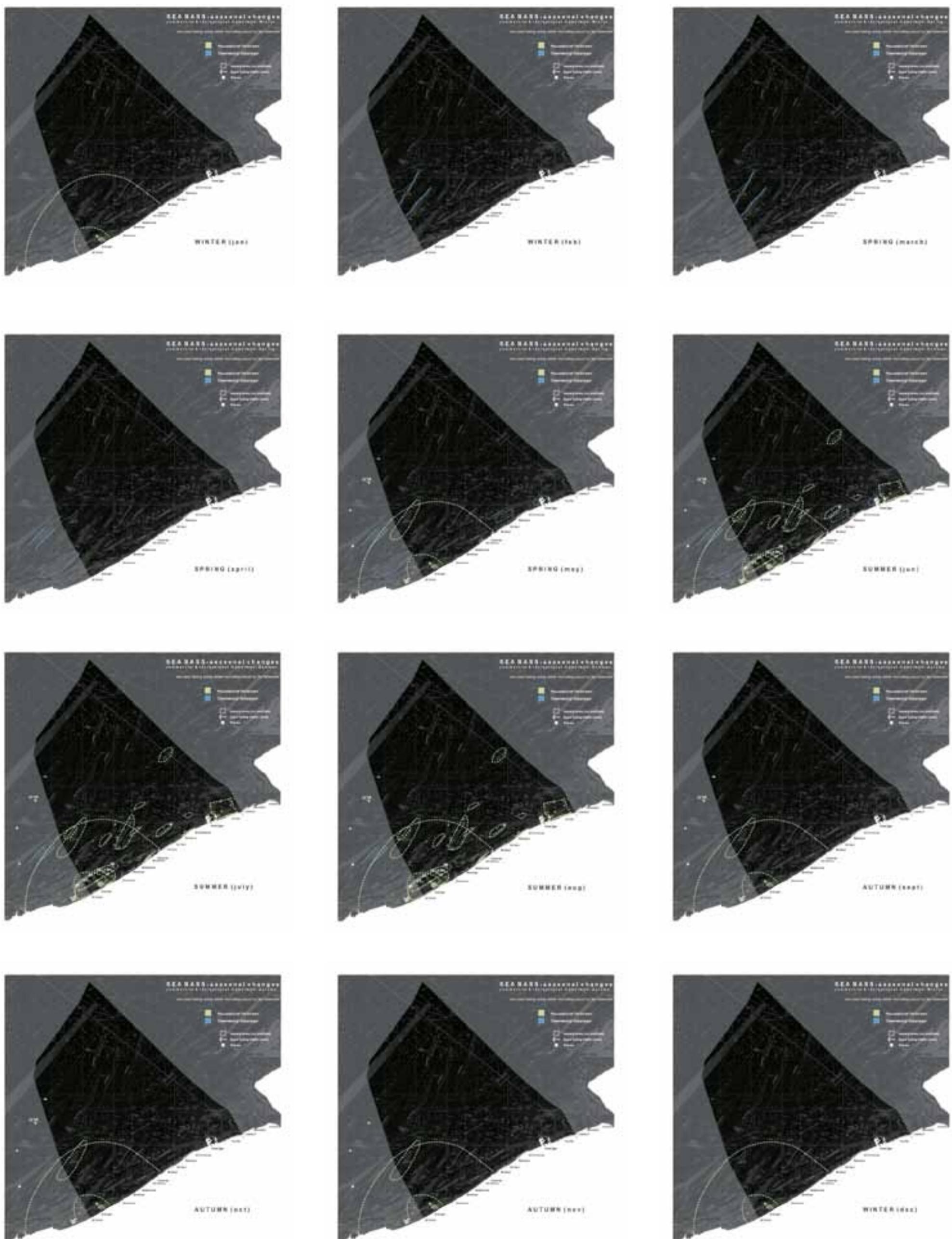
## commercial & recreational fishermen 1950 - 2010

### areas fished by 2 or more fishermen

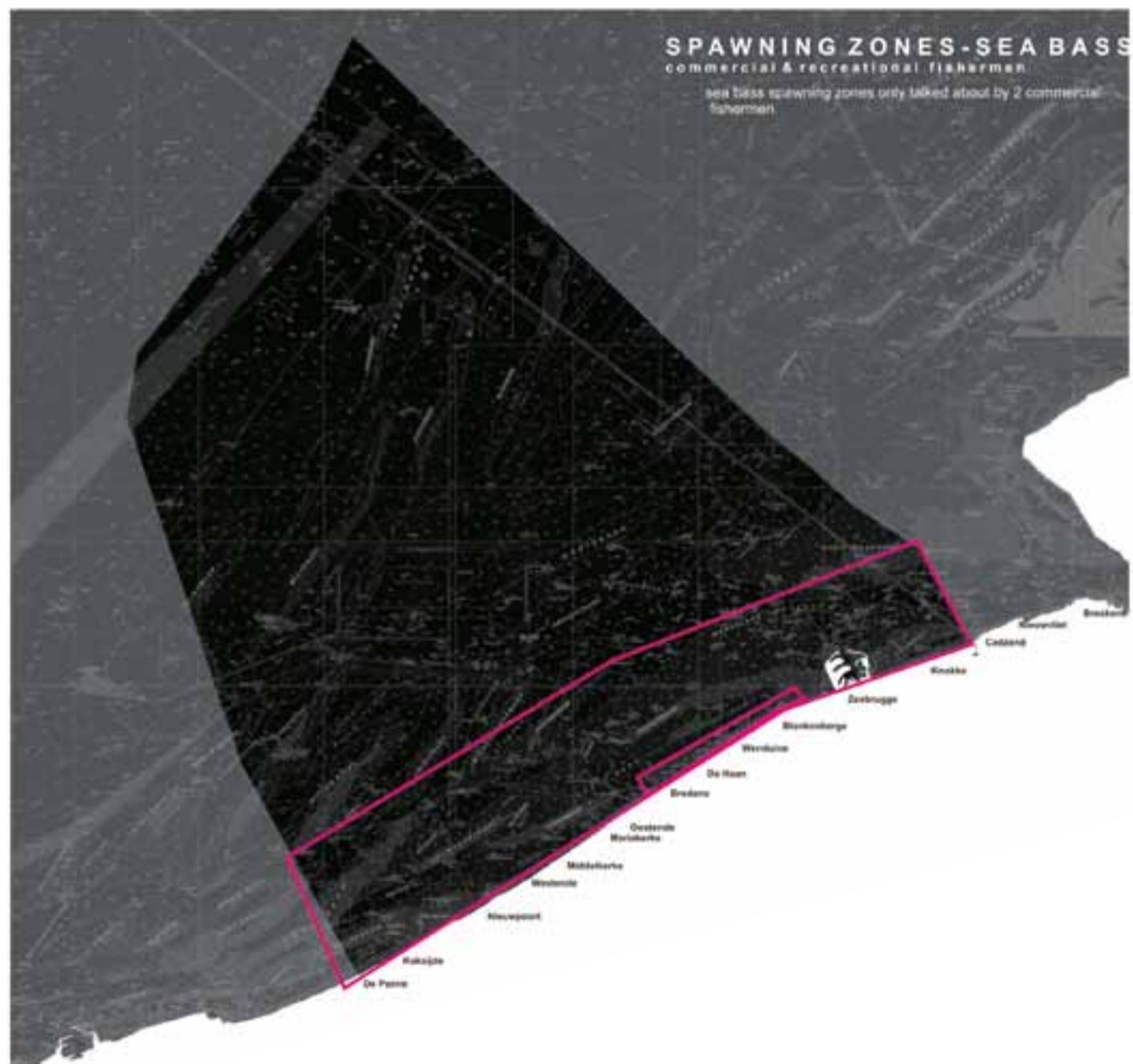
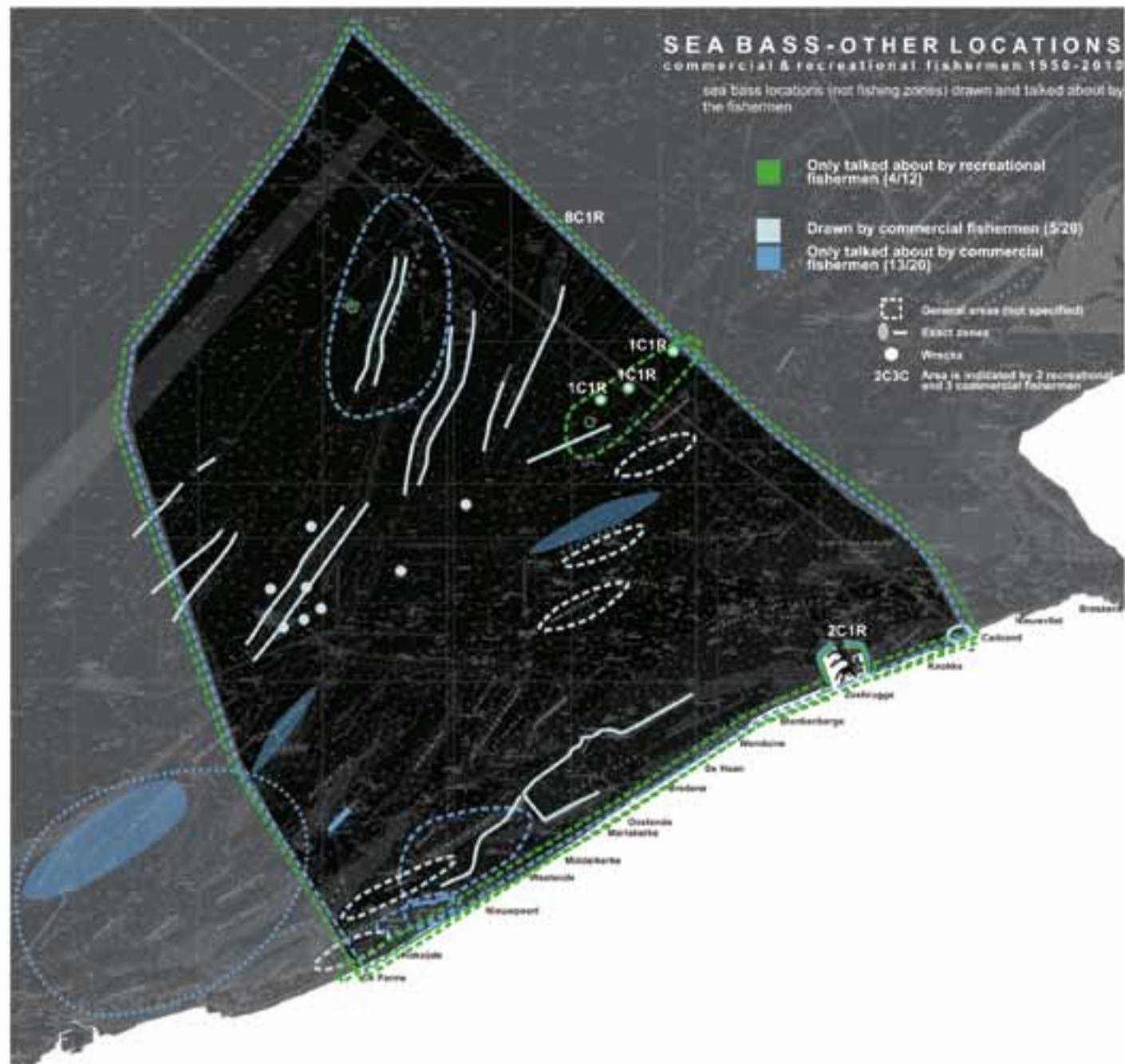


## SEA BASS - seasonal changes

commercial & recreational fishermen 1950 - 2010



**SEA BASS - seasonal changes  
january-december**  
commercial & recreational fishermen 1950 - 2010



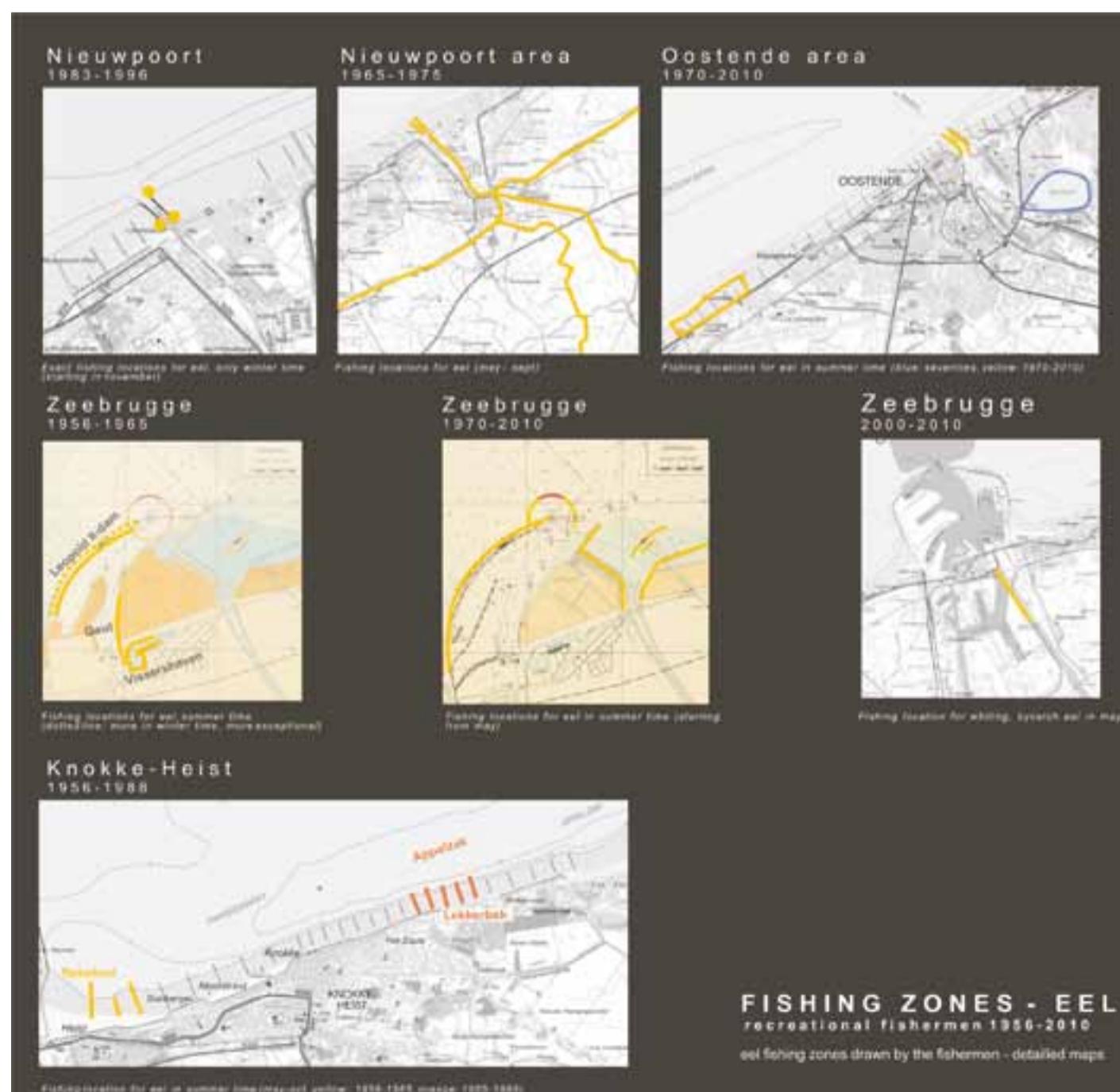
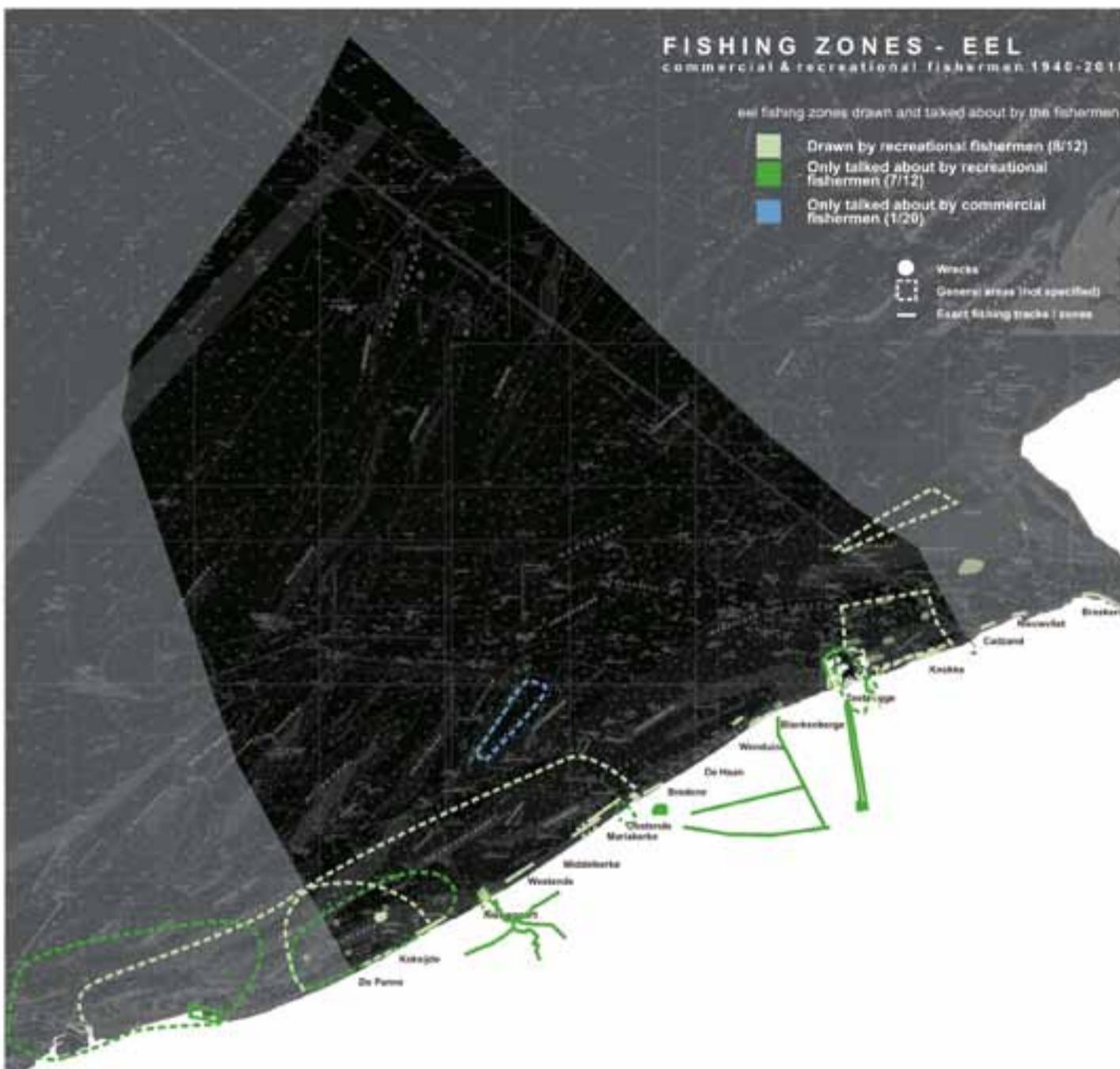
**SEA BASS - other locations  
& spawning zones**  
commercial & recreational fishermen 1950 - 2010



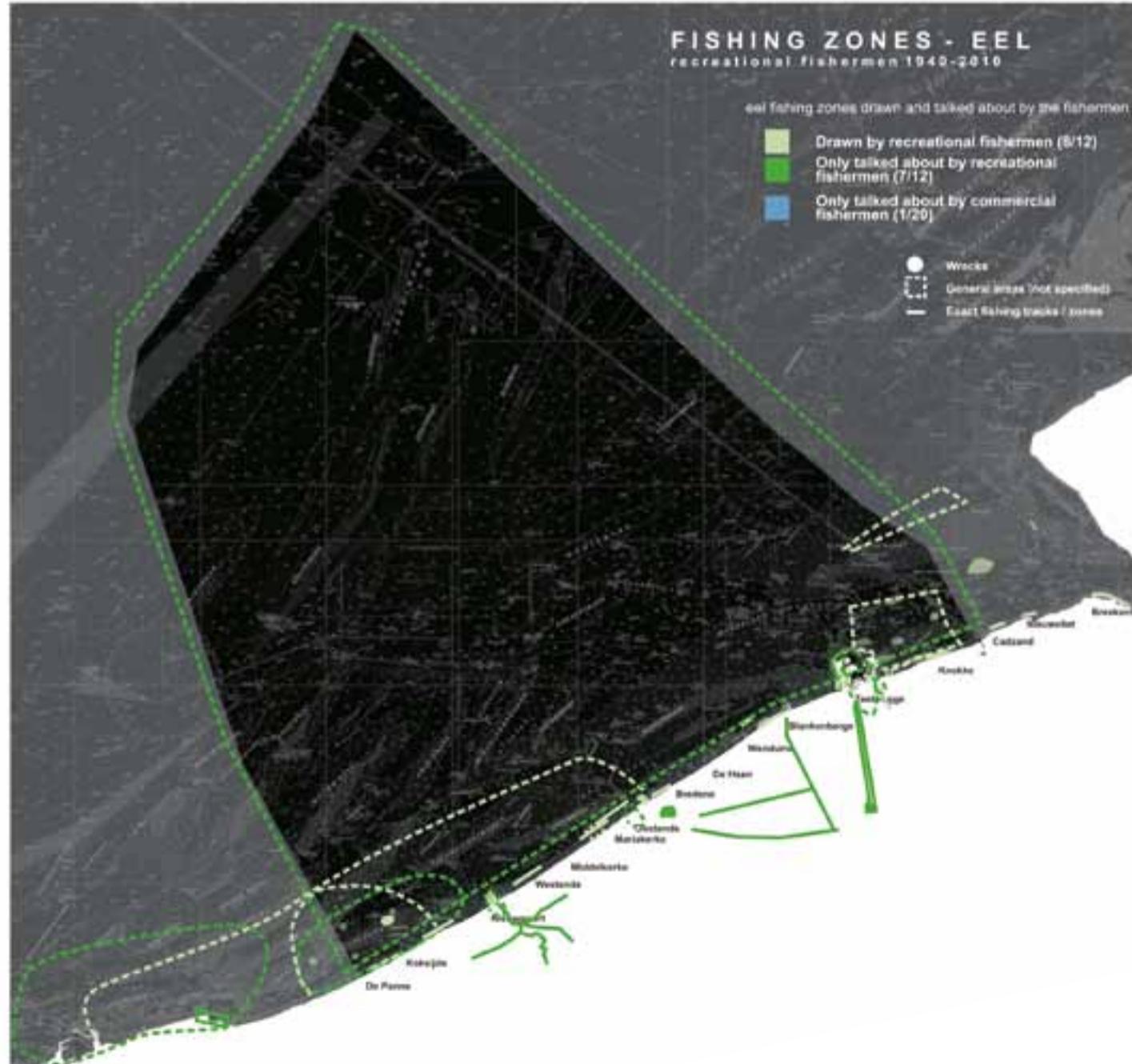
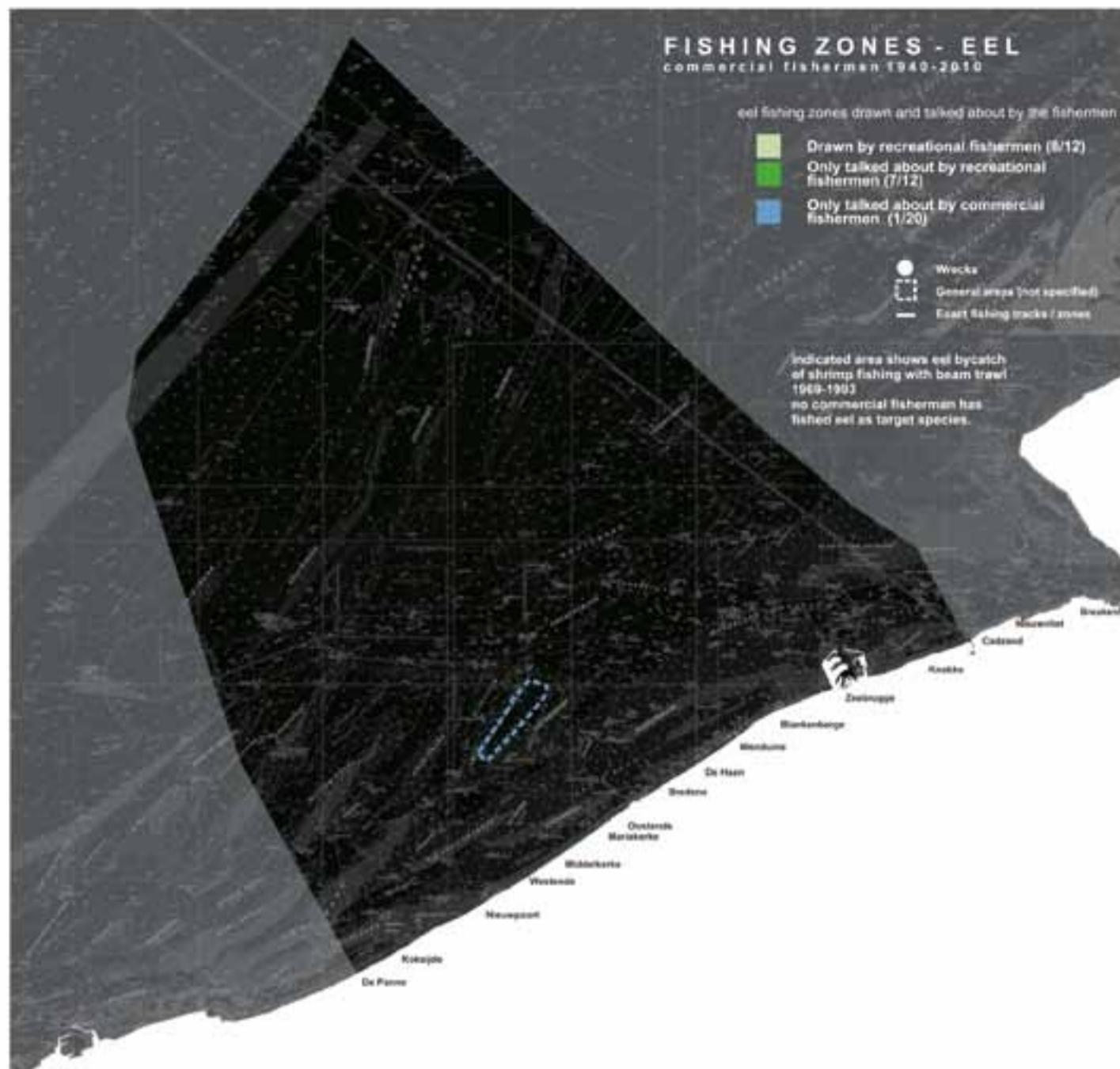


MAPS SERIES IV

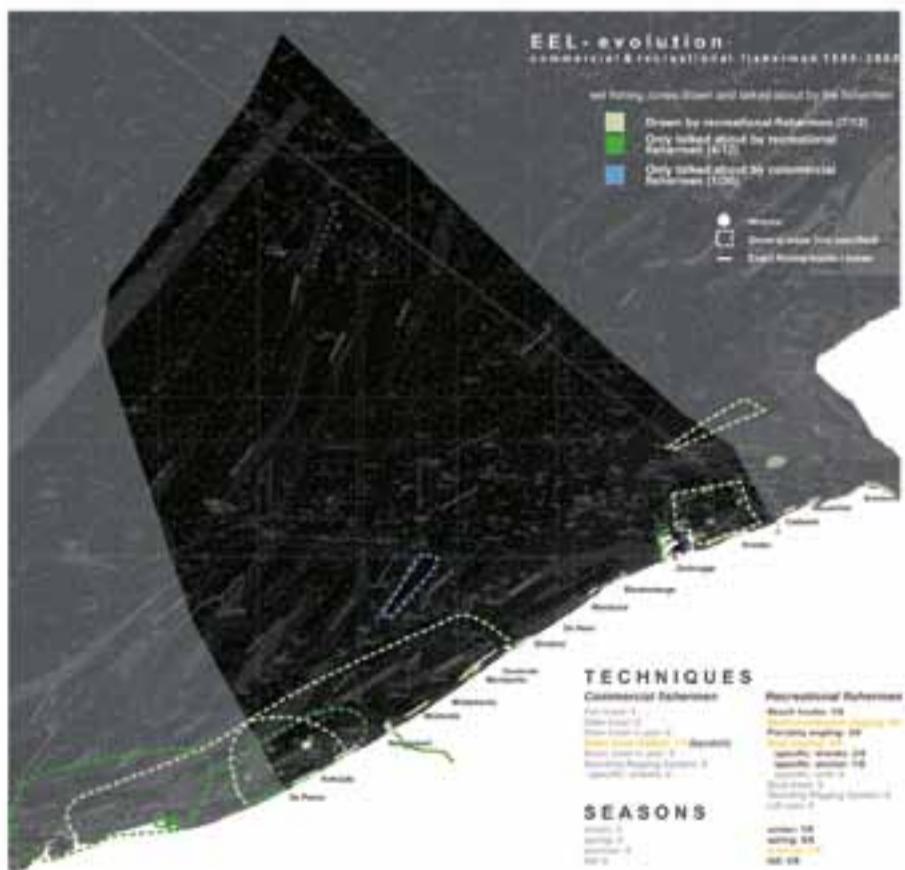
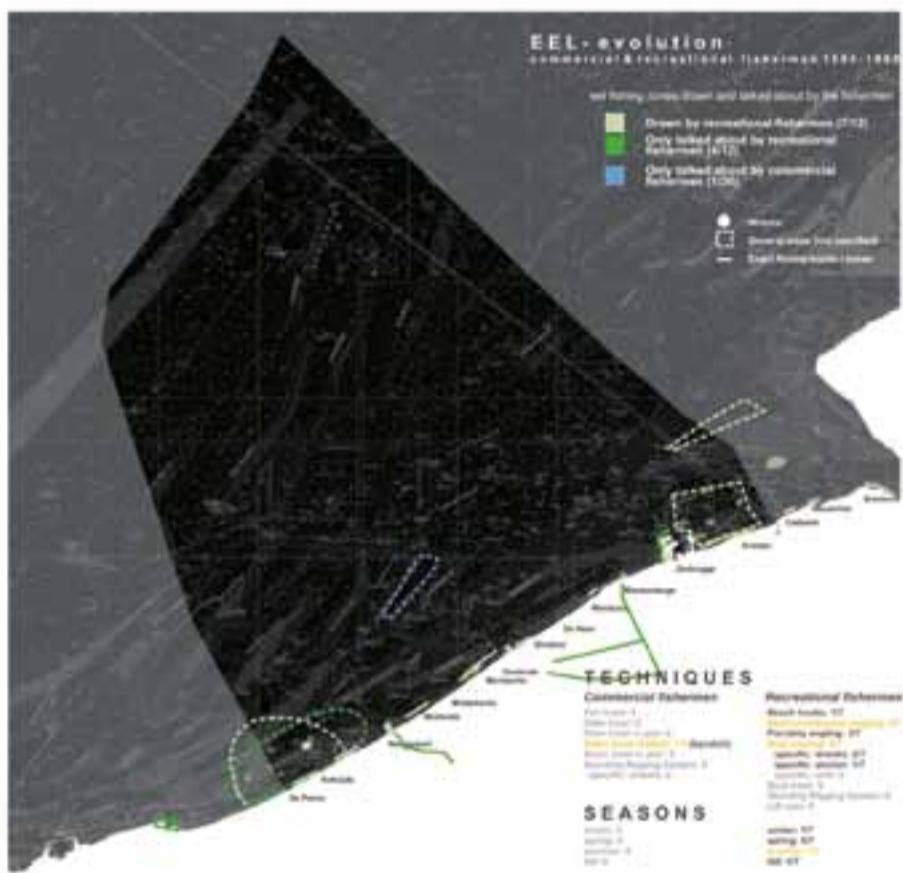
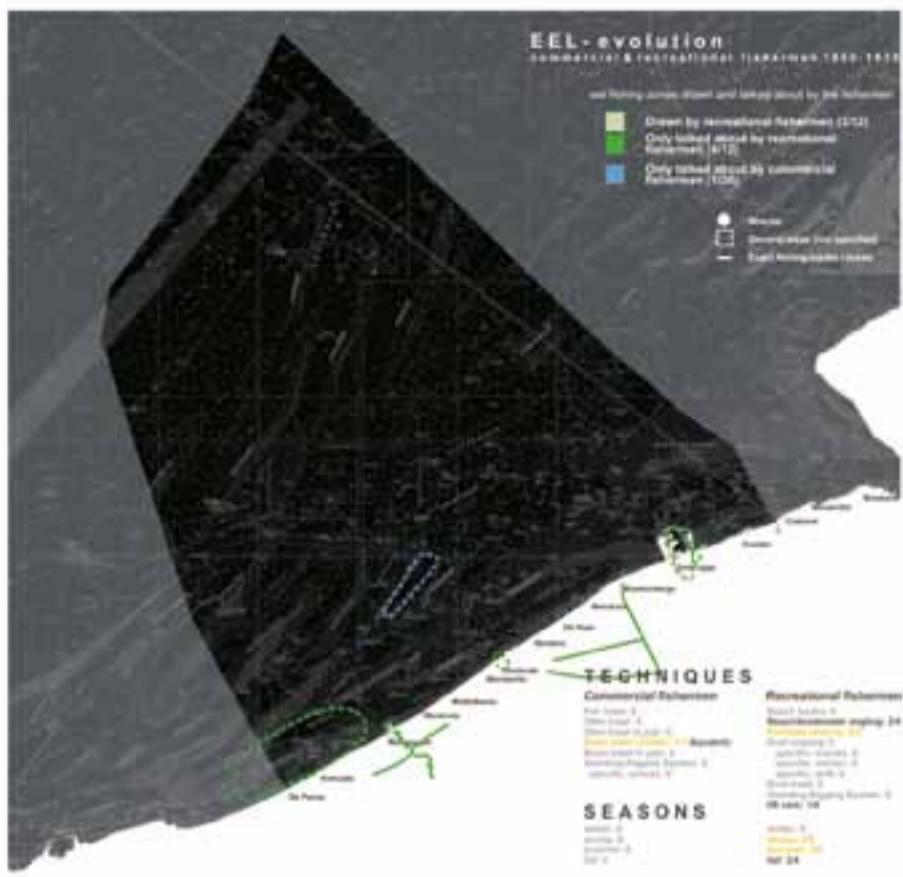
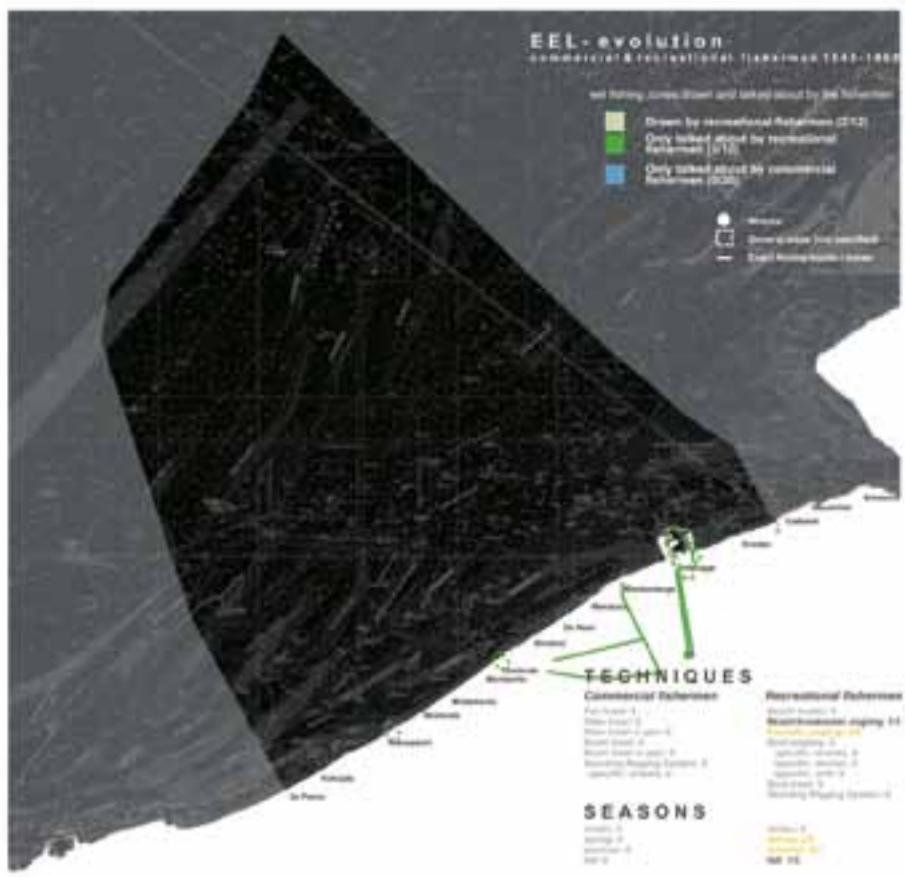
EEL



**EEL - fishing zones**  
commercial & recreational fishermen 1940 - 2010

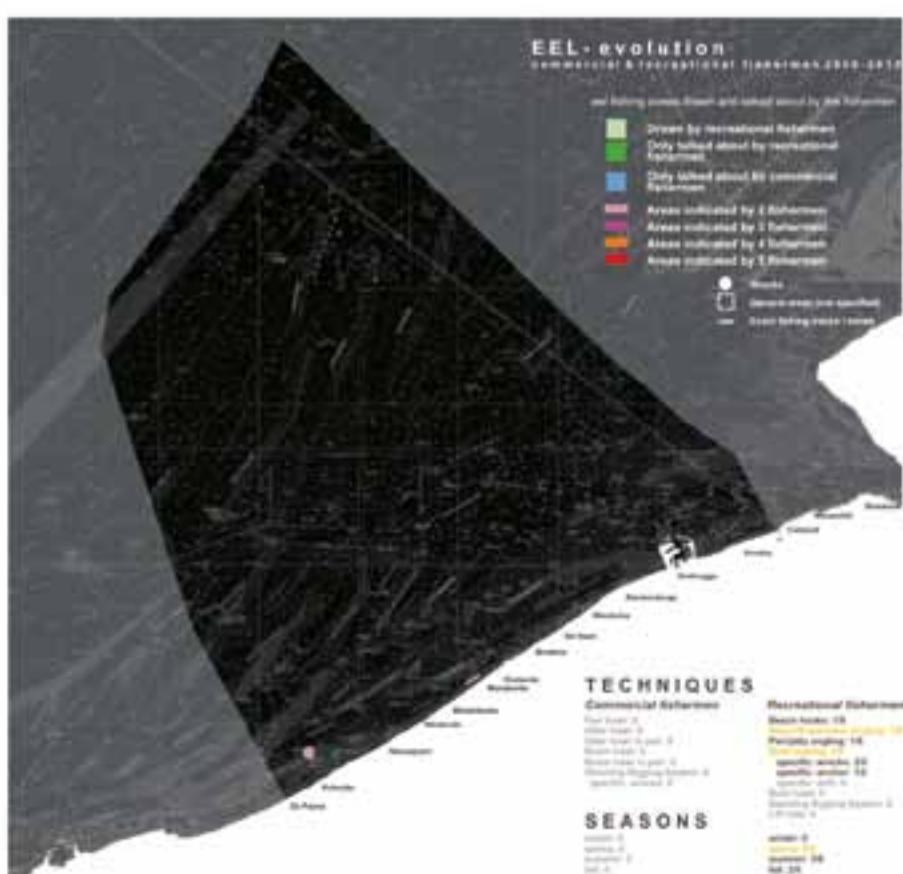
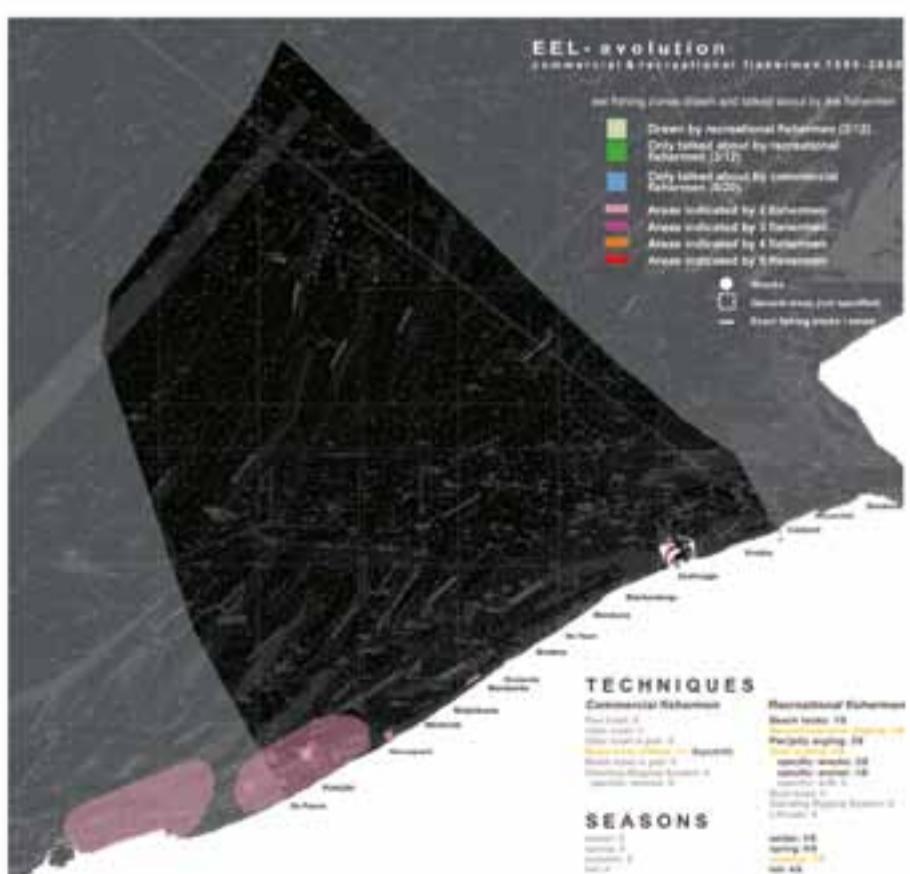
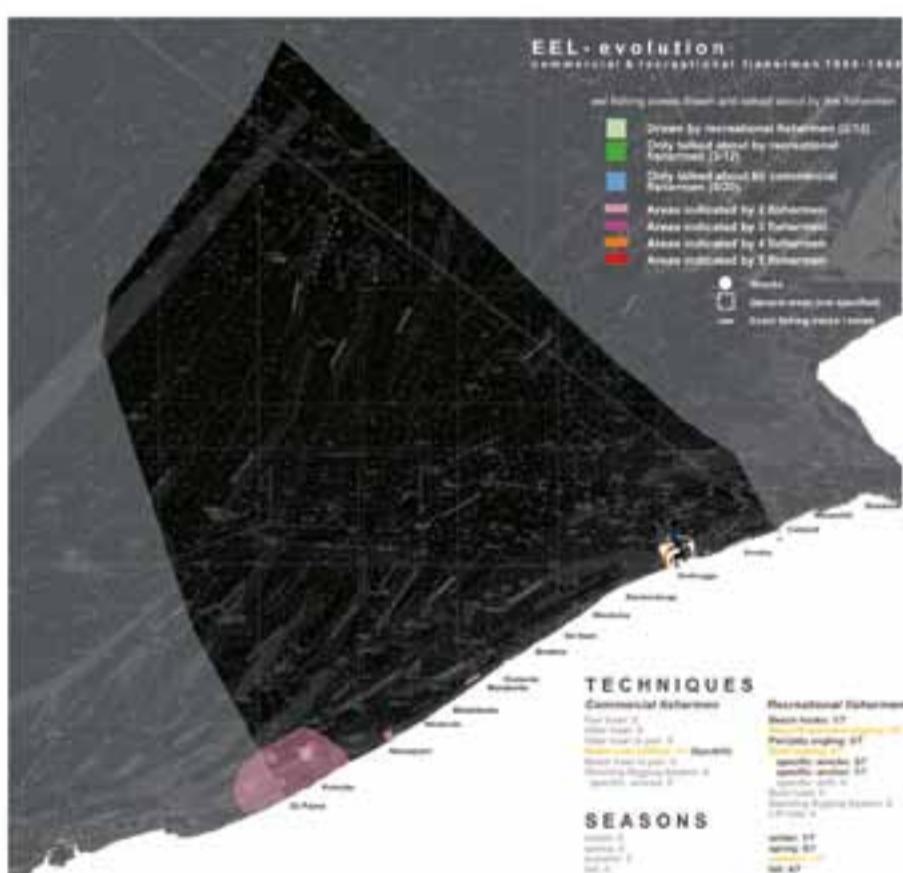
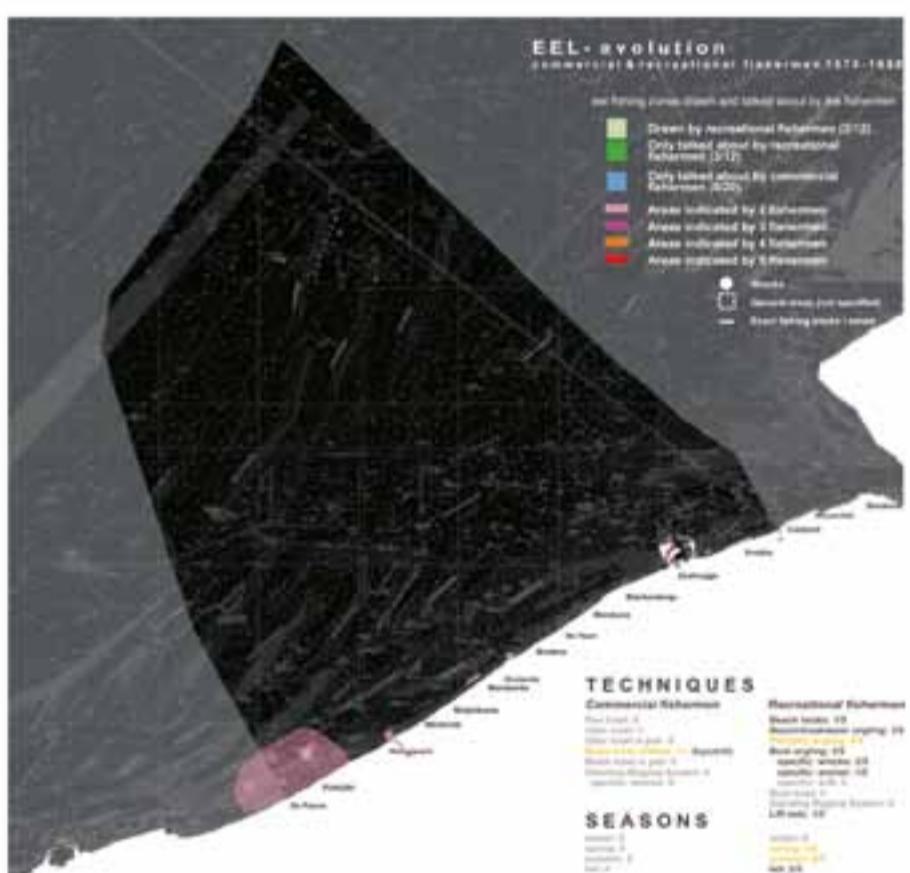
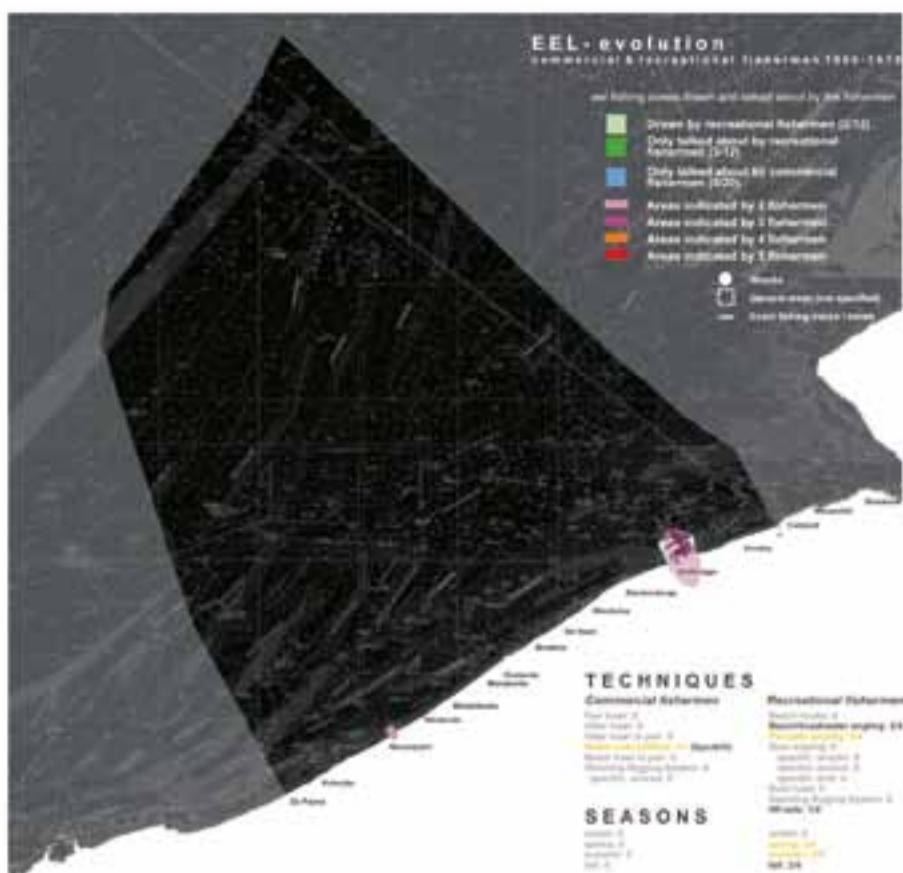
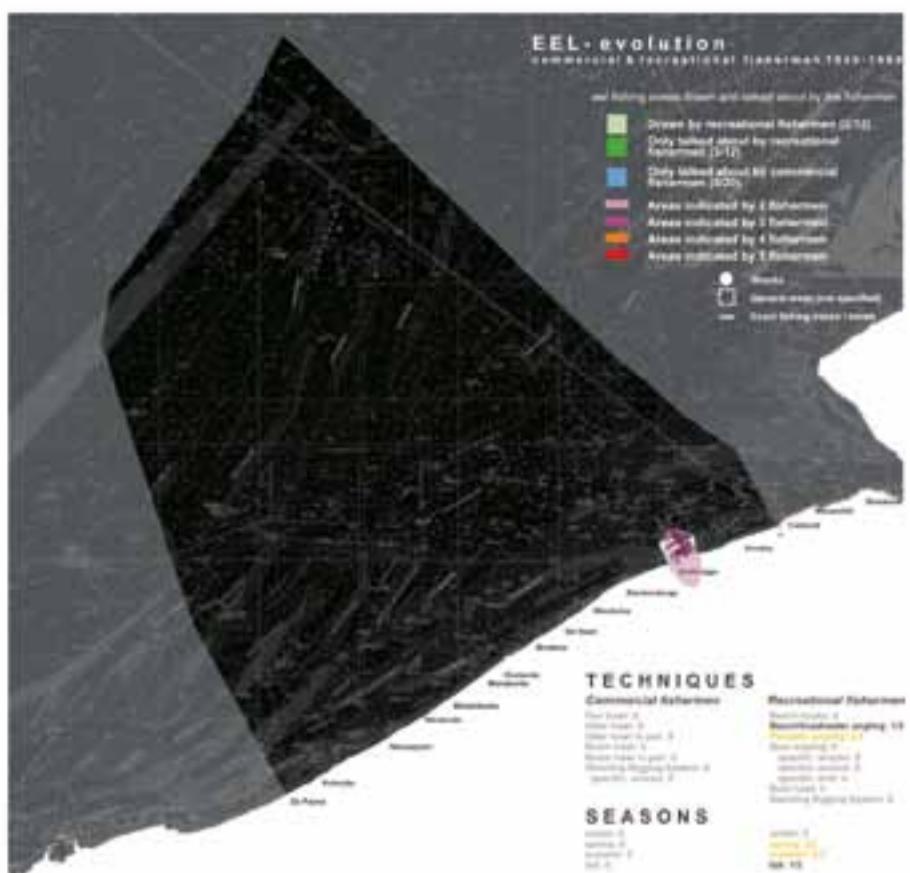


**EEL - fishing zones**  
commercial & recreational fishermen 1940 - 2010

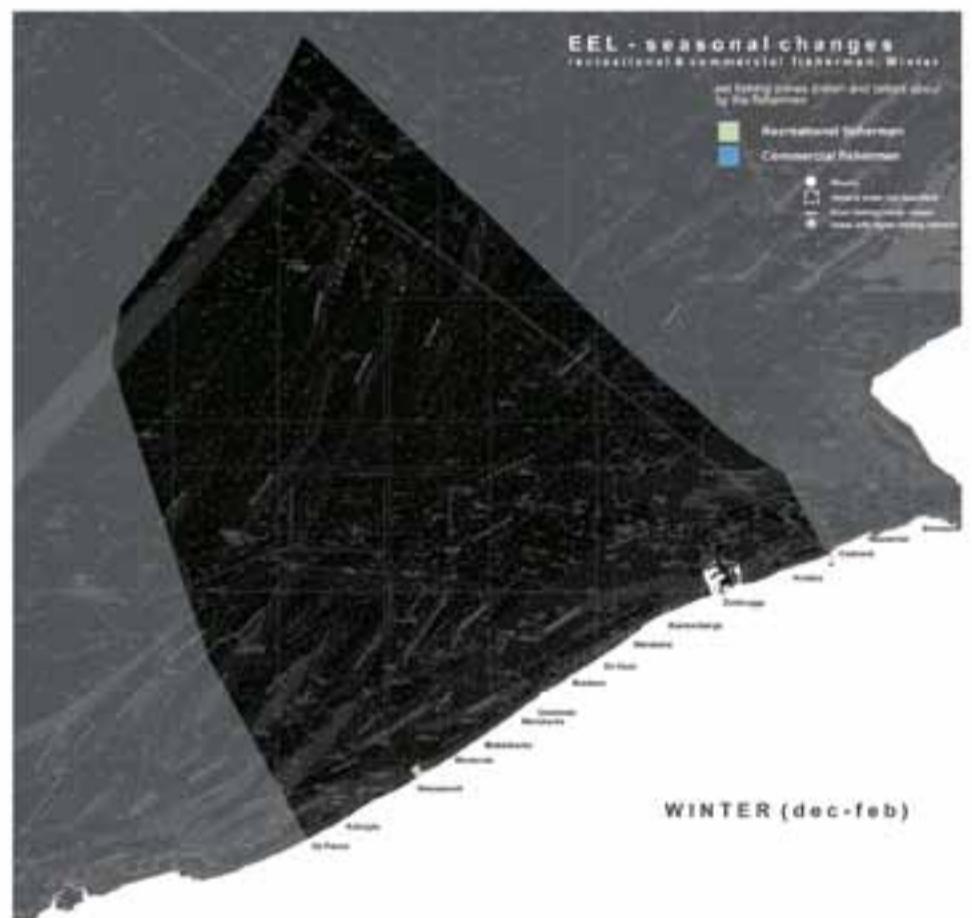
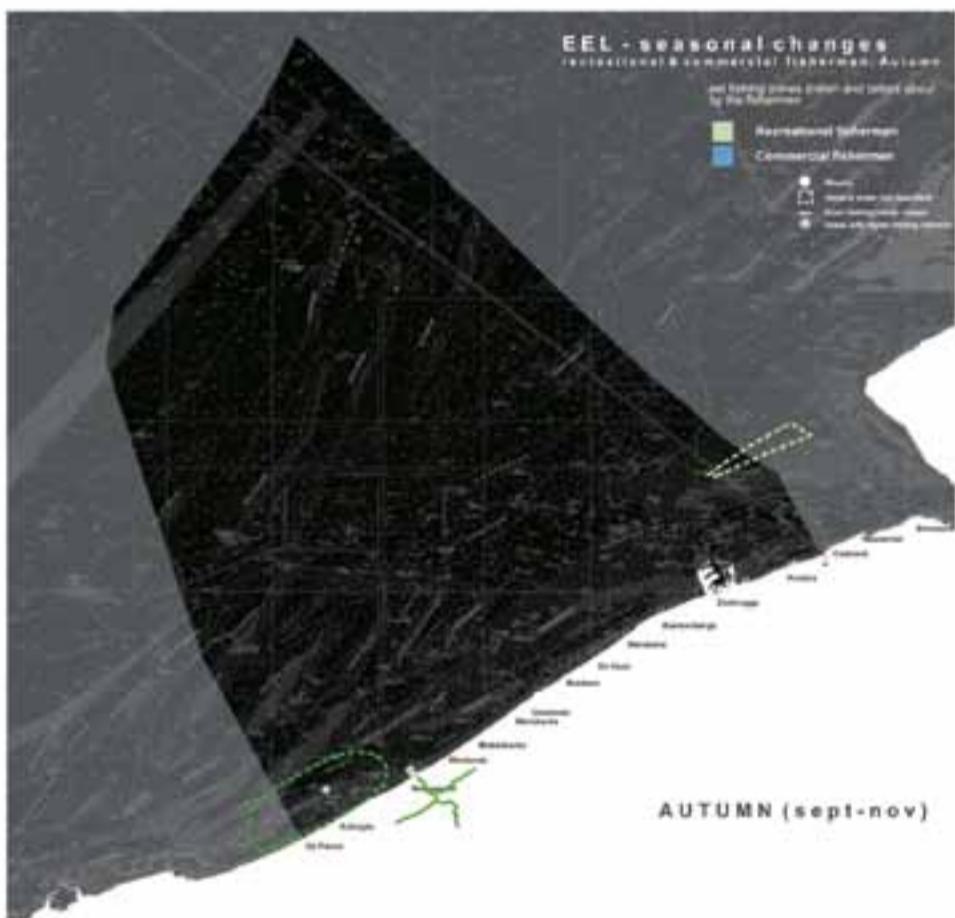
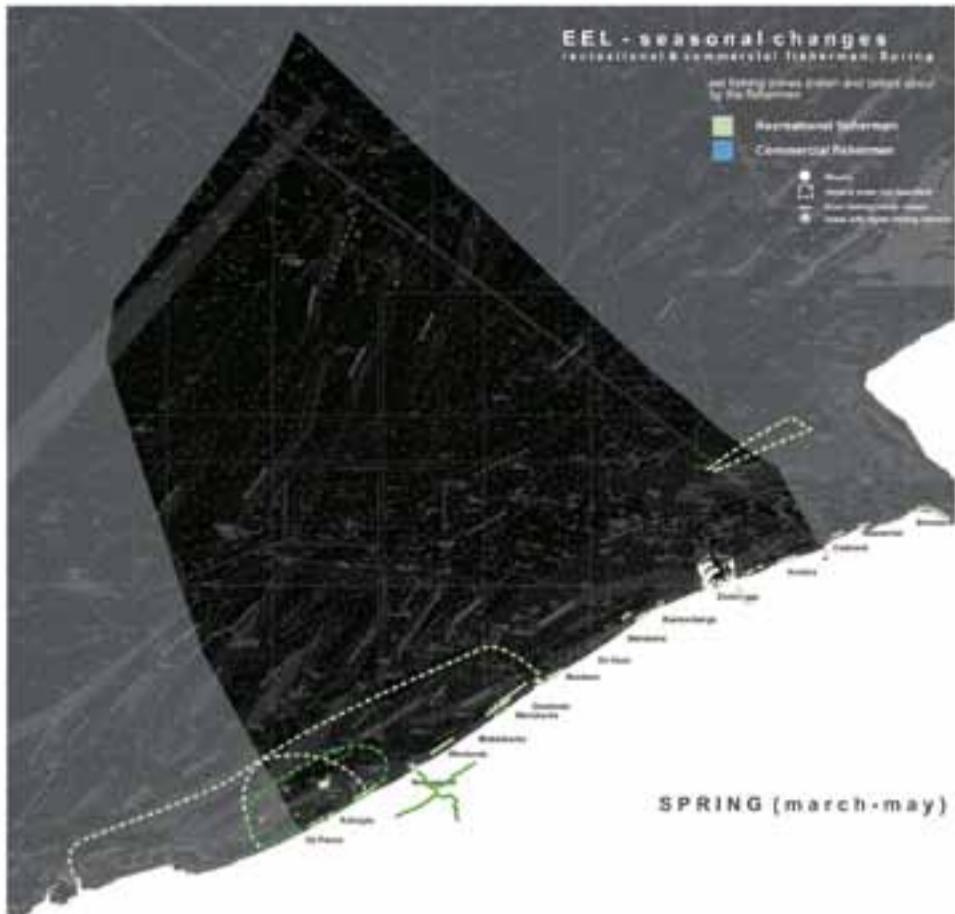


# EEL - evolution

## recreational & commercial fishermen 1940 - 2010

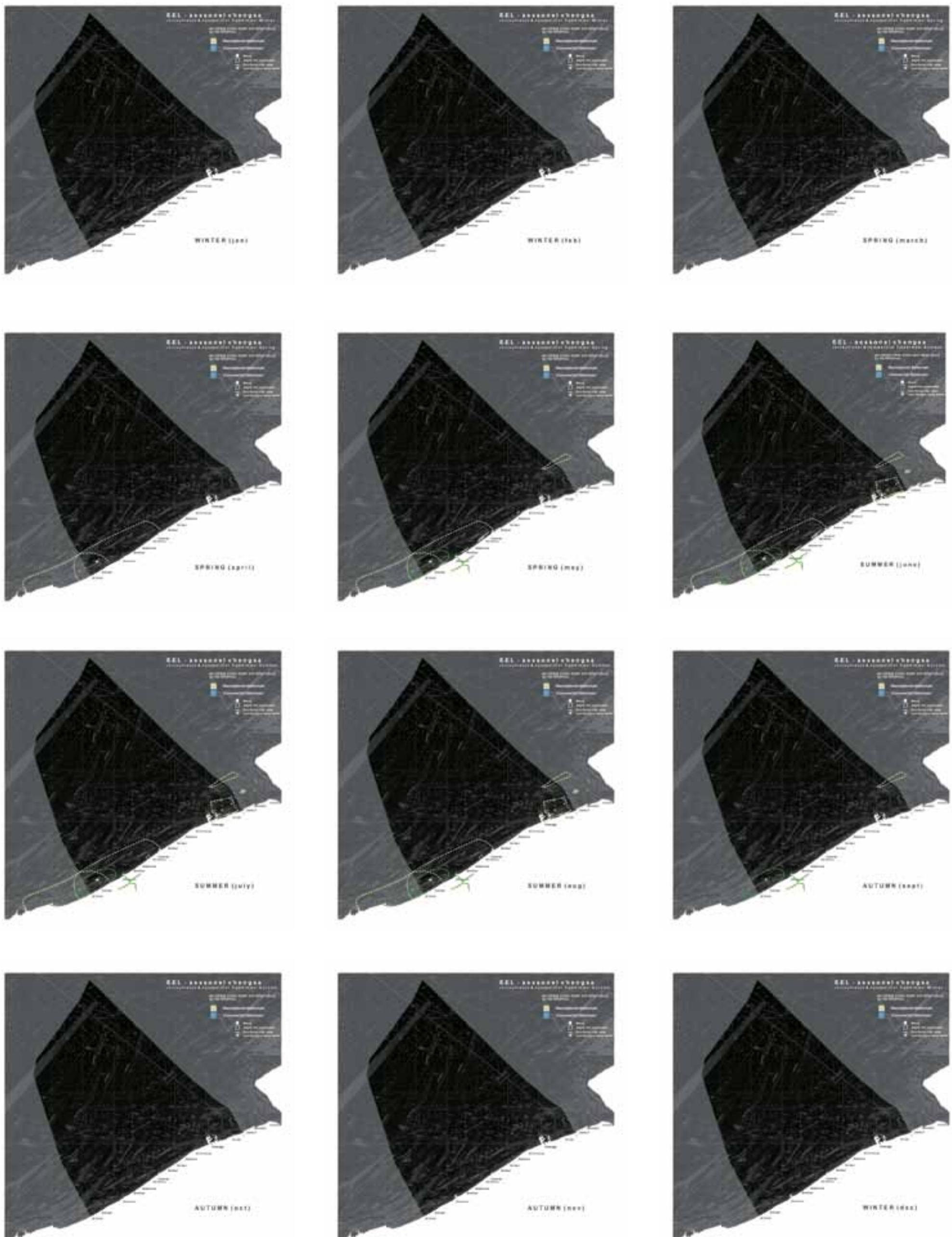


**EEL - evolution**  
commercial & recreational fishermen 1940 - 2010  
areas fished by 2 or more fishermen



# EEL - seasonal changes

## commercial & recreational fishermen 1940 - 2010

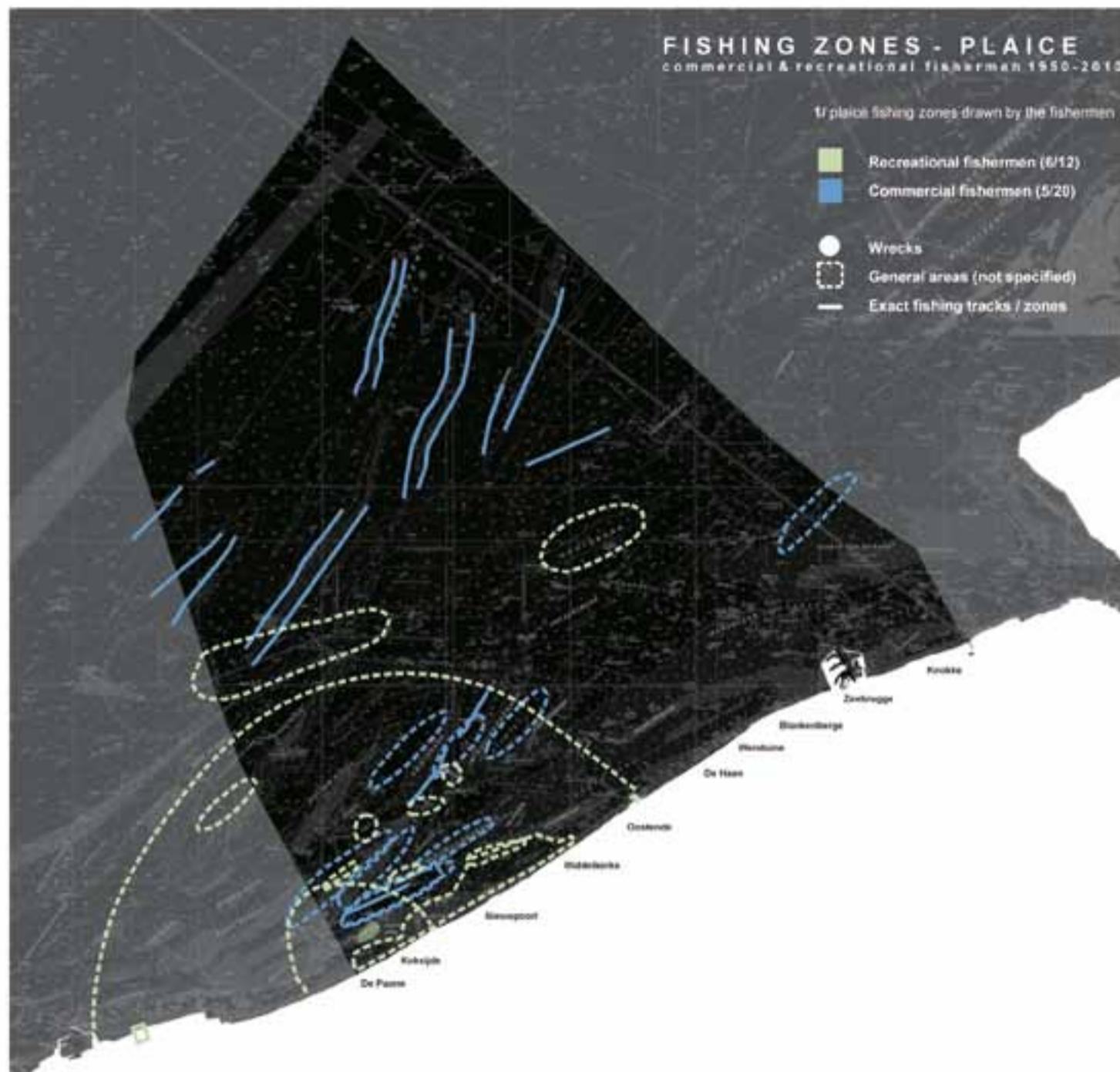


**EEL - seasonal changes  
january-december**  
commercial & recreational fishermen 1940 - 2010

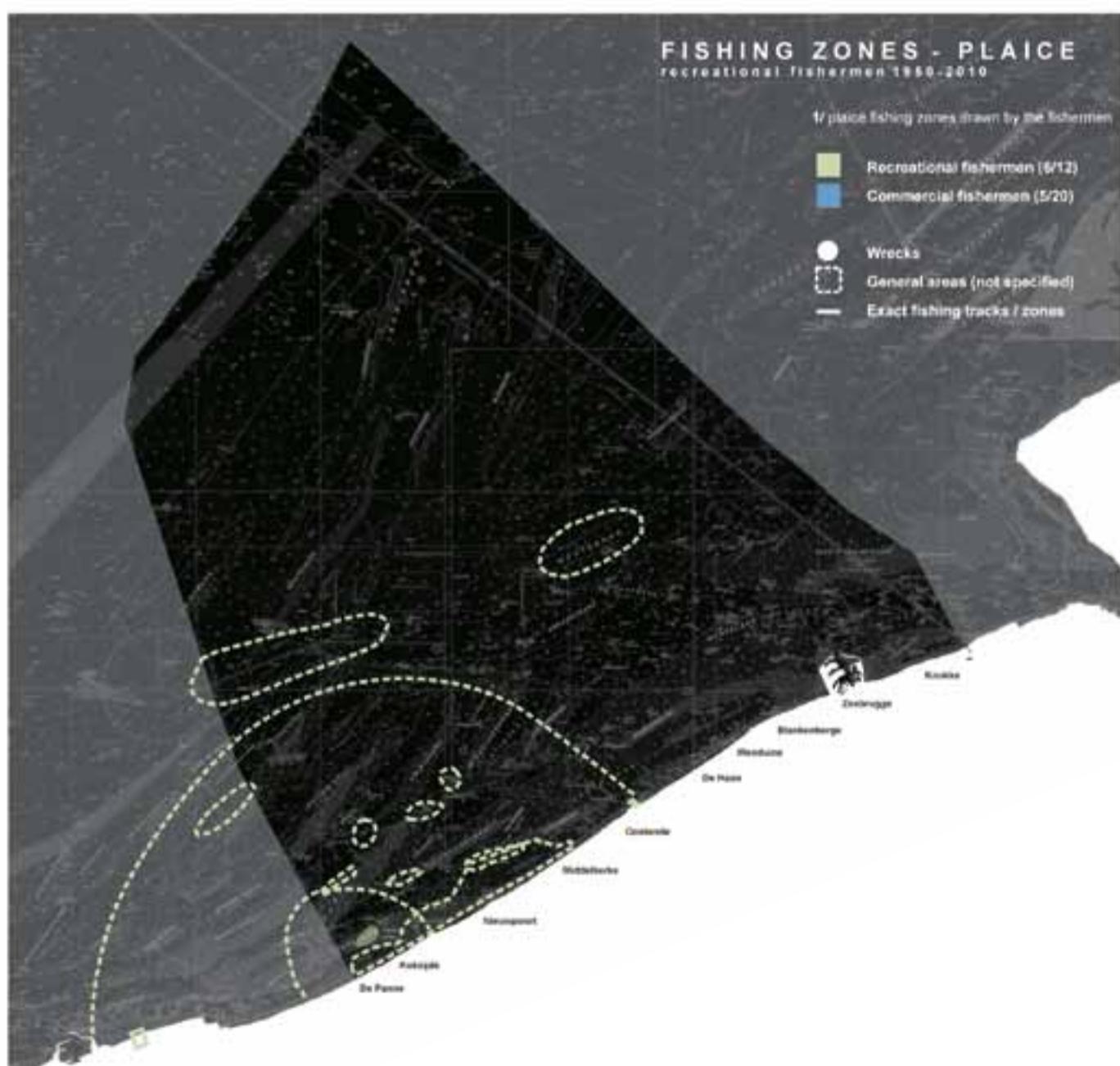
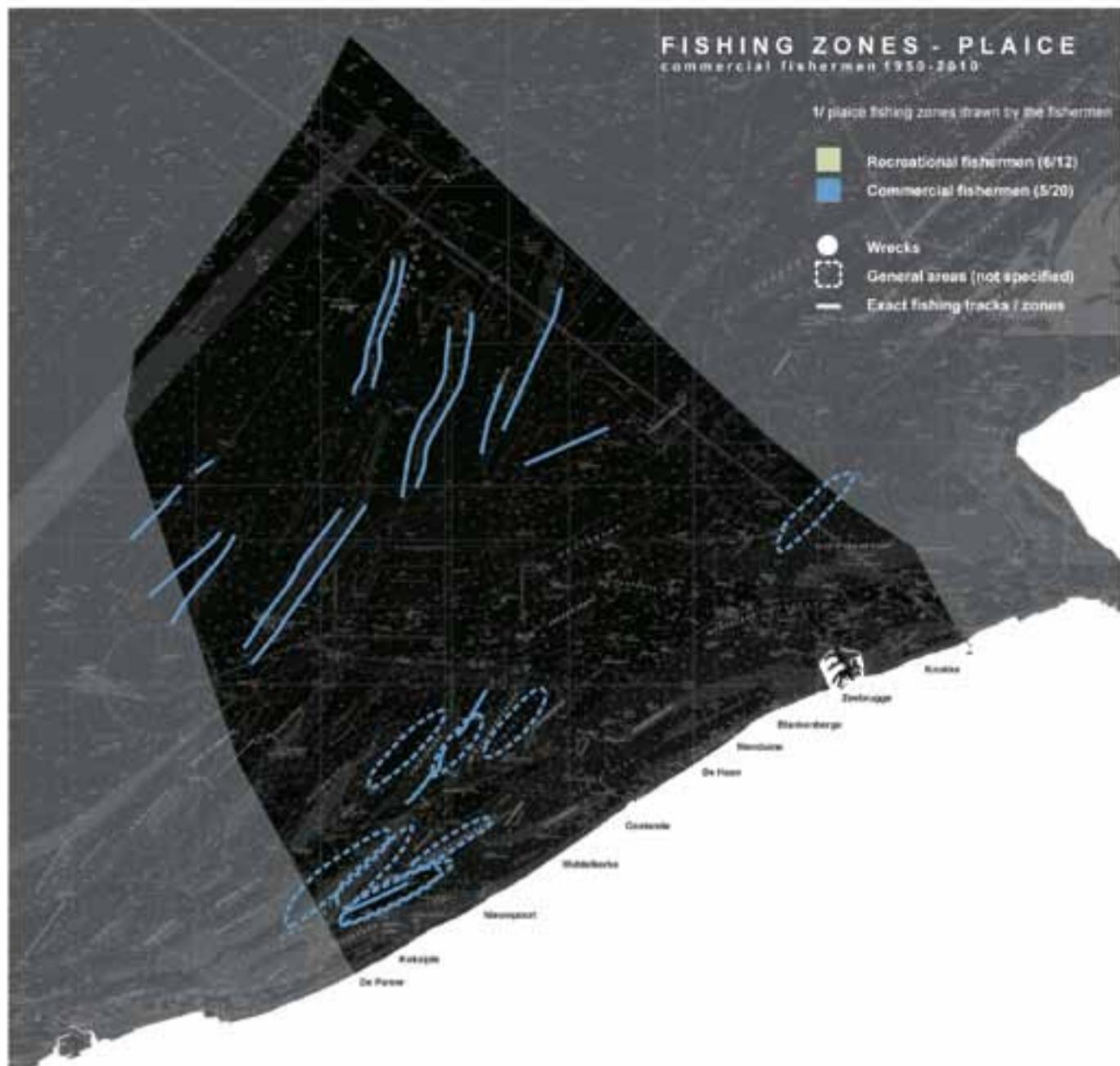


MAPS SERIES V

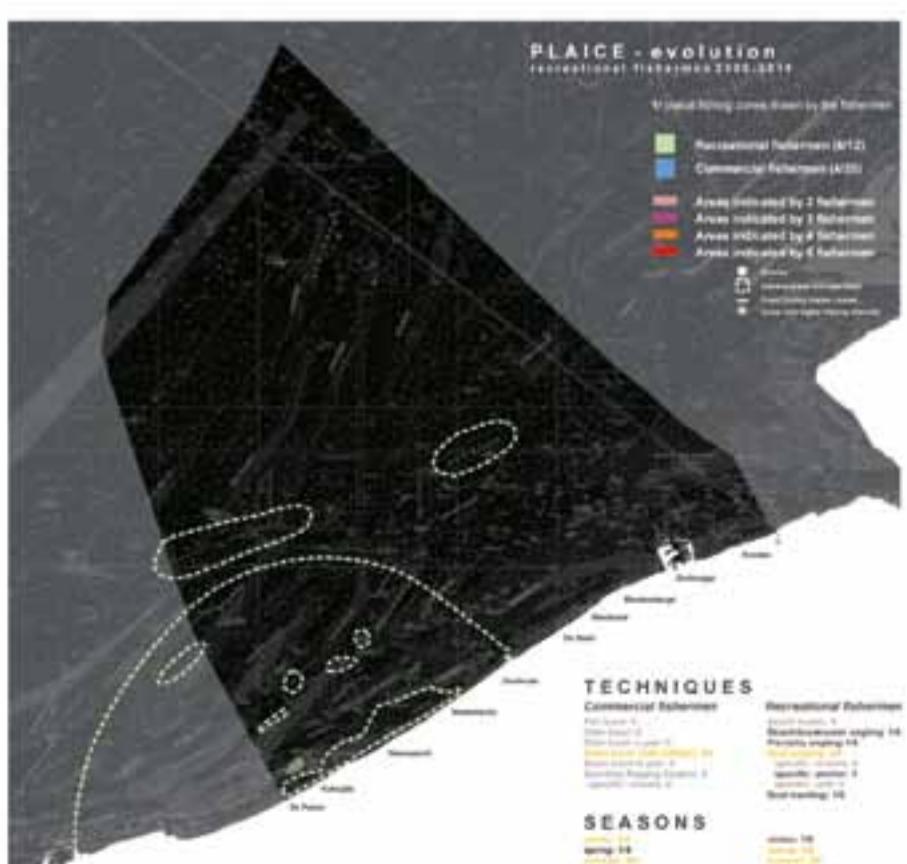
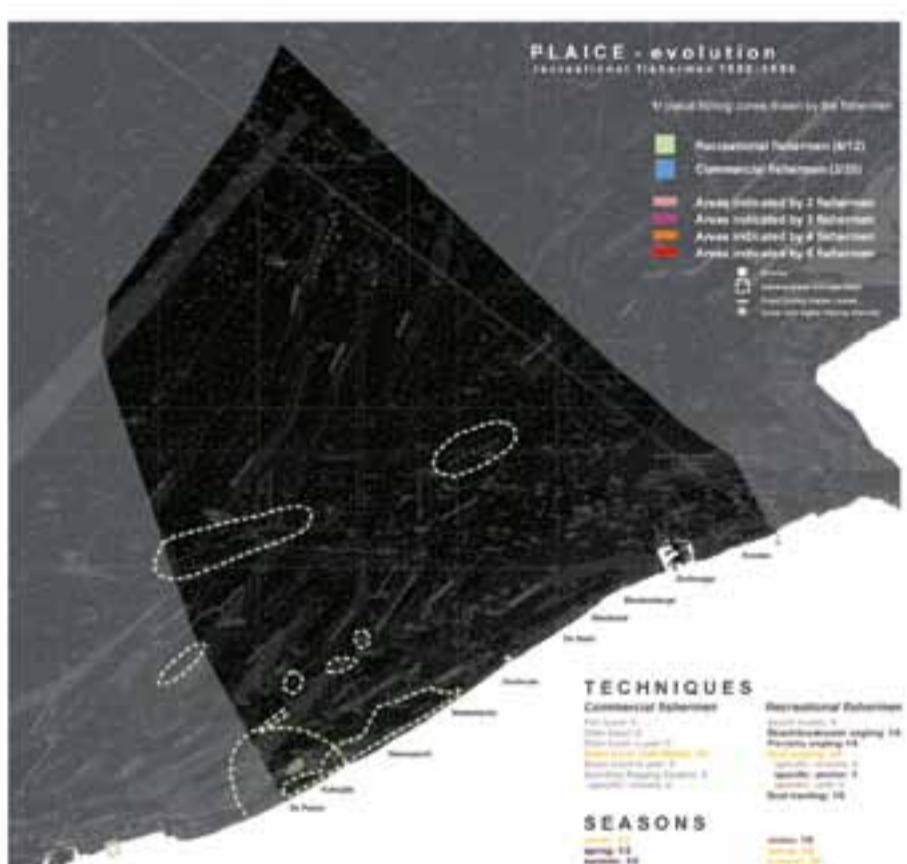
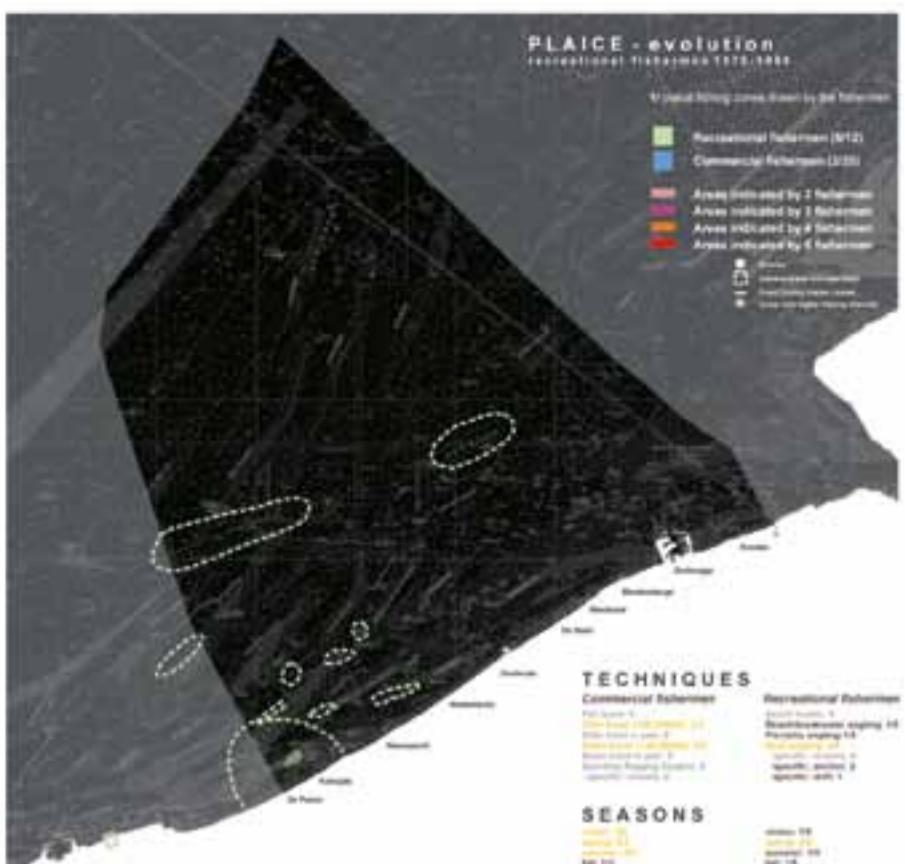
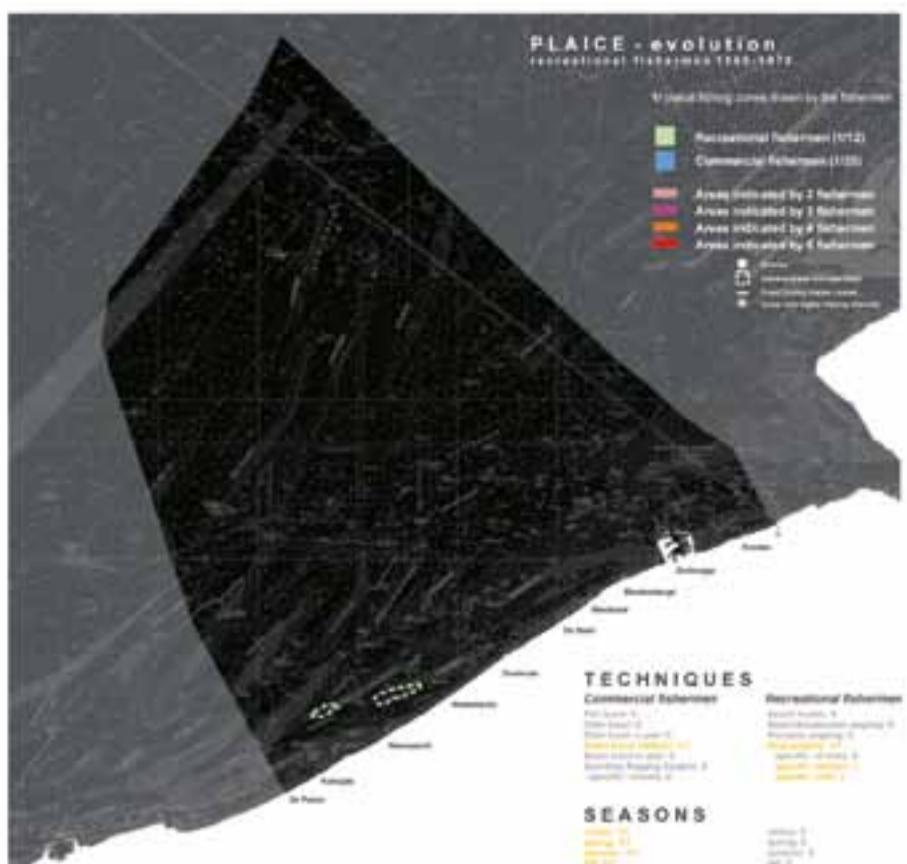
**PLAICE**



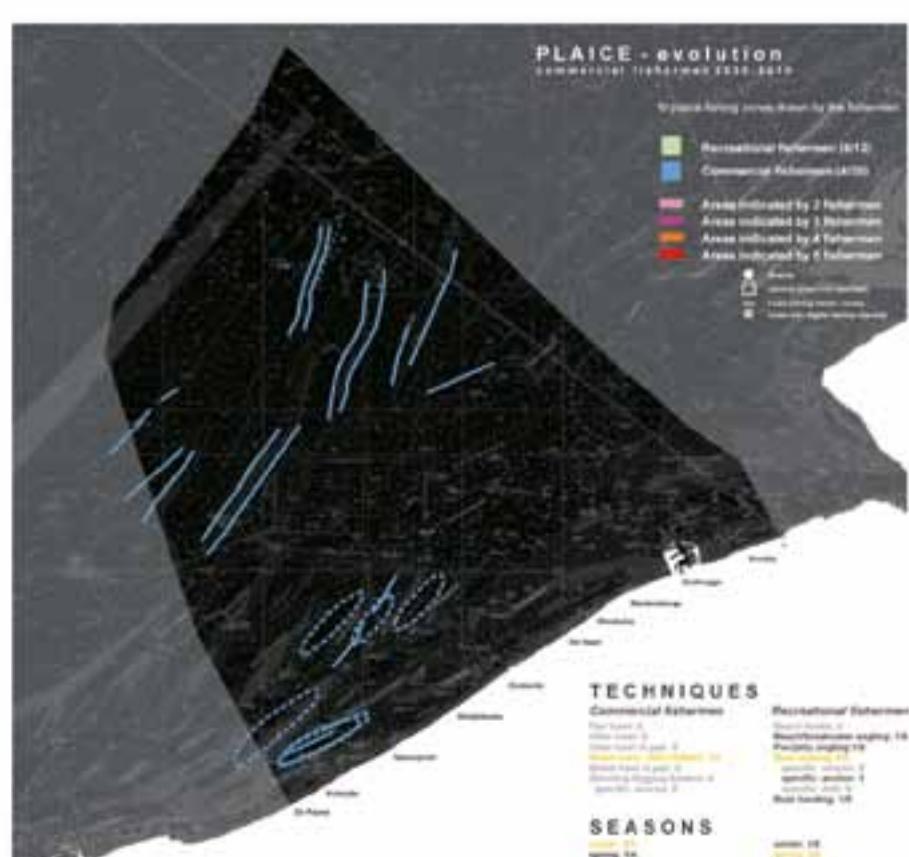
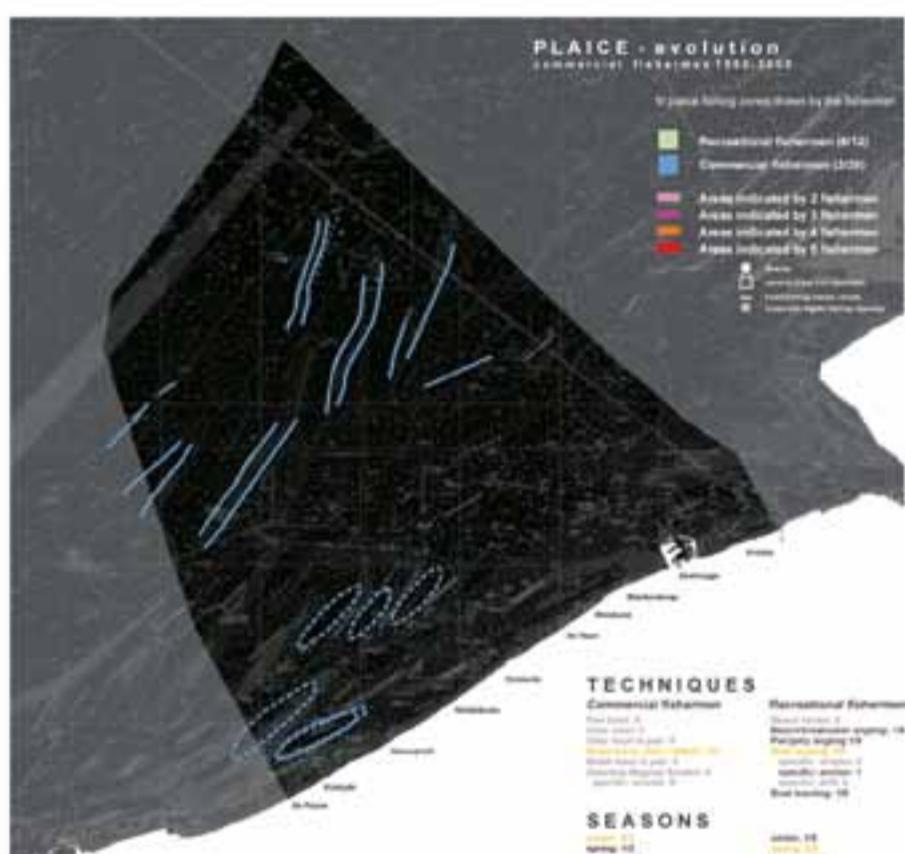
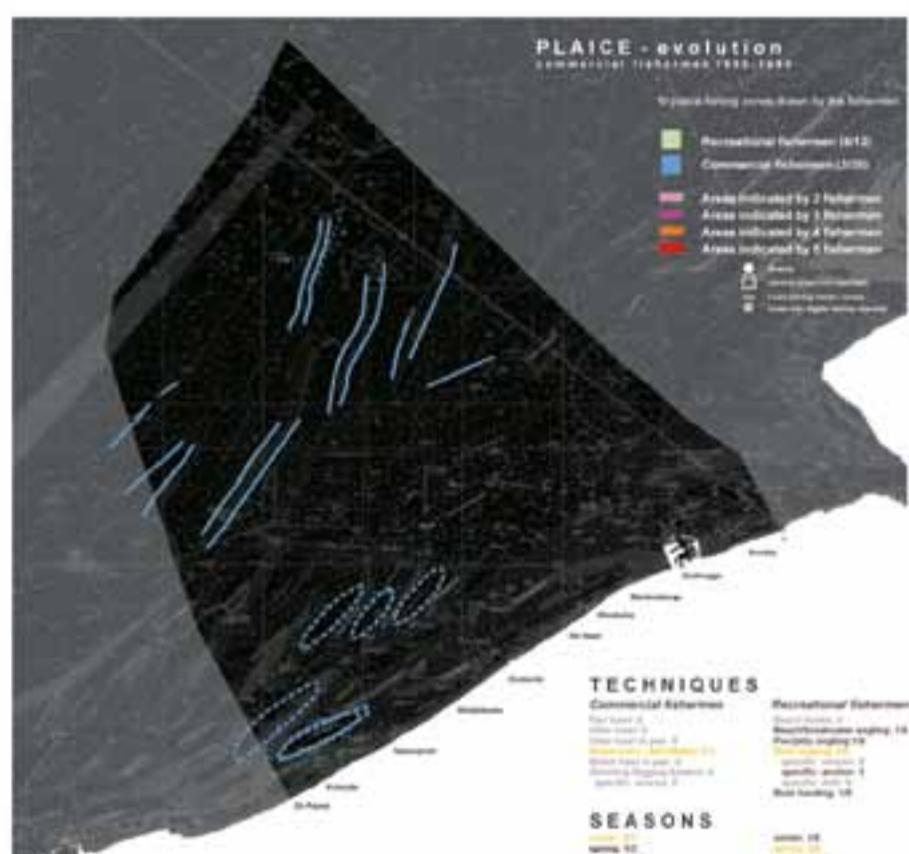
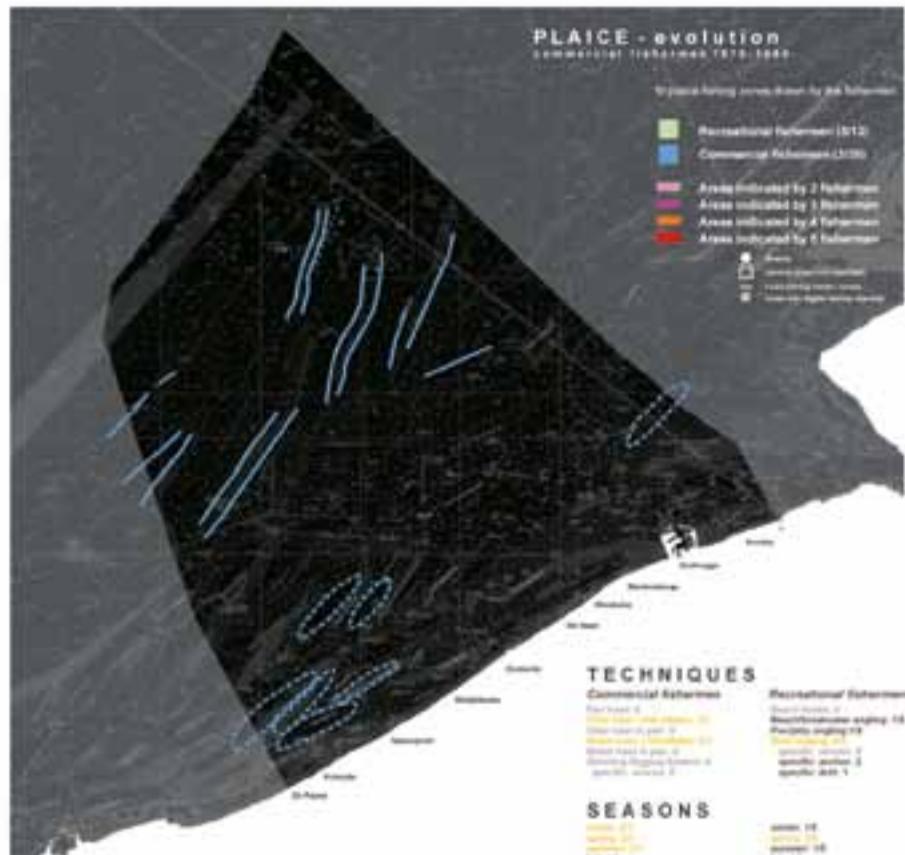
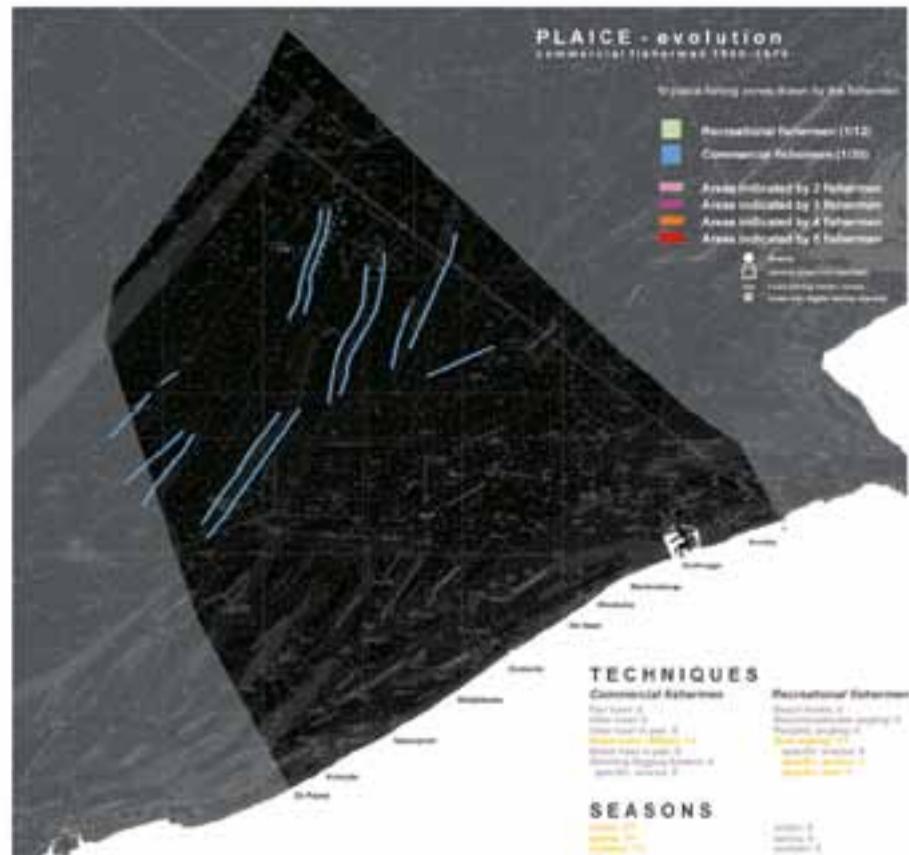
**PLAICE - fishing zones**  
commercial & recreational fishermen 1950 - 2010



**PLAICE - fishing zones**  
commercial & recreational fishermen 1950 - 2010

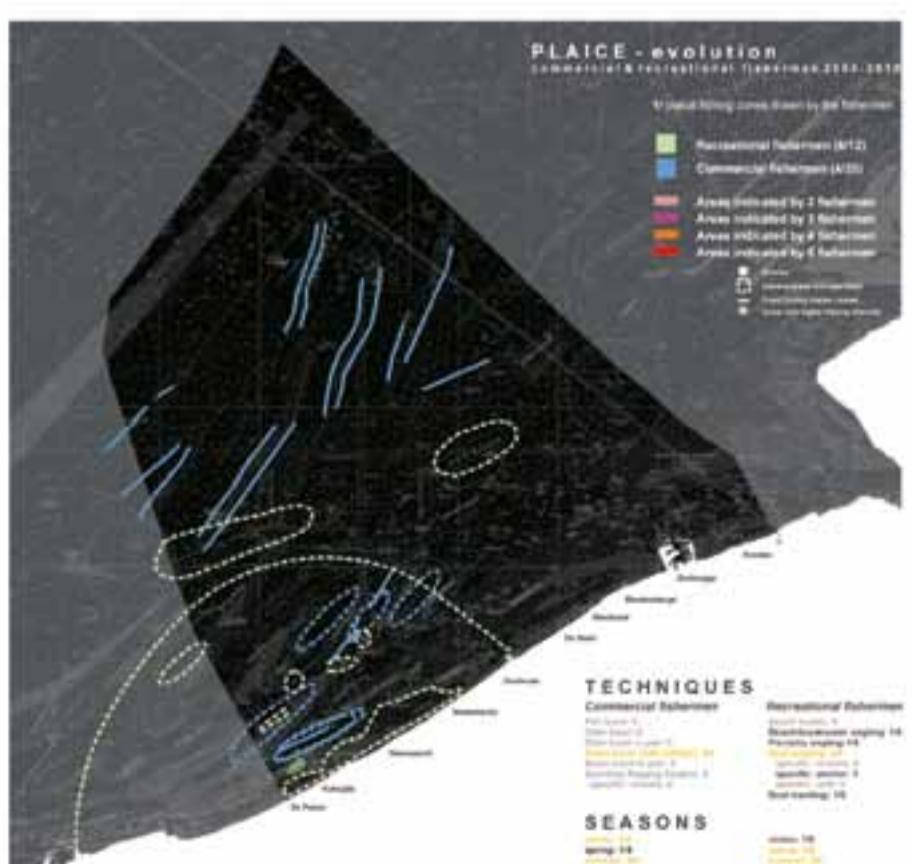
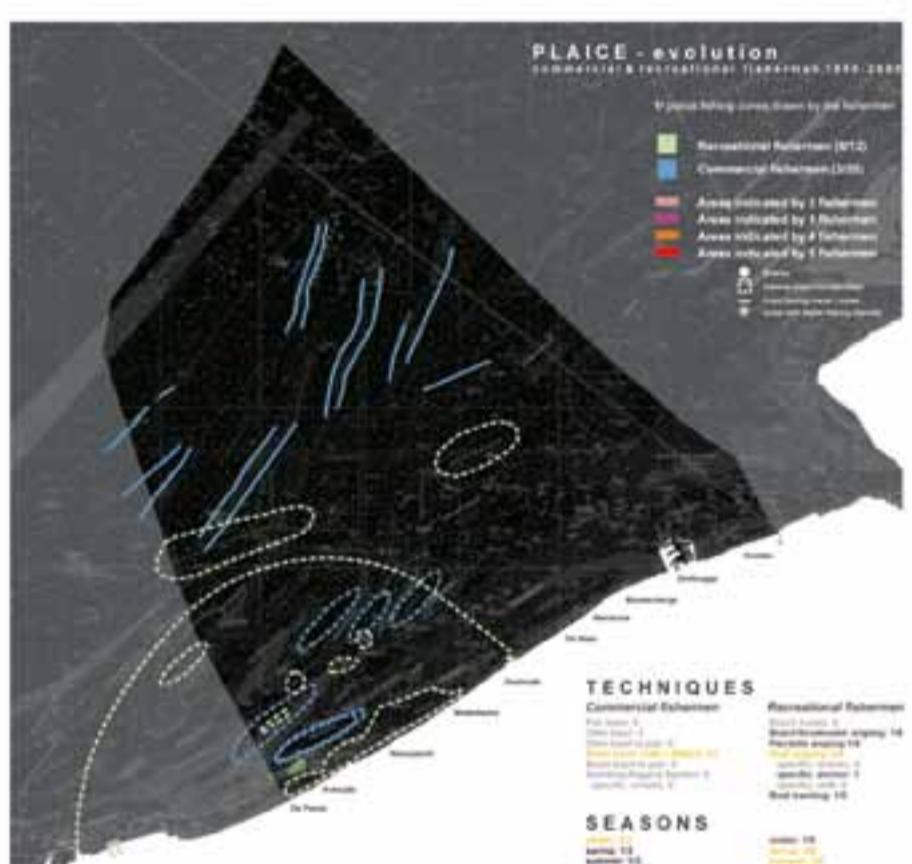
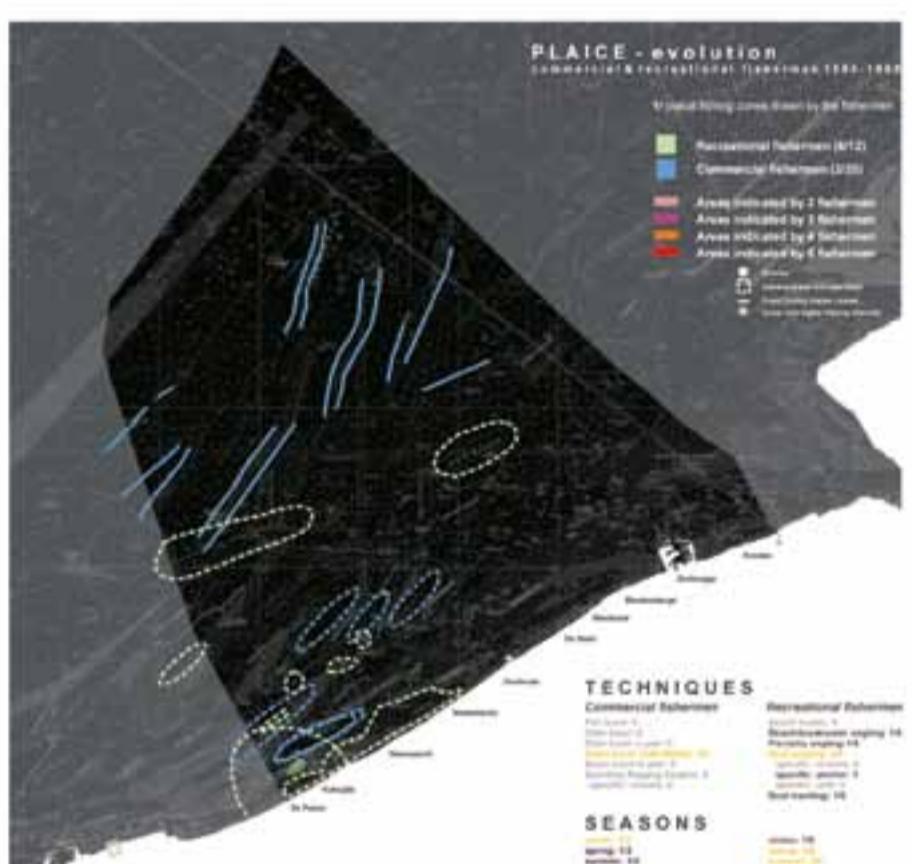
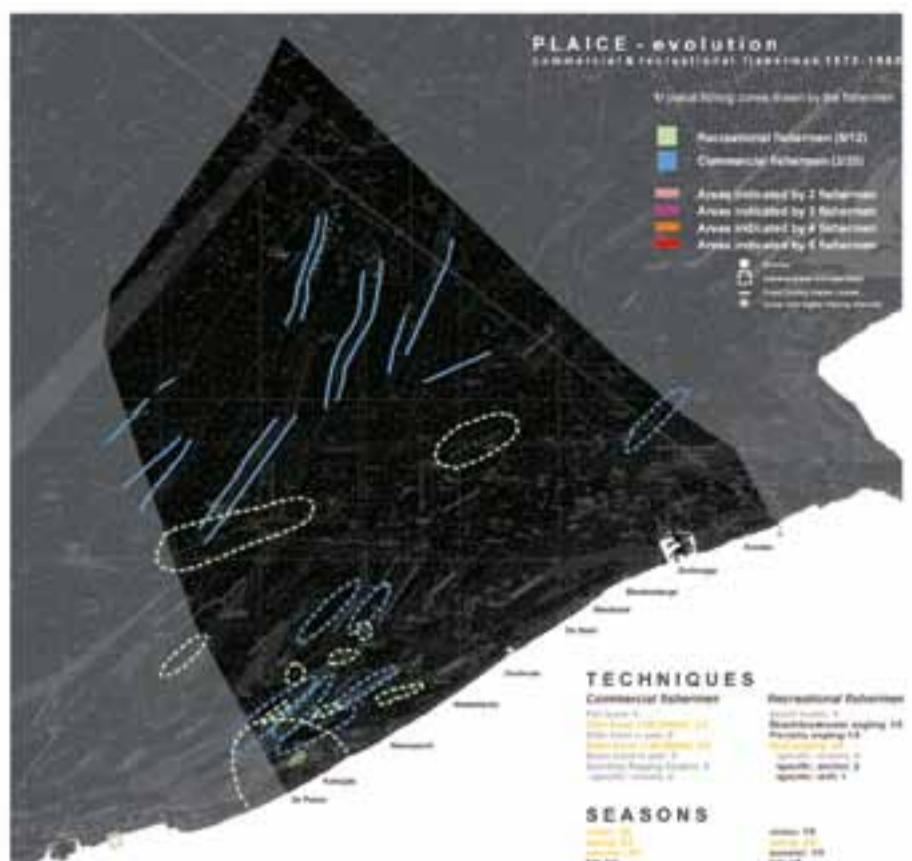
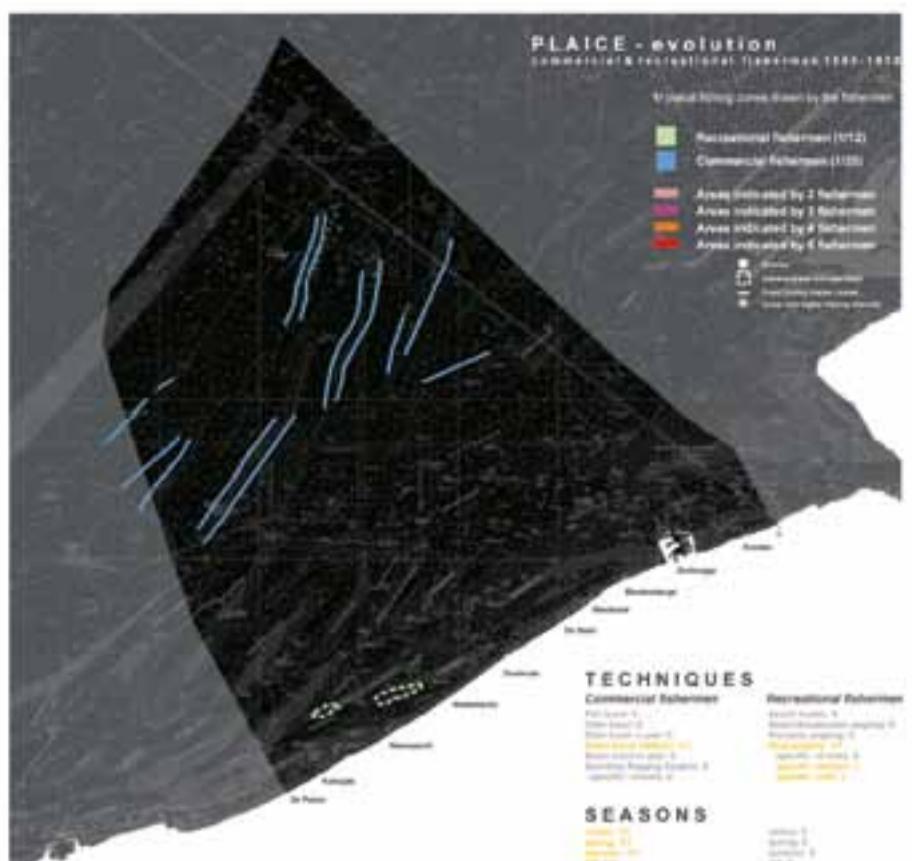


# PLAICE - evolution recreational fishermen 1960 - 2010



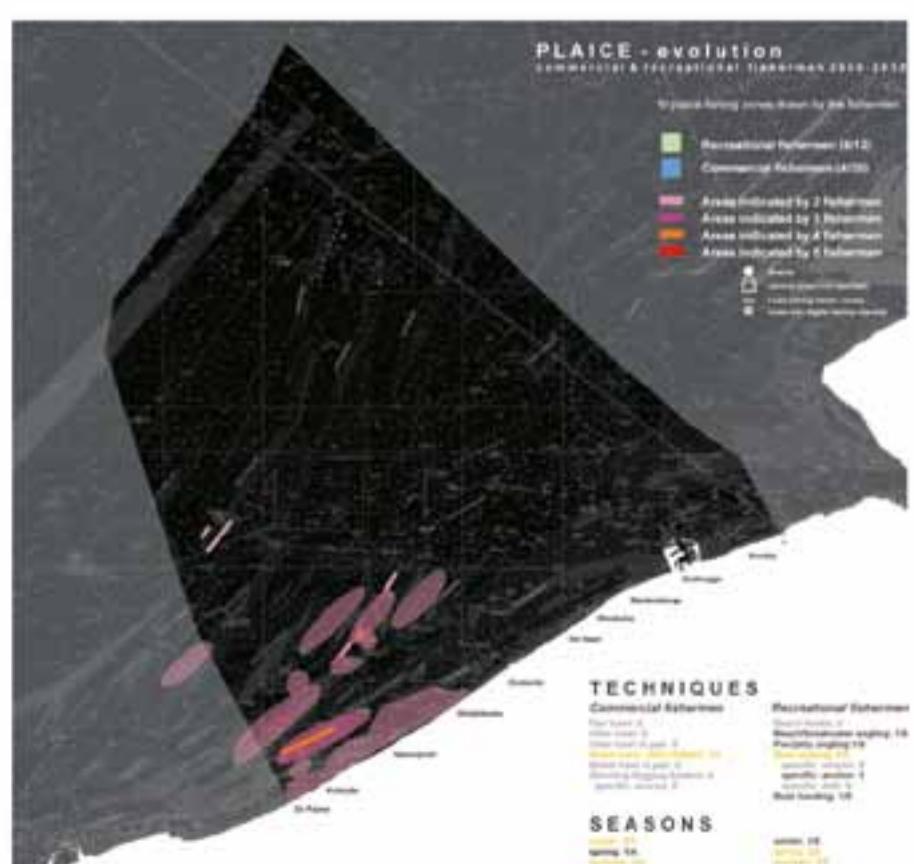
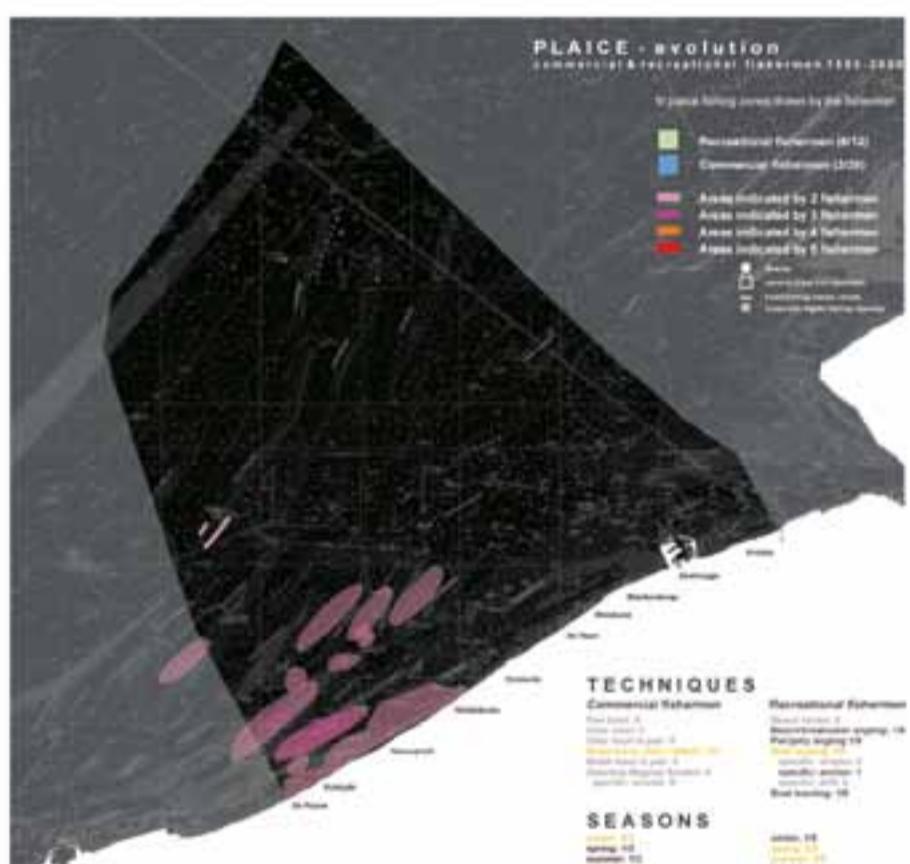
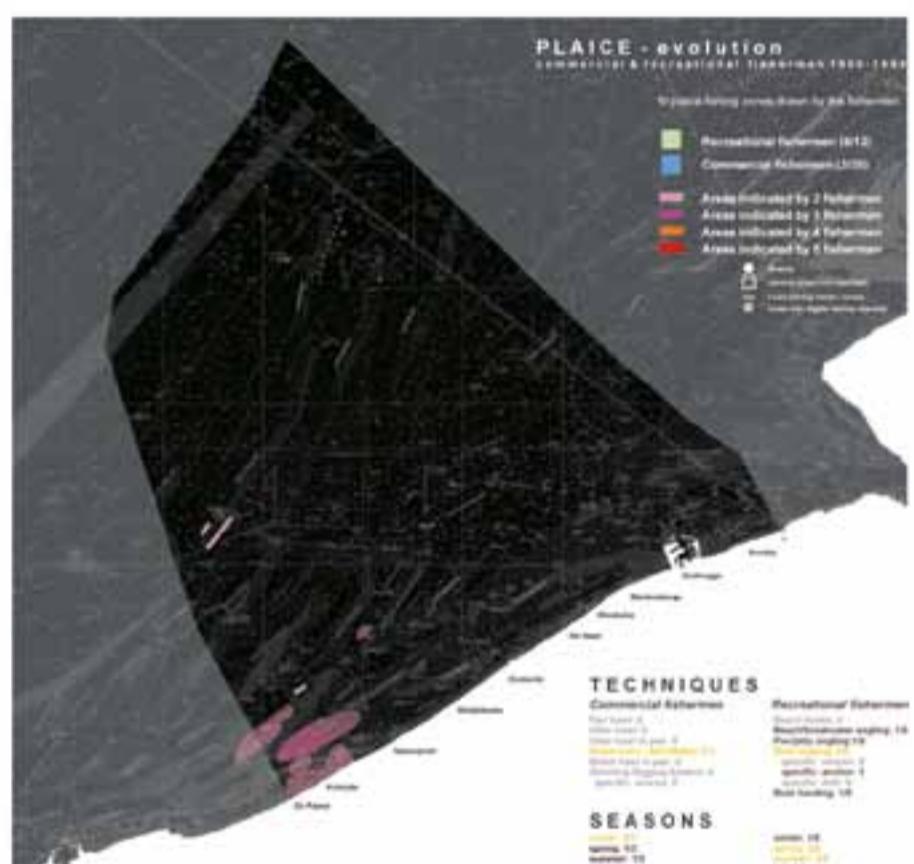
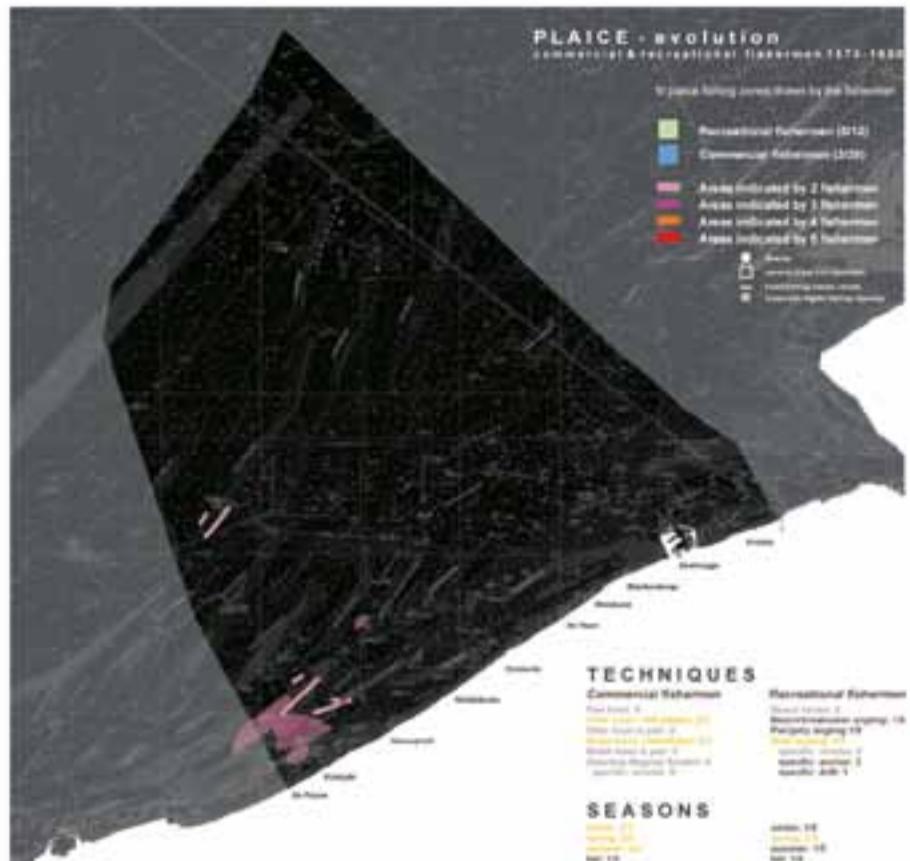
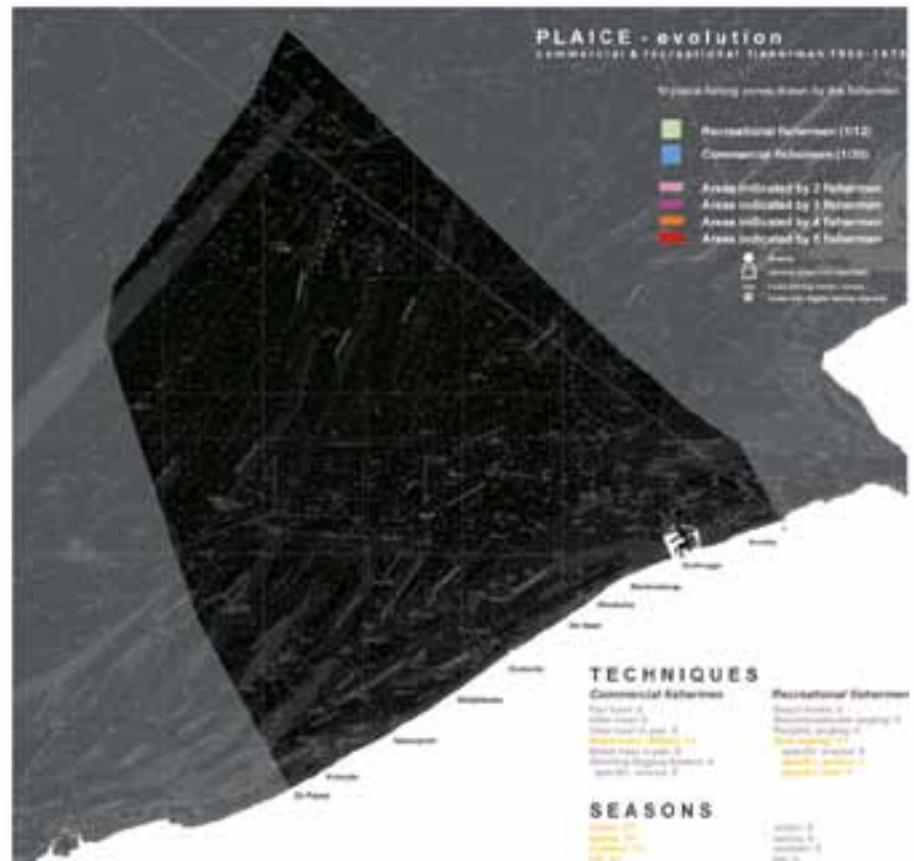
# PLAICE - evolution

## commercial fishermen 1960 - 2010



# PLAICE - evolution

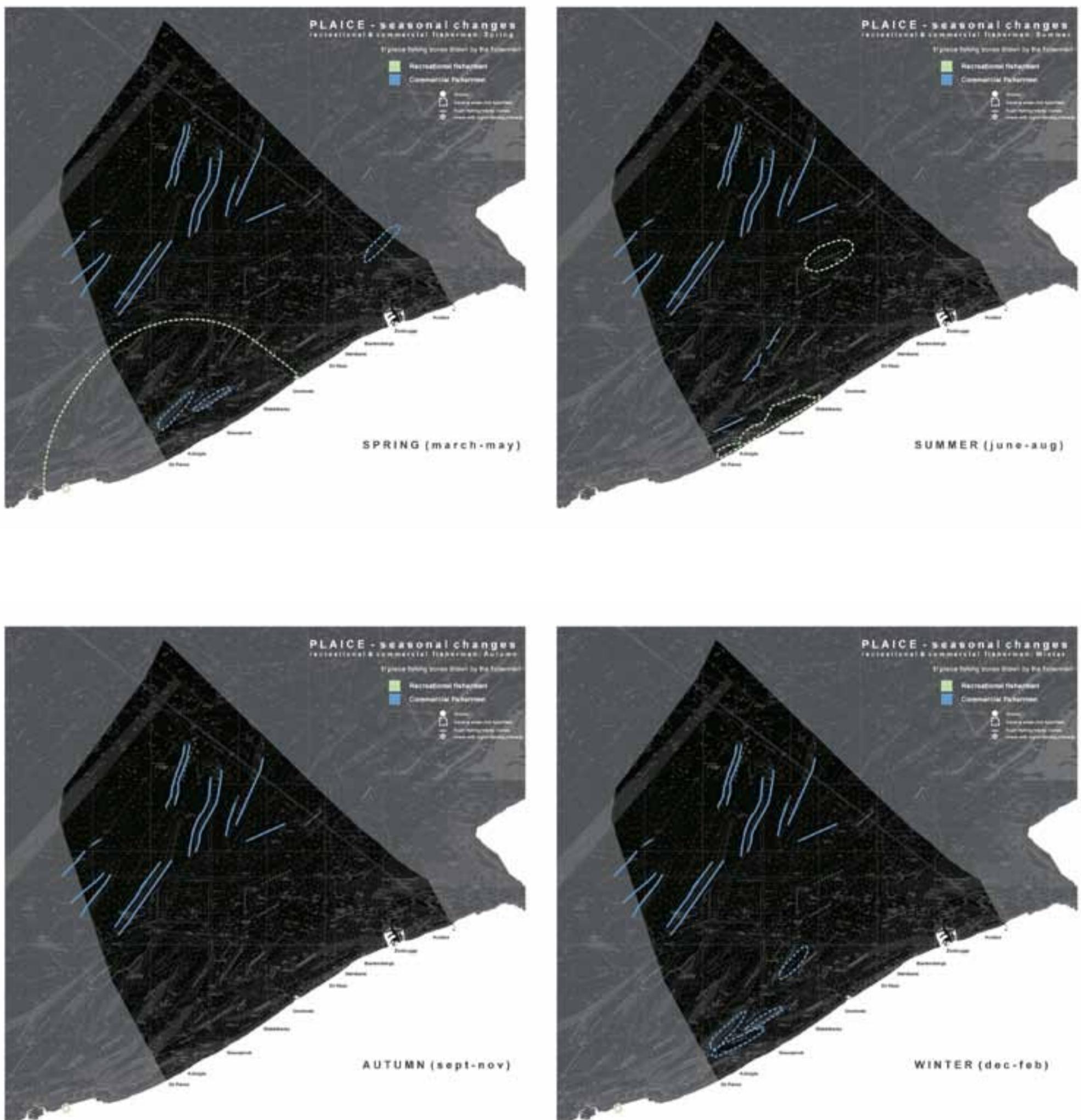
## recreational & commercial fishermen 1960 - 2010



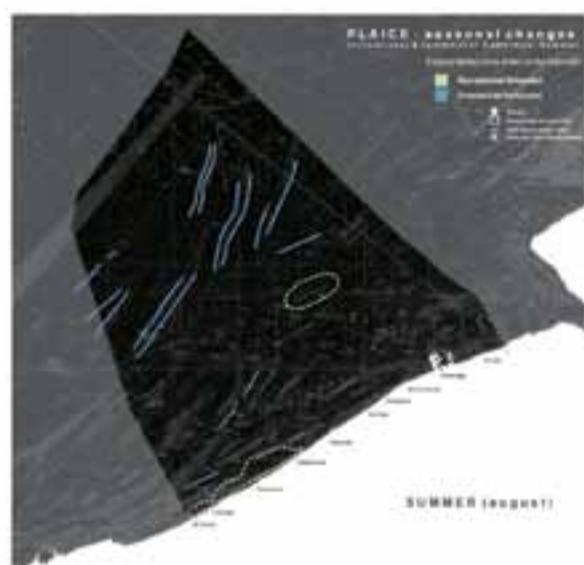
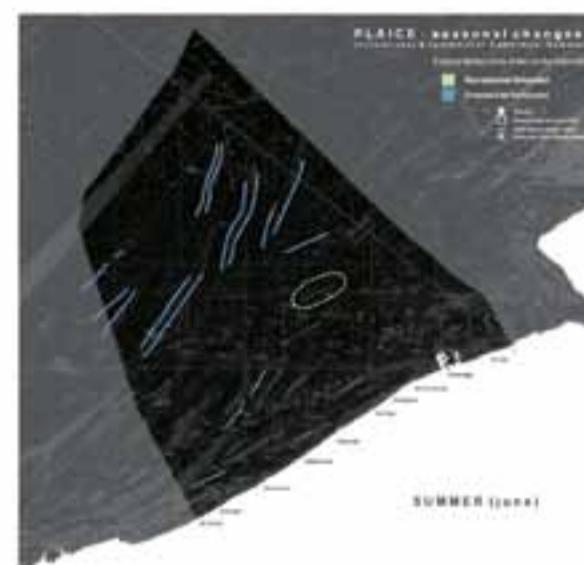
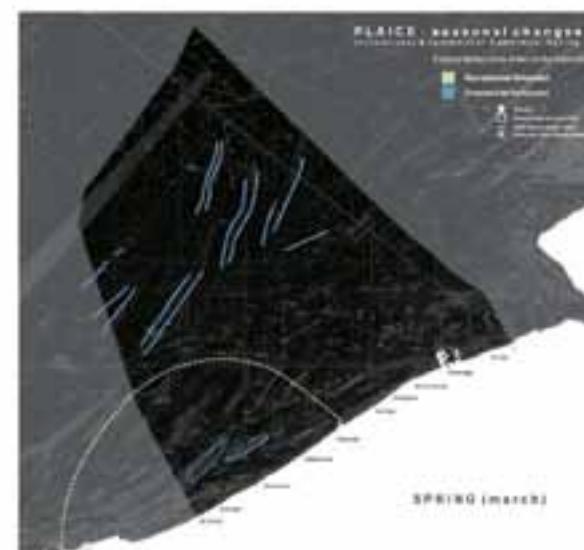
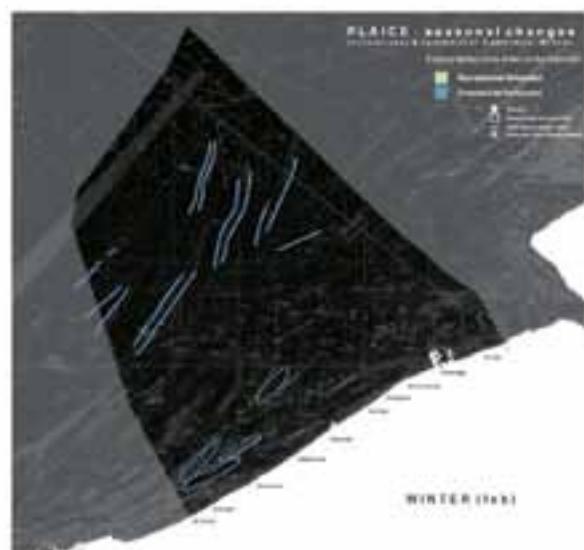
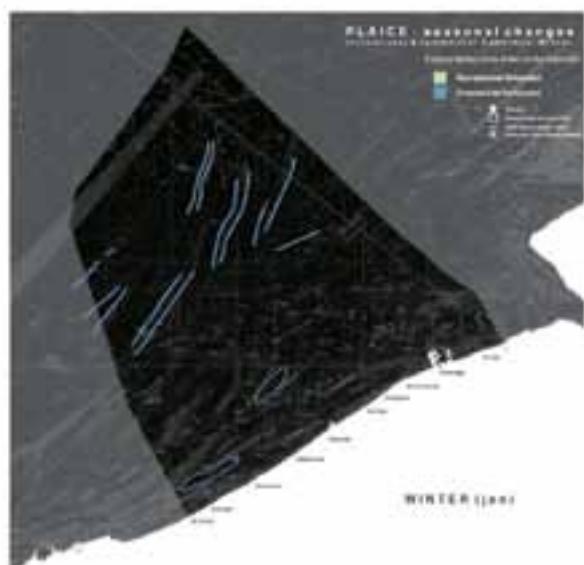
# PLAICE - evolution

## commercial & recreational fishermen 1960 - 2010

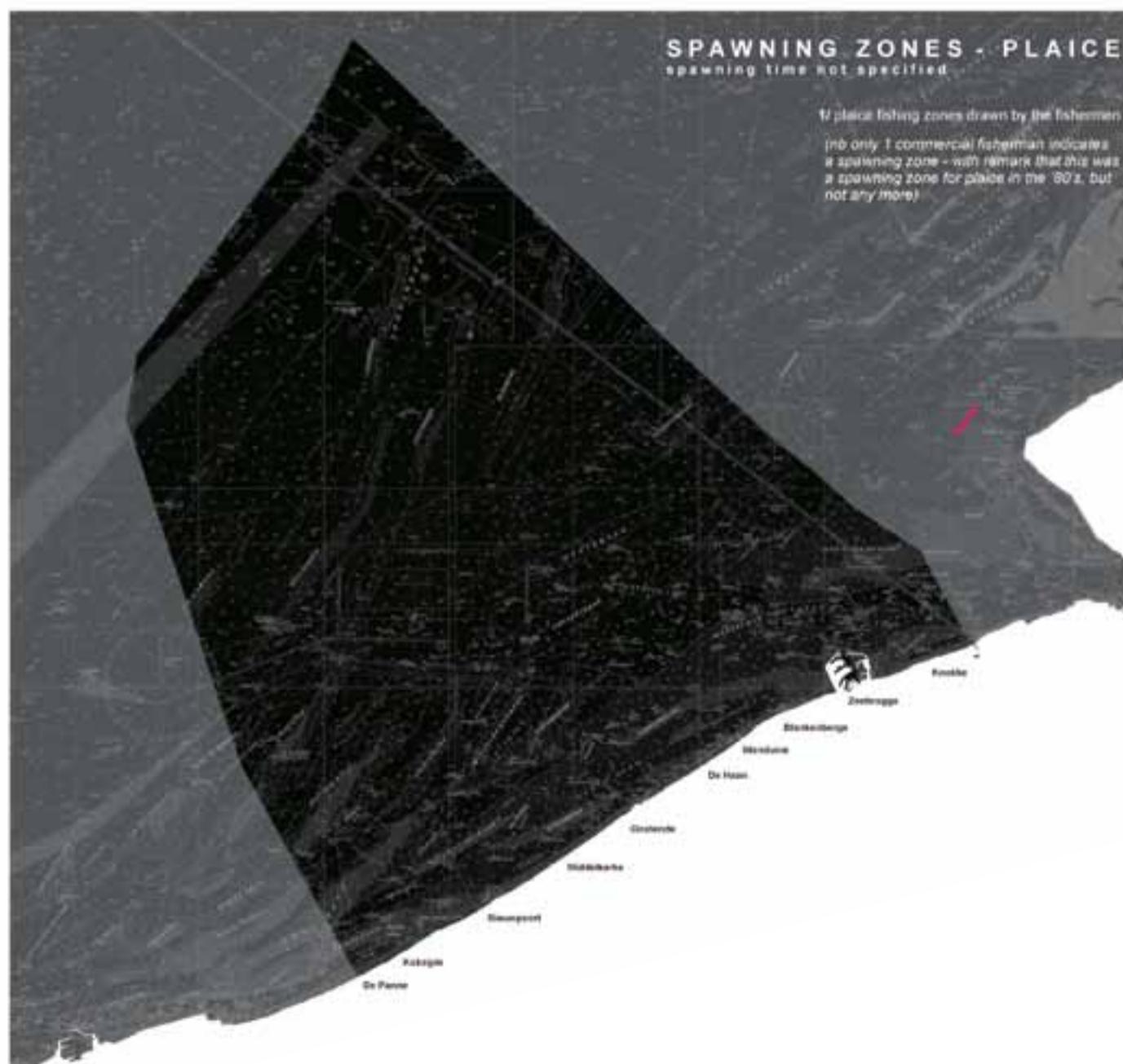
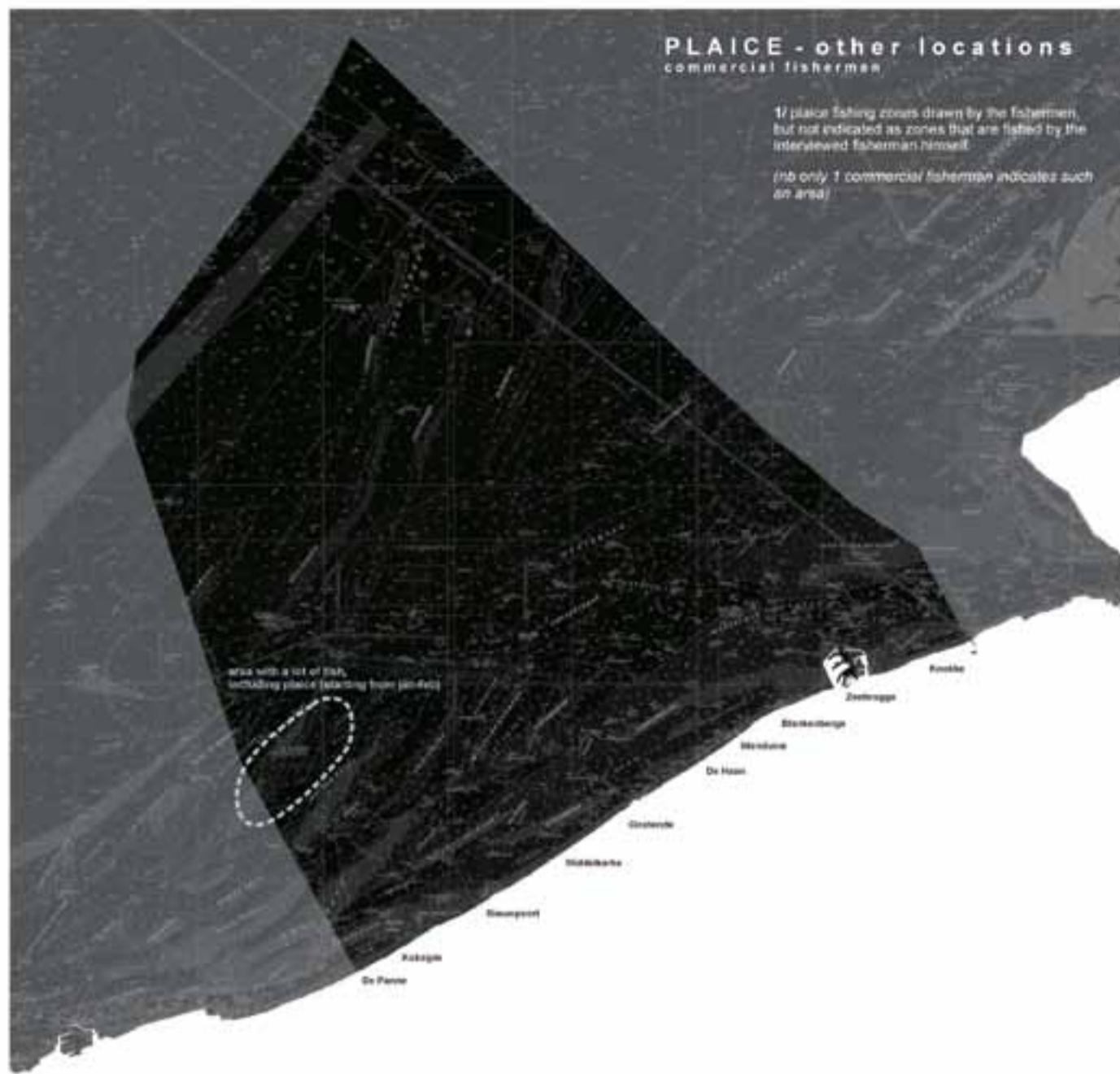
### areas fished by 2 or more fishermen



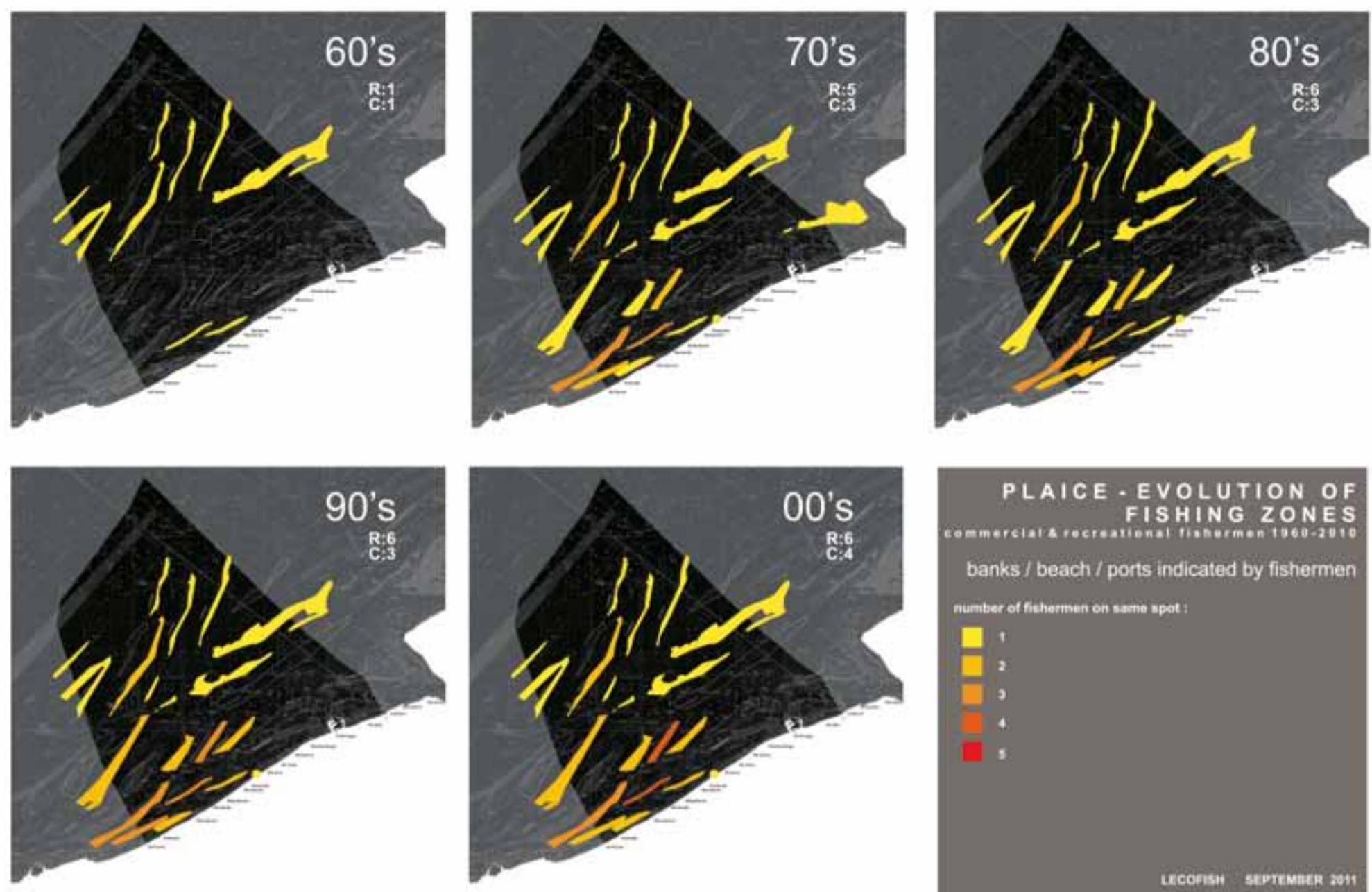
**PLAICE - seasonal changes**  
commercial & recreational fishermen 1950 - 2010



**PLAICE - seasonal changes  
january-december**  
commercial & recreational fishermen 1950 - 2010



**PLAICE - other locations  
& spawning zones**  
commercial & recreational fishermen 1950 - 2010

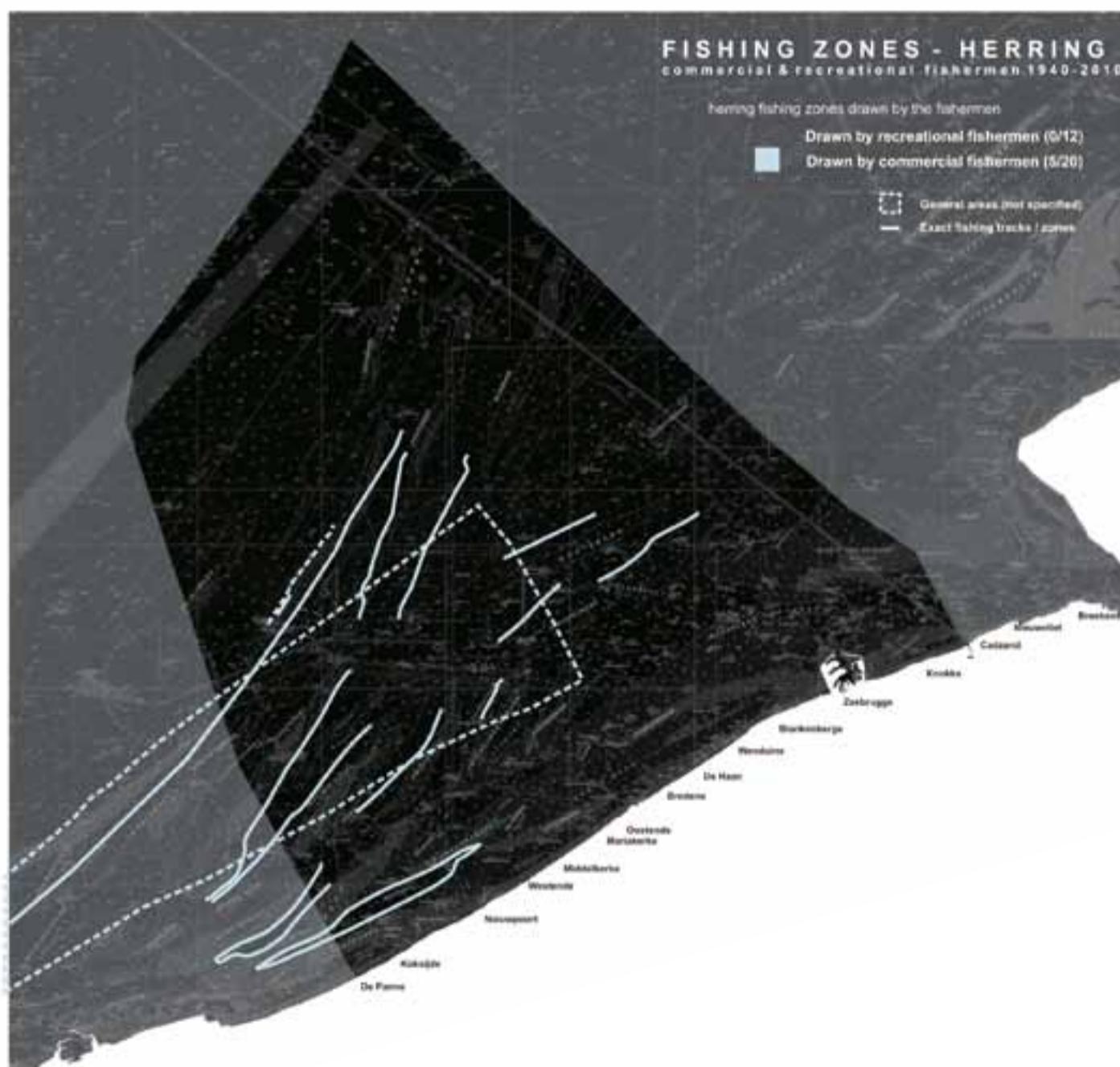
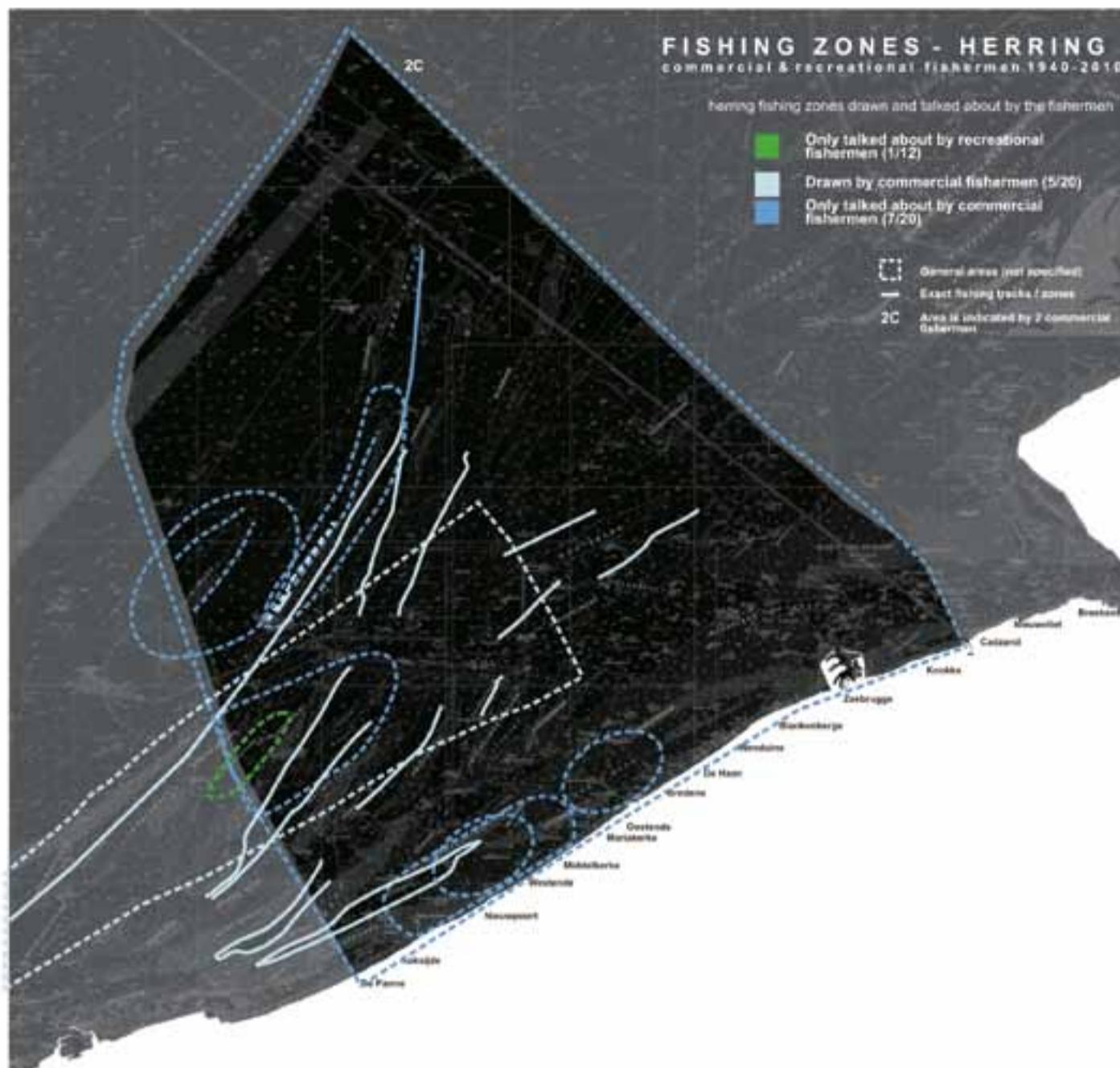


**PLAICE - structure maps**  
commercial & recreational fishermen 1950 - 2010

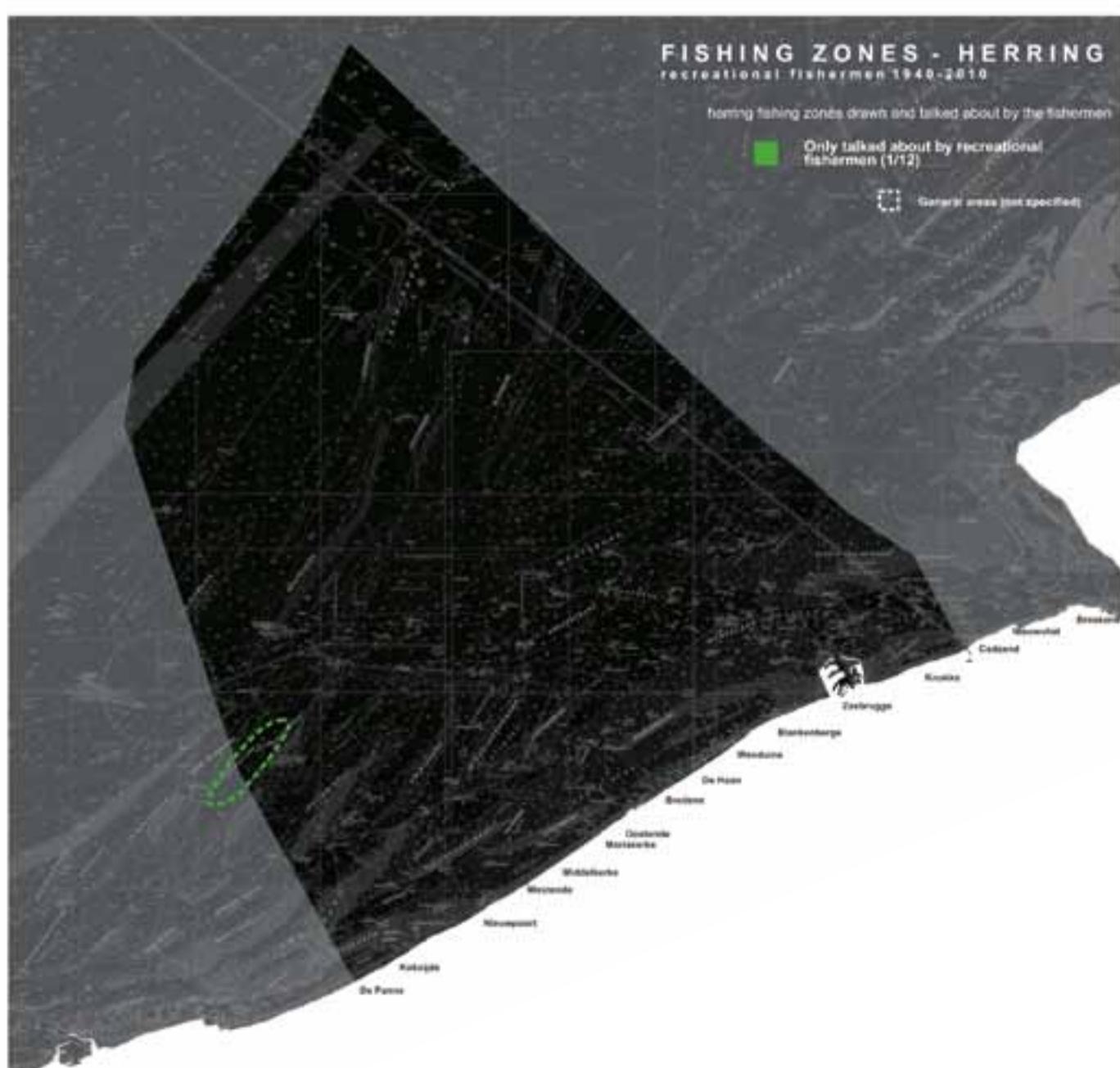
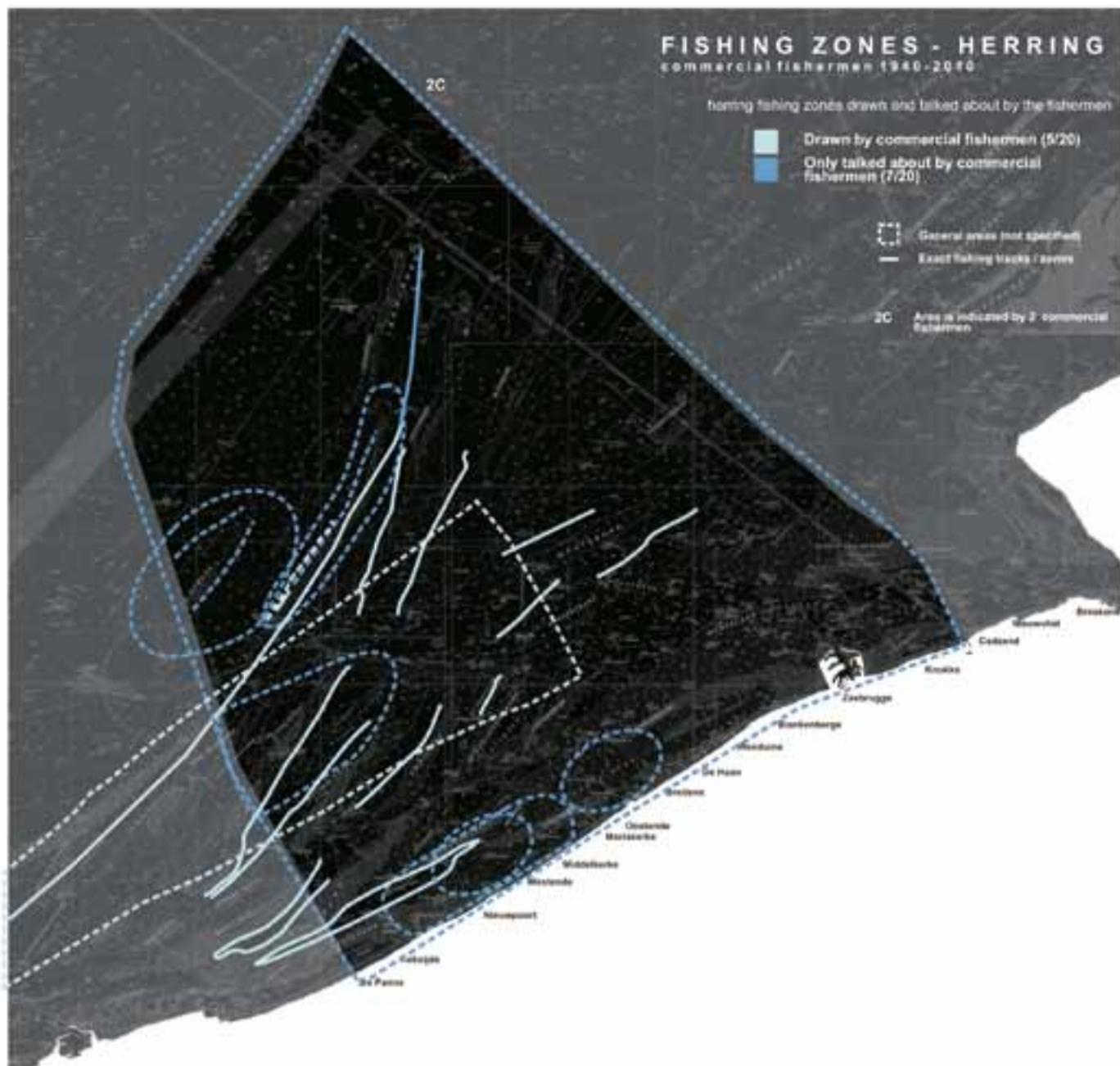


MAPS SERIES VI

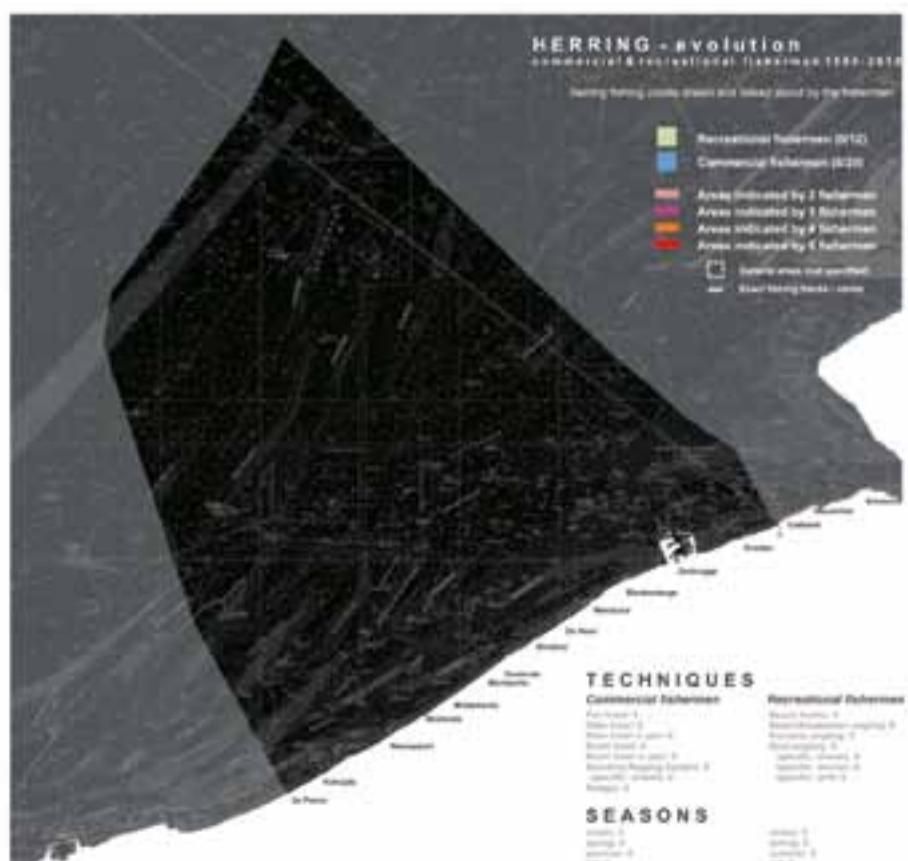
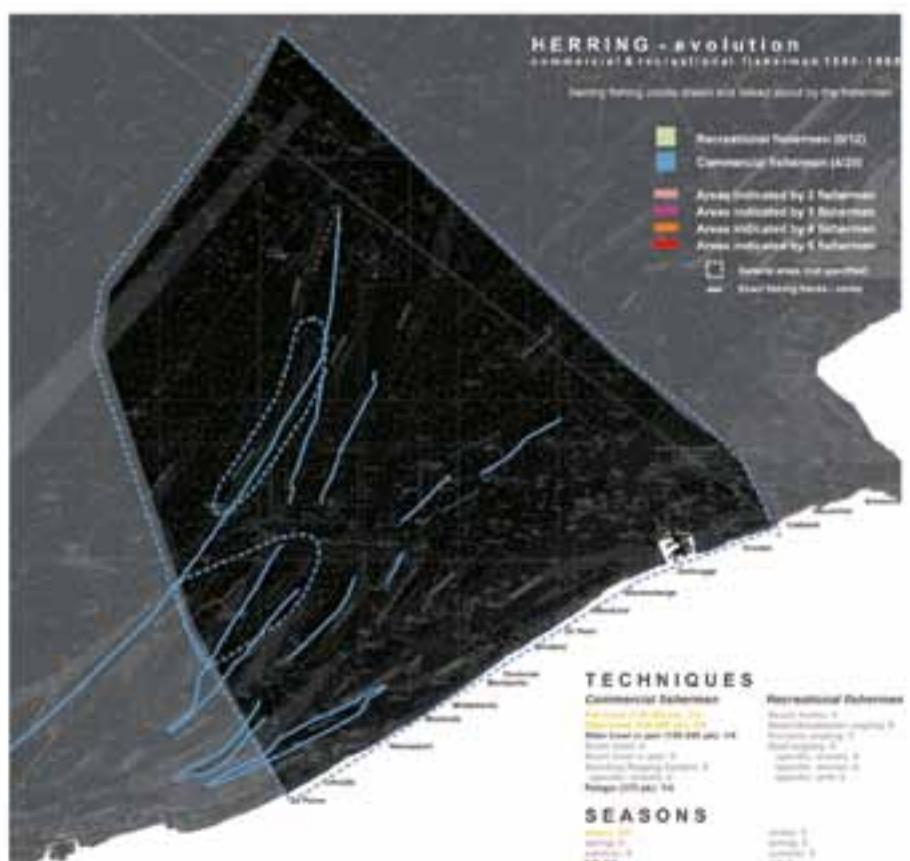
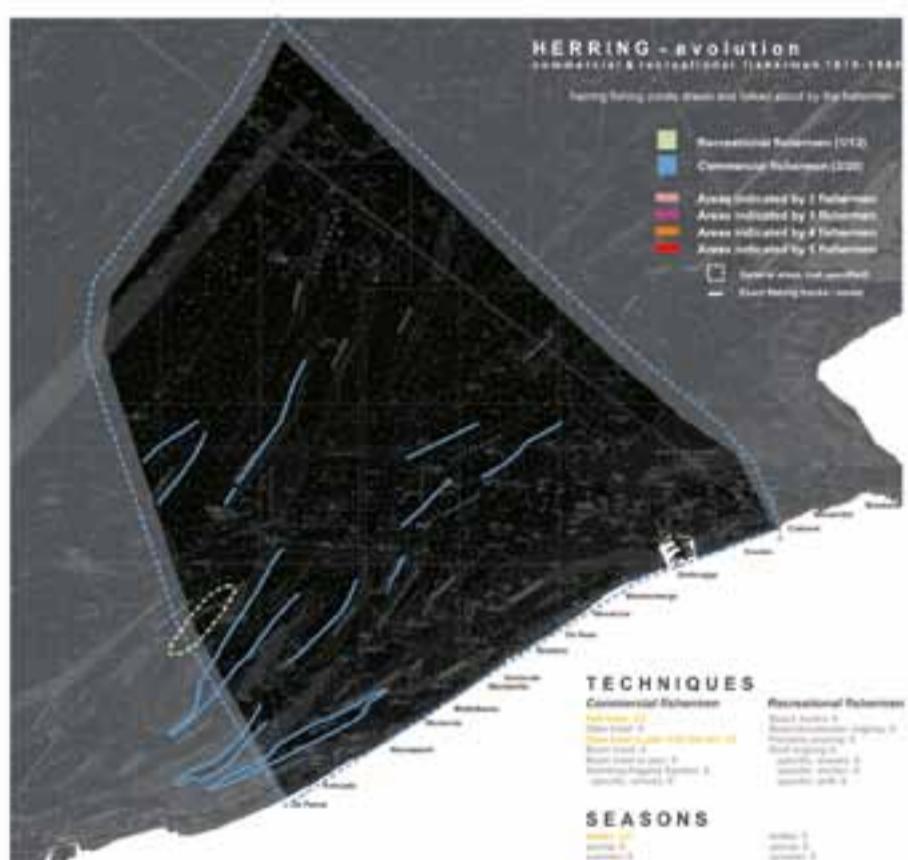
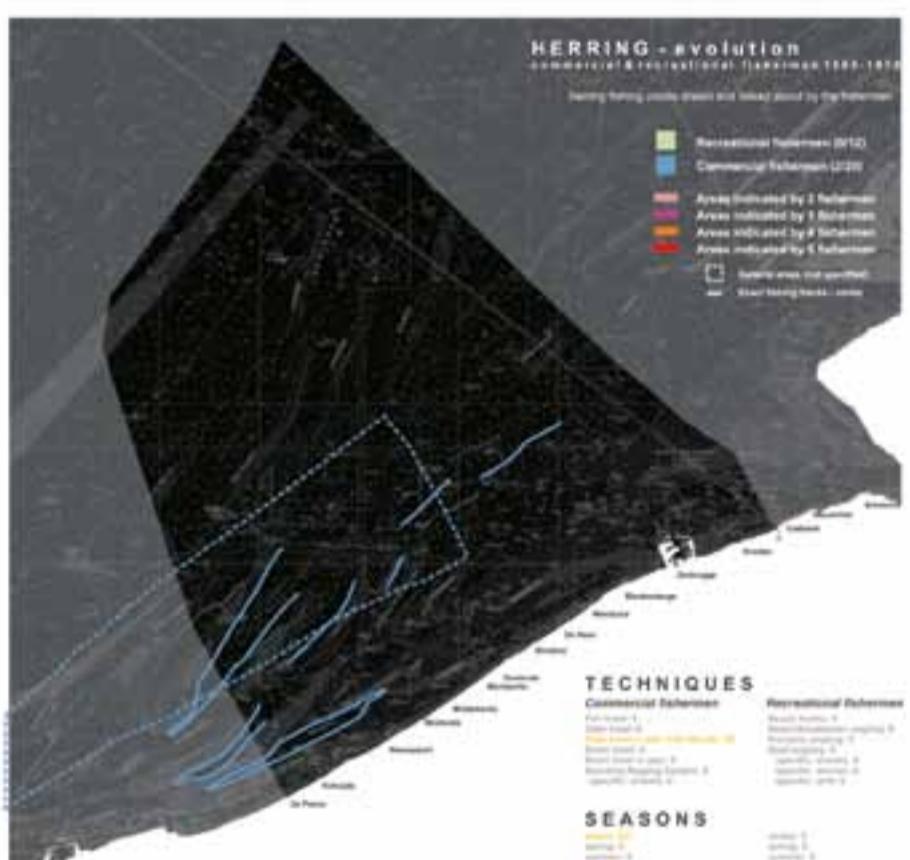
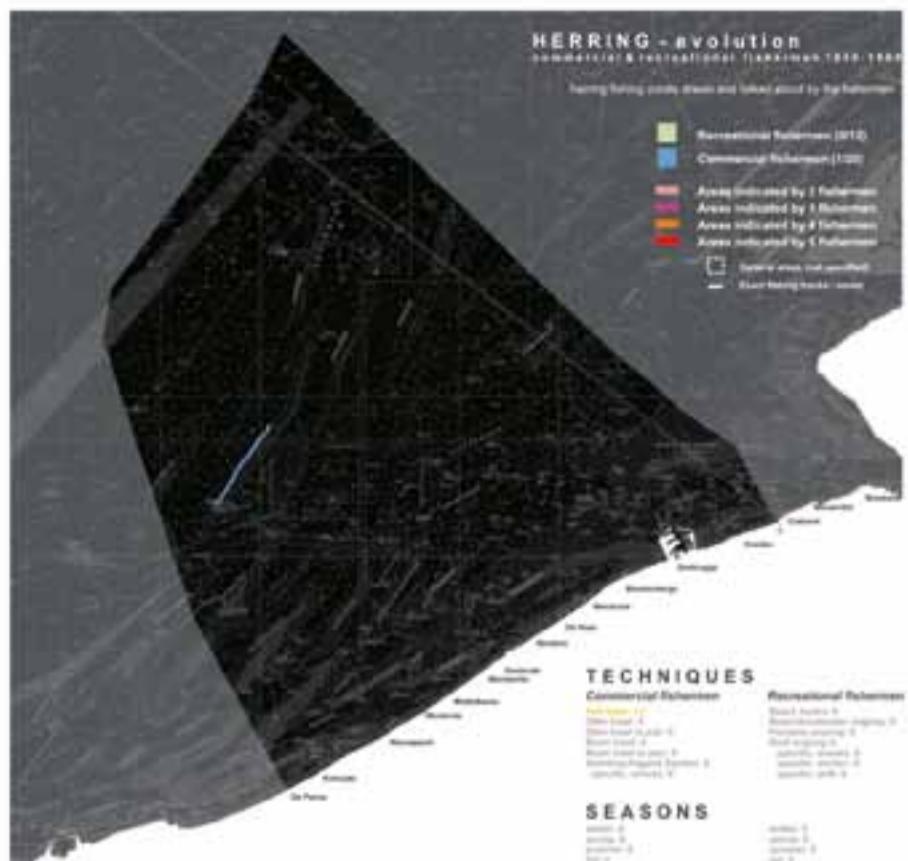
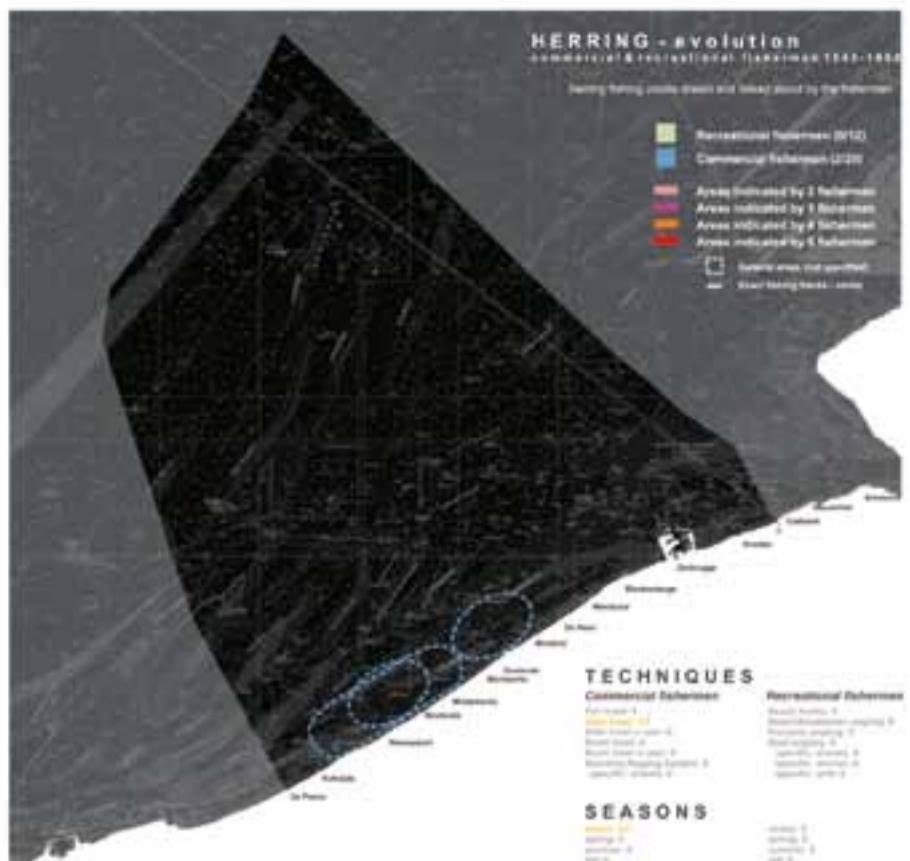
HERRING



**HERRING - fishing zones  
drawn and talked about**  
commercial & recreational fishermen 1940 - 2010

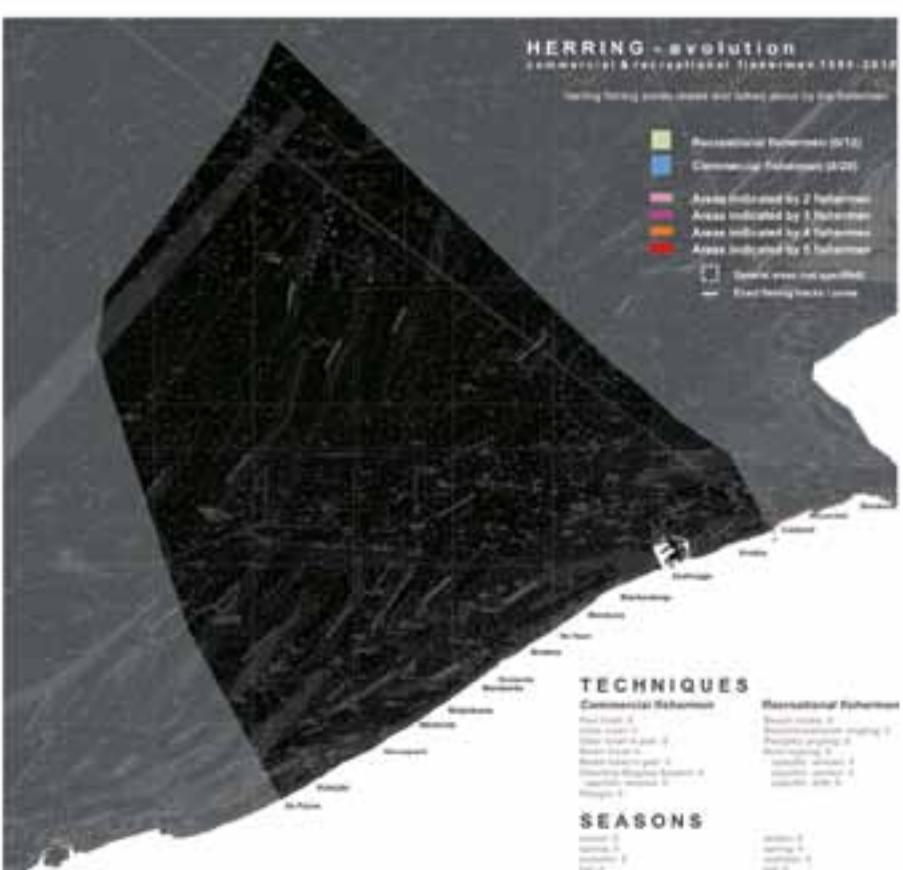
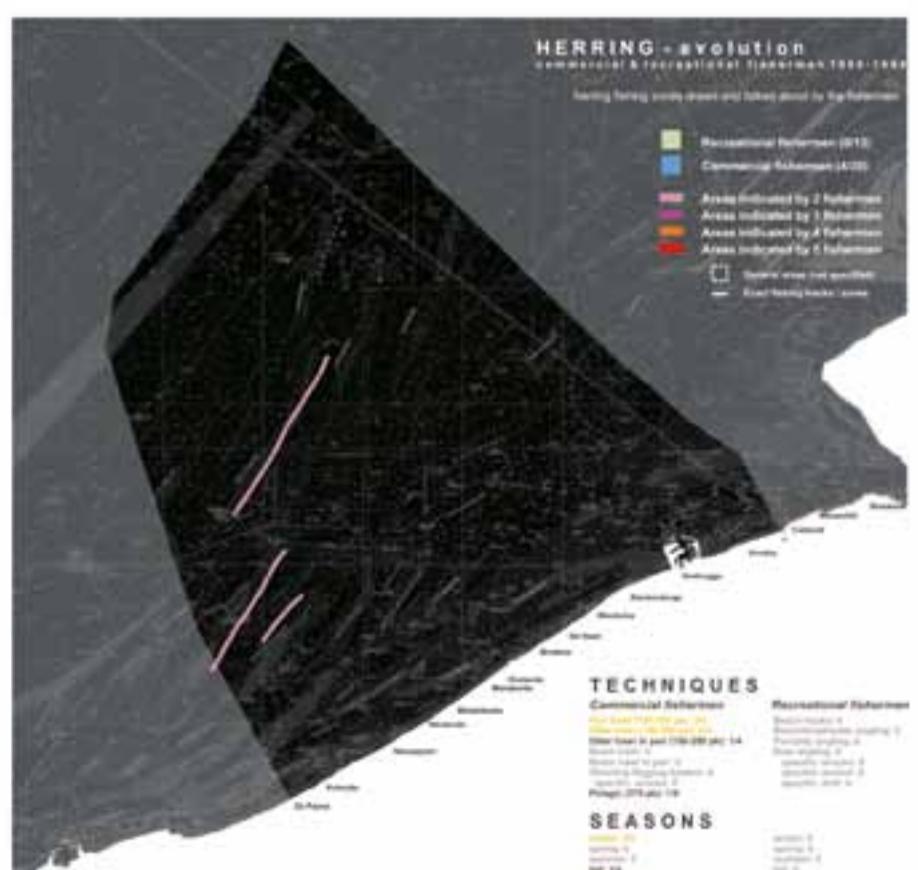
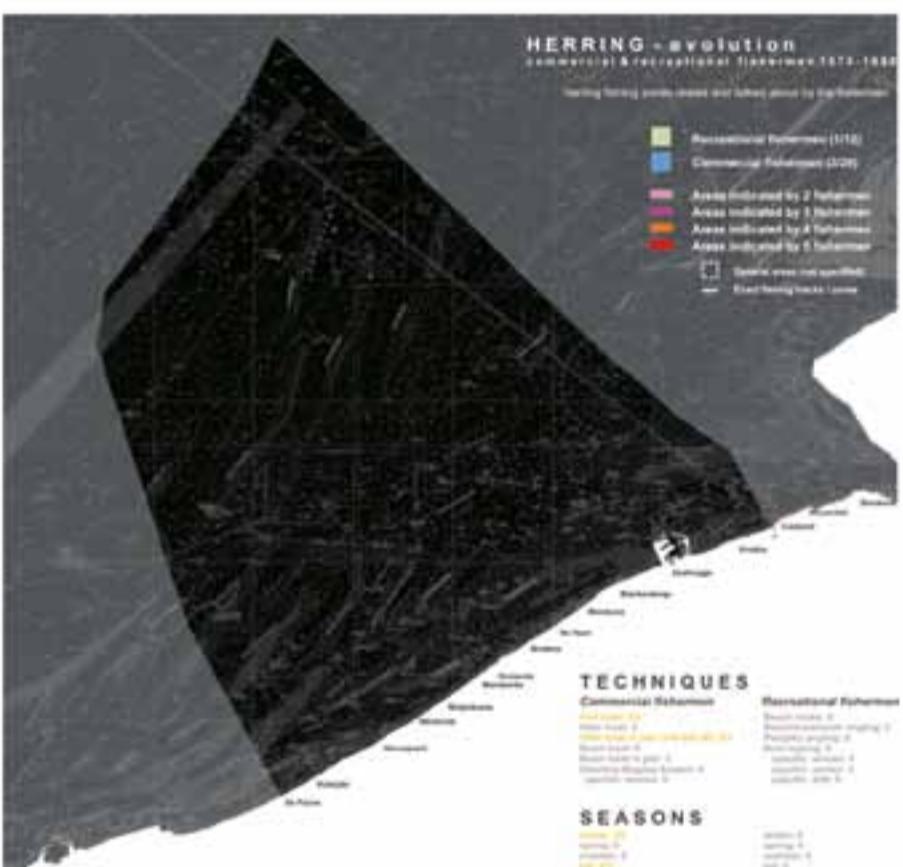
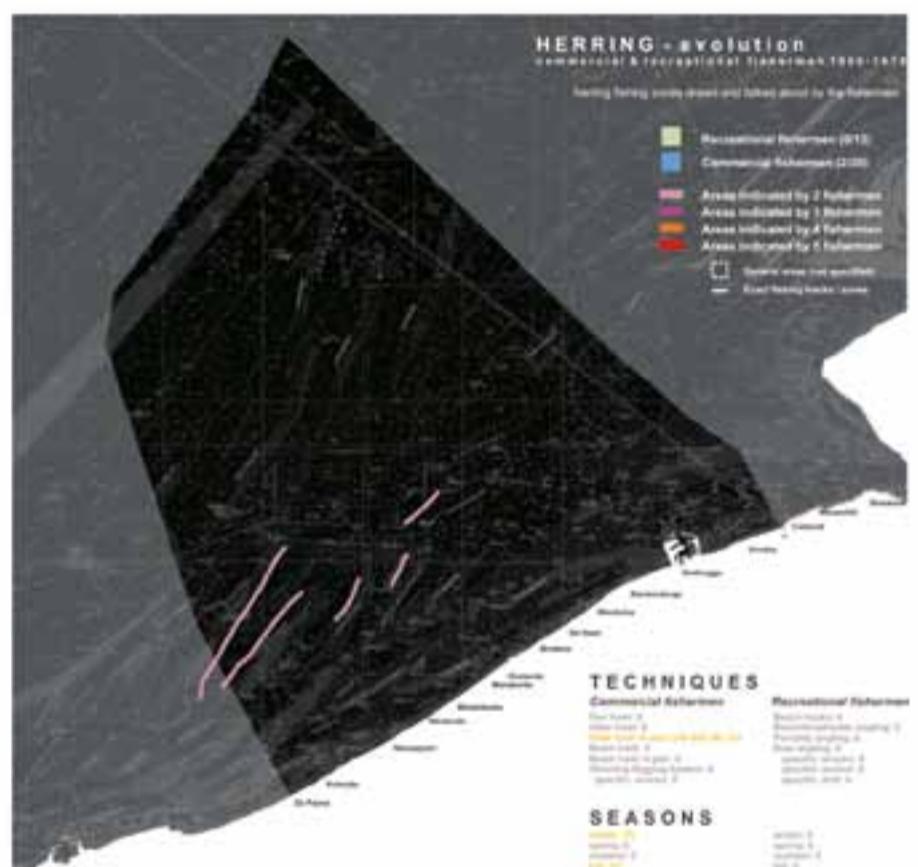
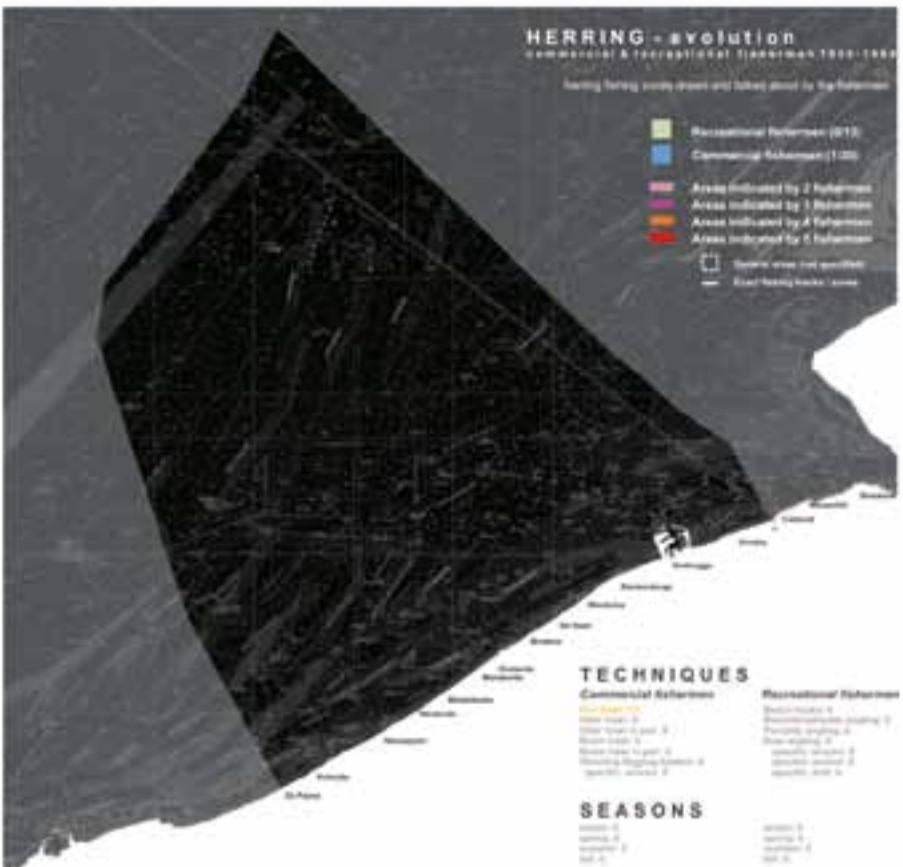
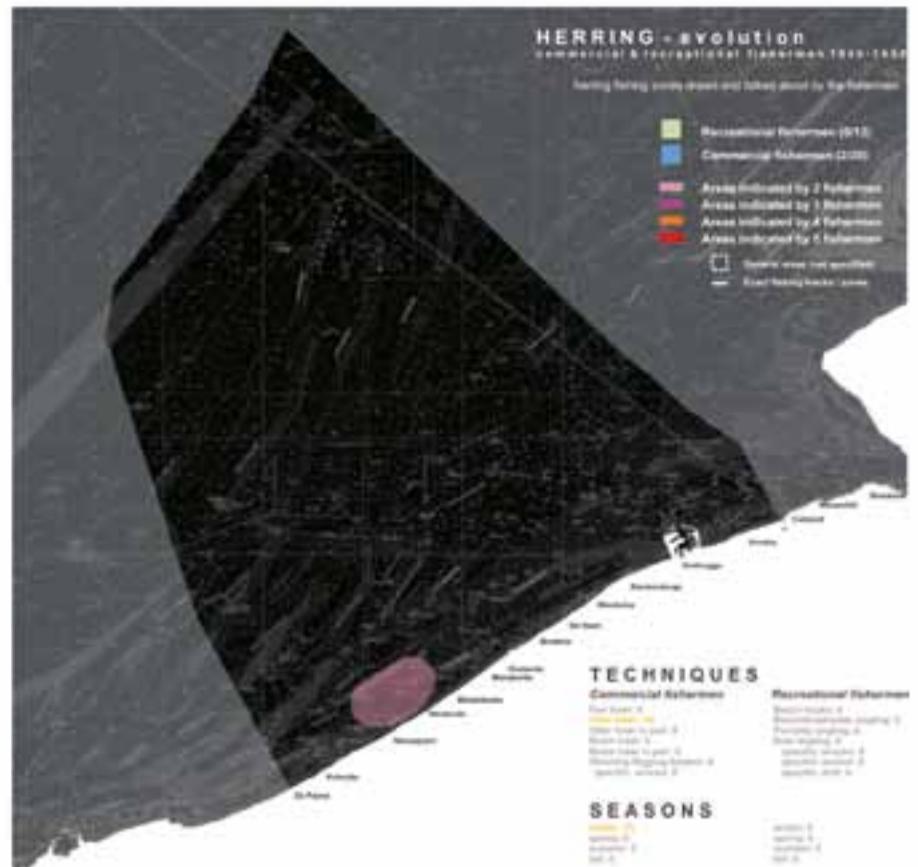


**HERRING - fishing zones**  
commercial & recreational fishermen 1940 - 2010



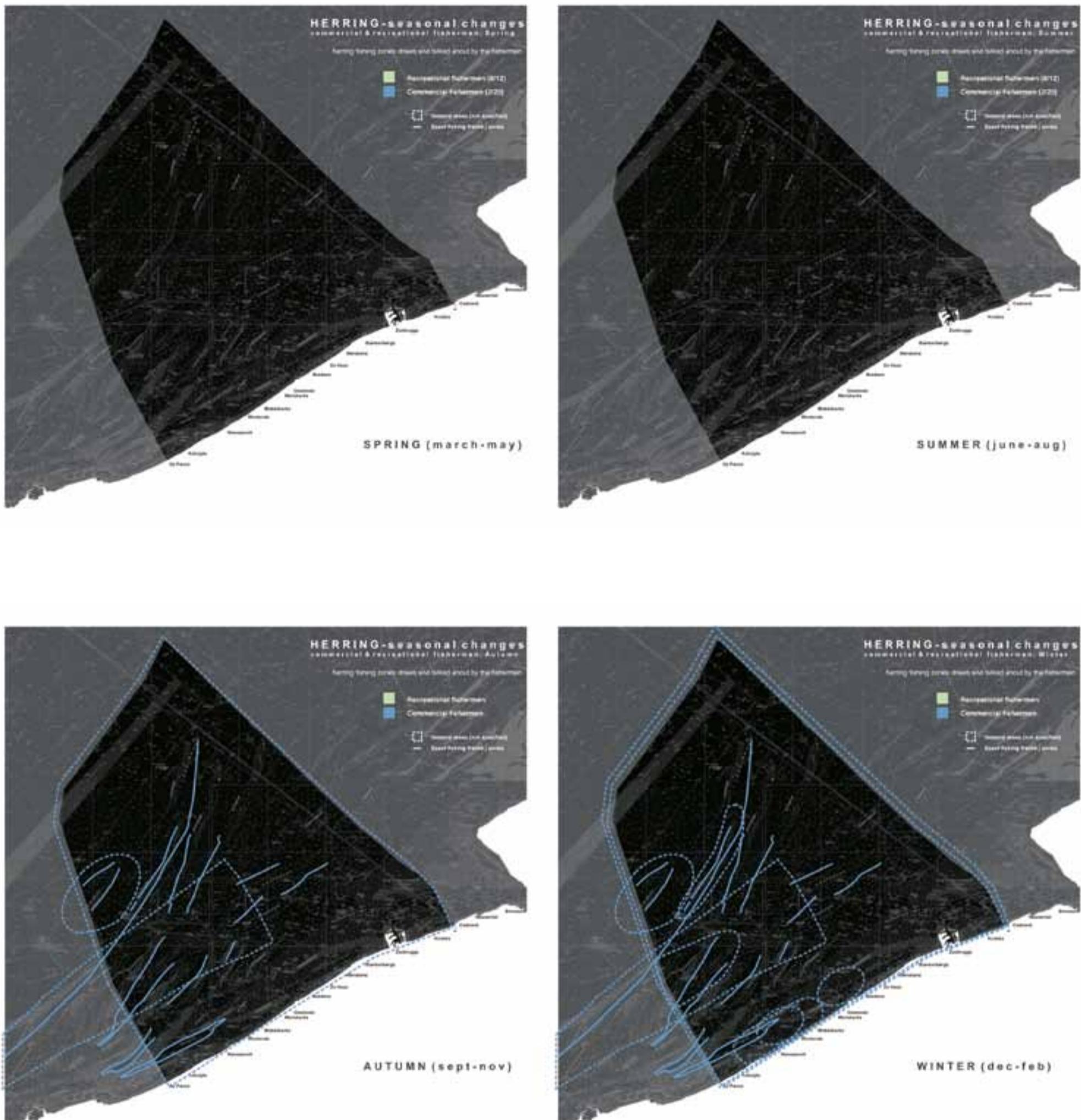
# HERRING - evolution

recreational & commercial fishermen 1940 - 2010

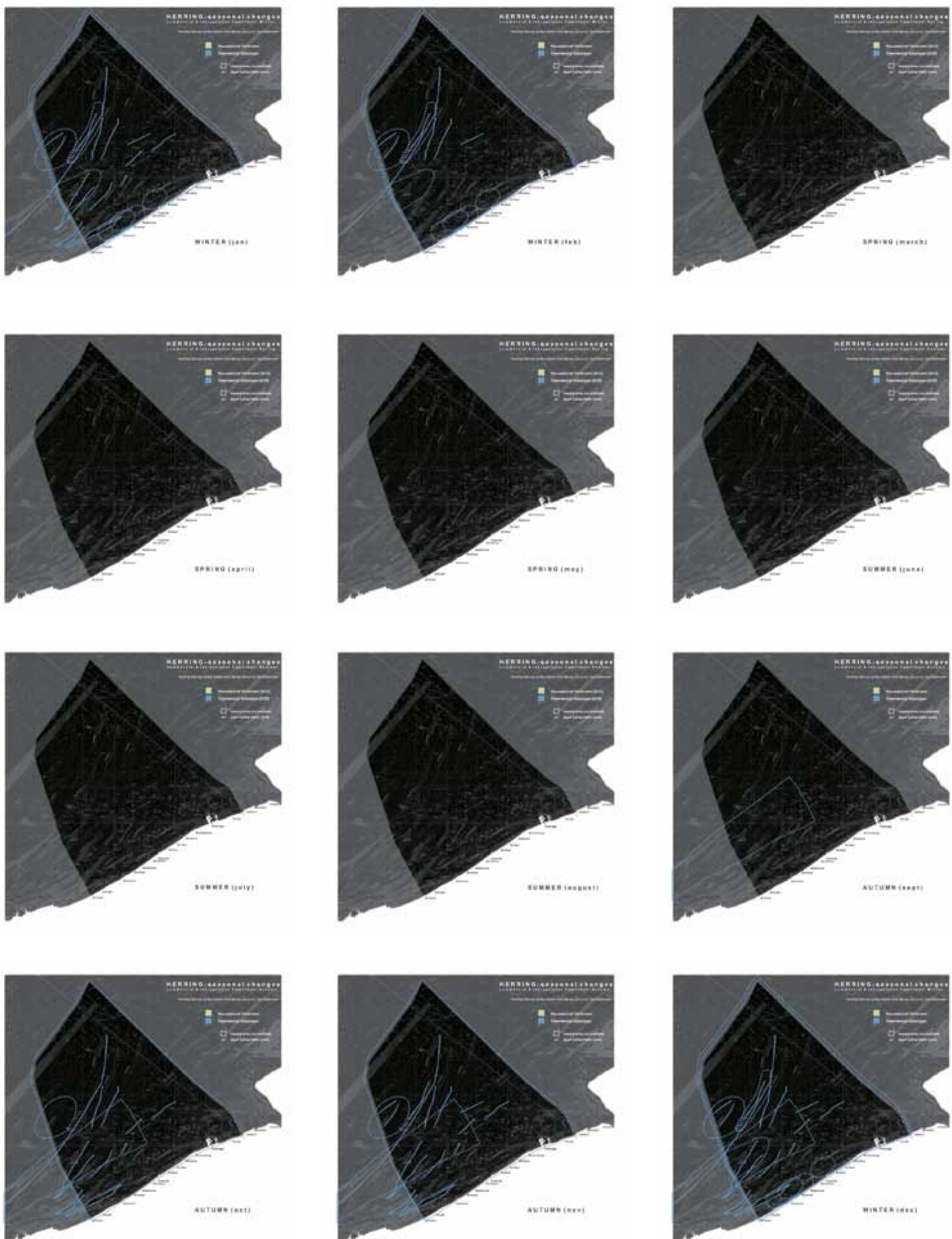


# HERRING - evolution

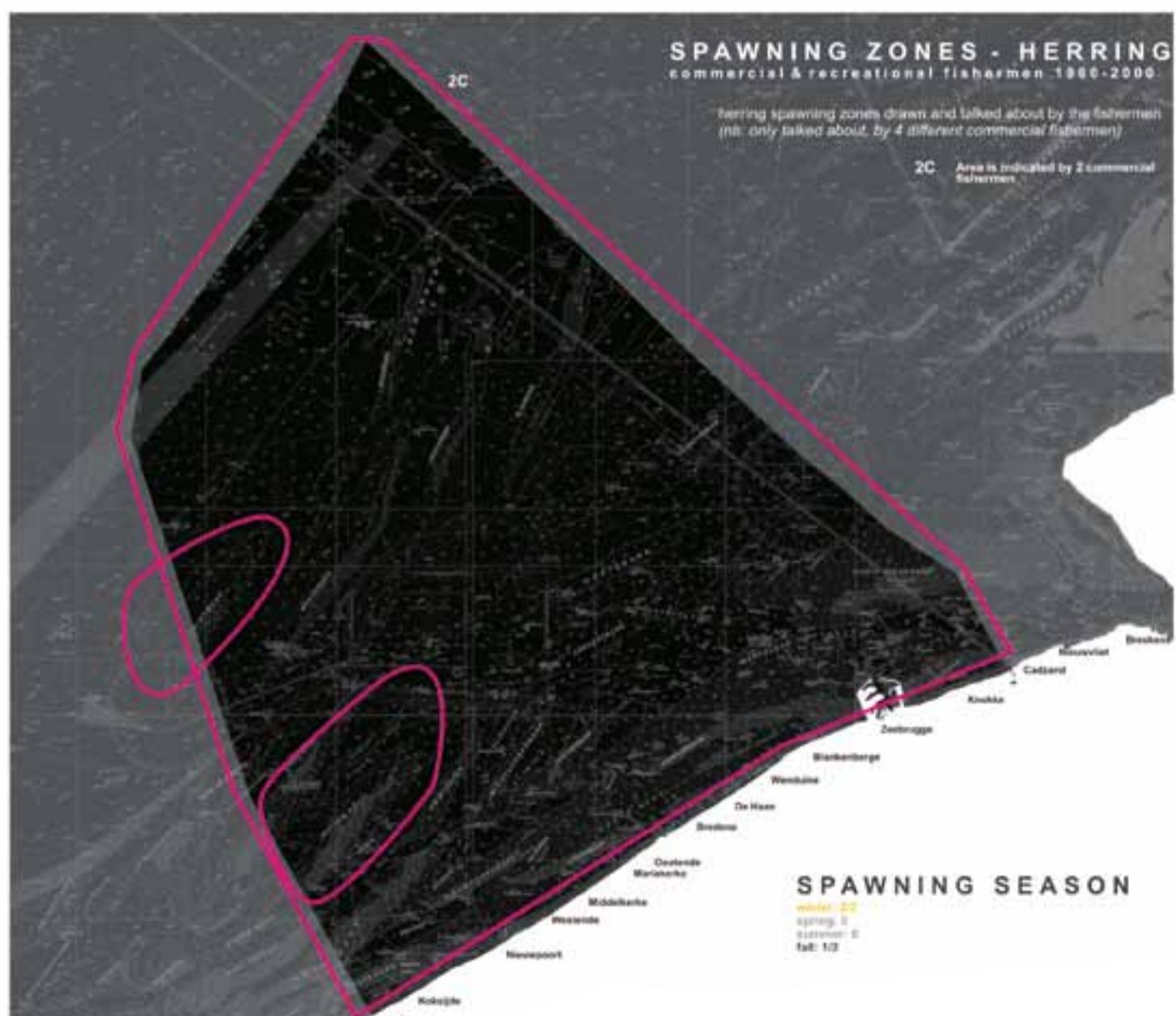
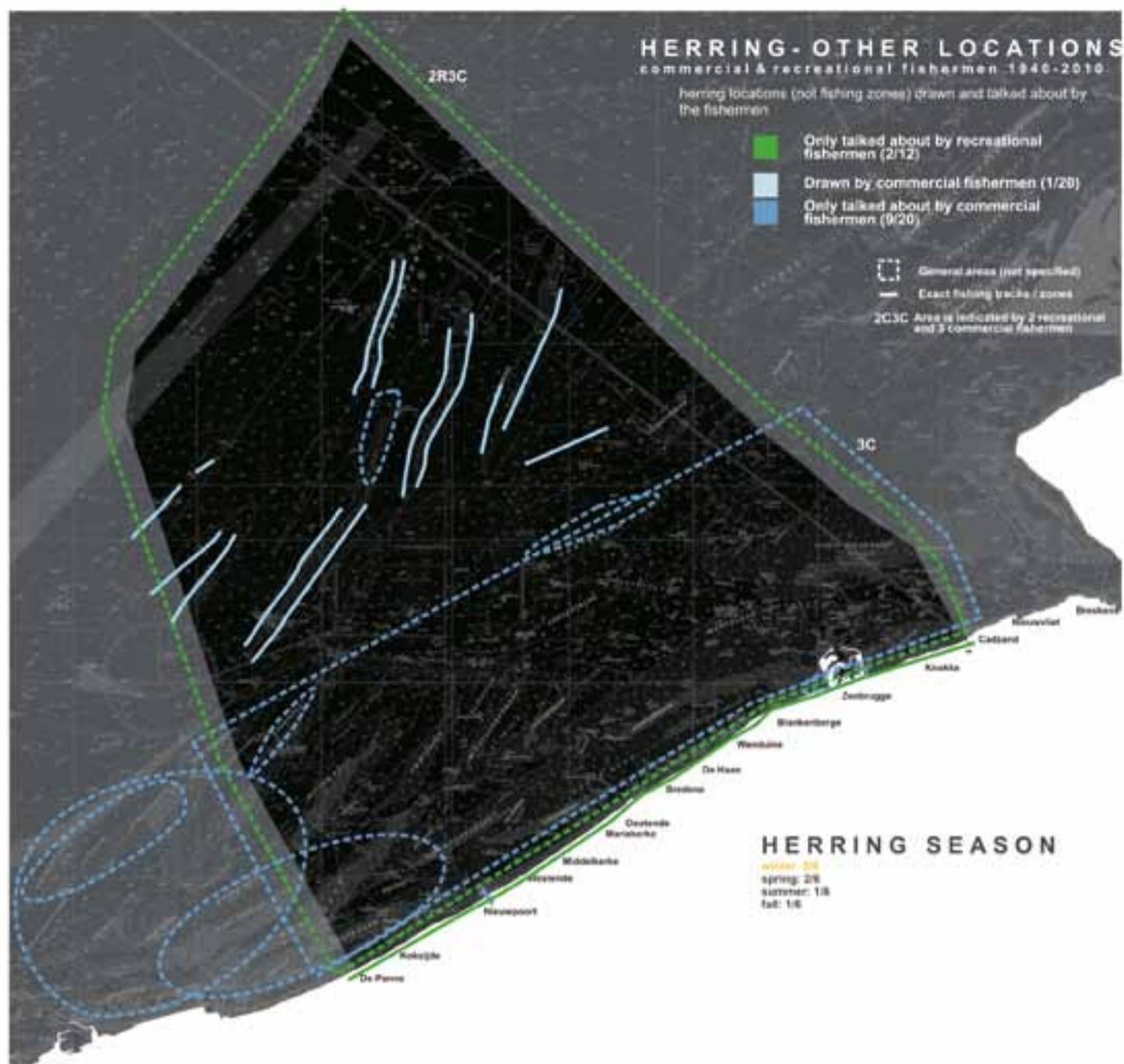
commercial & recreational fishermen 1940 - 2010  
areas fished by 2 or more fishermen



**HERRING - seasonal changes**  
commercial & recreational fishermen 1940 - 2010



**HERRING - seasonal changes  
january-december**  
commercial & recreational fishermen 1940 - 2010



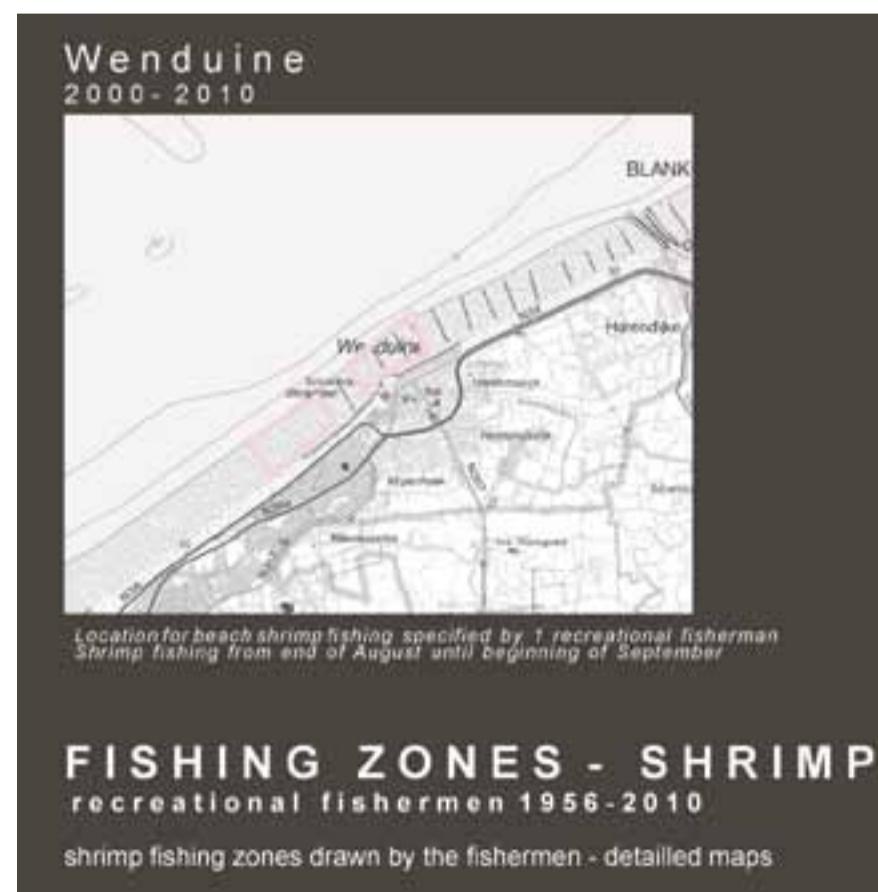
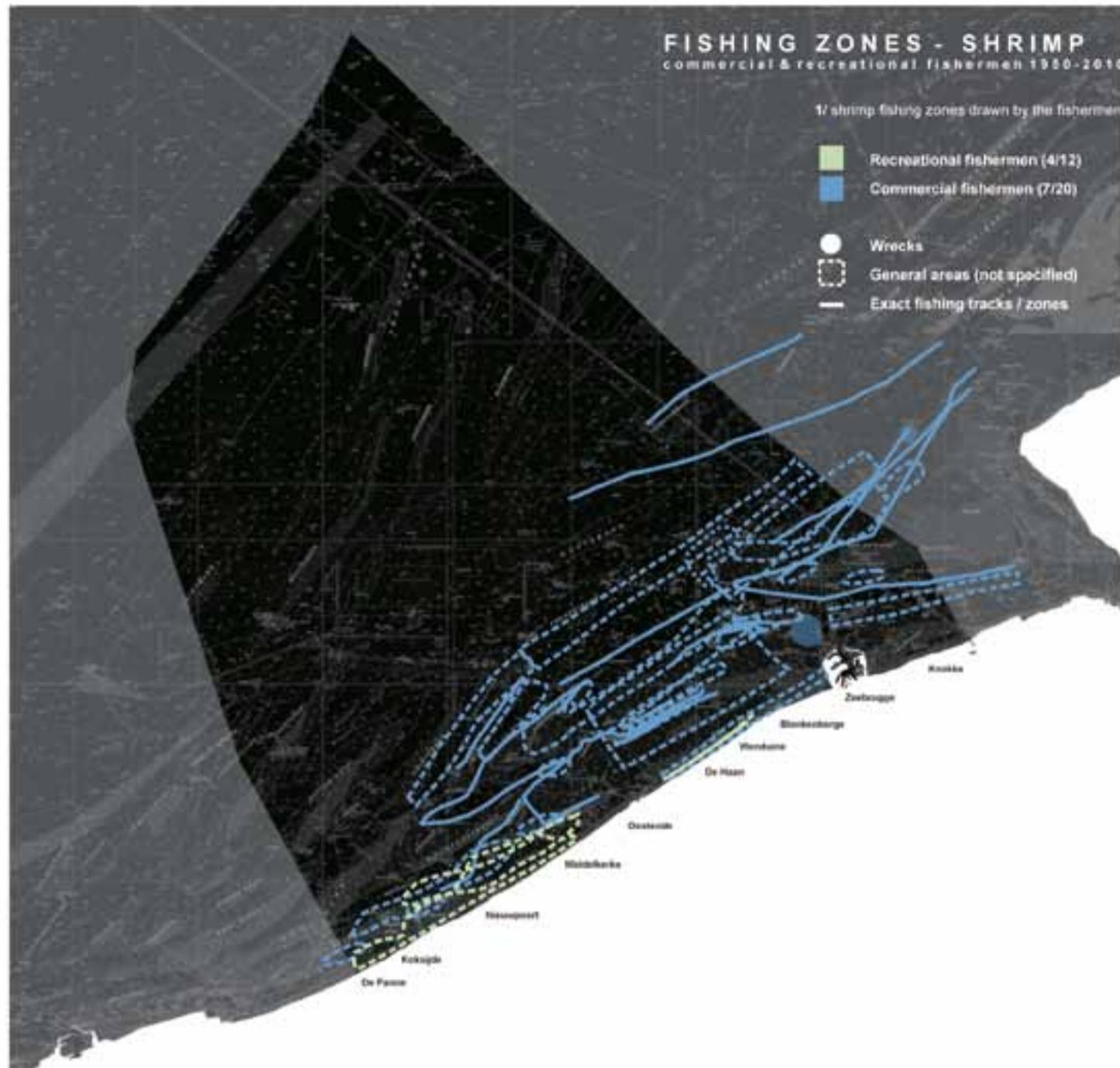
**HERRING - other locations  
& spawning zones**  
commercial & recreational fishermen 1940 - 2010



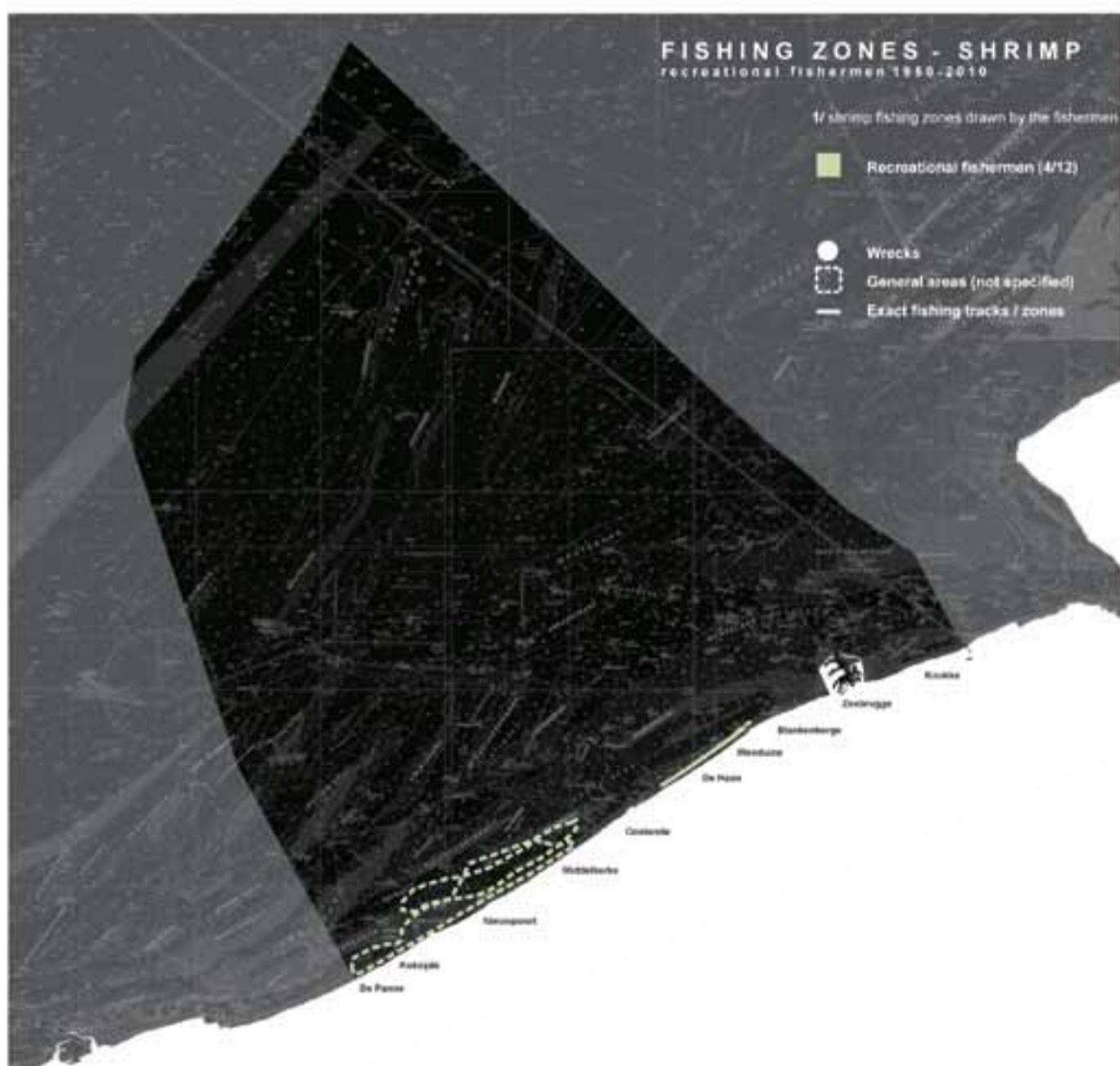
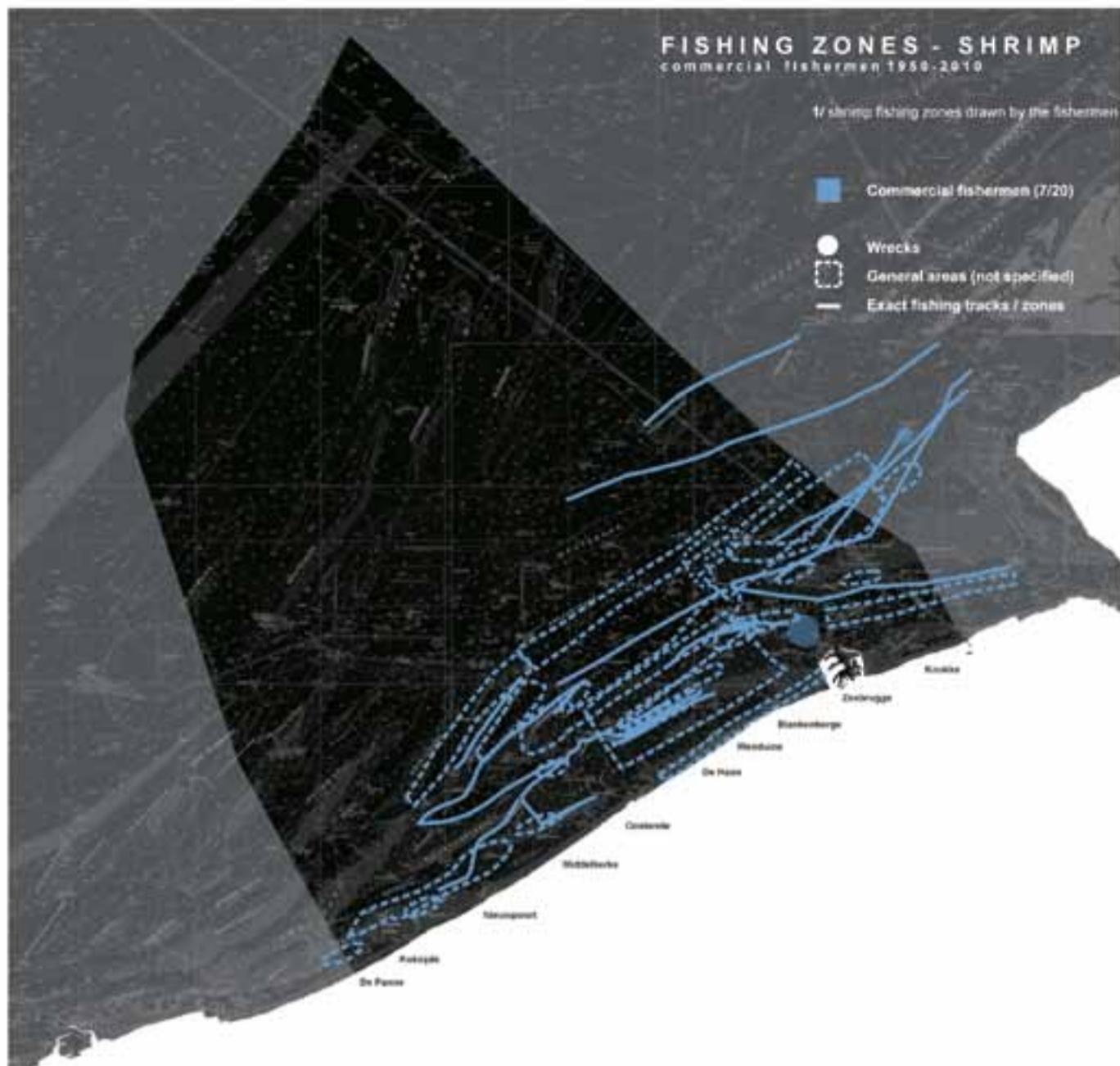


MAPS SERIES VII

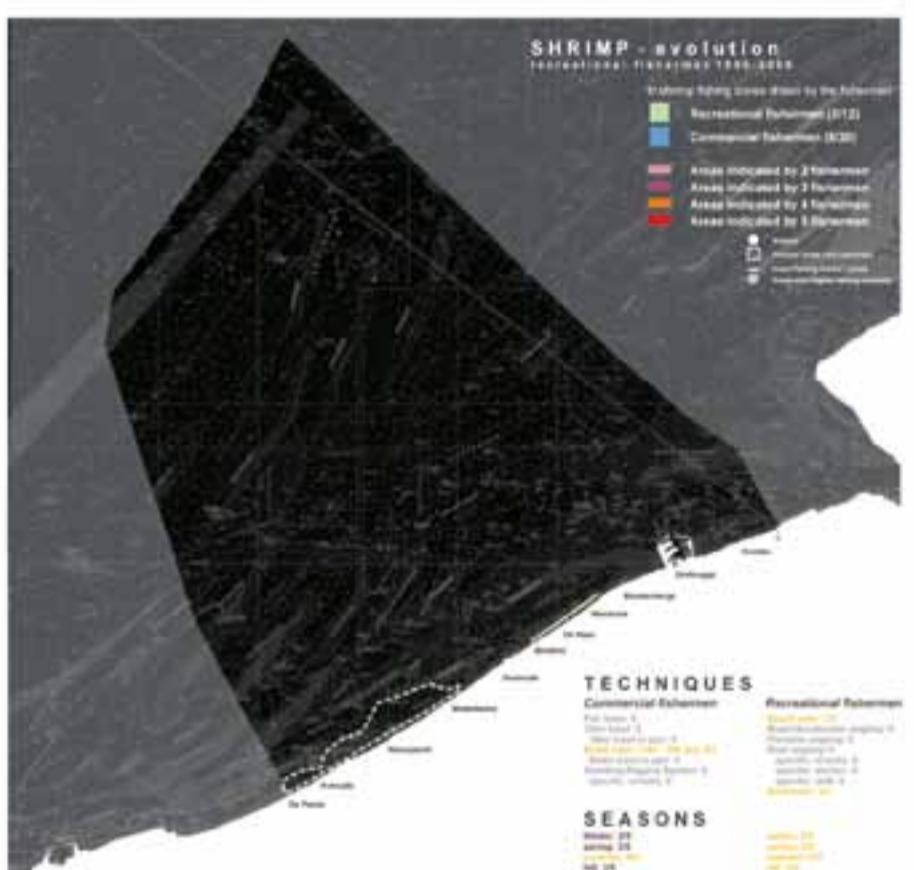
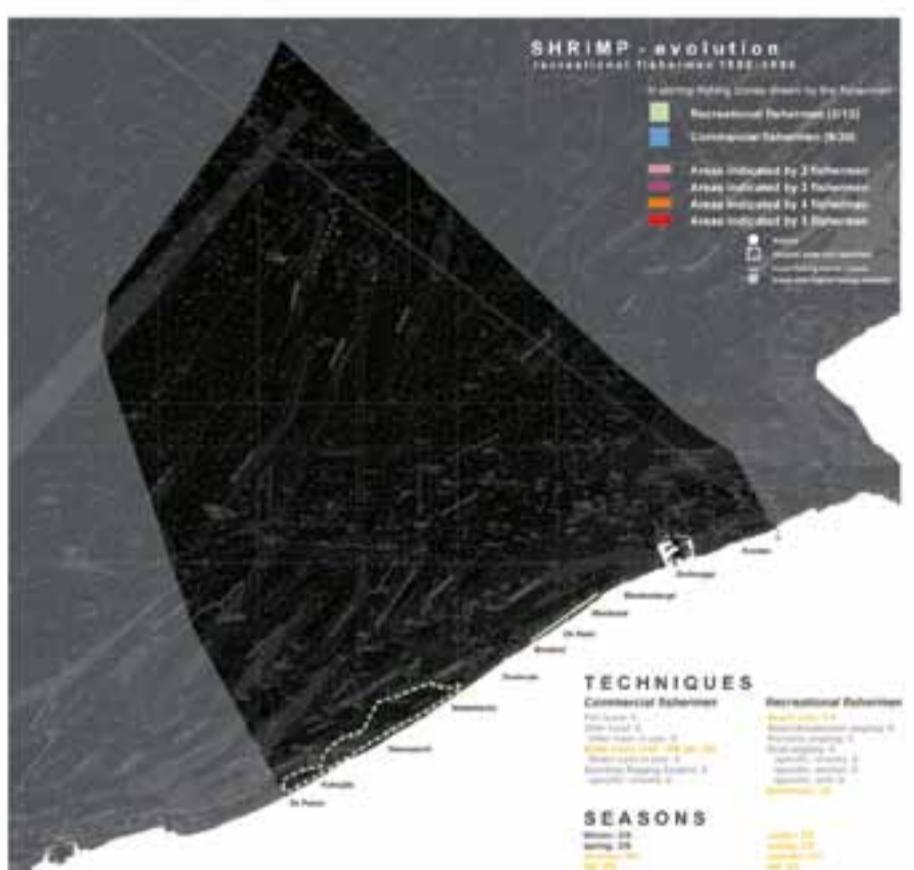
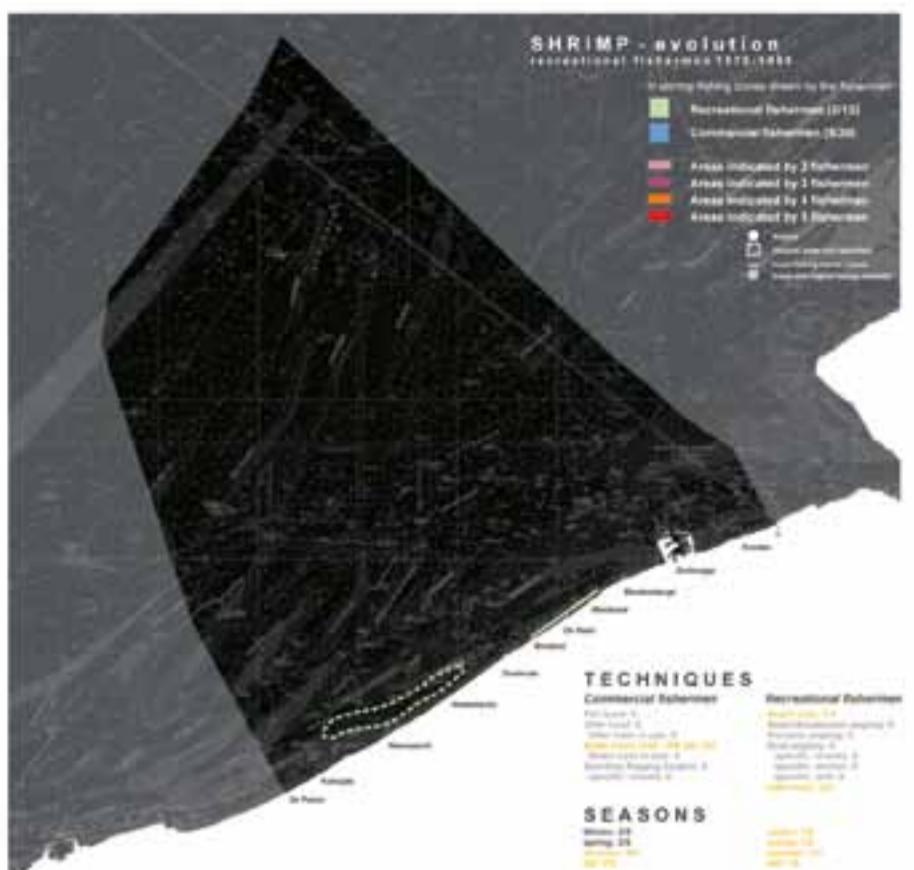
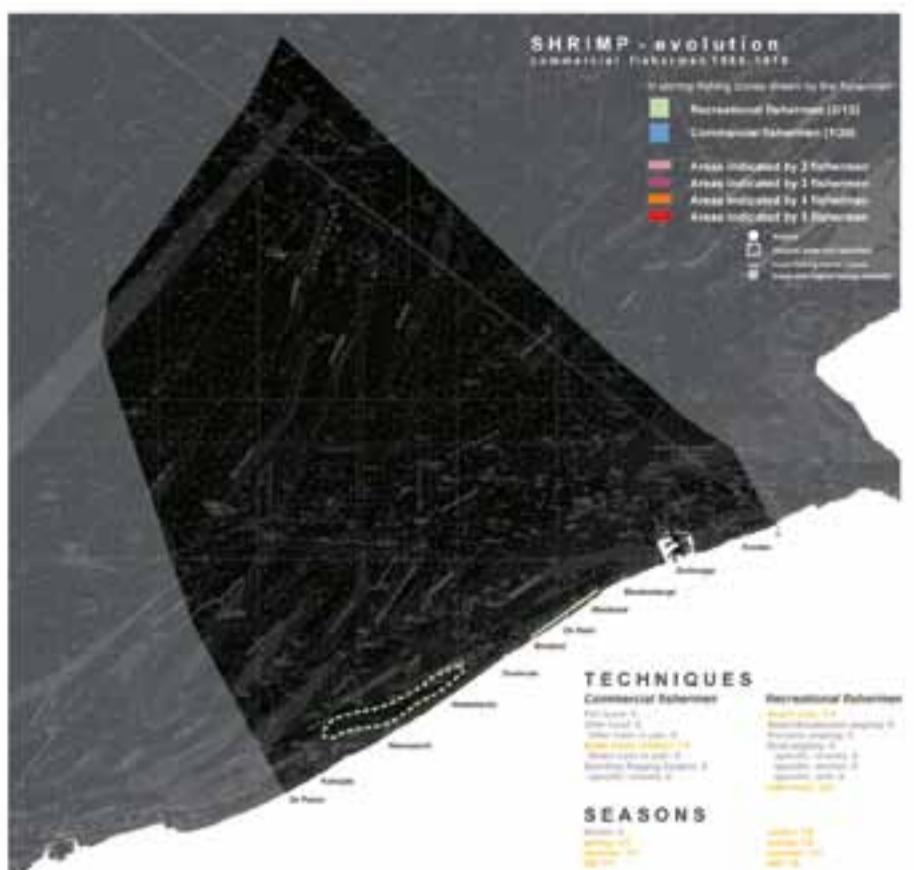
**SHRIMP**



**SHRIMP - fishing zones**  
commercial & recreational fishermen 1950 - 2010

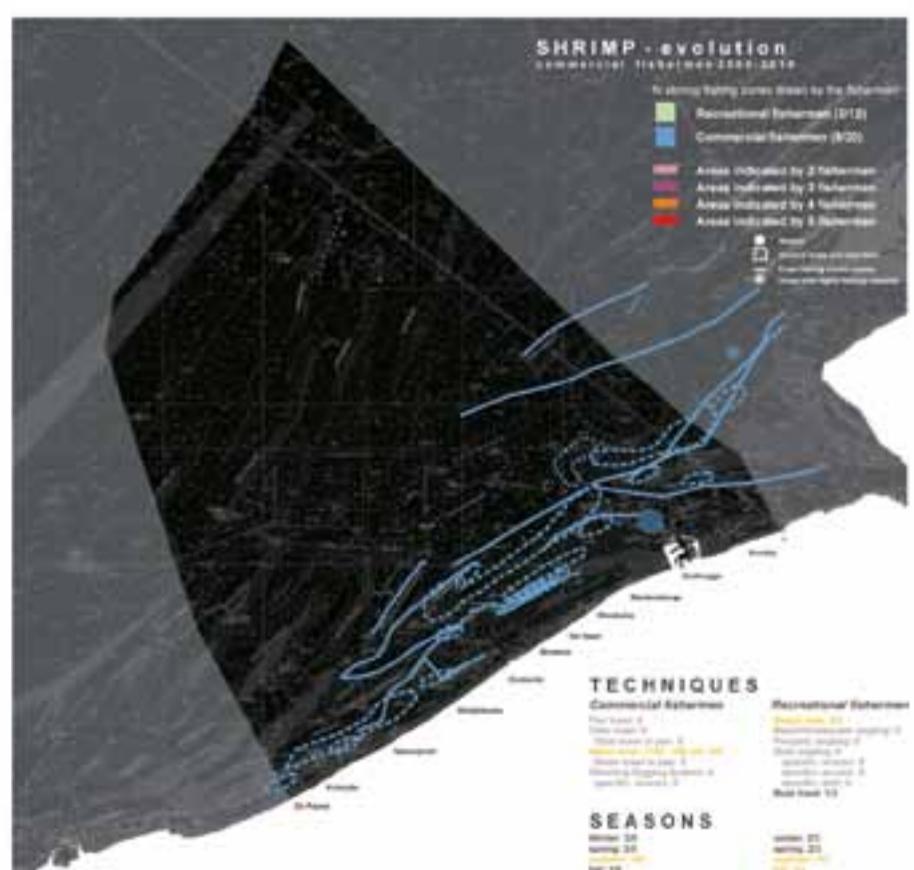
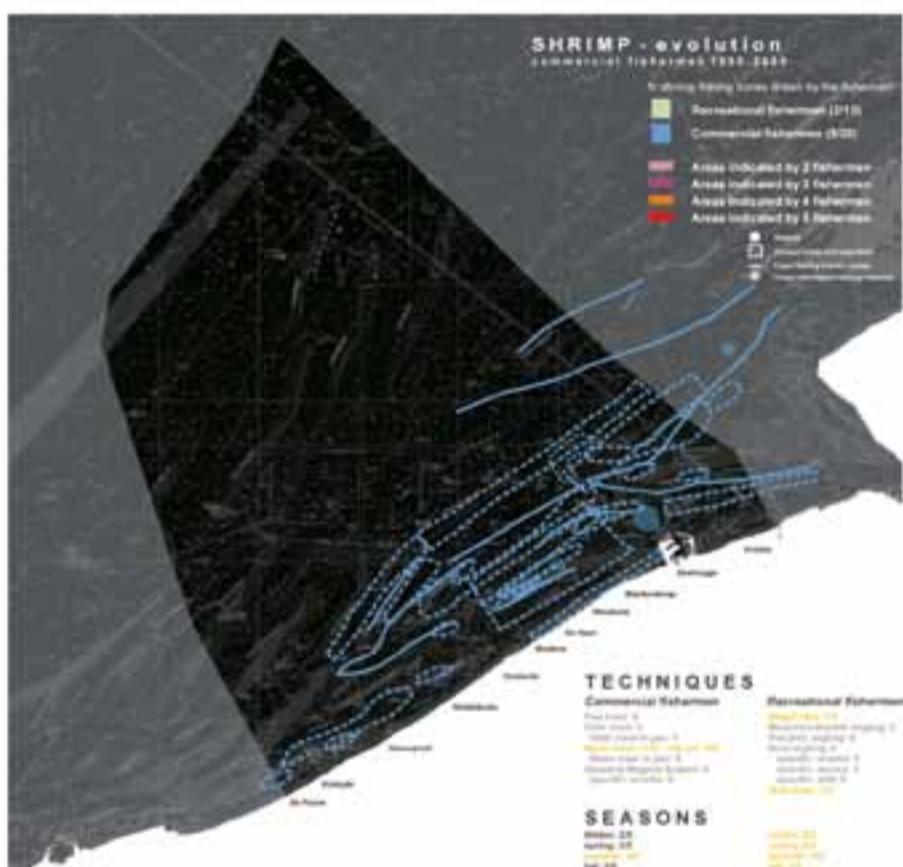
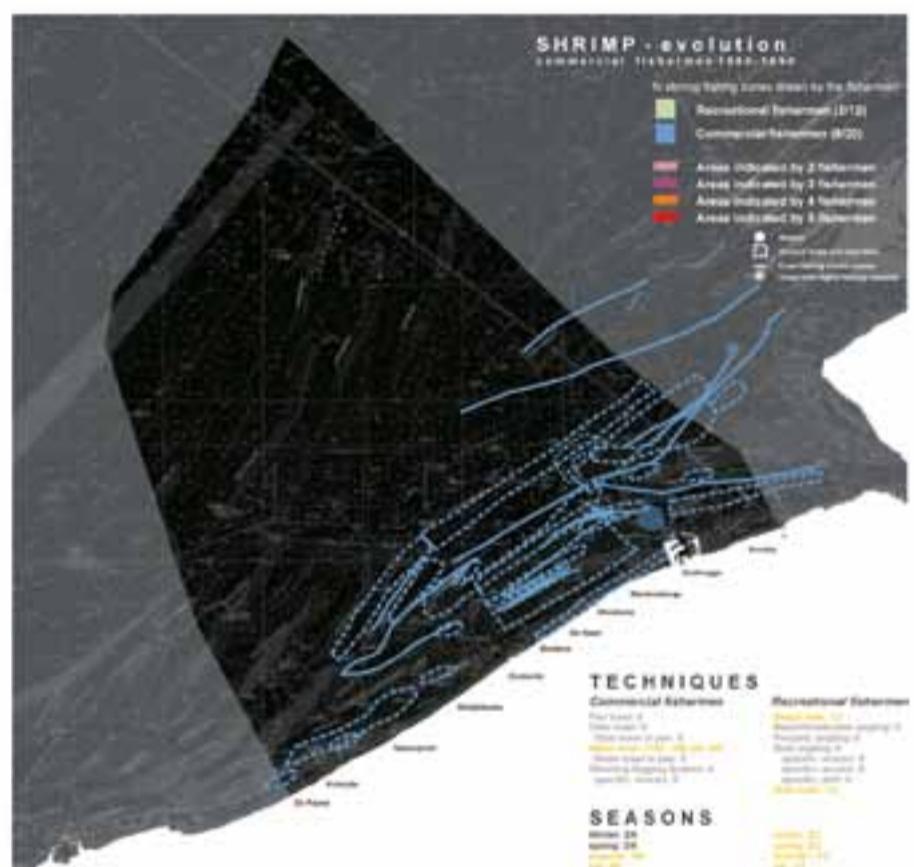
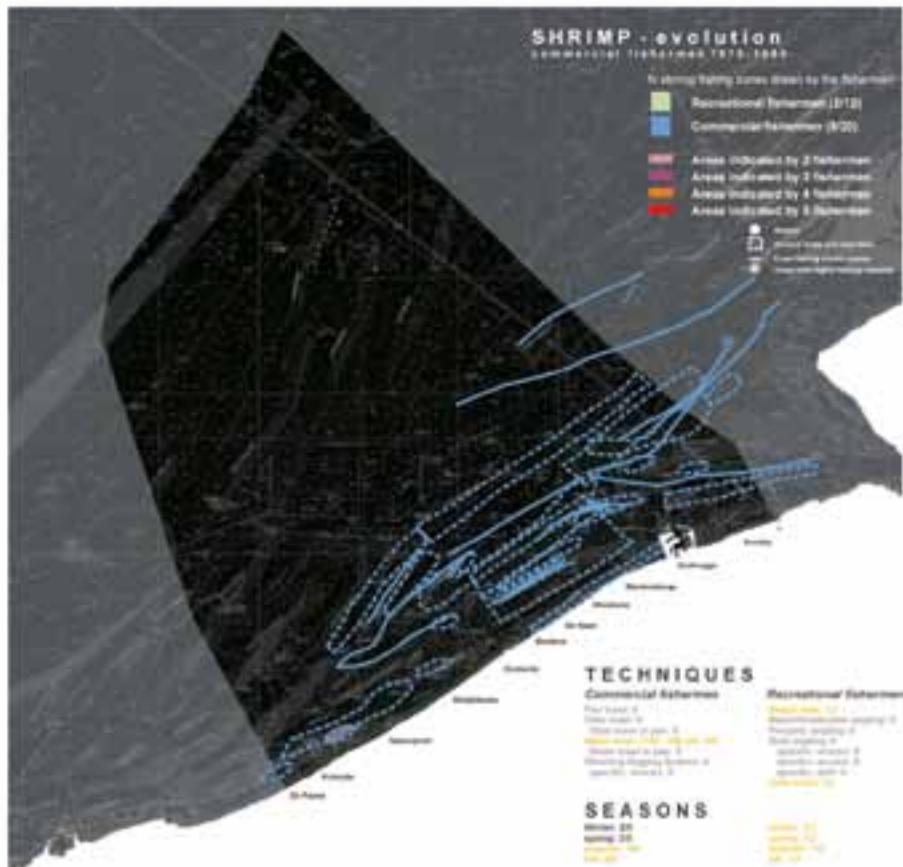
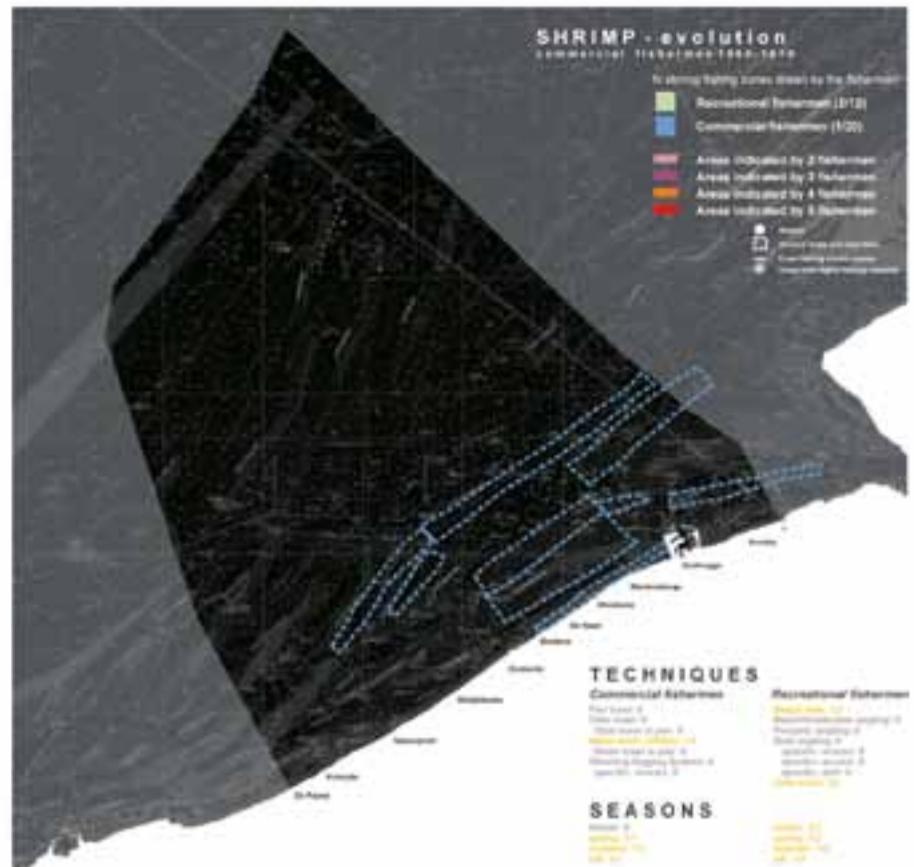


**SHRIMP - fishing zones**  
commercial & recreational fishermen 1950 - 2010



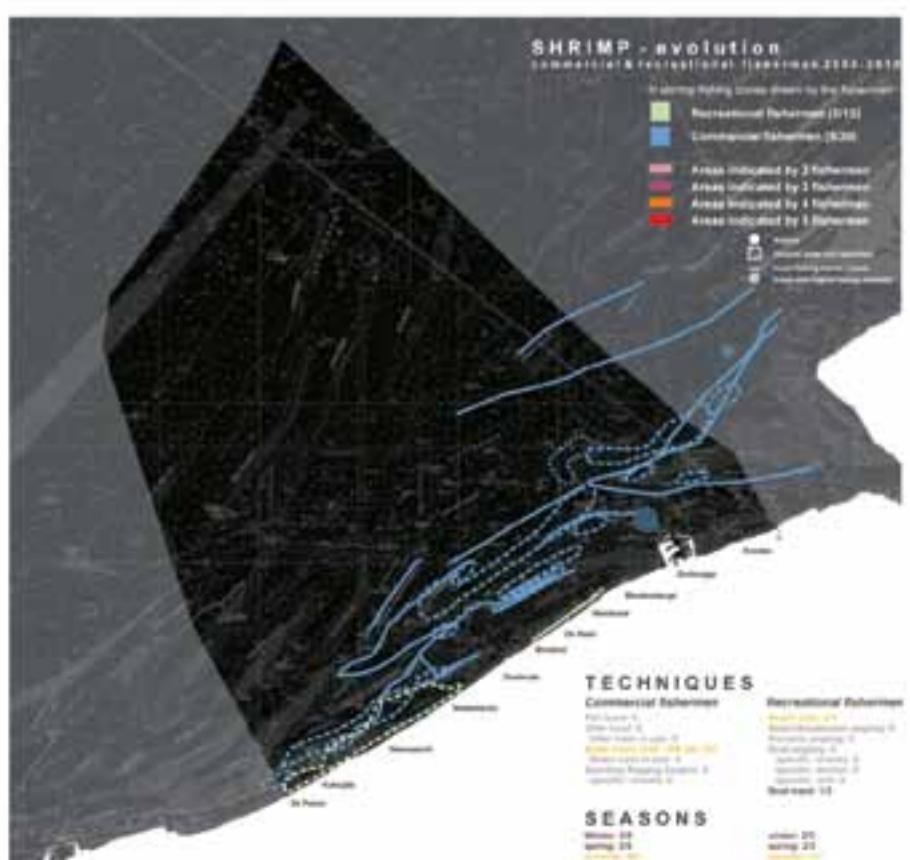
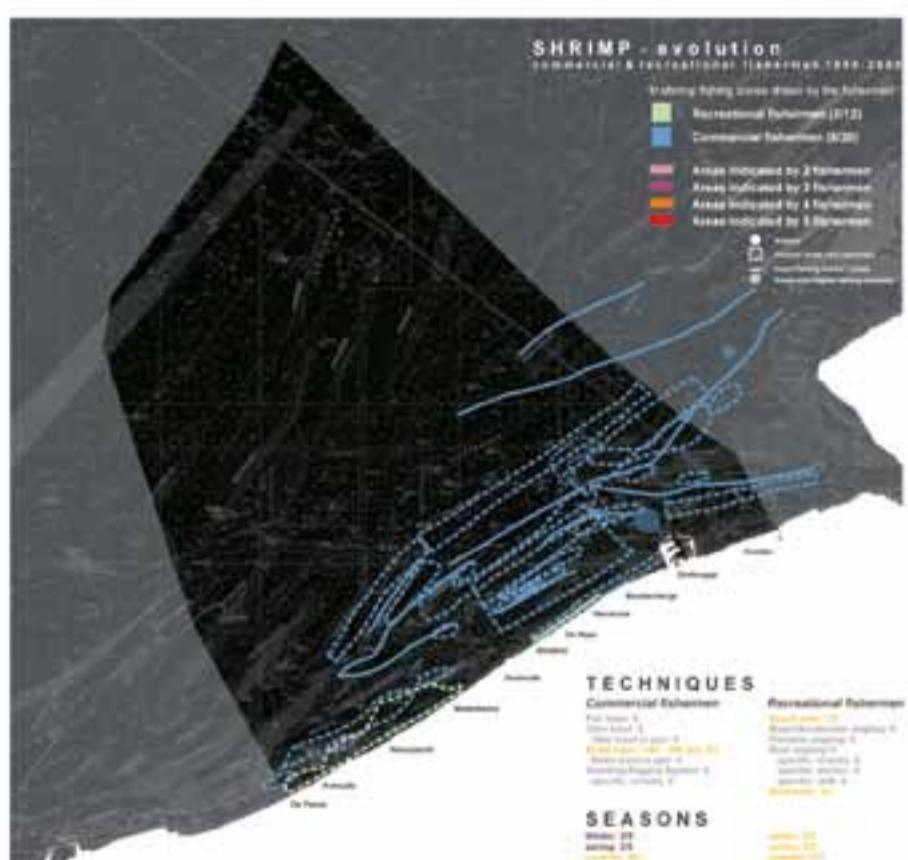
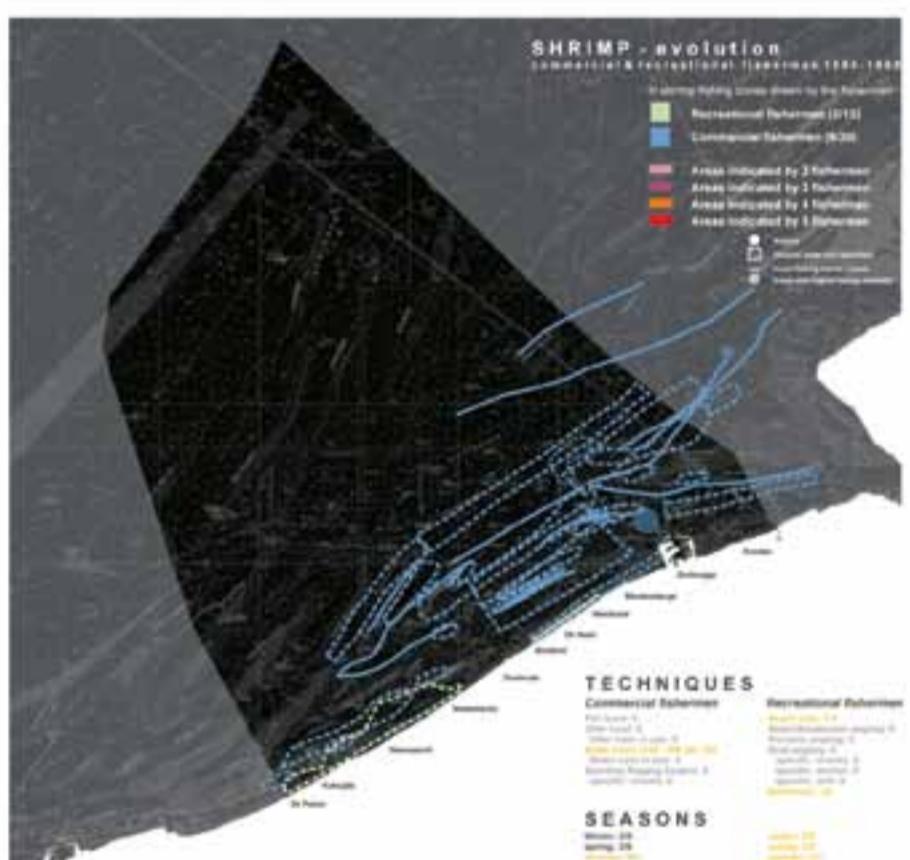
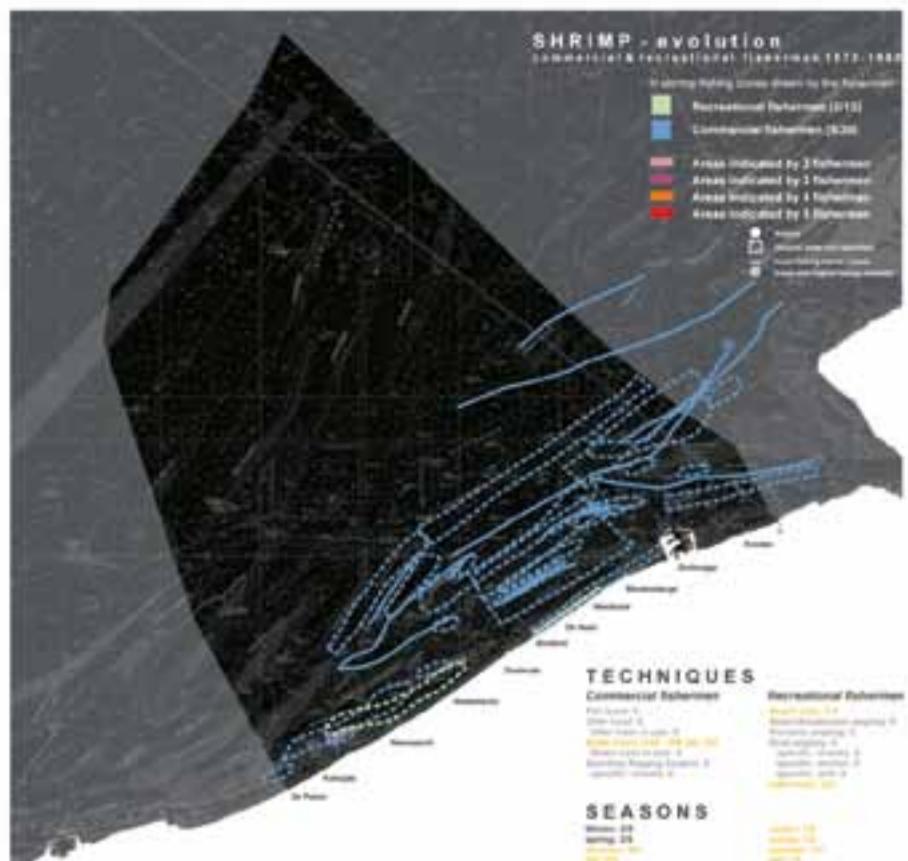
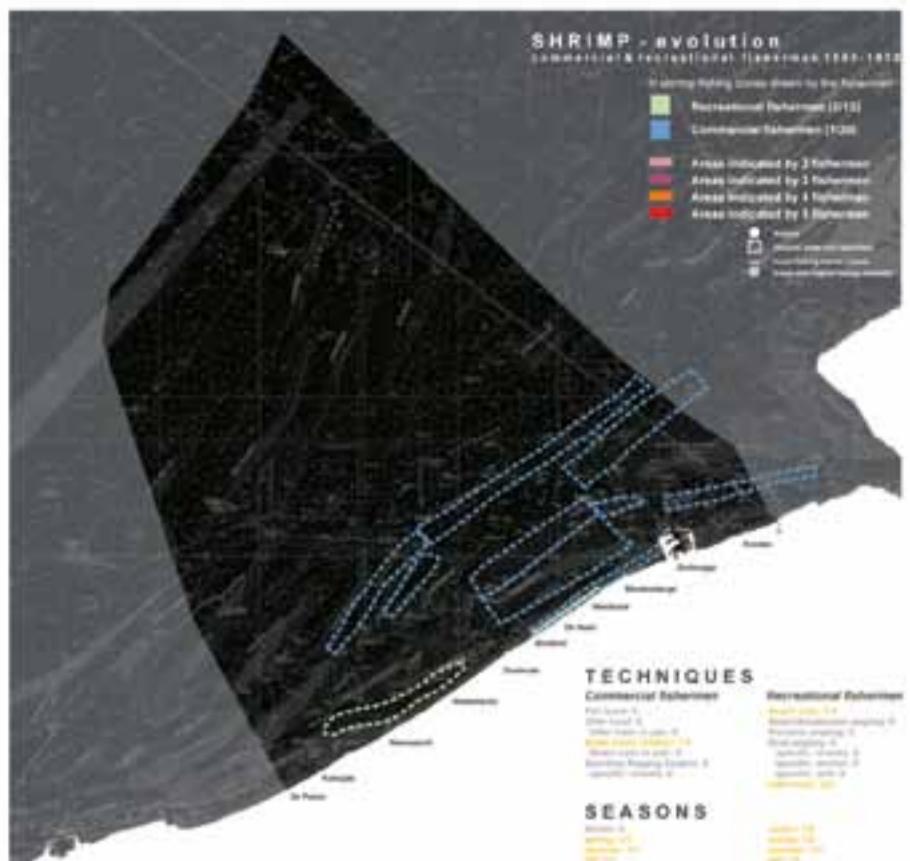
# **S H R I M P - evolution**

## recreational fishermen 1960 - 2010



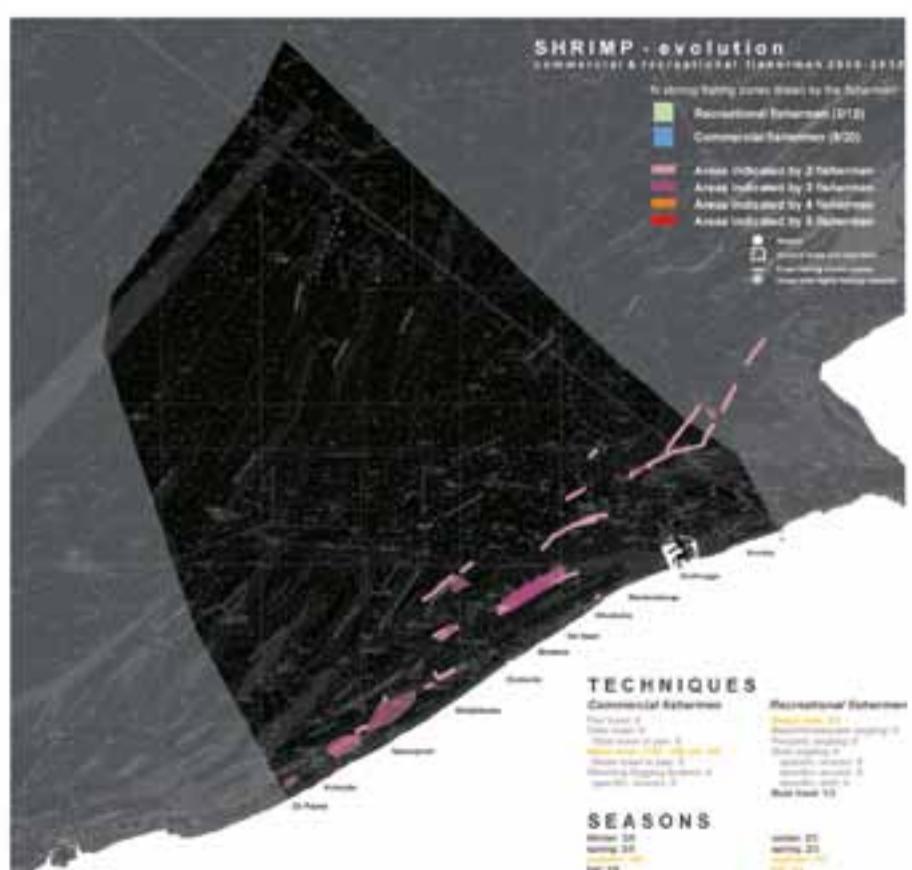
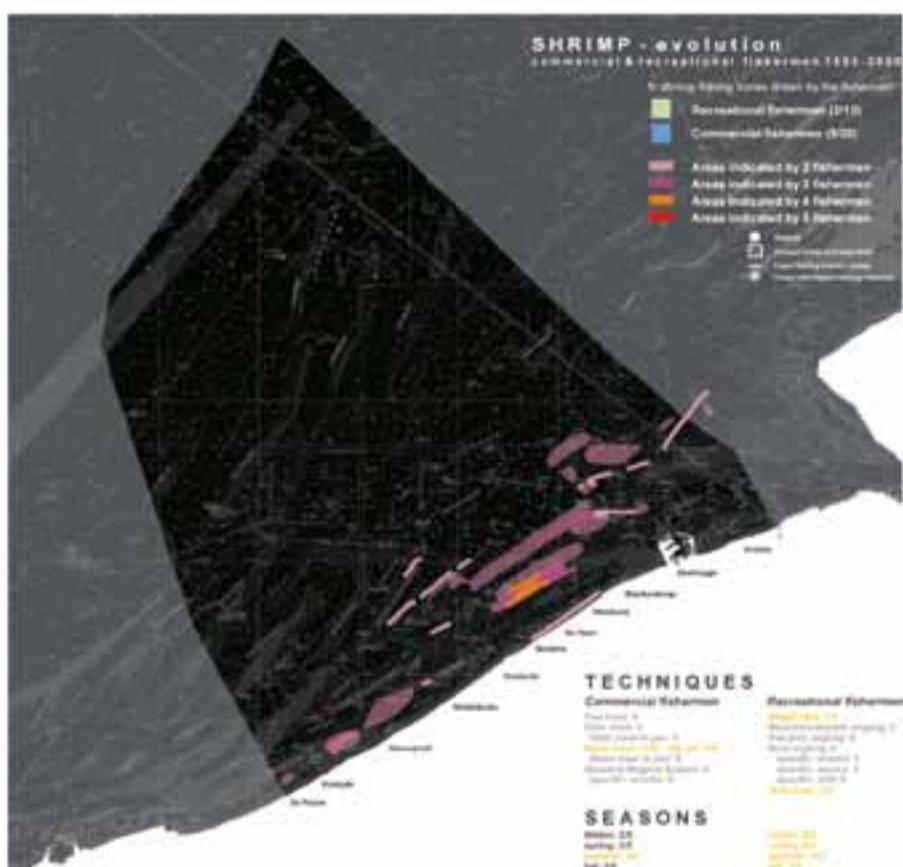
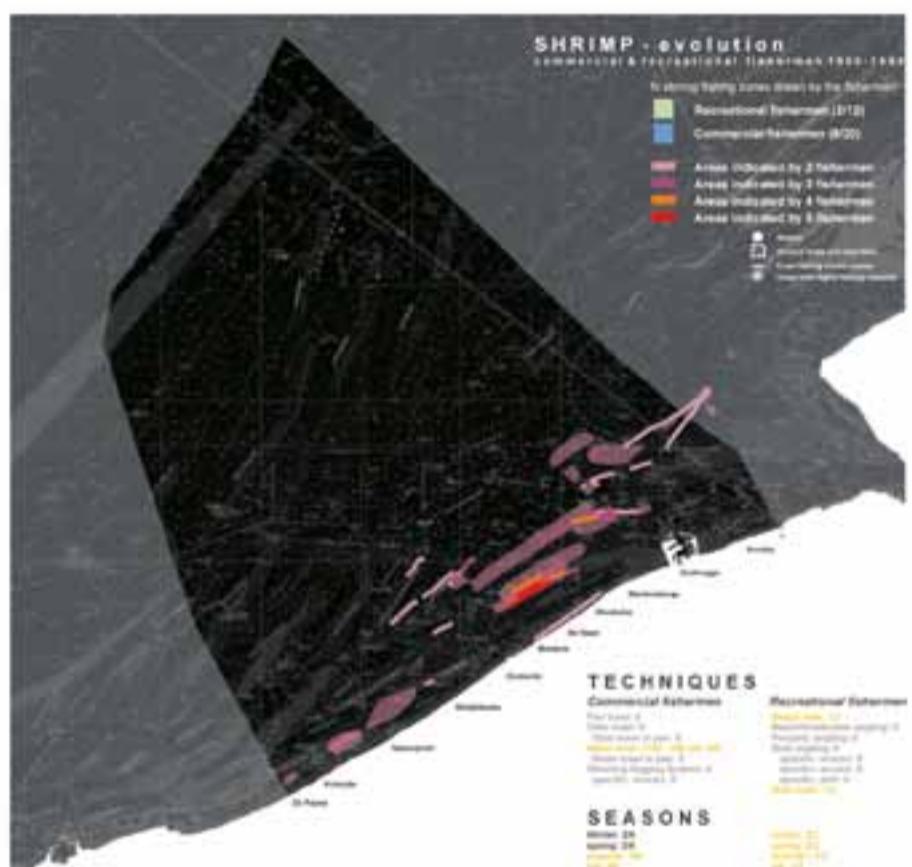
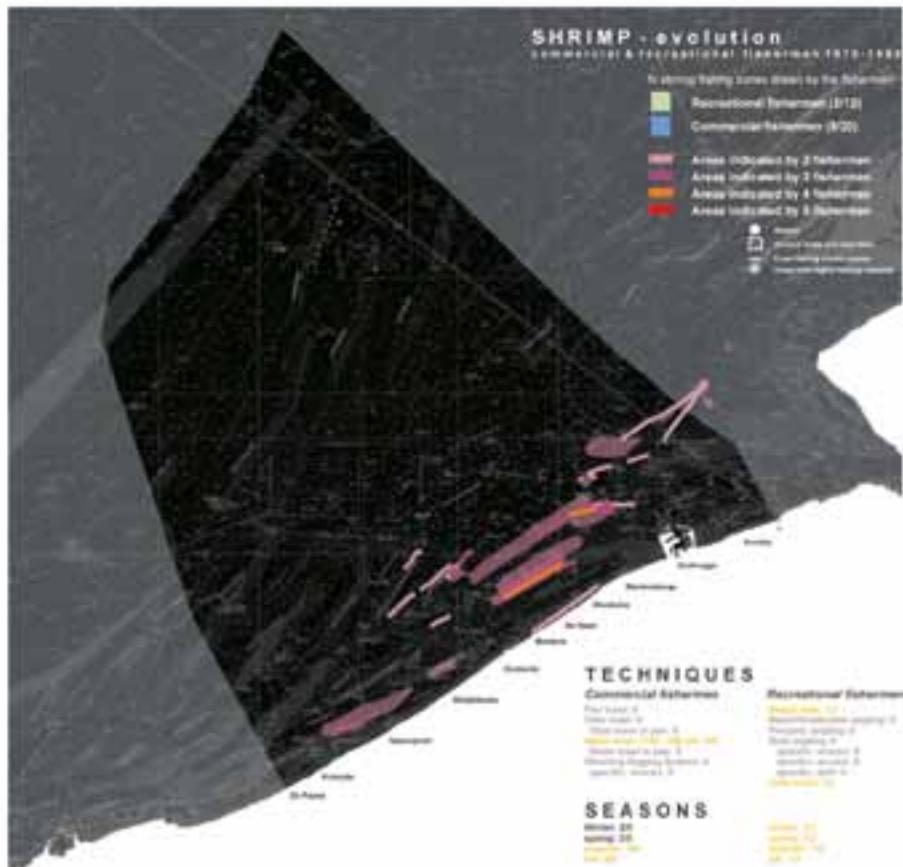
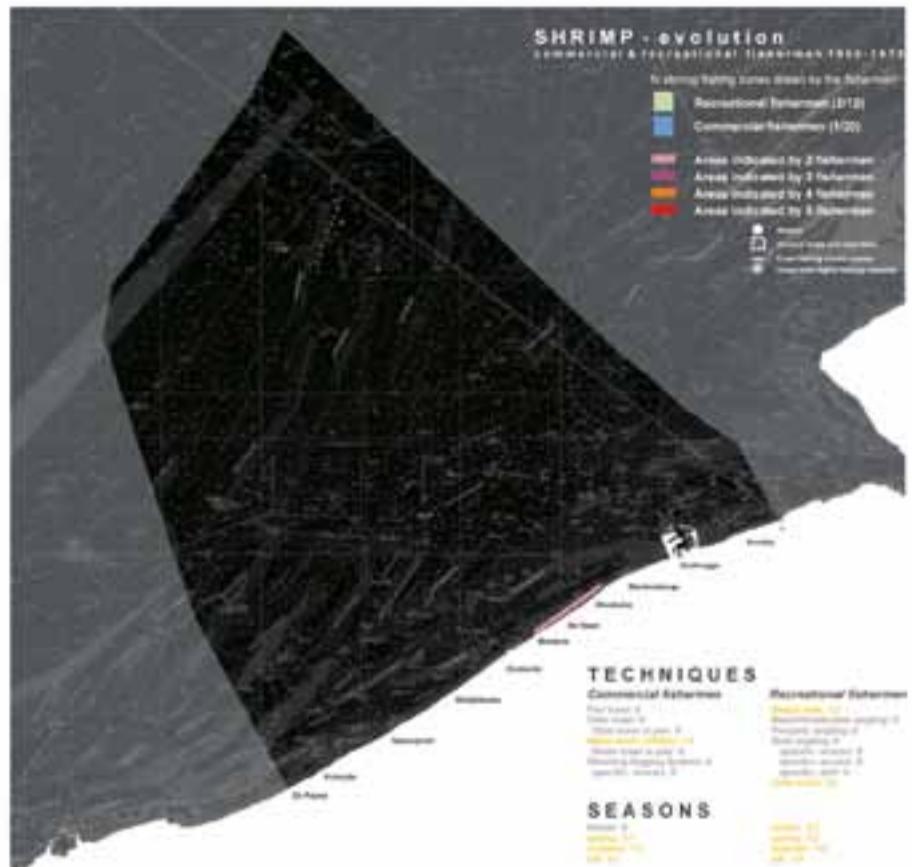
# SHRIMP - evolution

## commercial fishermen 1960 - 2010



# **SHRIMP - evolution**

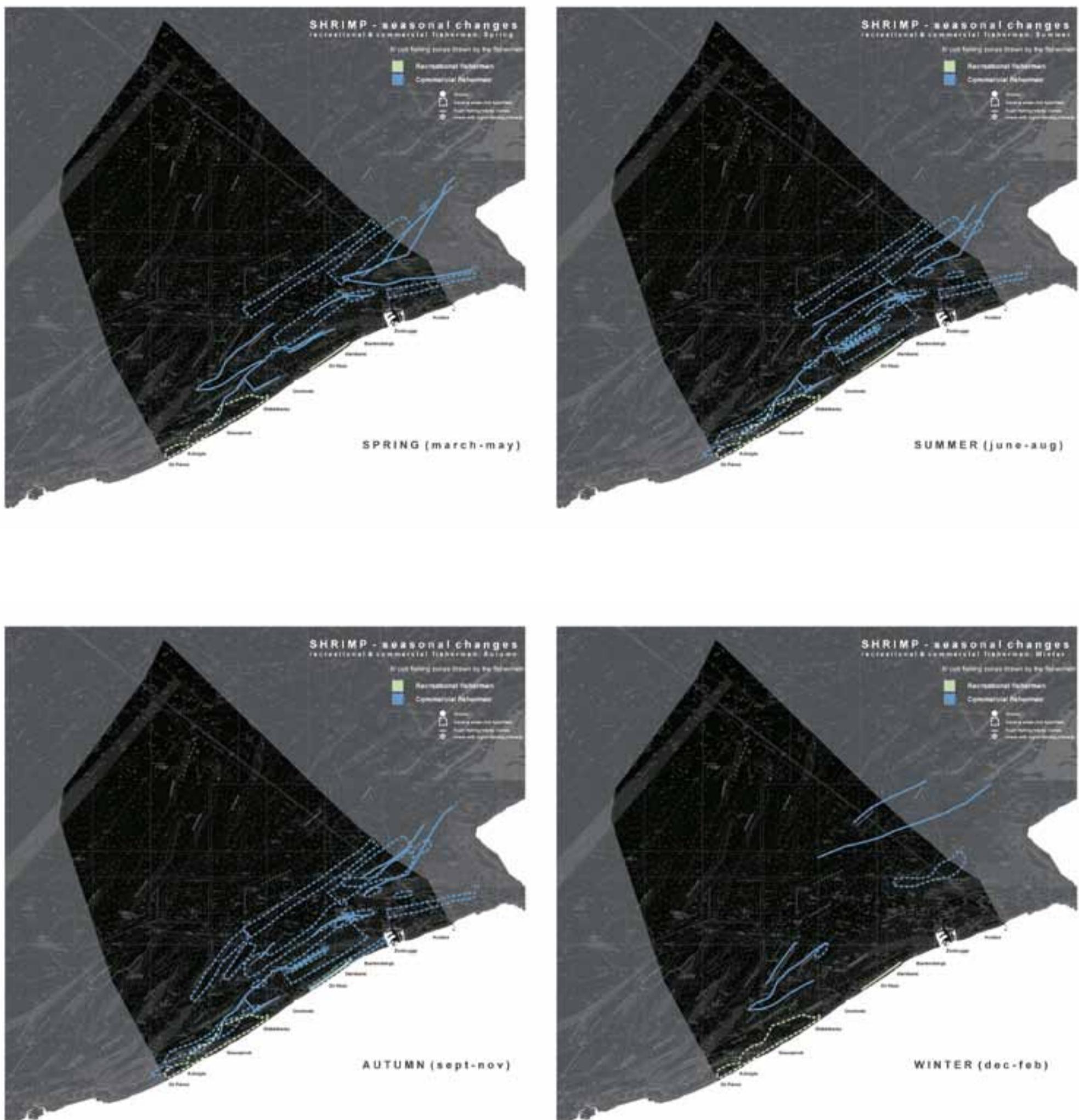
recreational & commercial fishermen 1960 - 2010



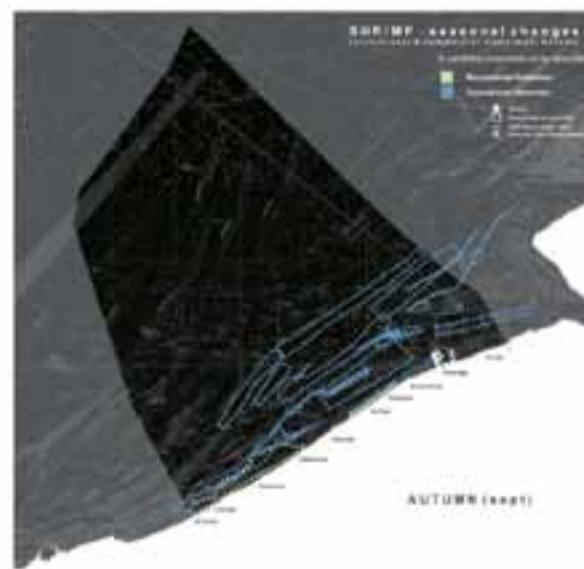
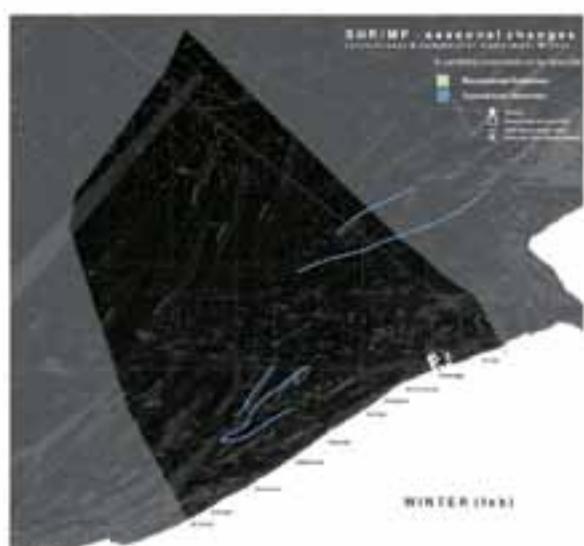
# **SHRIMP - evolution**

## **commercial & recreational fishermen 1960 - 2010**

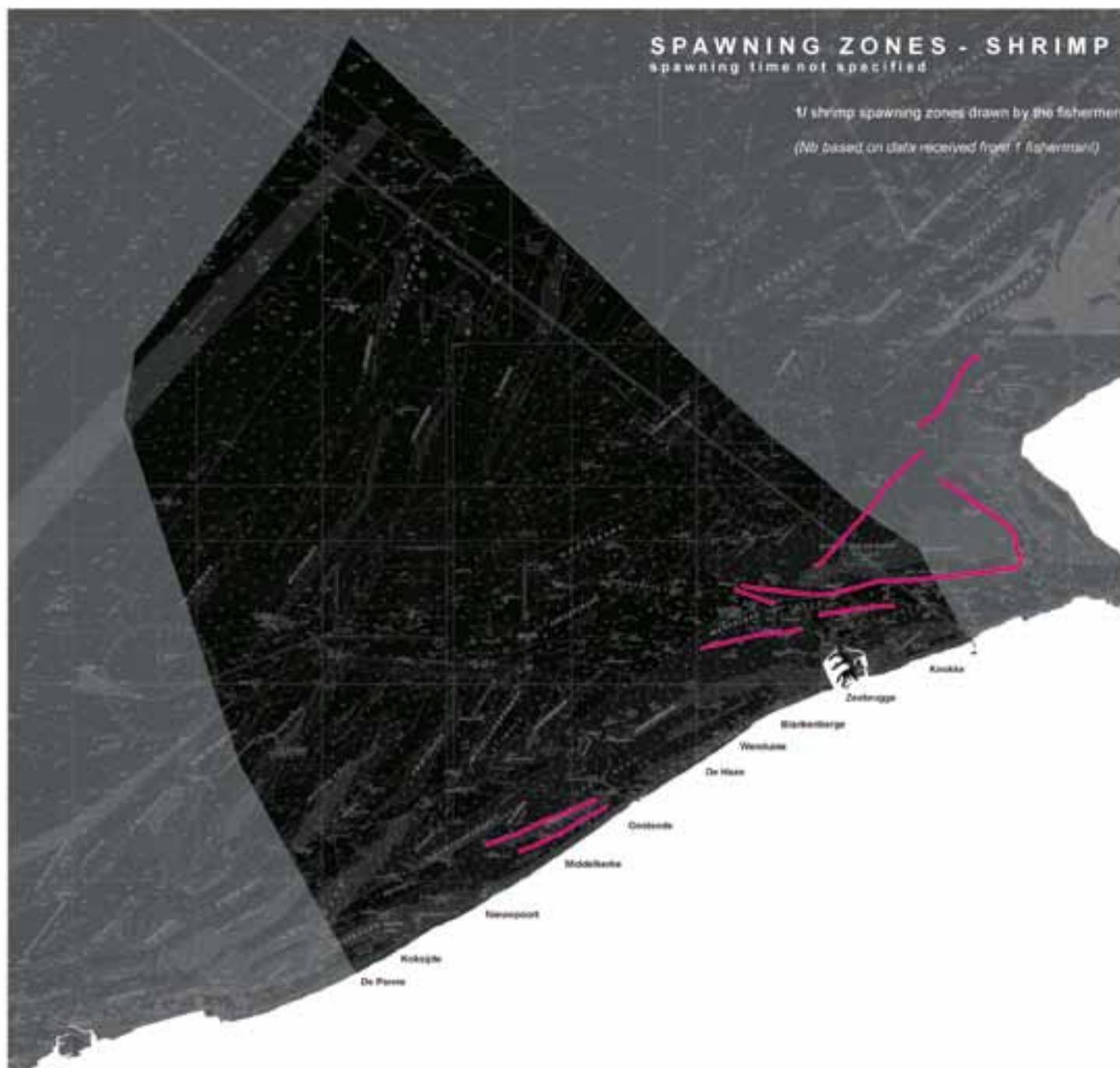
## **areas fished by 2 or more fishermen**



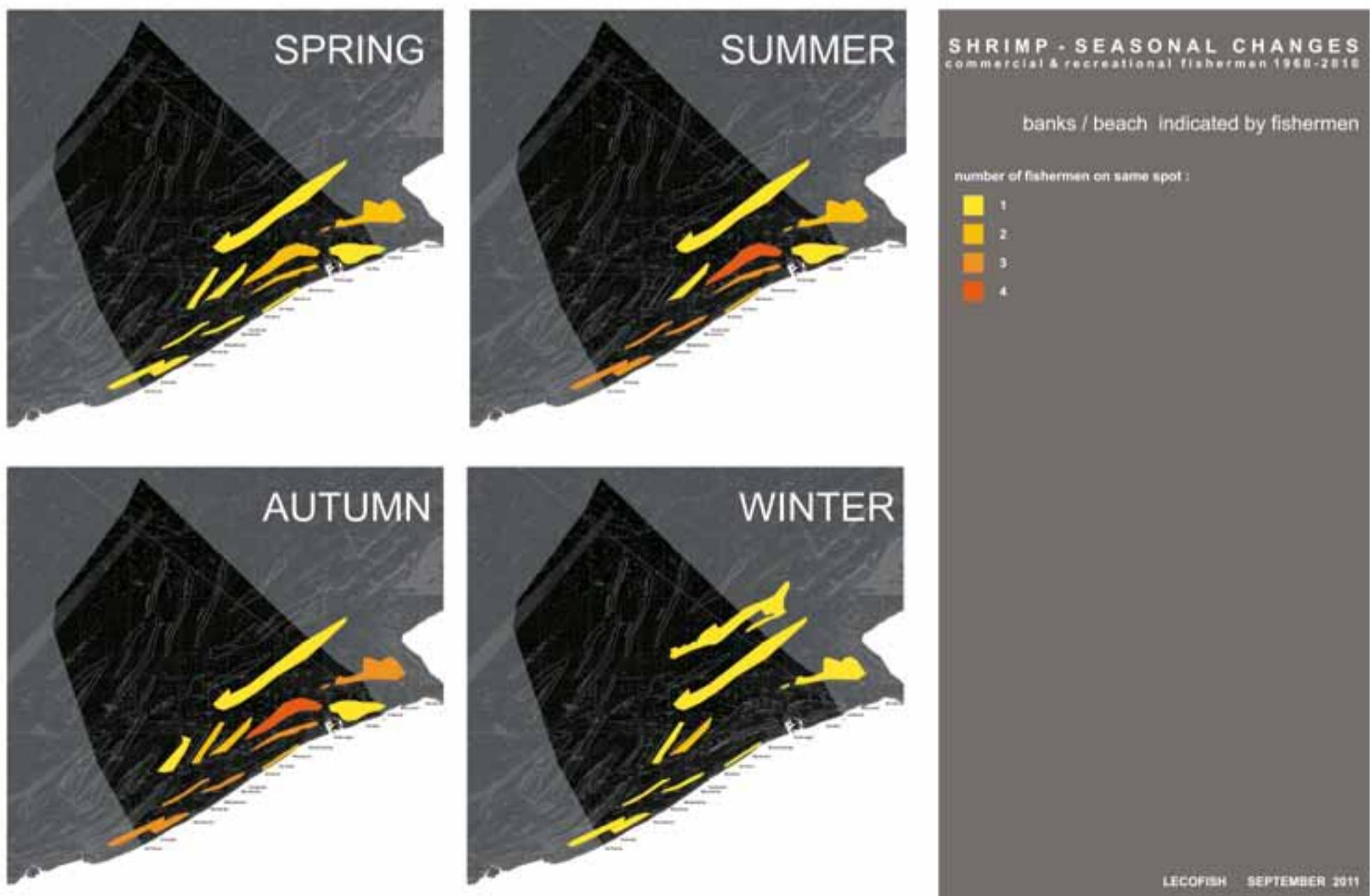
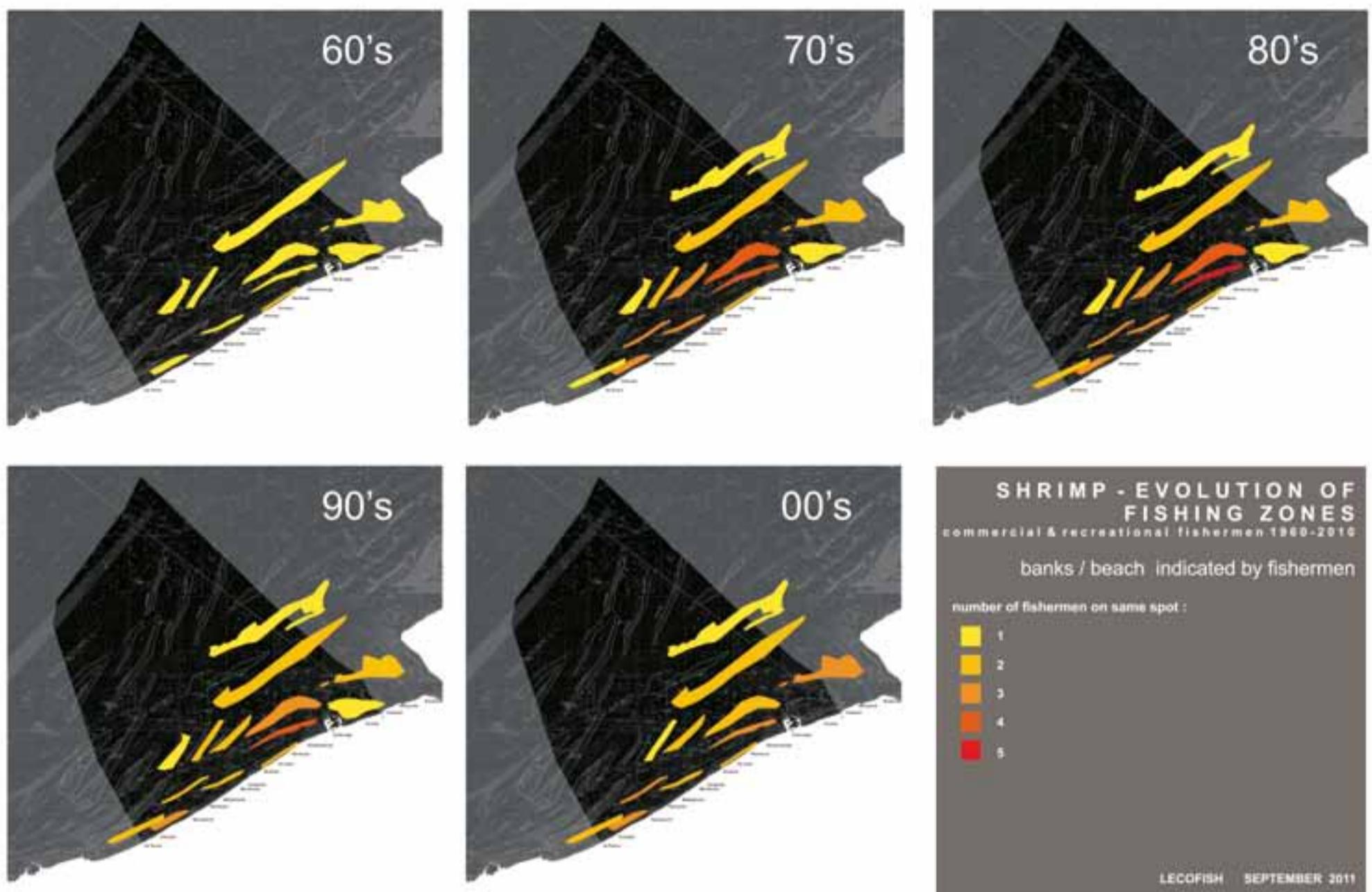
**SHRIMP - seasonal changes**  
commercial & recreational fishermen 1950 - 2010



**SHRIMP - seasonal changes  
january-december**  
commercial & recreational fishermen 1950 - 2010



**SHRIMP - spawning zones**  
commercial & recreational fishermen 1950 - 2010

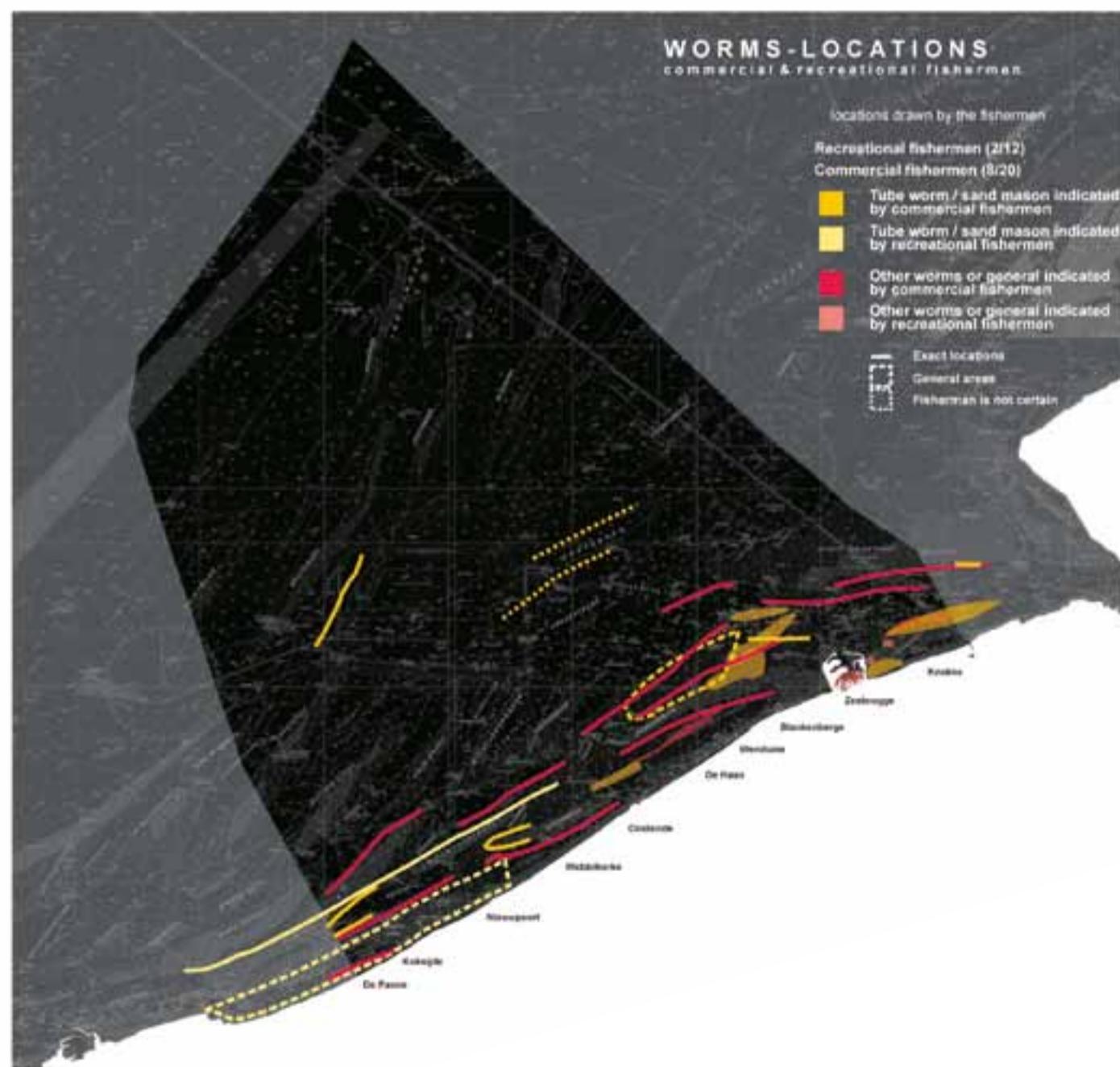
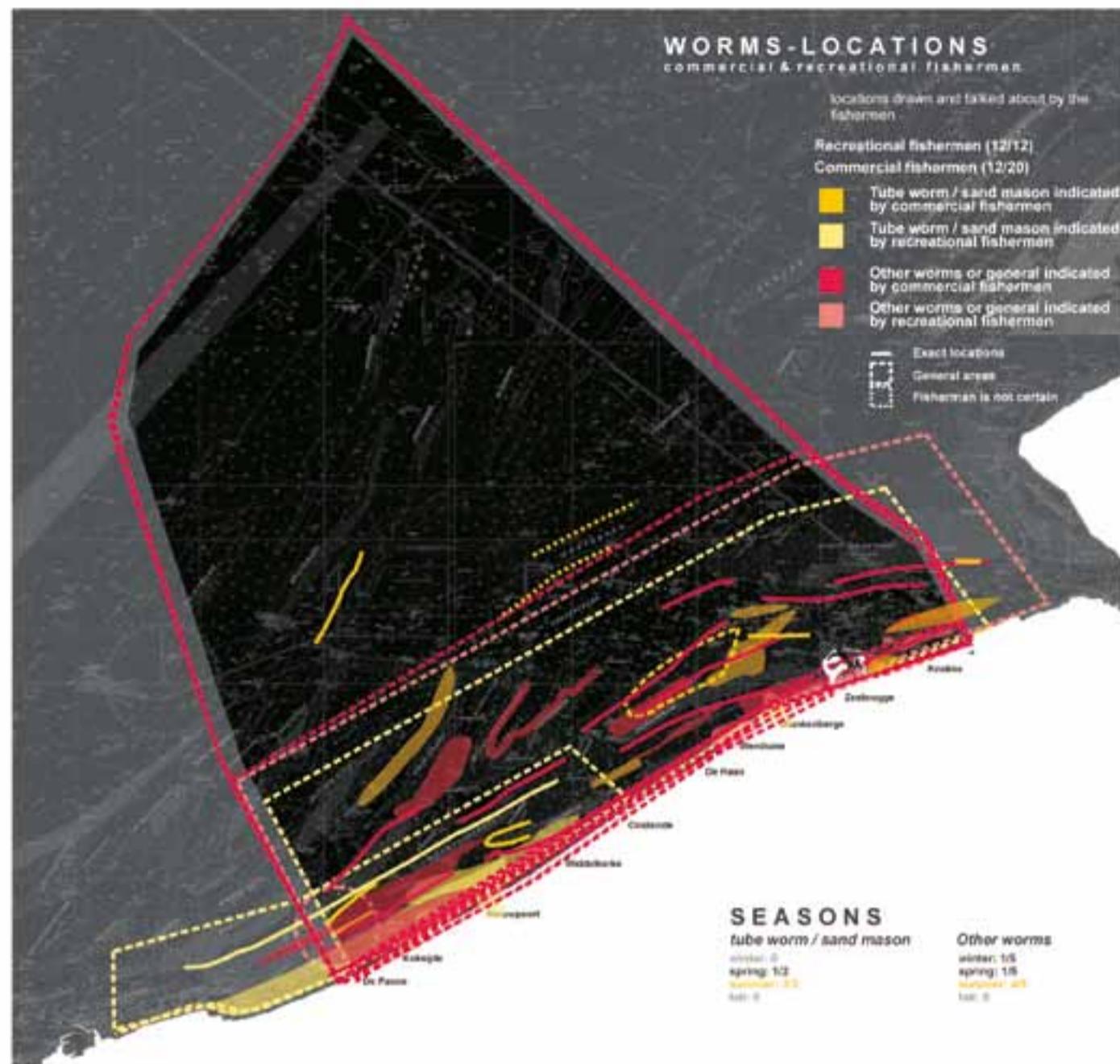


**SHRIMP - structure maps**  
commercial & recreational fishermen 1950 - 2010

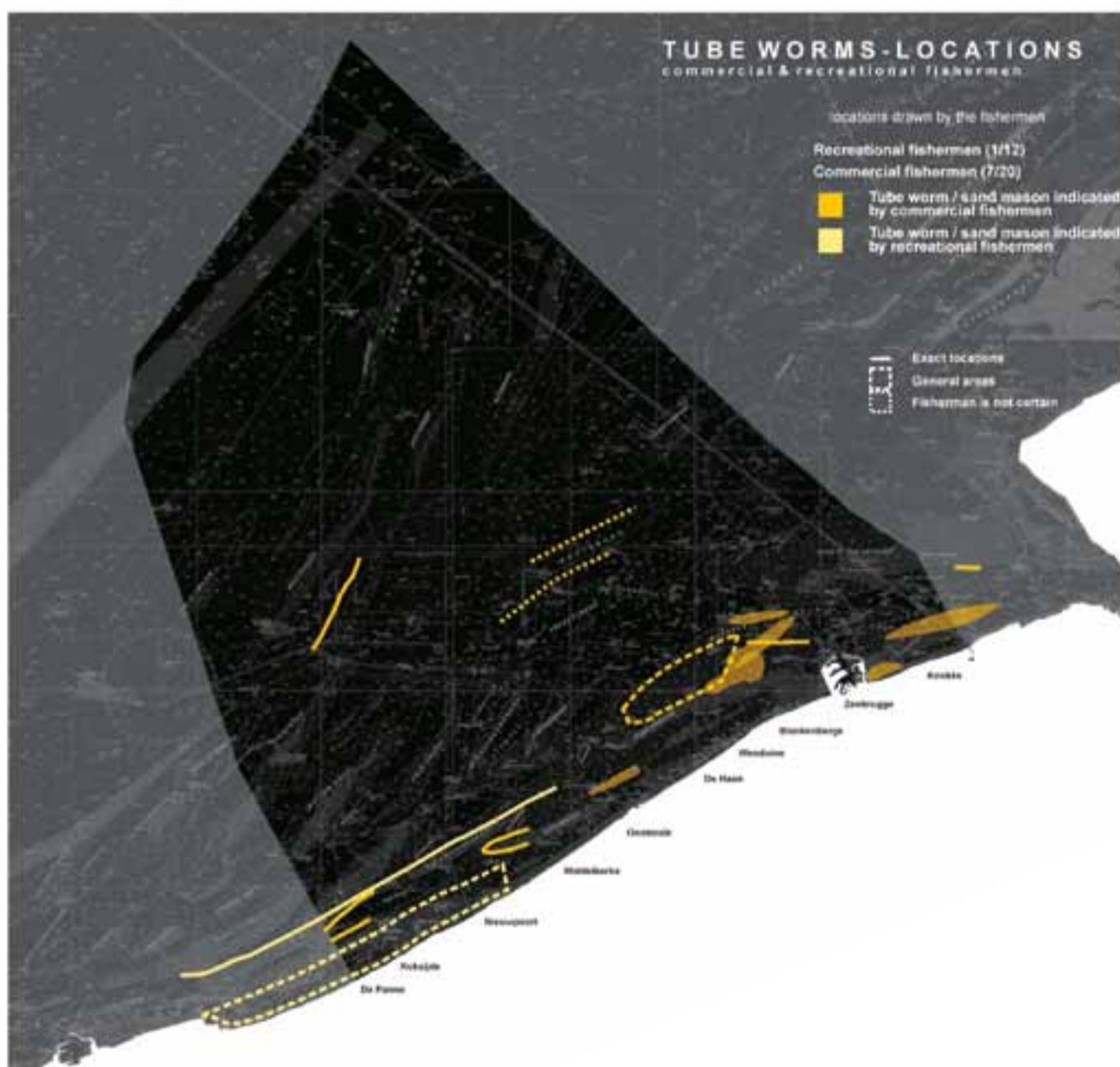
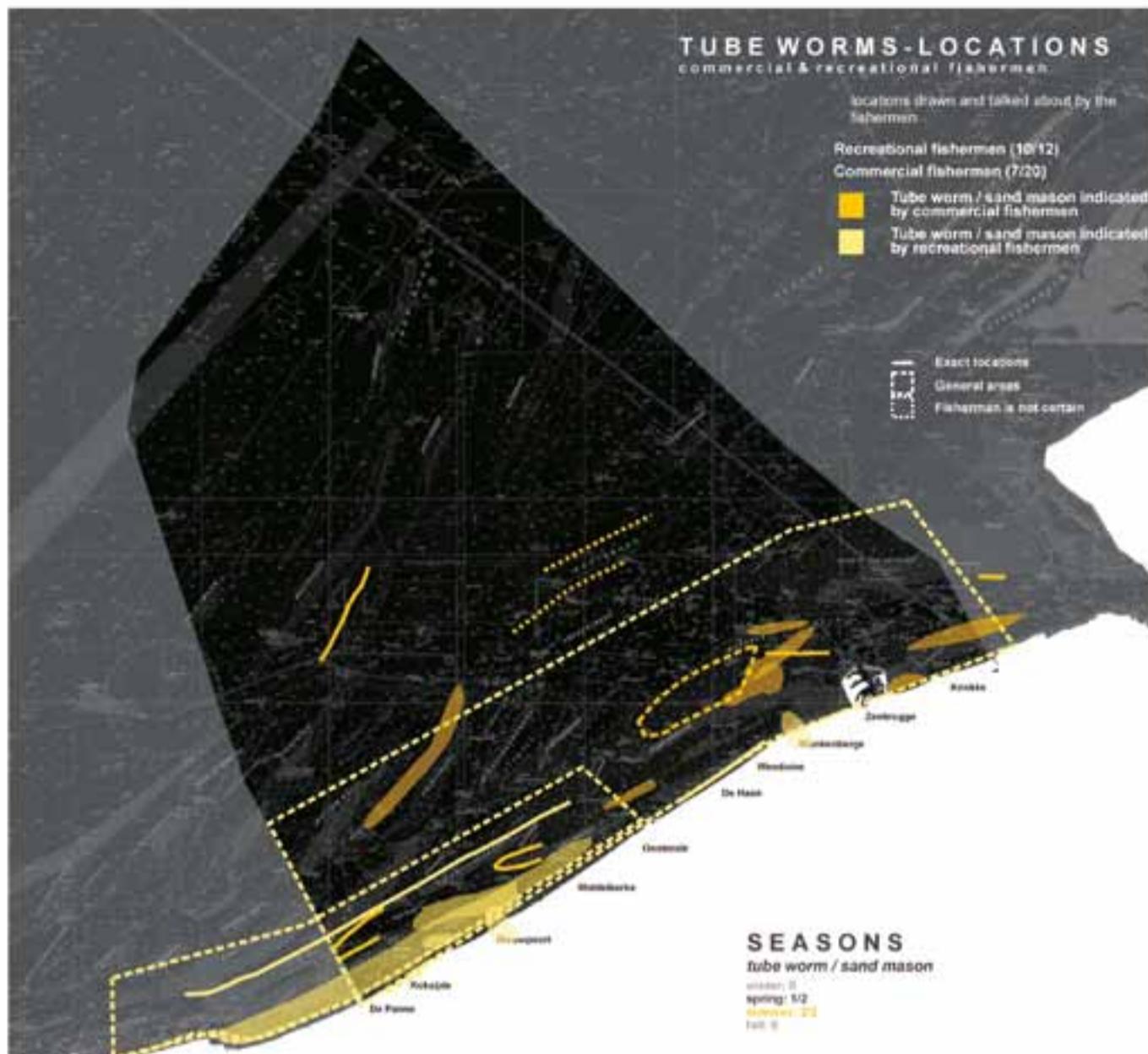


MAPS SERIES VIII

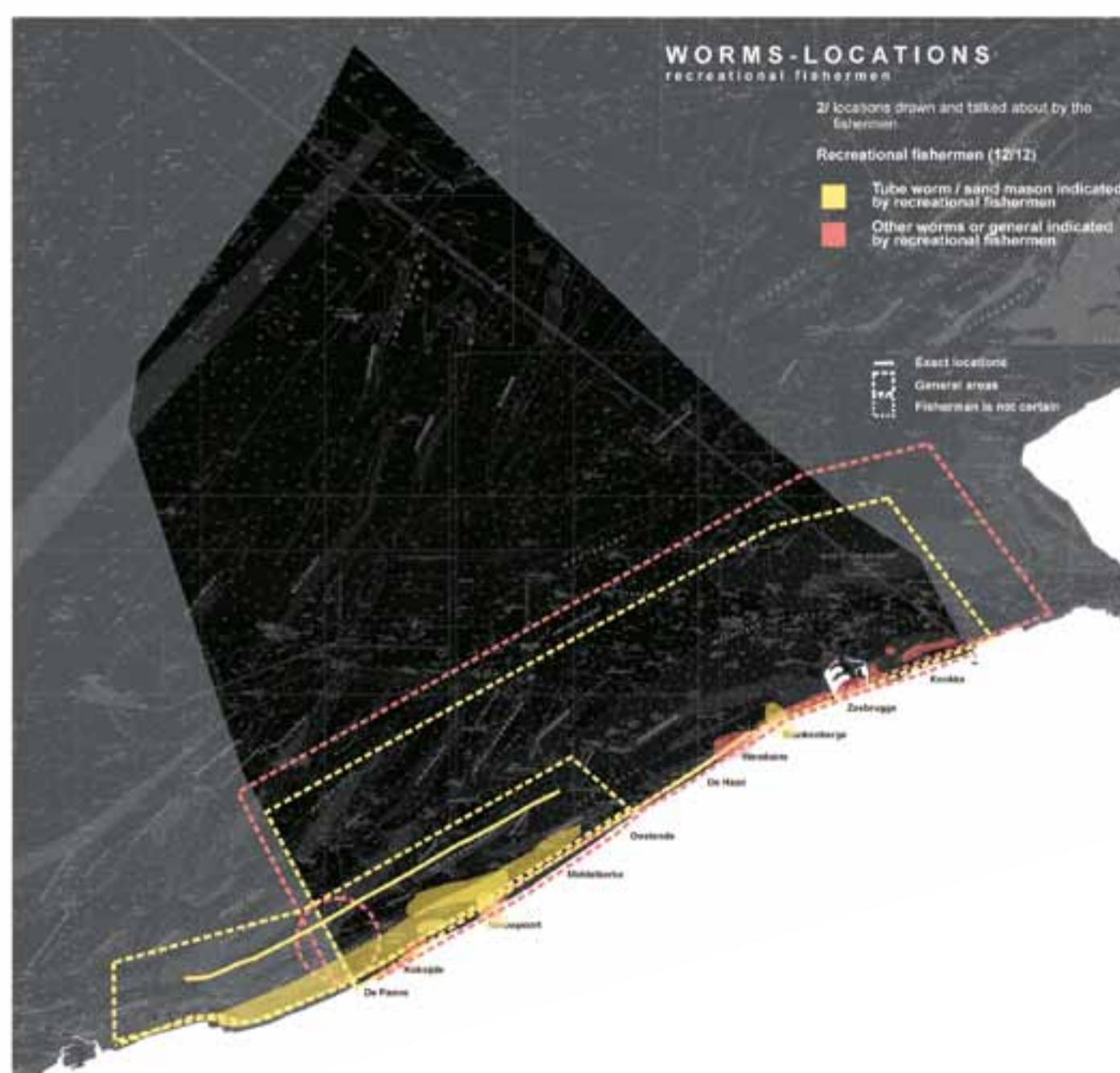
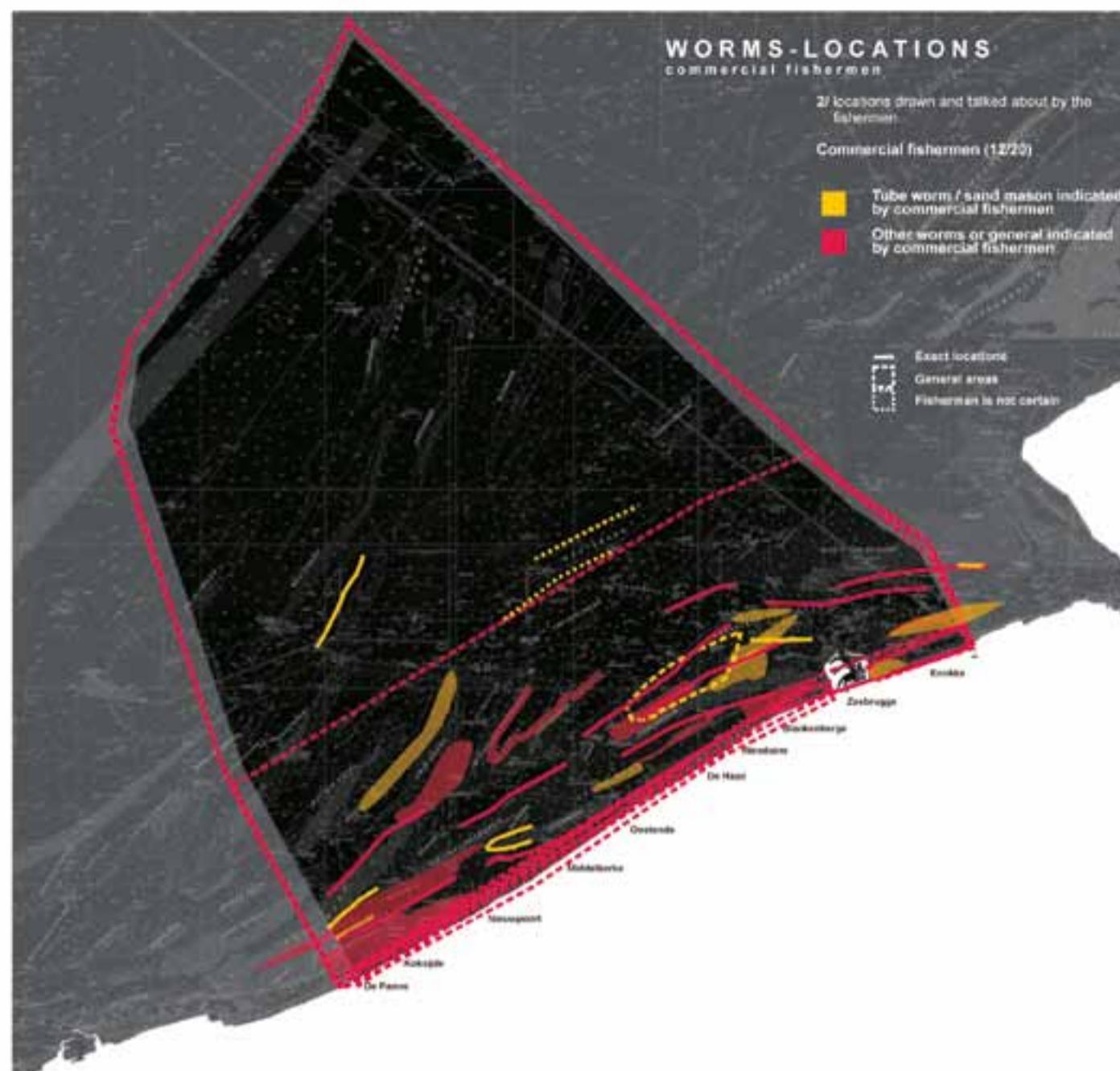
**SANDMASON  
AND  
OTHER WORMS**



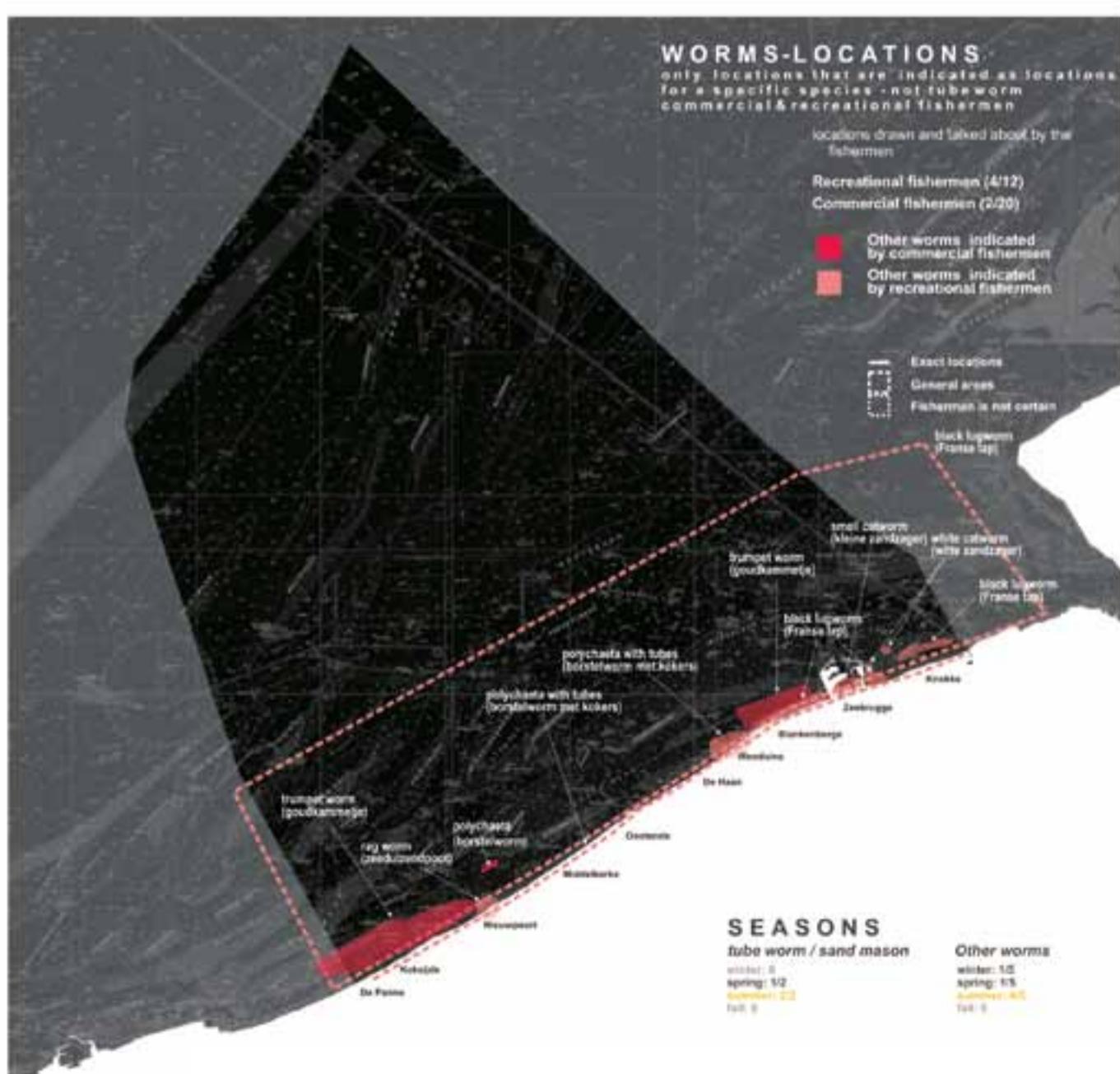
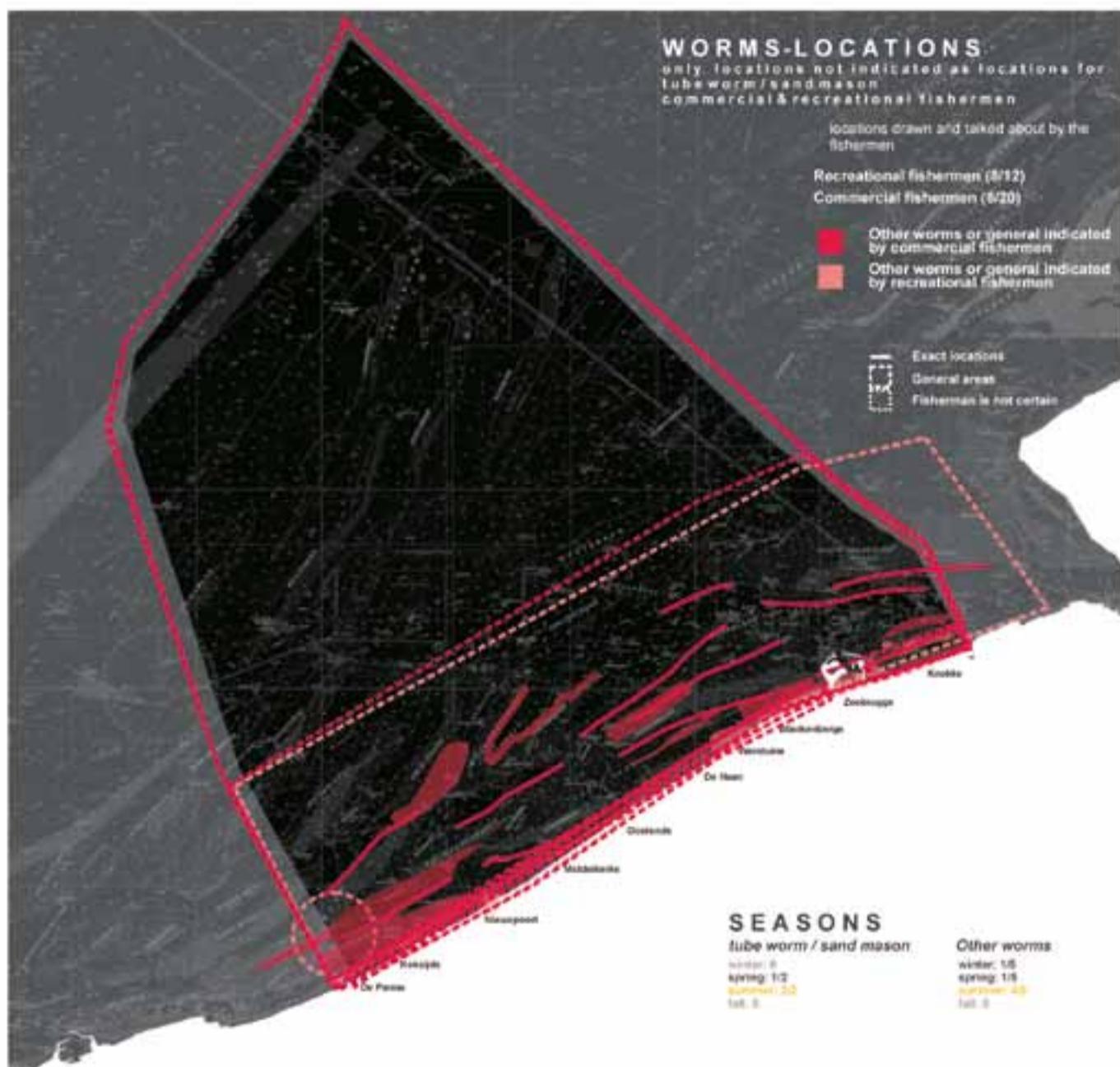
**WORMS - locations  
drawn and talked about**  
commercial & recreational fishermen 1950 - 2010



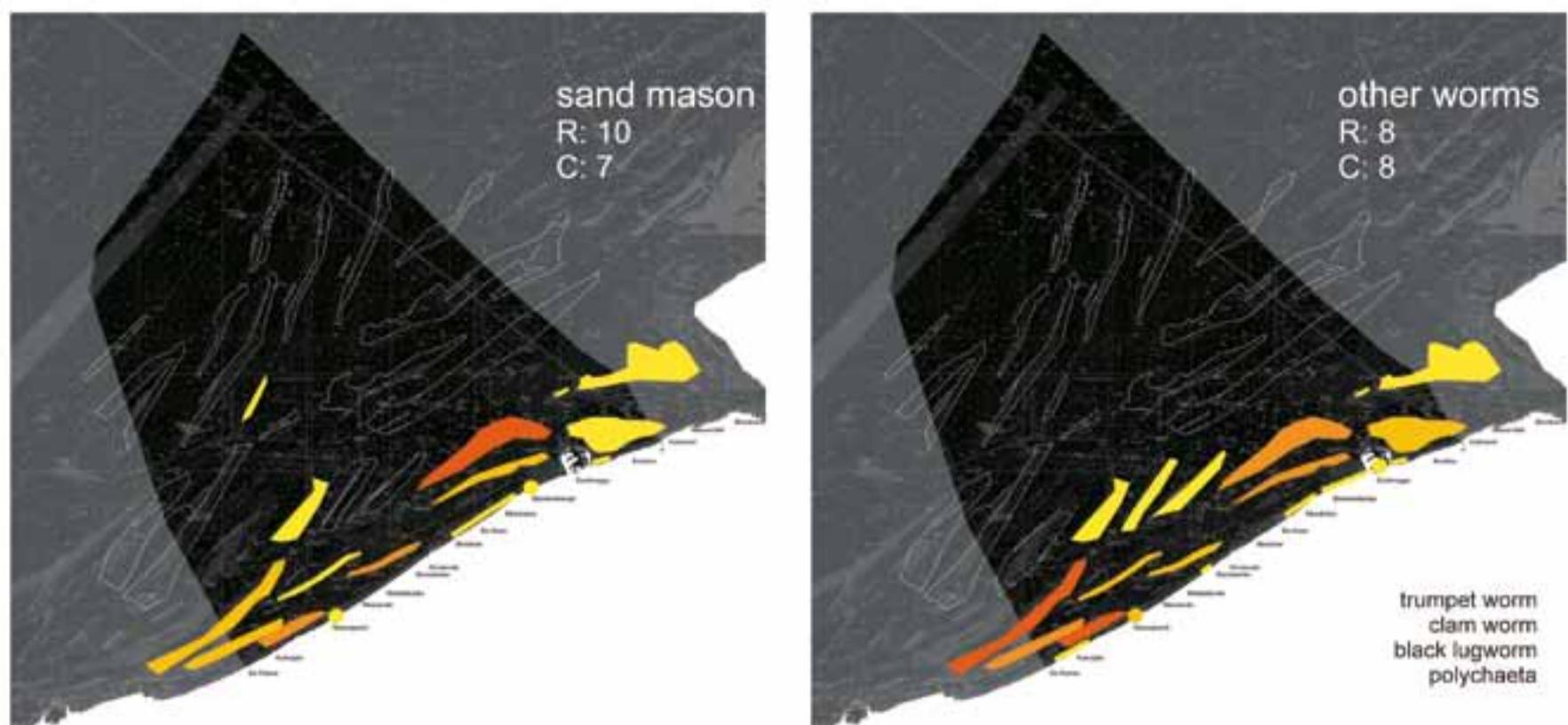
**TUBE WORMS - locations  
drawn and talked about  
commercial & recreational fishermen 1950 - 2010**



**WORMS - locations**  
commercial & recreational fishermen 1950 - 2010



**WORMS - not sand mason - locations  
drawn and talked about  
commercial & recreational fishermen 1950 - 2010**



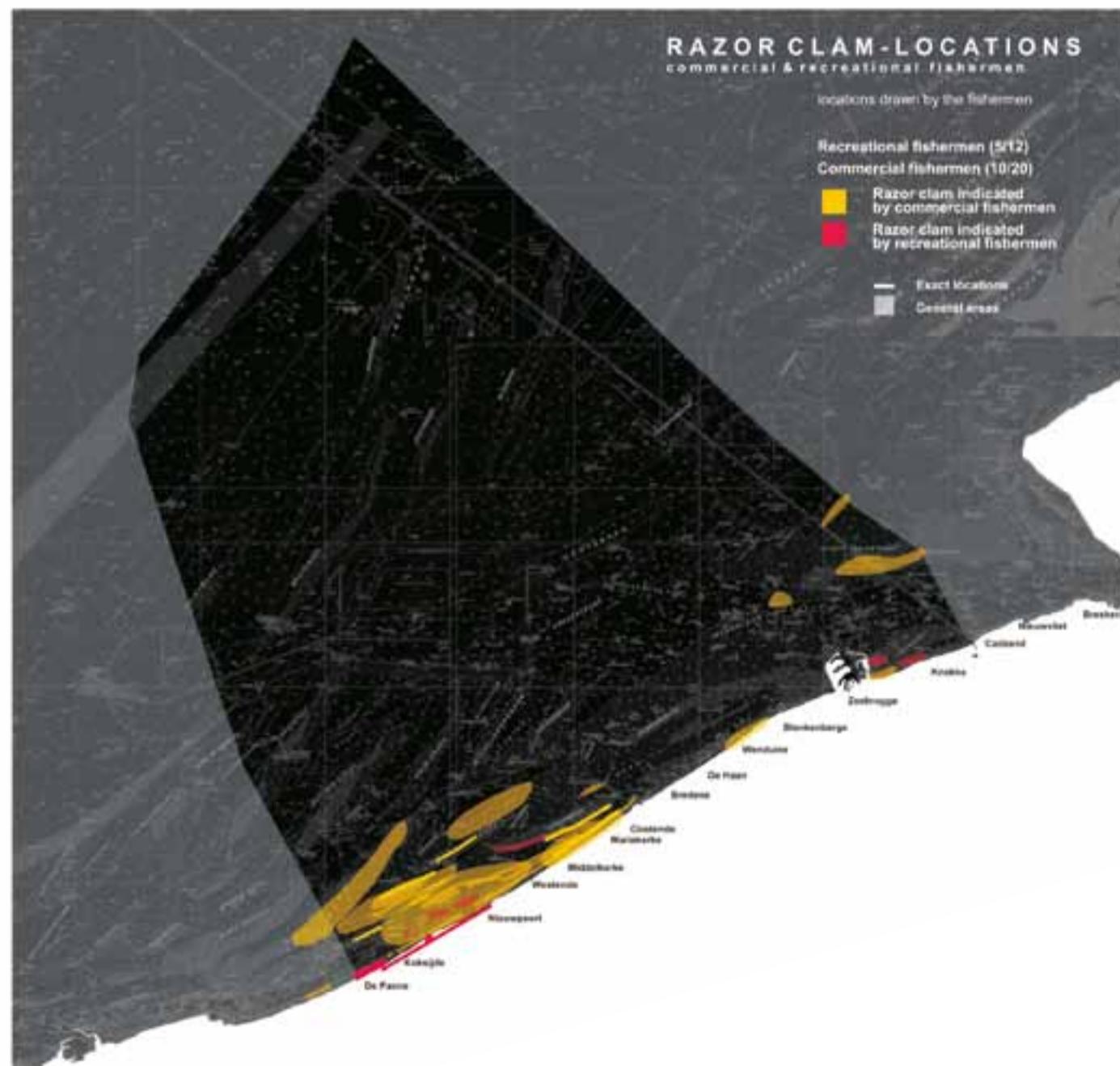
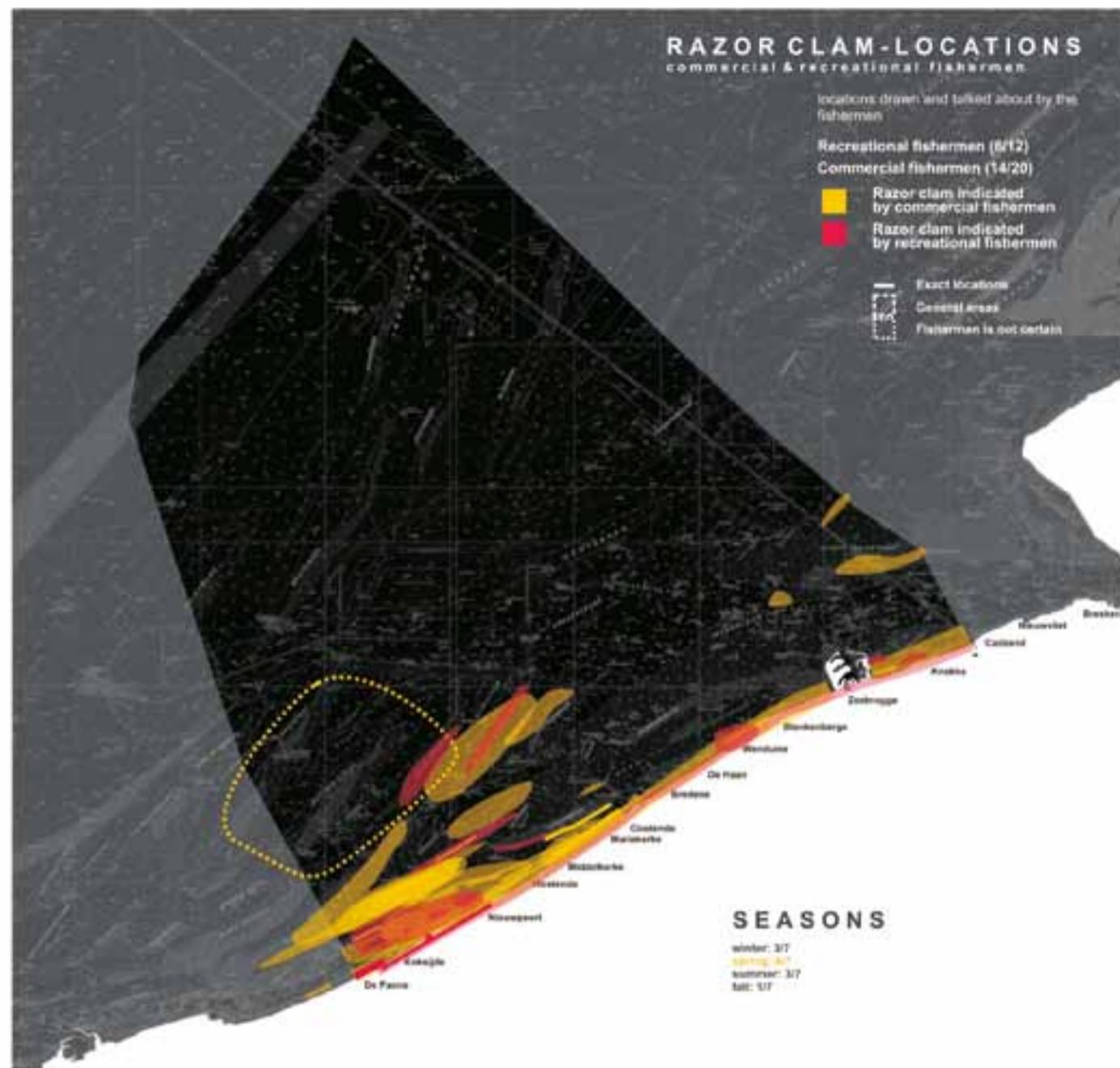
**WORMS - structure maps**  
commercial & recreational fishermen 1950 - 2010



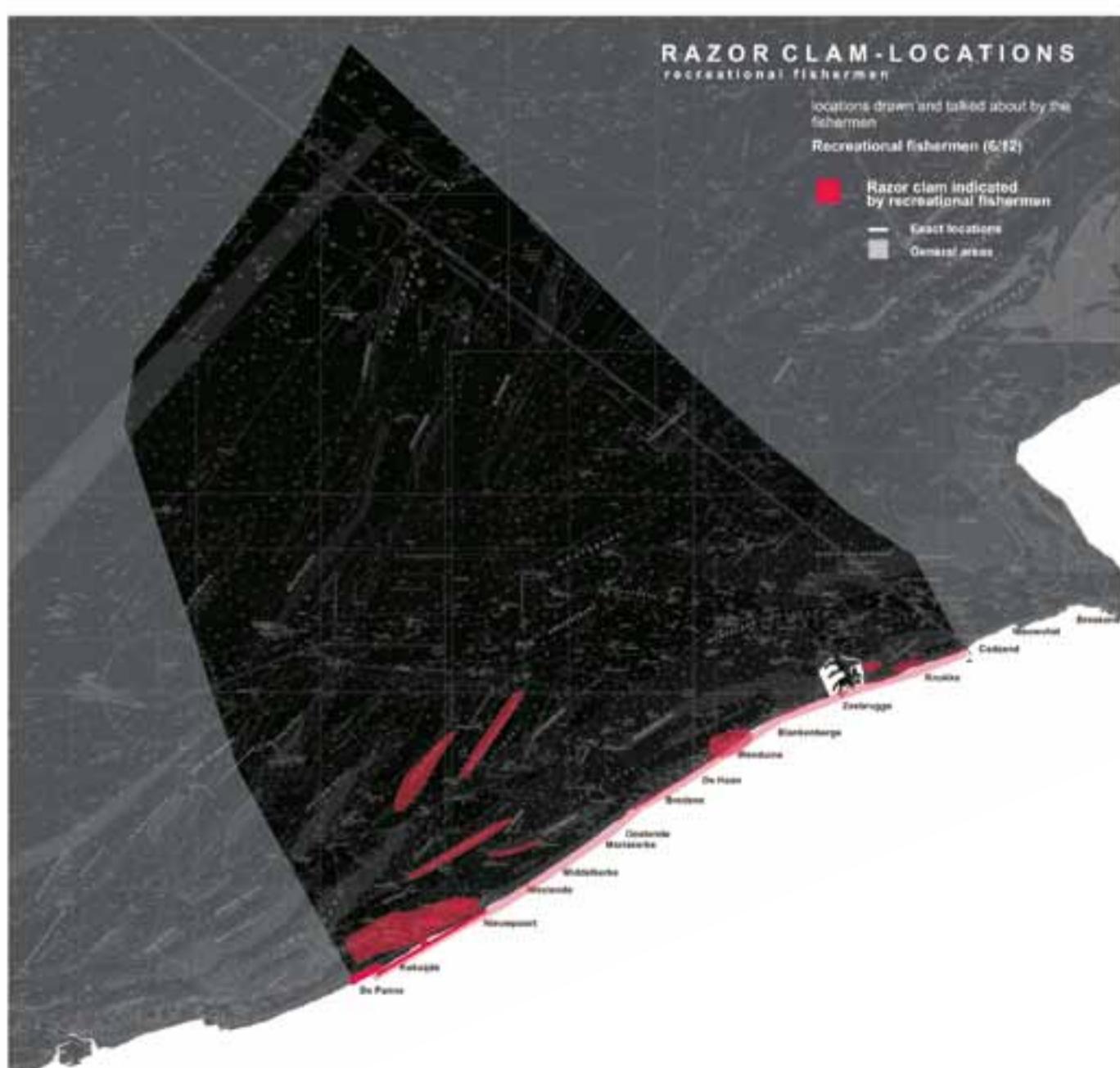
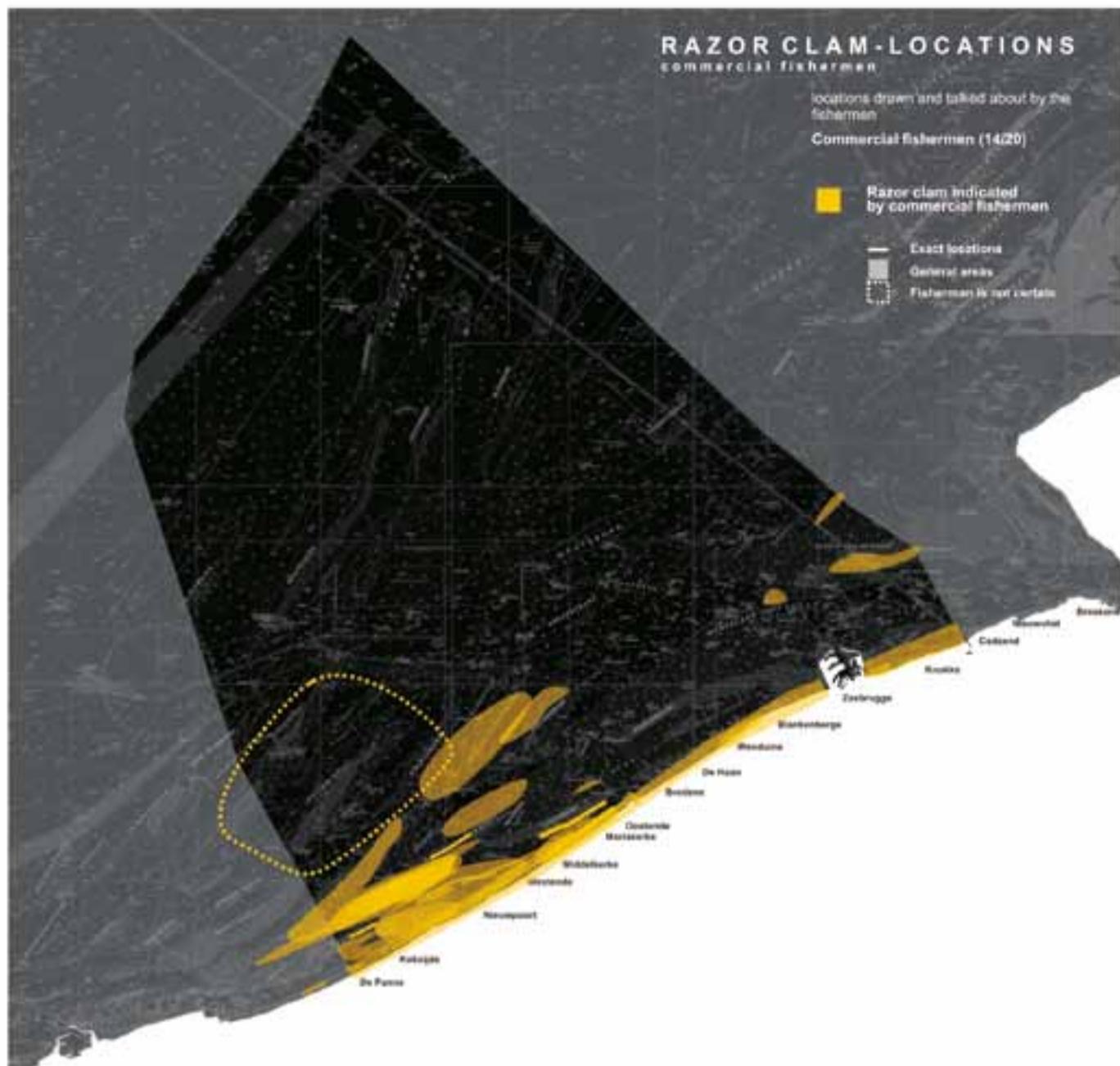


MAPS SERIES IX

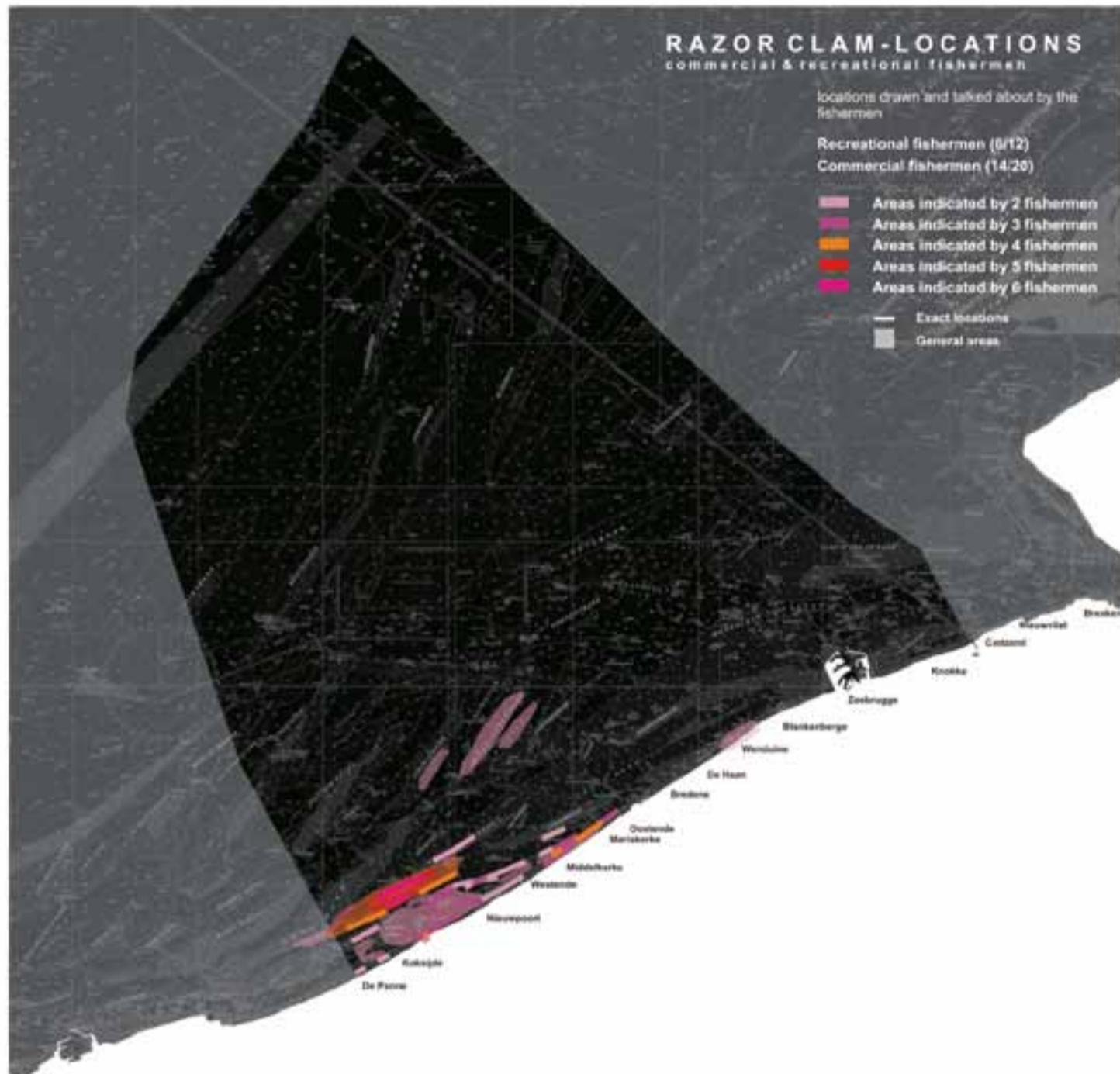
**RAZOR CLAM**



**RAZOR CLAM - locations  
drawn and talked about**  
commercial & recreational fishermen 1950 - 2010



**RAZOR CLAM - locations**  
commercial & recreational fishermen 1950 - 2010



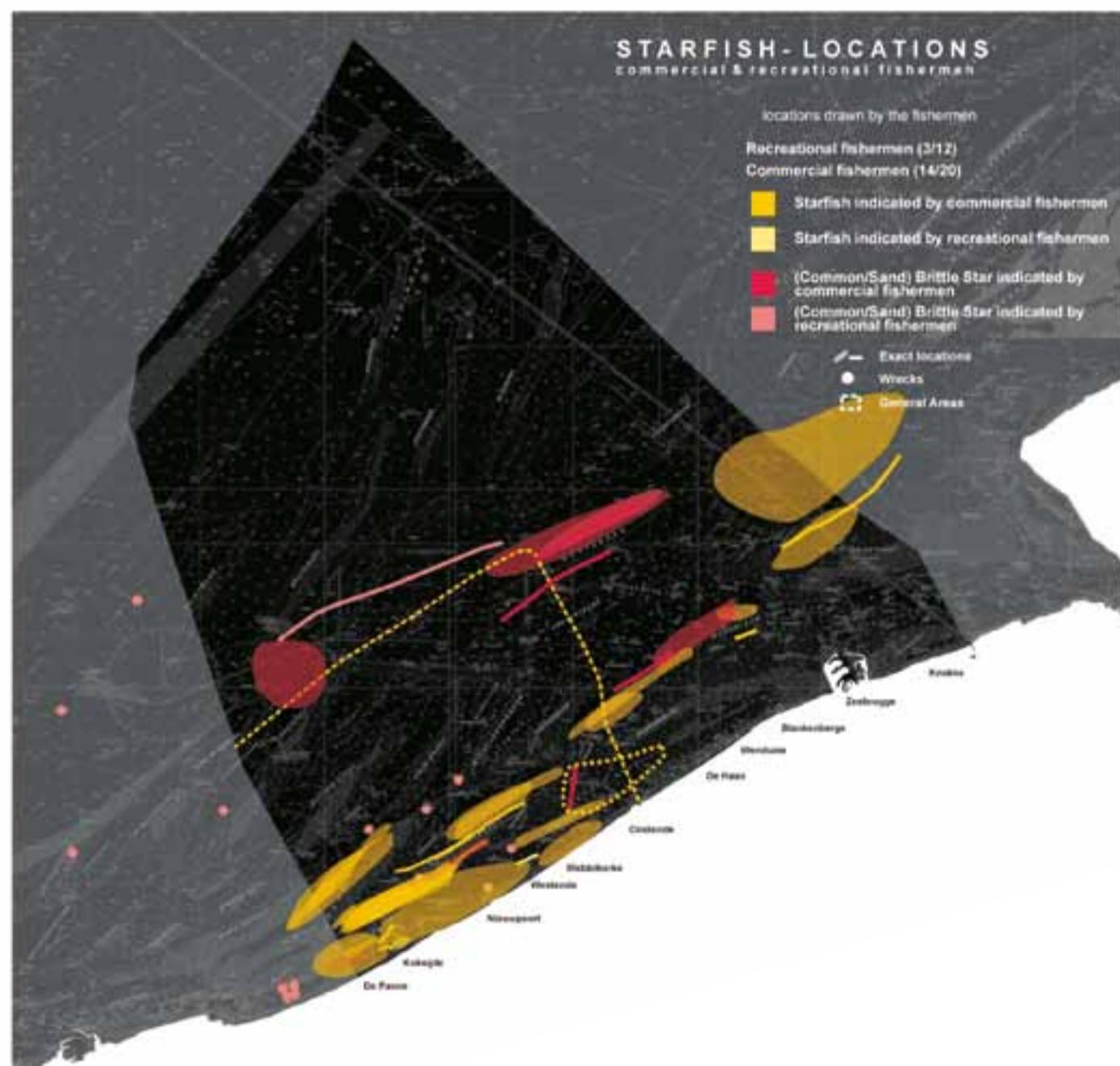
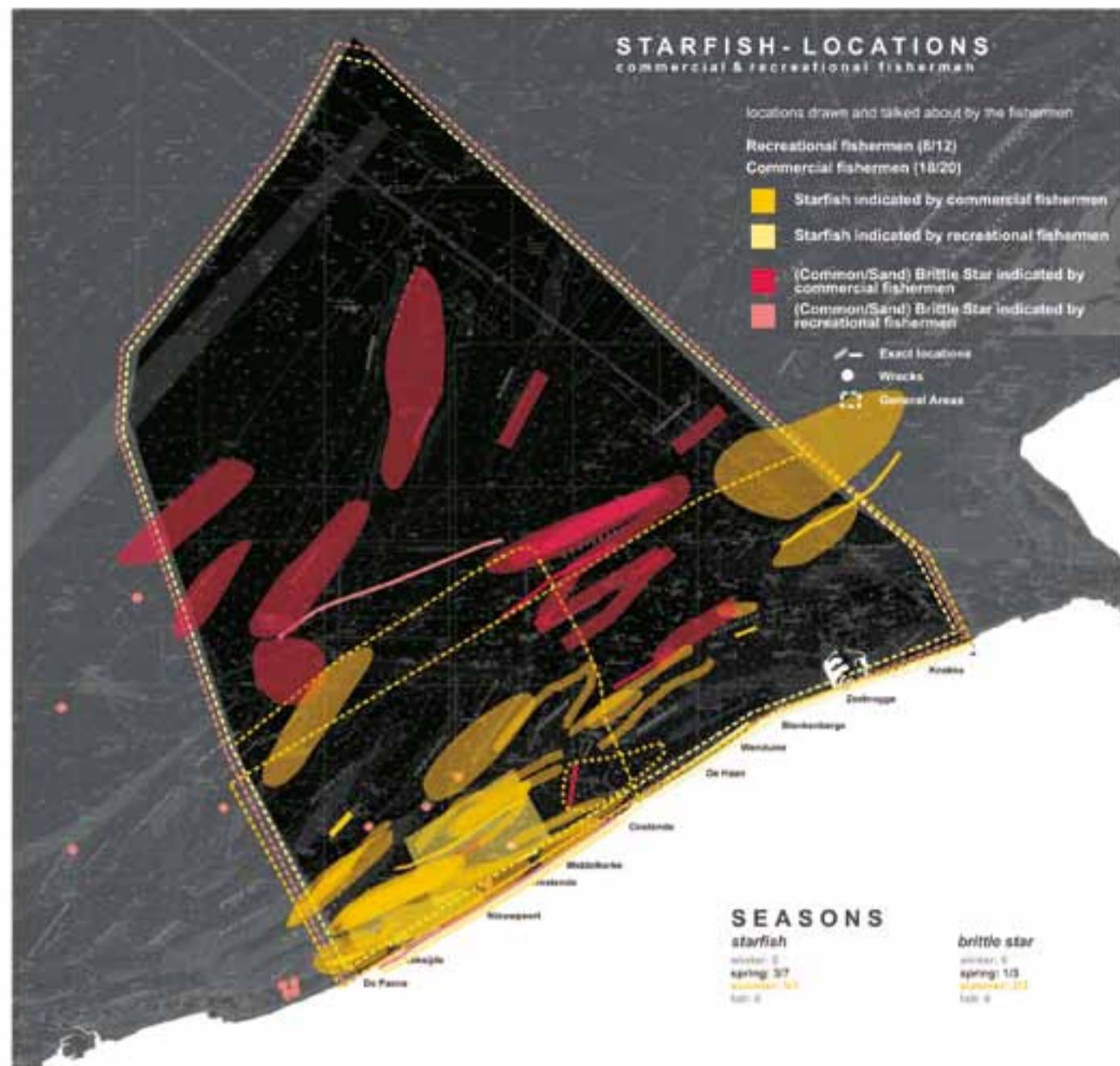
**RAZOR CLAM - locations**  
commercial & recreational fishermen 1950 - 2010  
areas indicated by 2 or more fishermen



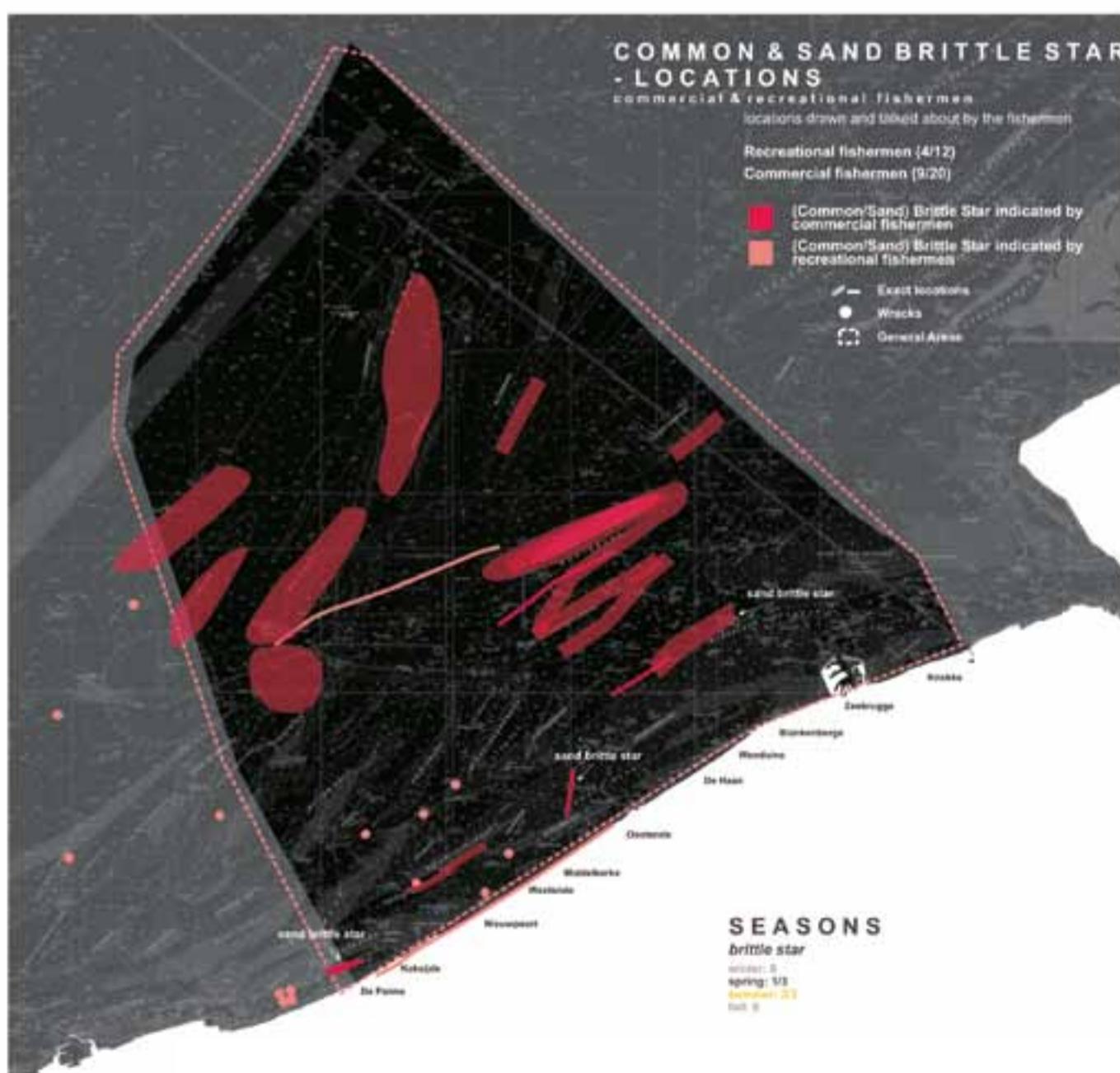
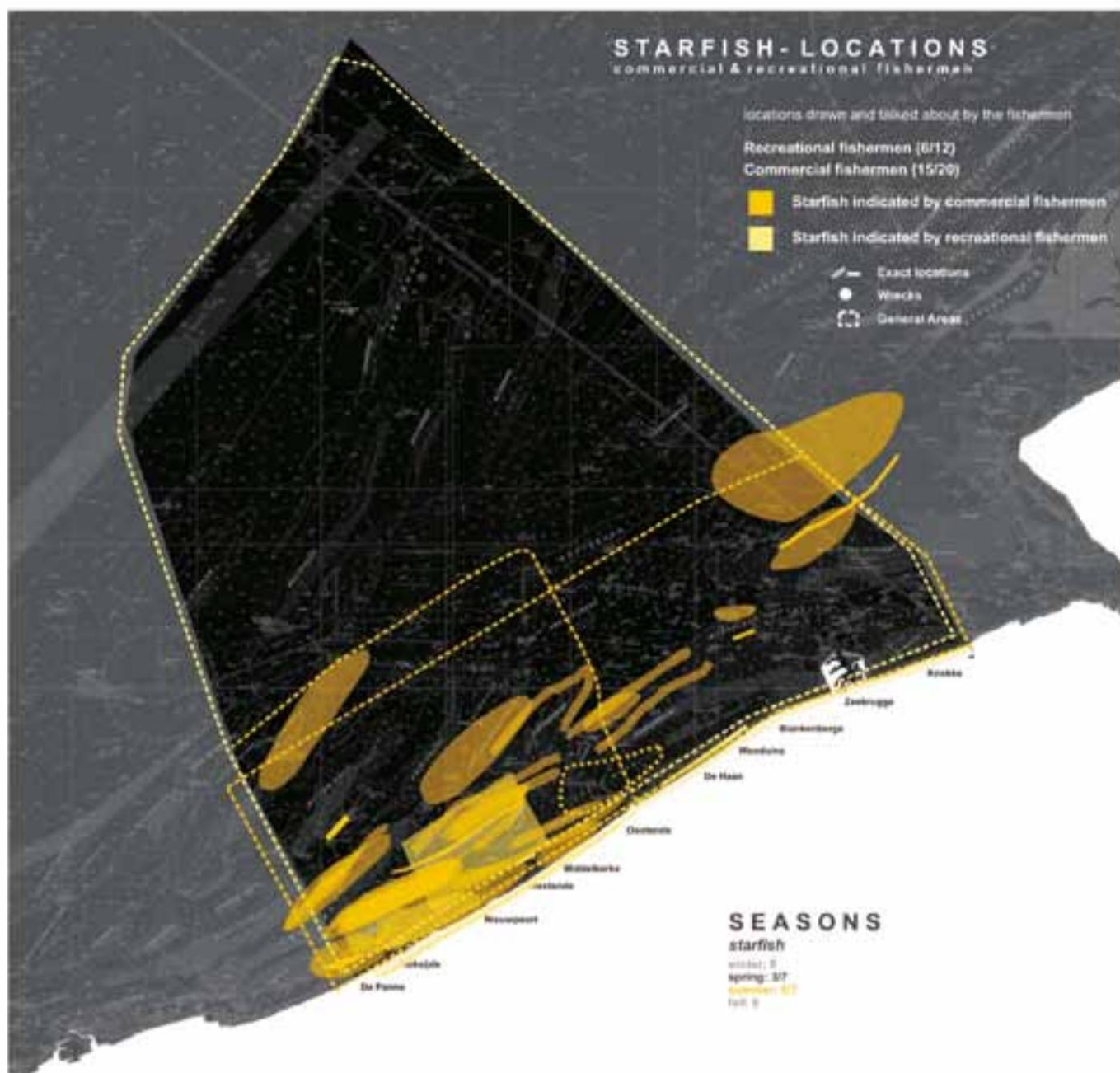


MAPS SERIES X

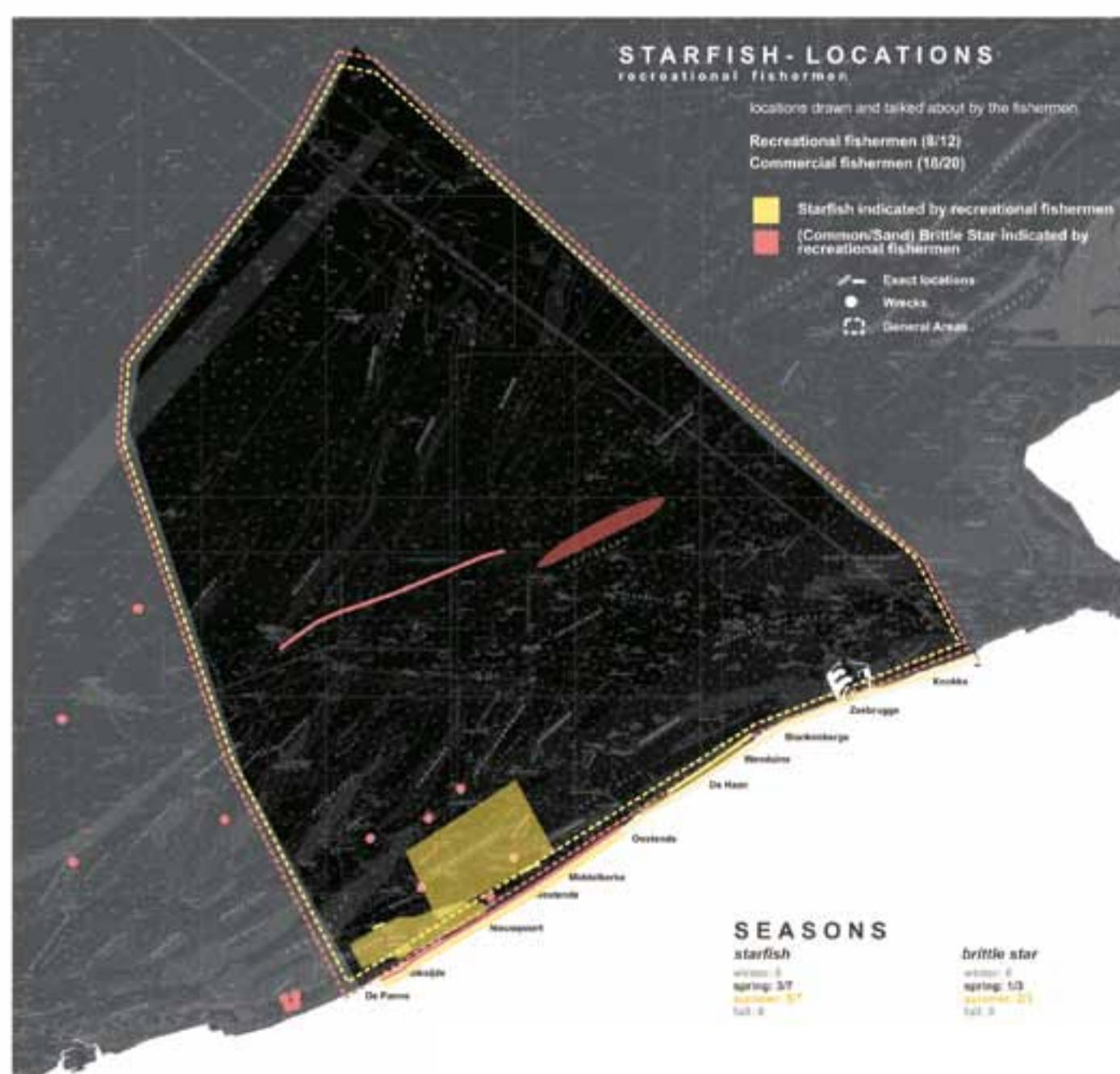
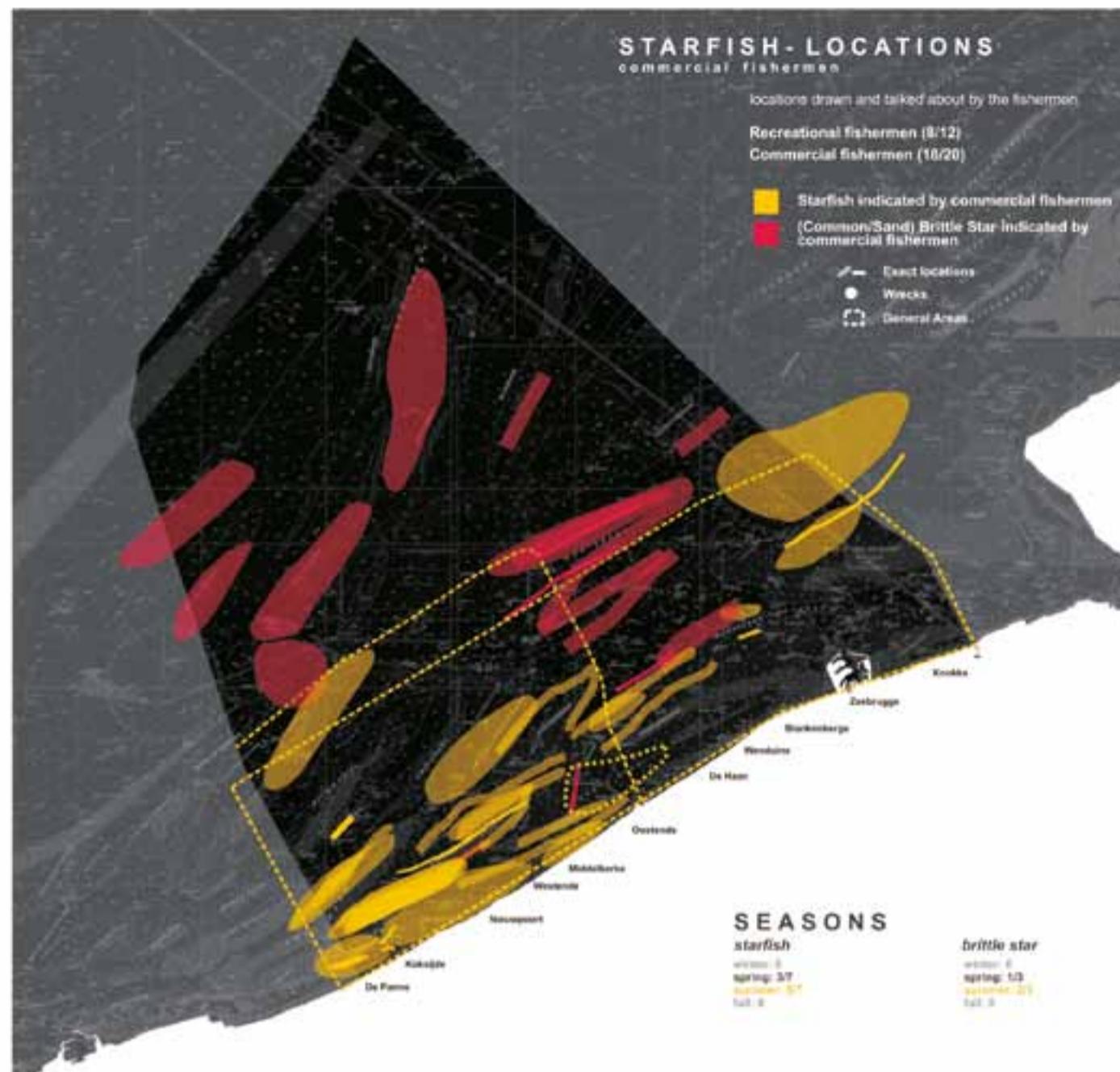
**STARFISH**



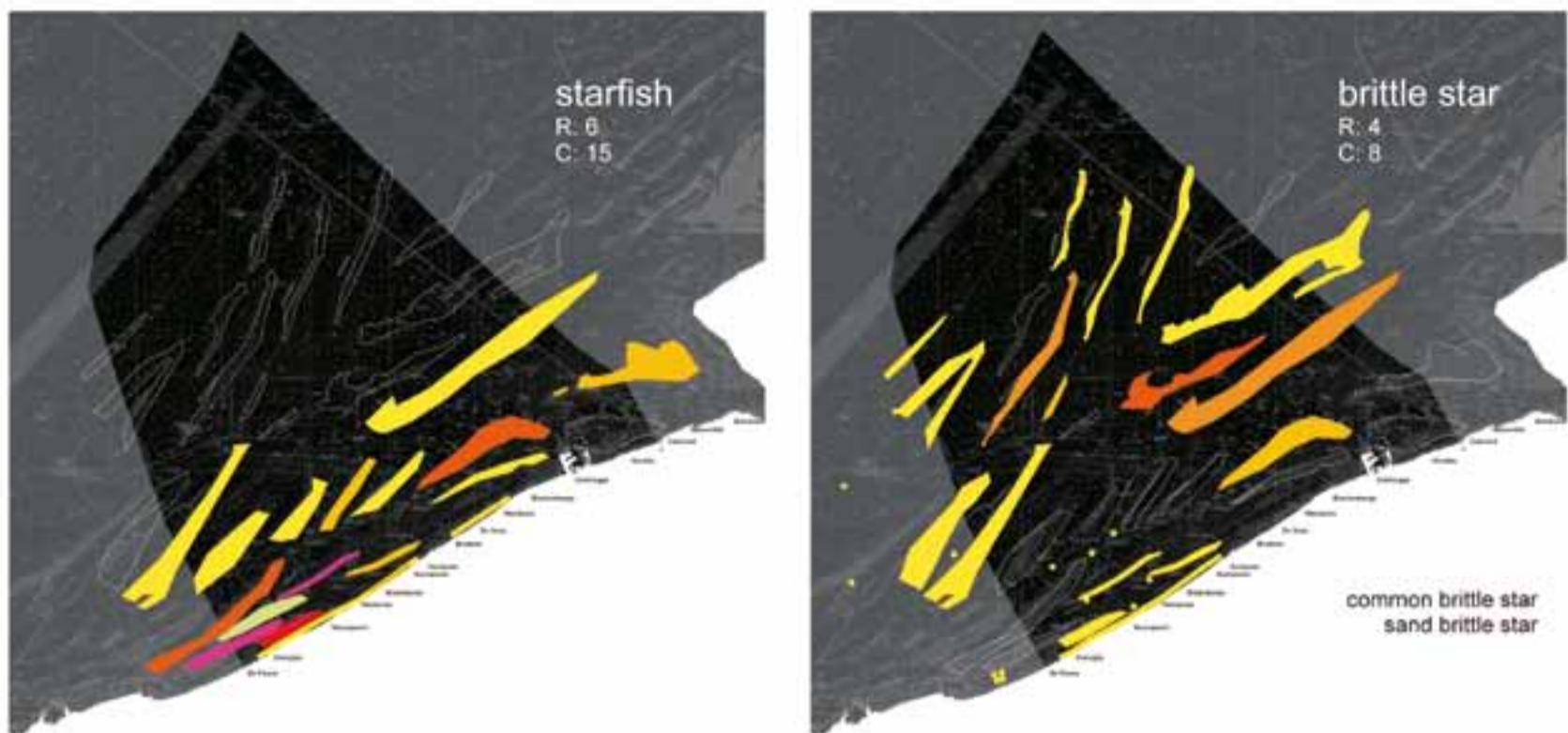
**STARFISH - locations  
drawn and talked about**  
commercial & recreational fishermen 1950 - 2010



**STARFISH - locations**  
**starfish & common/sand brittle star**  
 commercial & recreational fishermen 1950 - 2010



**STARFISH - locations**  
commercial & recreational fishermen 1950 - 2010



### STARFISH - LOCATIONS

commercial & recreational fishermen 1960-2010

number of fishermen on same bank/beach/port:

<span style="background-color: yellow;">■</span>	1	<span style="background-color: red;">■</span>	5
<span style="background-color: orange;">■</span>	2	<span style="background-color: magenta;">■</span>	6
<span style="background-color: brown;">■</span>	3	<span style="background-color: lightgreen;">■</span>	10
<span style="background-color: darkorange;">■</span>	4		

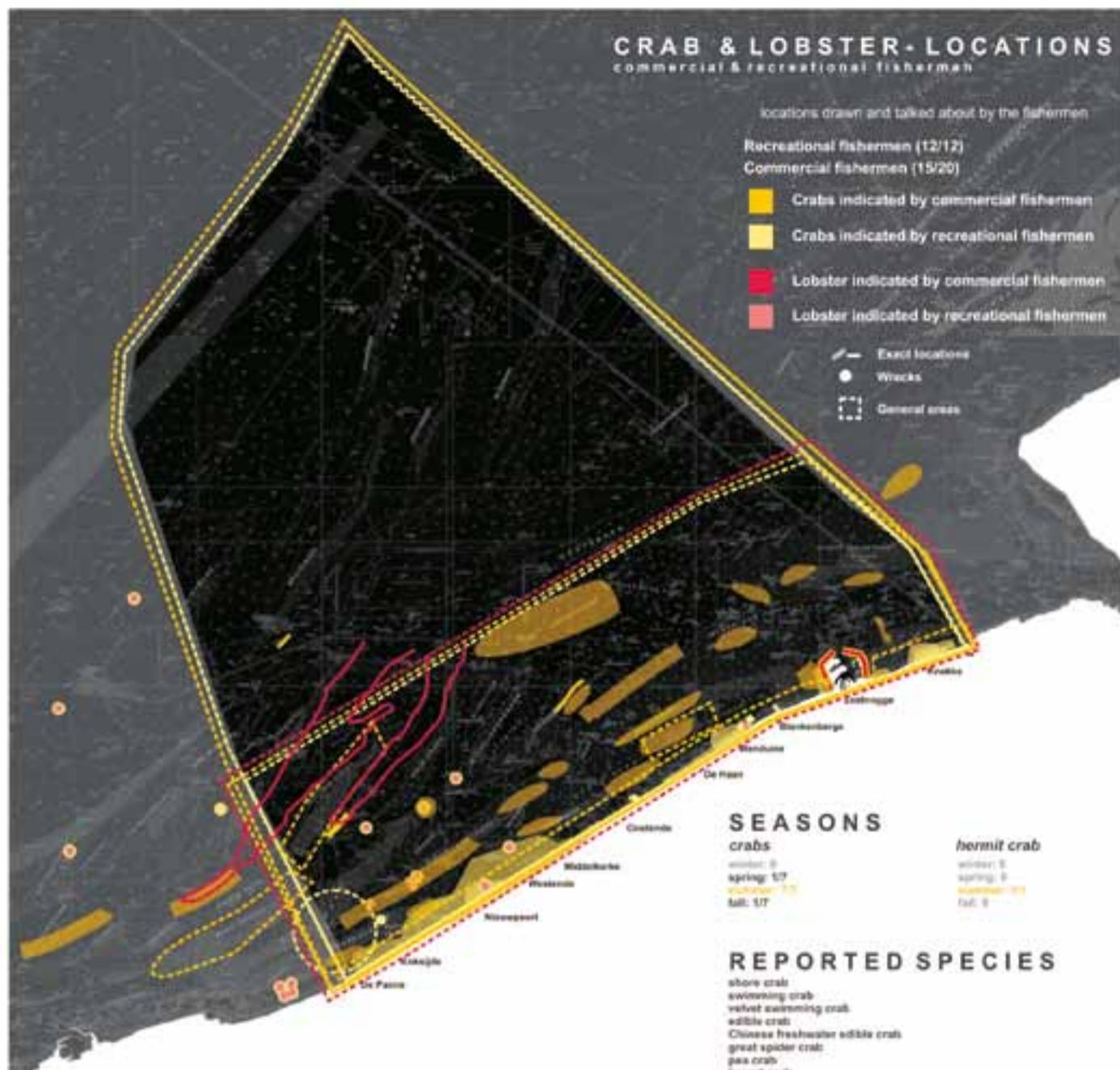
banks / beach ports indicated by fishermen

LECOFISH SEPTEMBER 2011

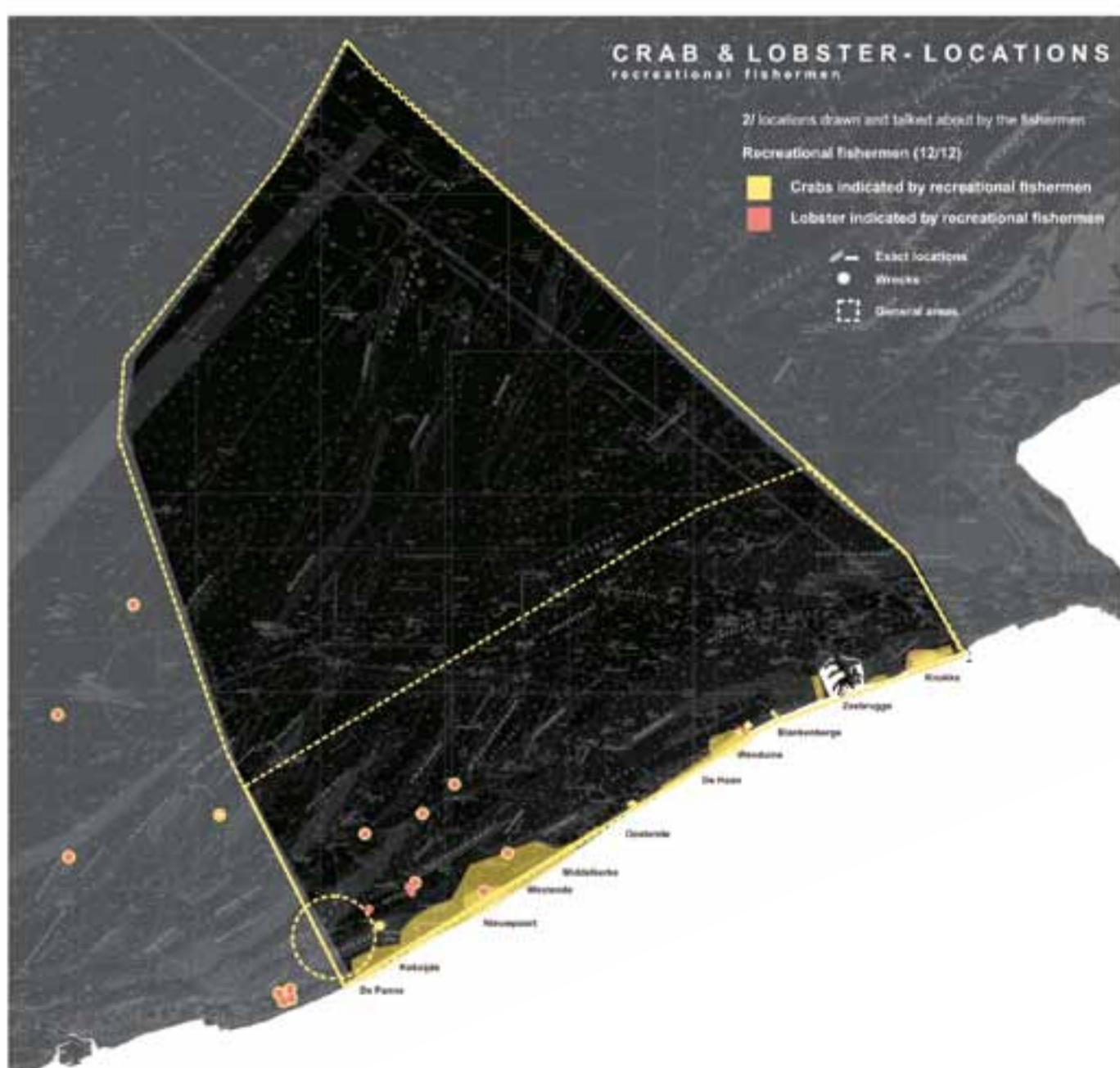
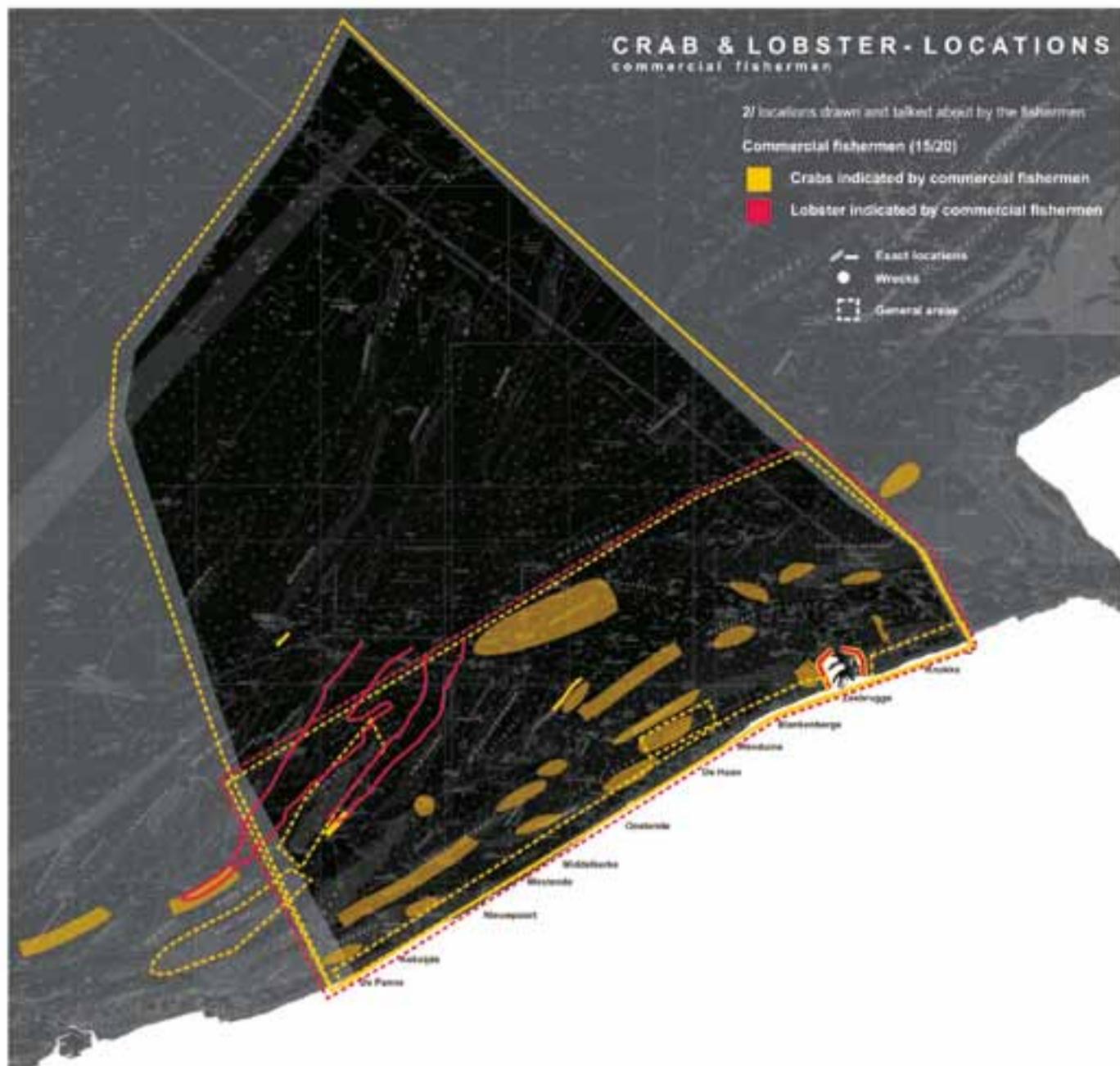


MAPS SERIES XI

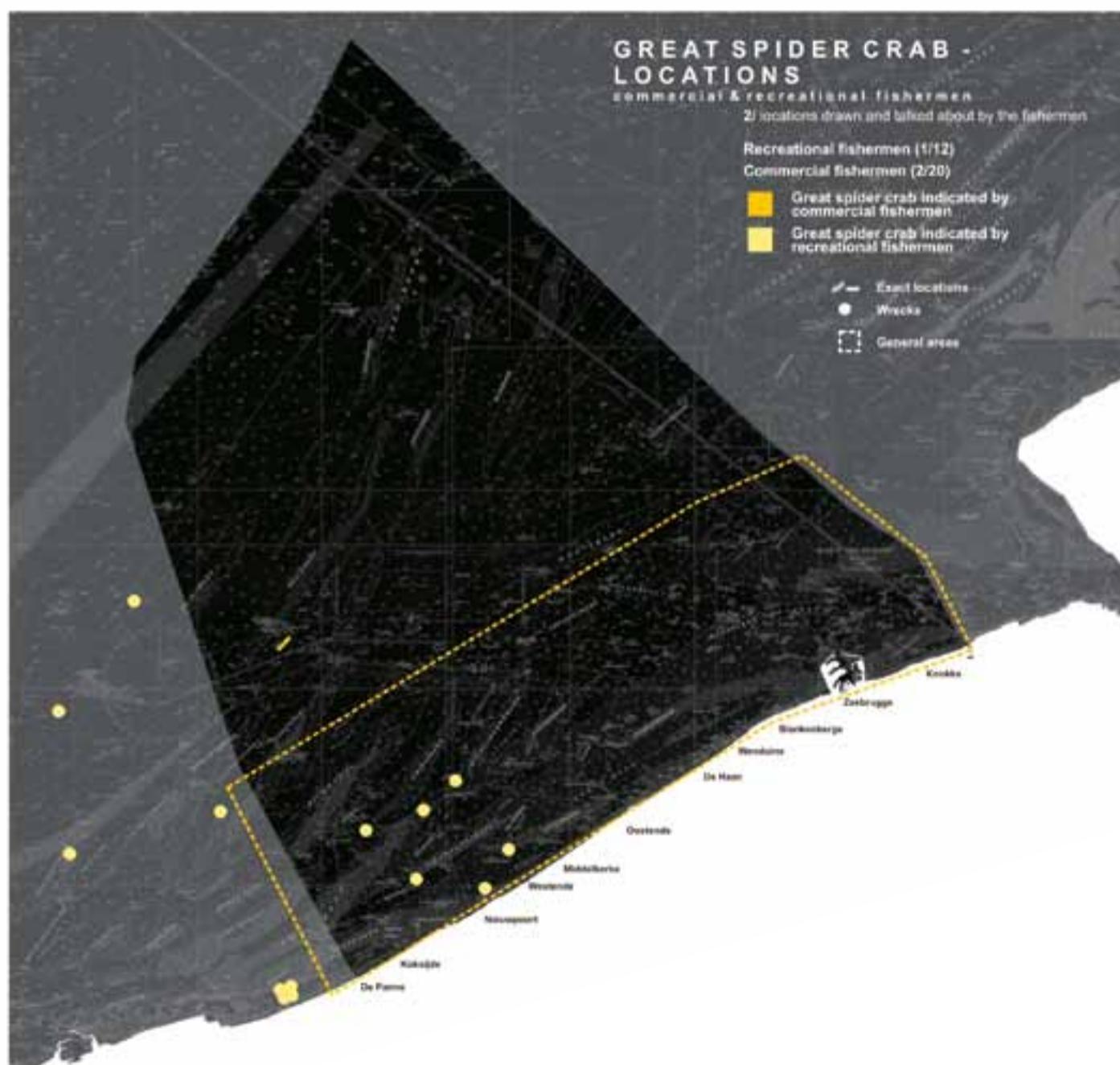
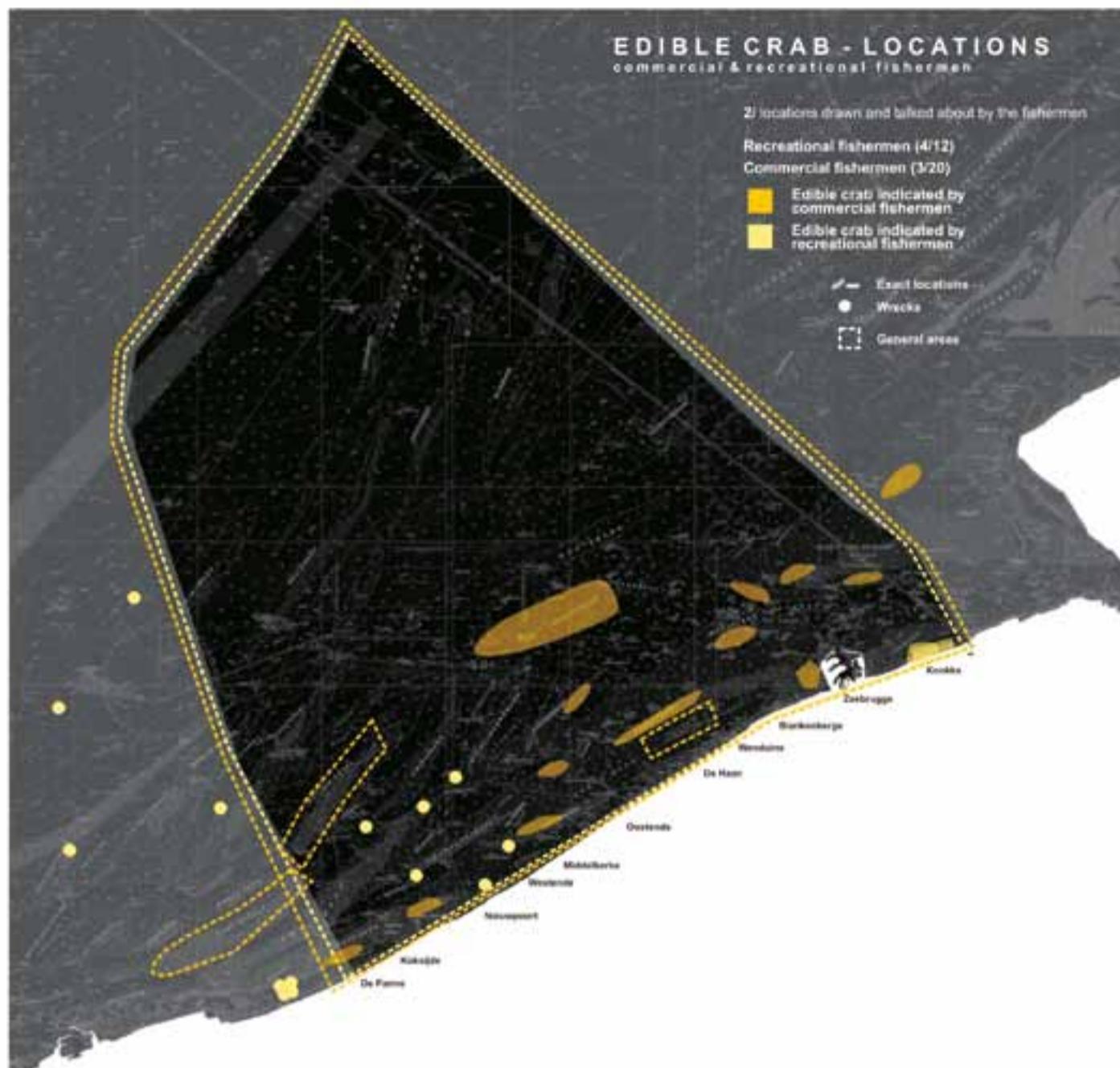
**CRABS AND  
LOBSTERS**



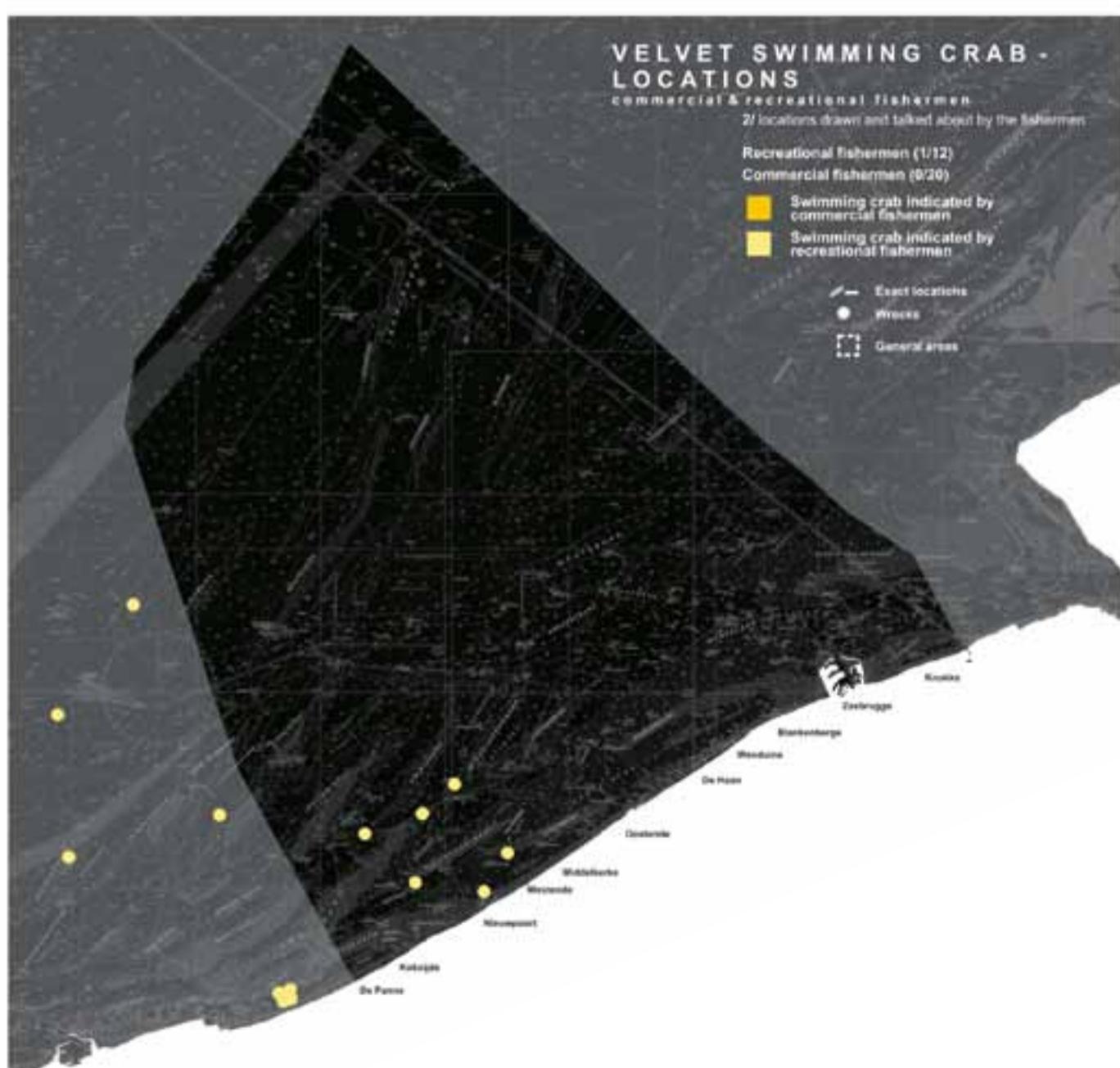
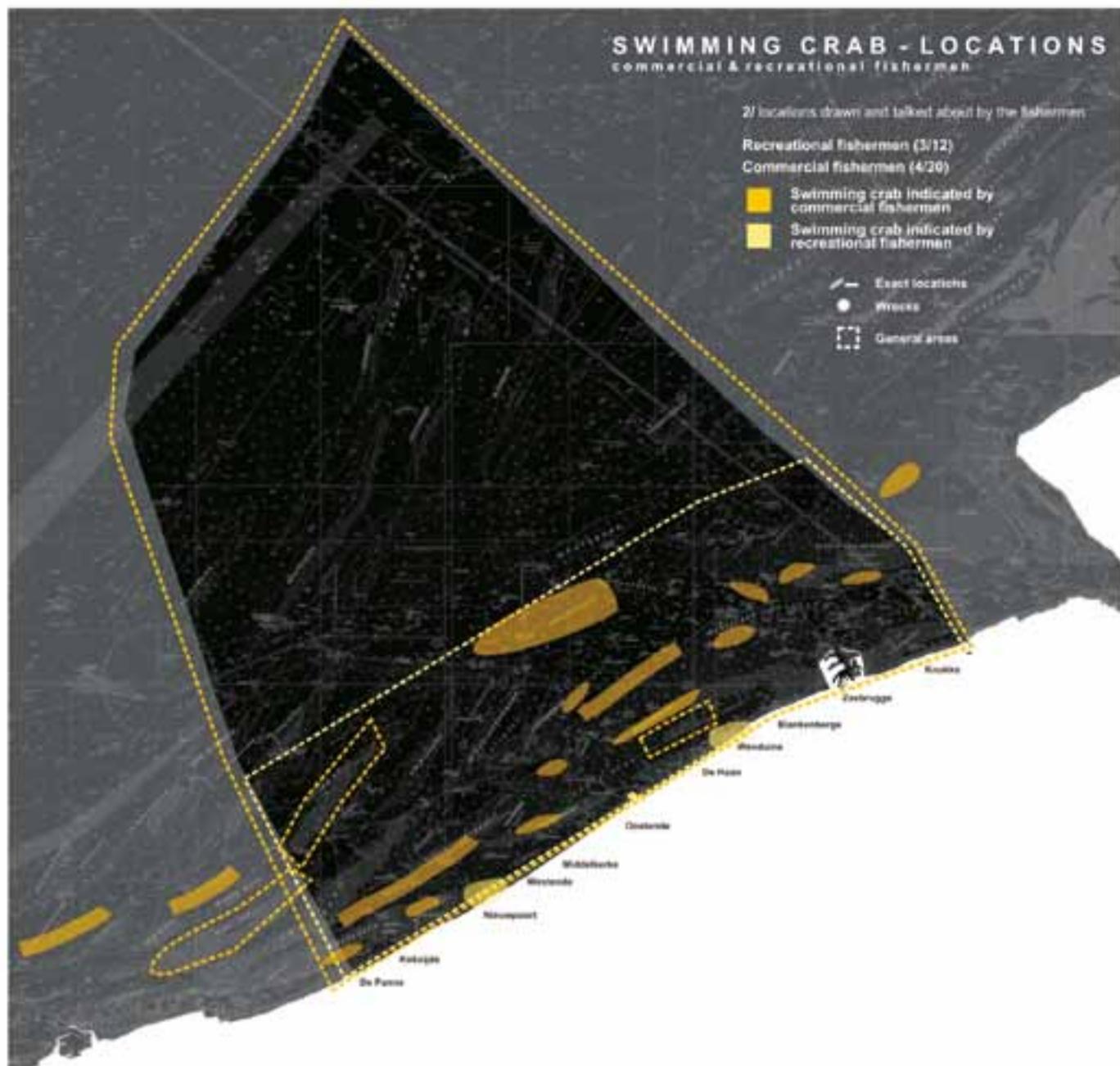
**CRAB & LOBSTER - locations  
drawn and talked about  
commercial & recreational fishermen 1950 - 2010**



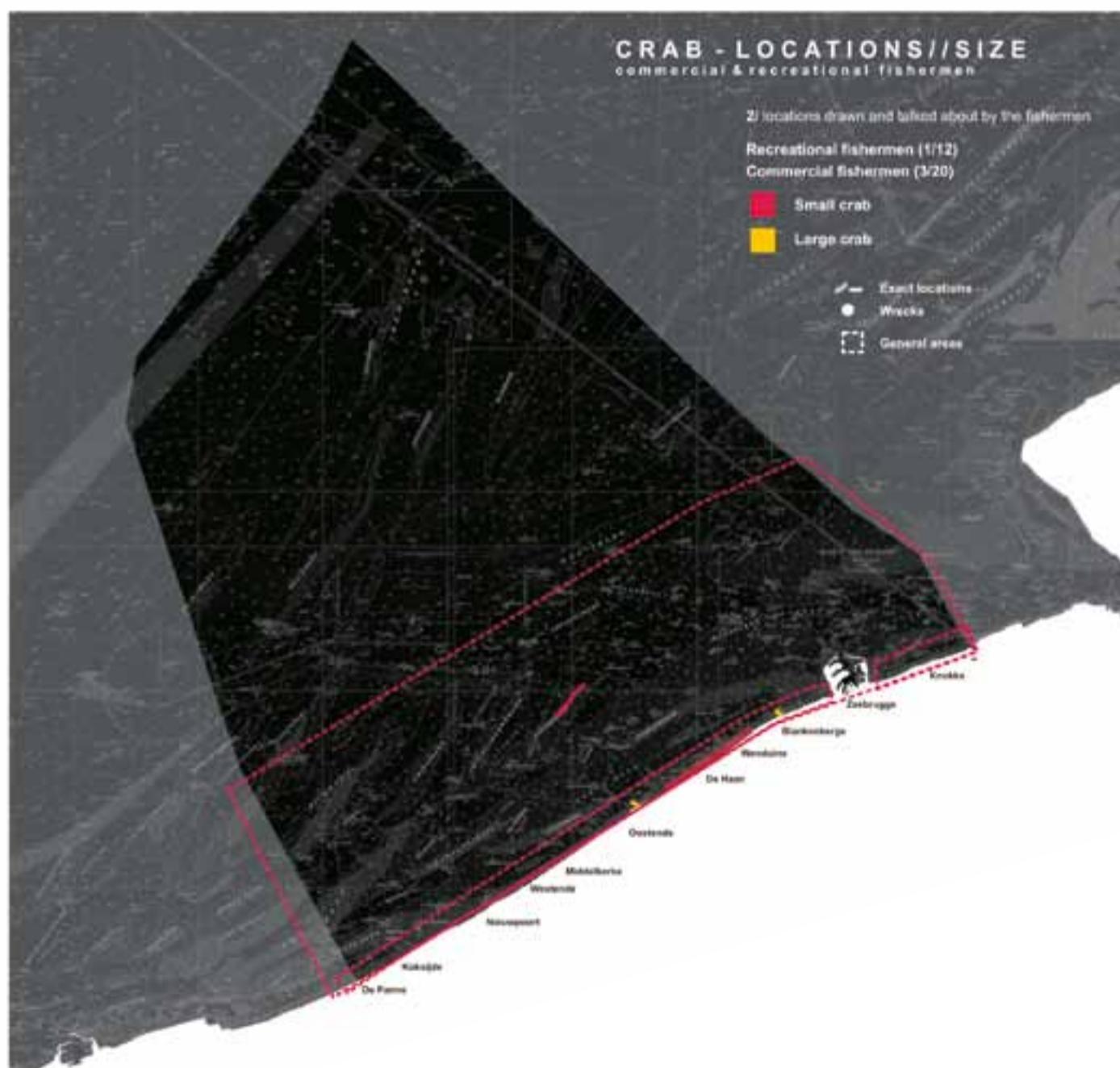
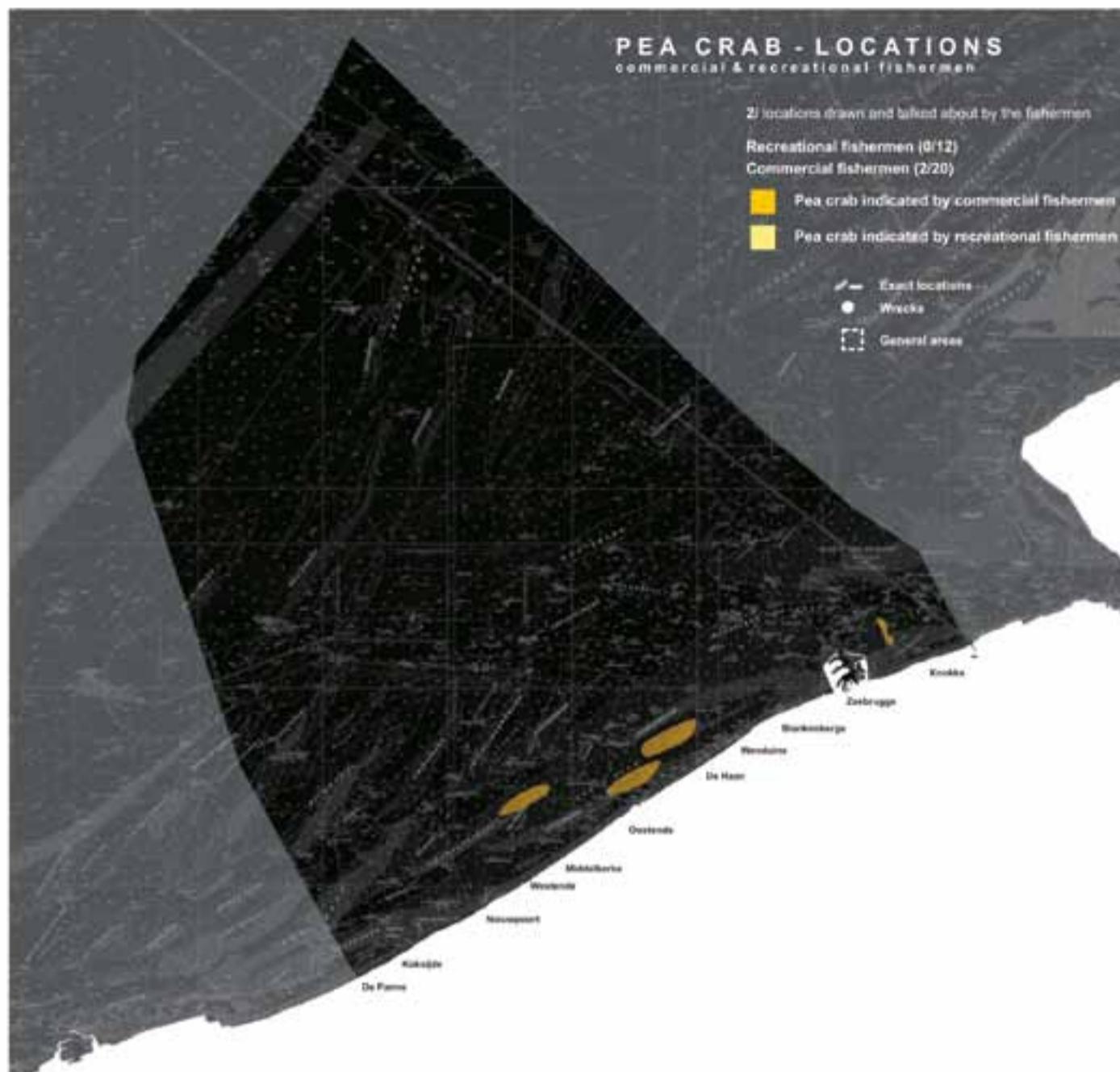
**CRAB & LOBSTER - locations**  
commercial & recreational fishermen 1950 - 2010



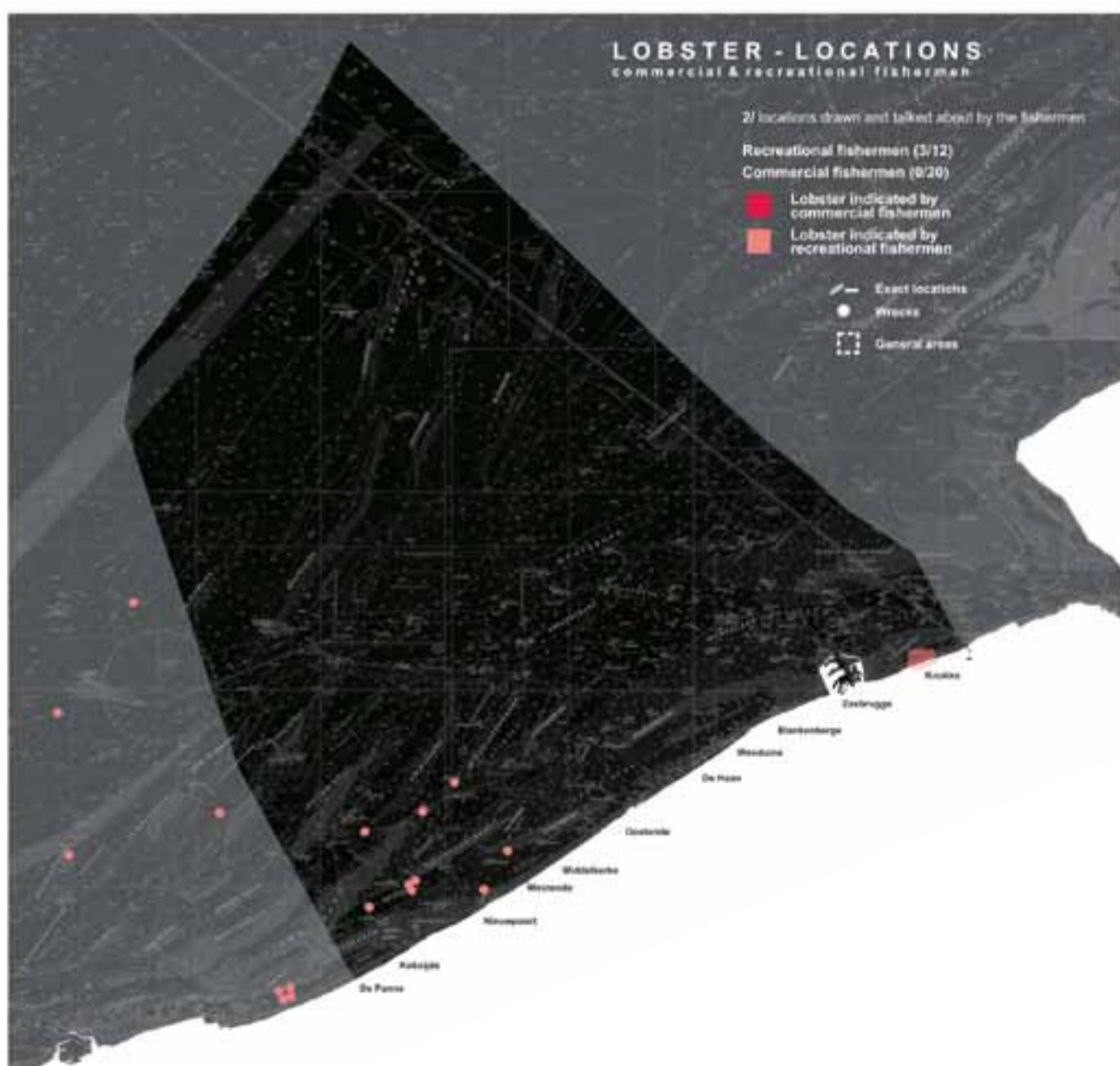
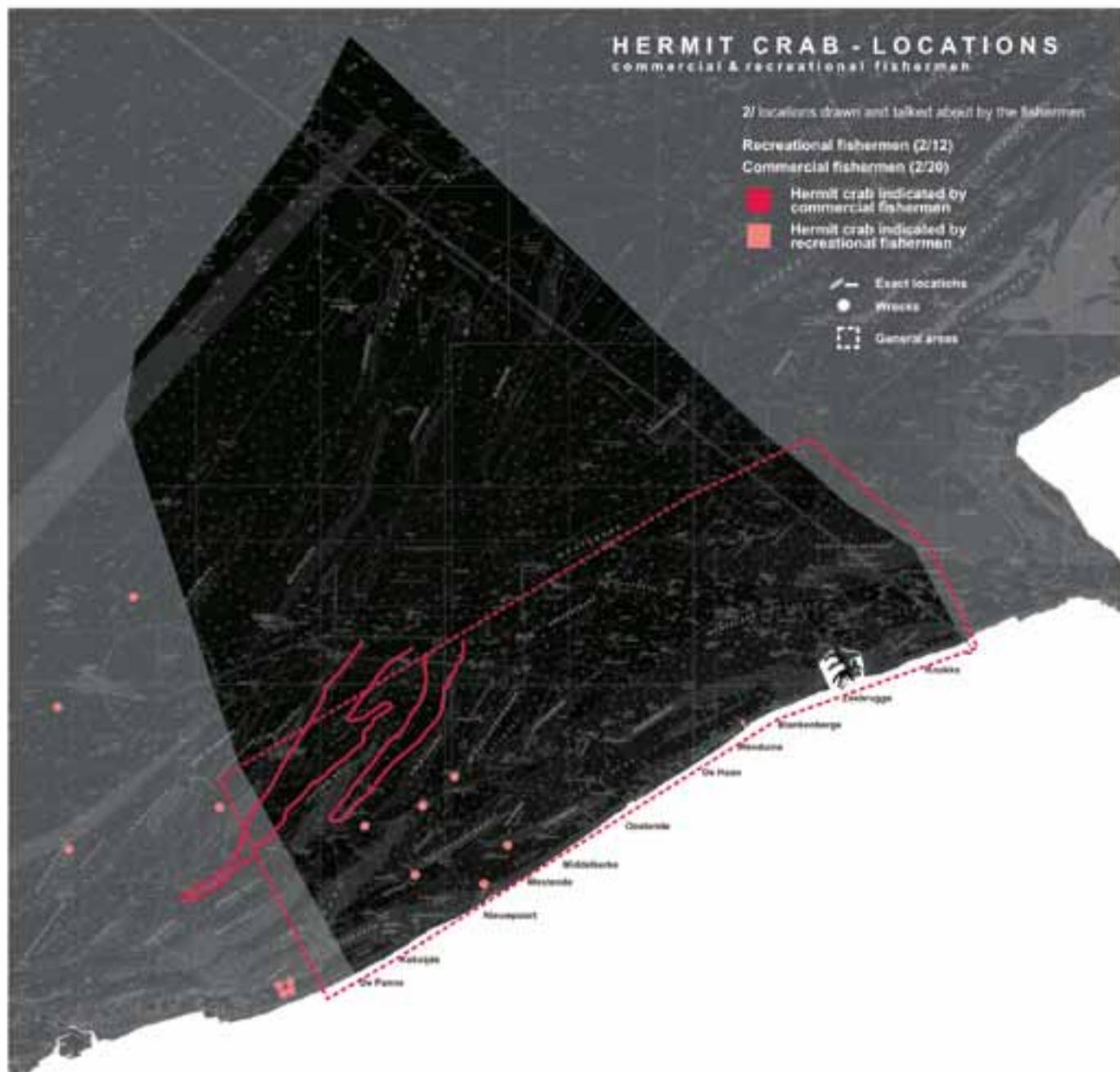
**CRAB & LOBSTER - locations  
specific species**  
commercial & recreational fishermen 1950 - 2010



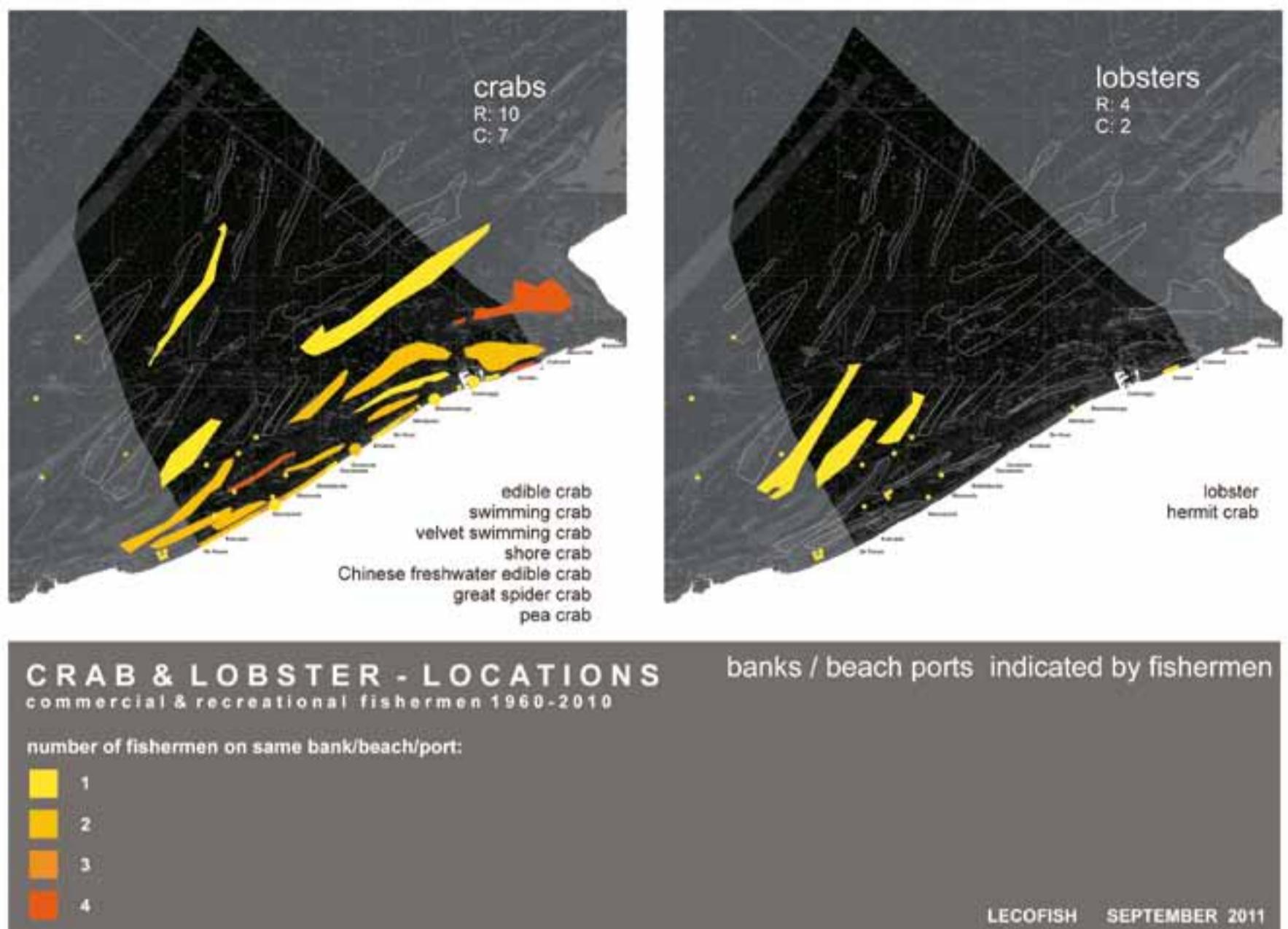
**CRAB & LOBSTER - locations  
specific species**  
commercial & recreational fishermen 1950 - 2010



**CRAB & LOBSTER - locations  
specific species**  
commercial & recreational fishermen 1950 - 2010



**CRAB & LOBSTER - locations  
specific species**  
commercial & recreational fishermen 1950 - 2010



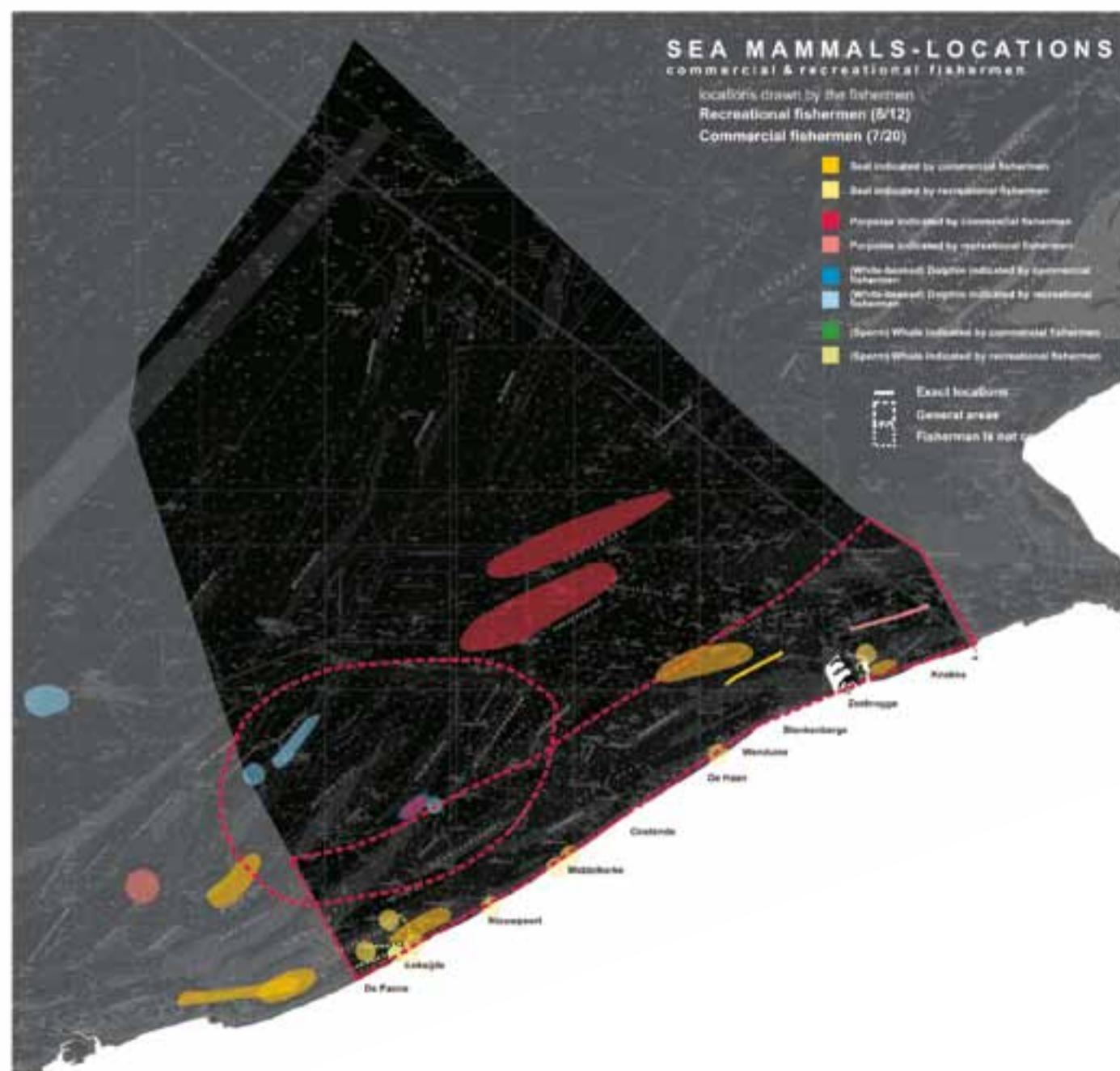
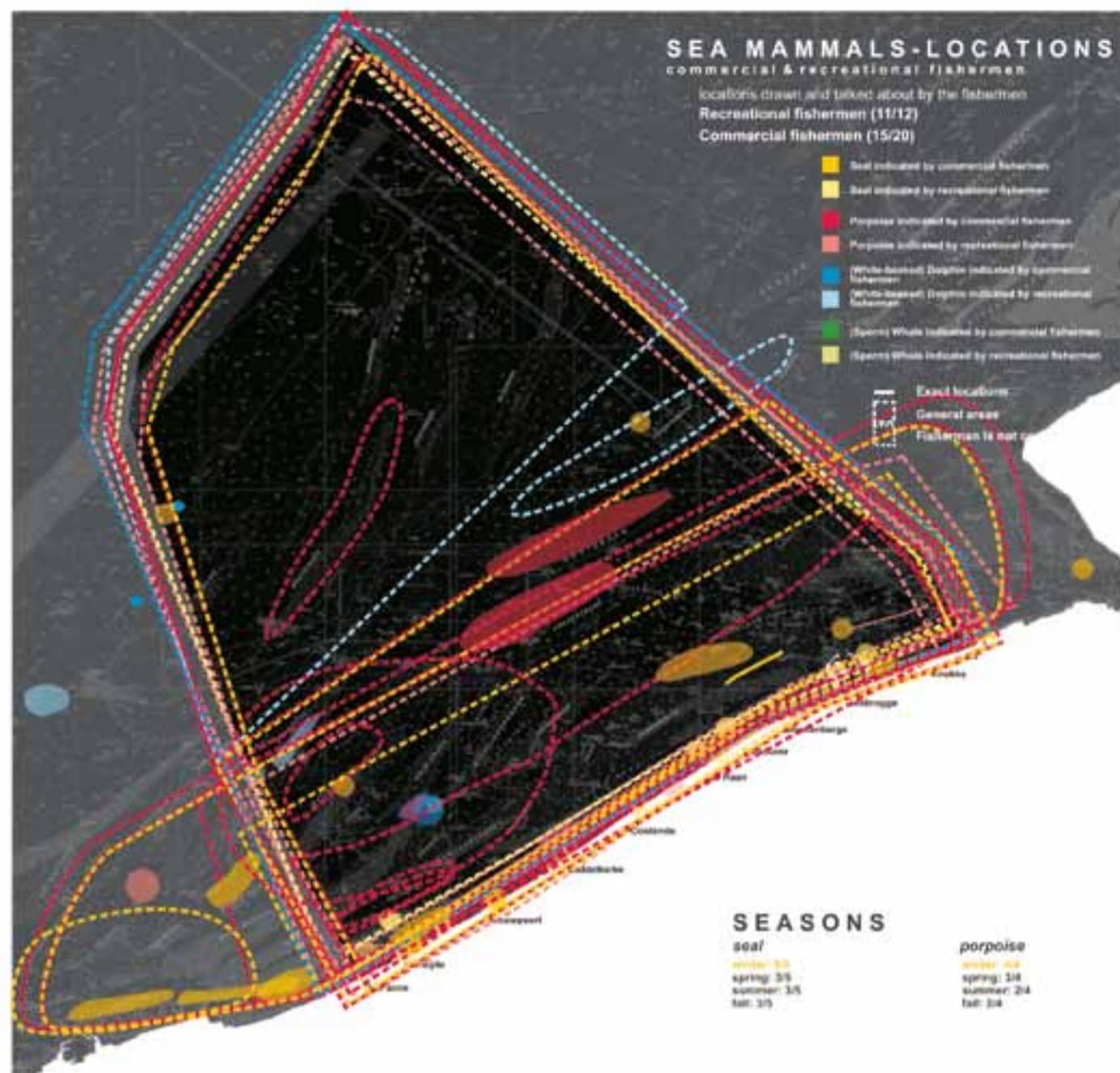
**CRAB & LOBSTER - structure maps**  
commercial & recreational fishermen 1950 - 2010



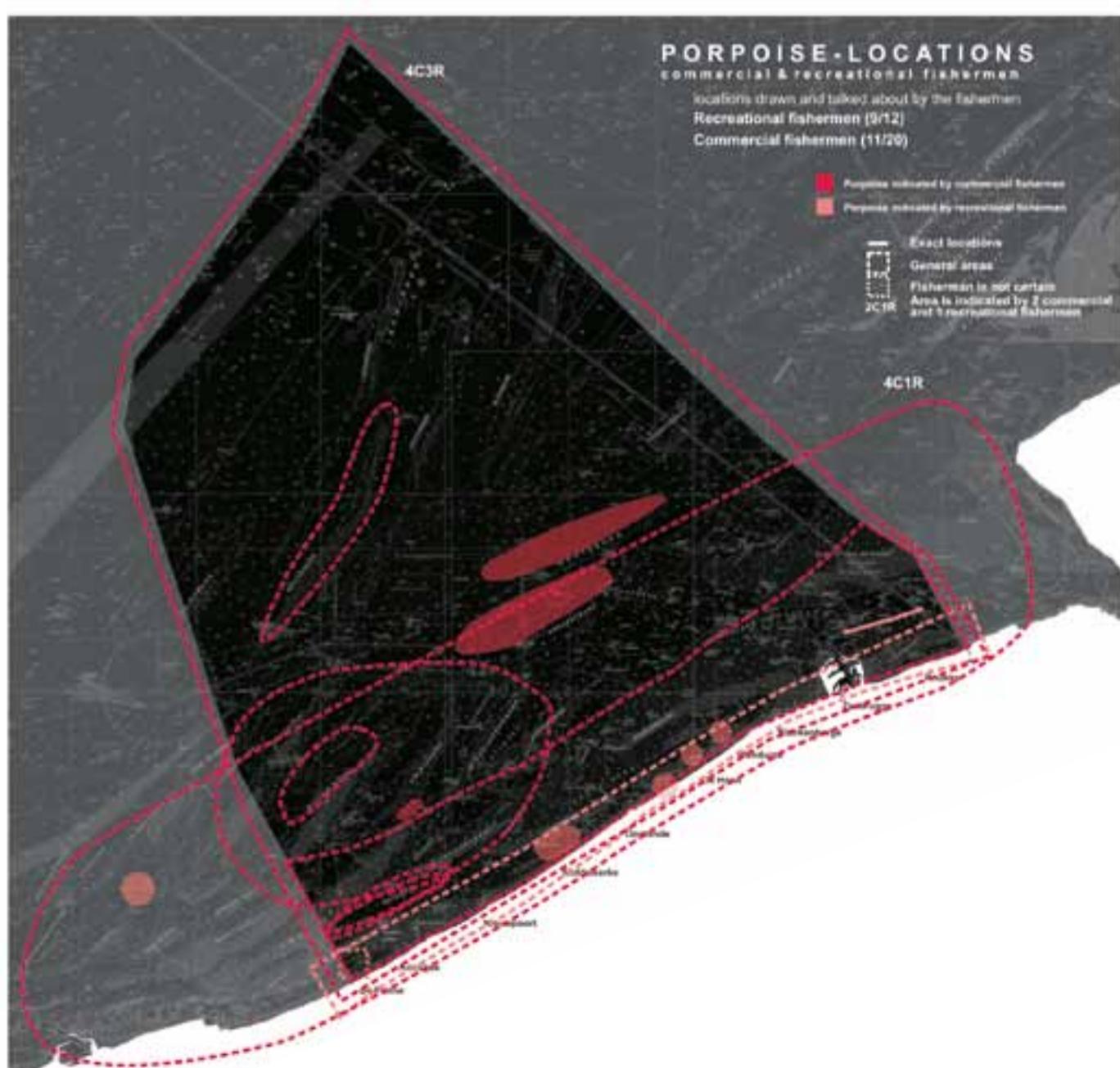
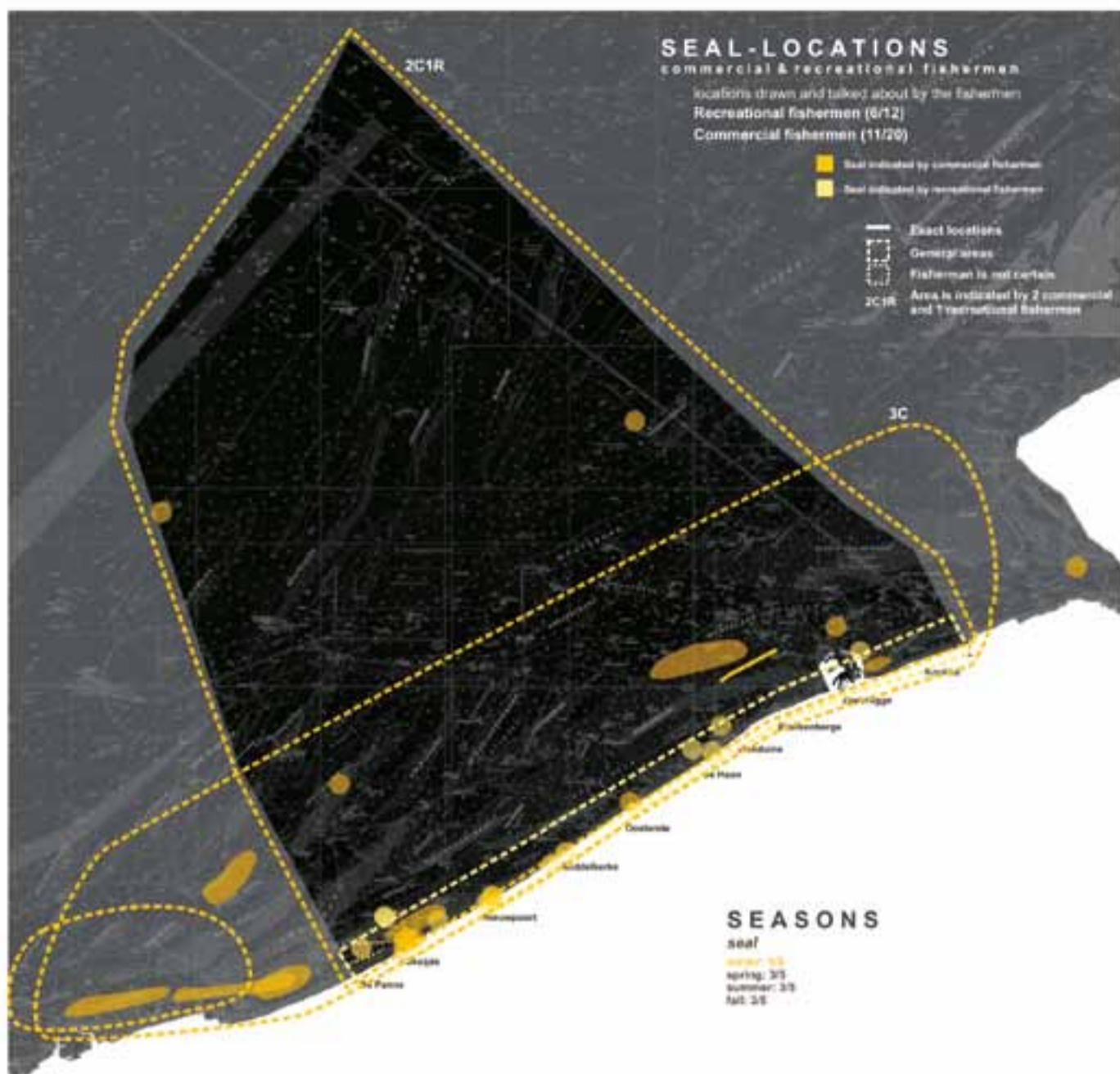


MAPS SERIES XII

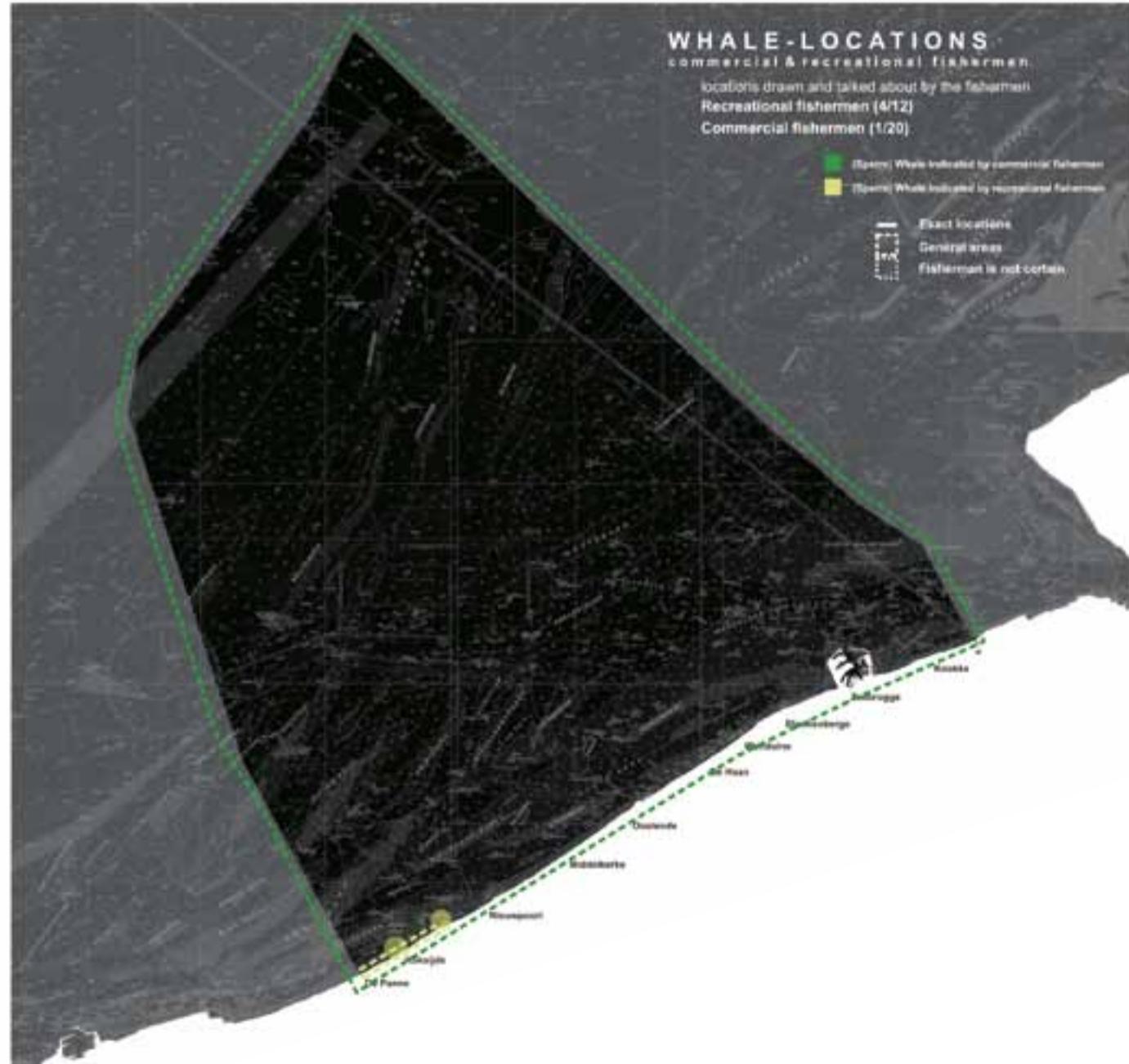
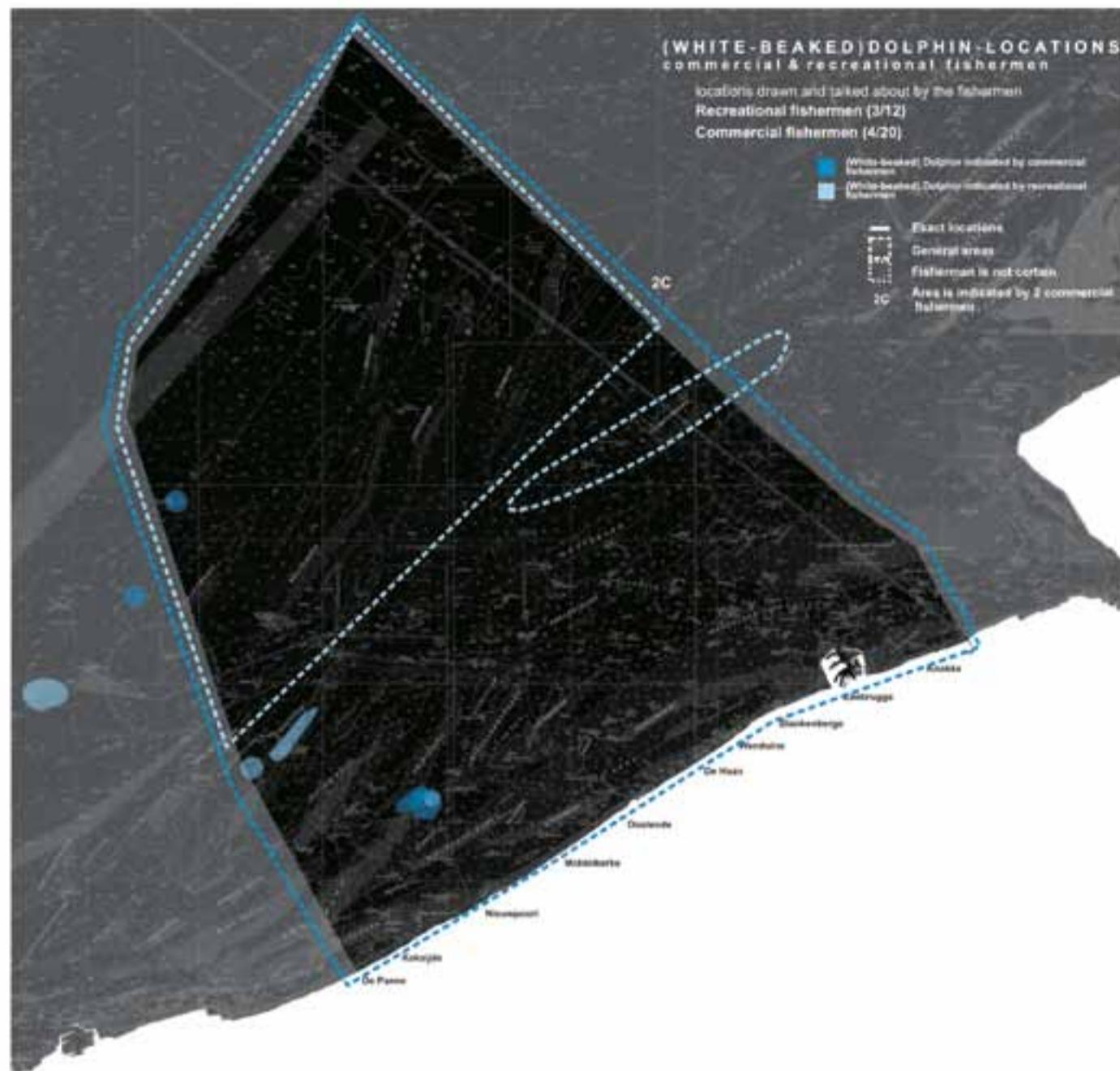
**MARINE  
MAMMALS**



**MARINE MAMMALS - locations  
drawn and talked about**  
commercial & recreational fishermen 1950 - 2010



**MARINE MAMMALS - locations  
specific species**  
commercial & recreational fishermen 1950 - 2010



**MARINE MAMMALS - locations  
specific species**  
commercial & recreational fishermen 1950 - 2010



