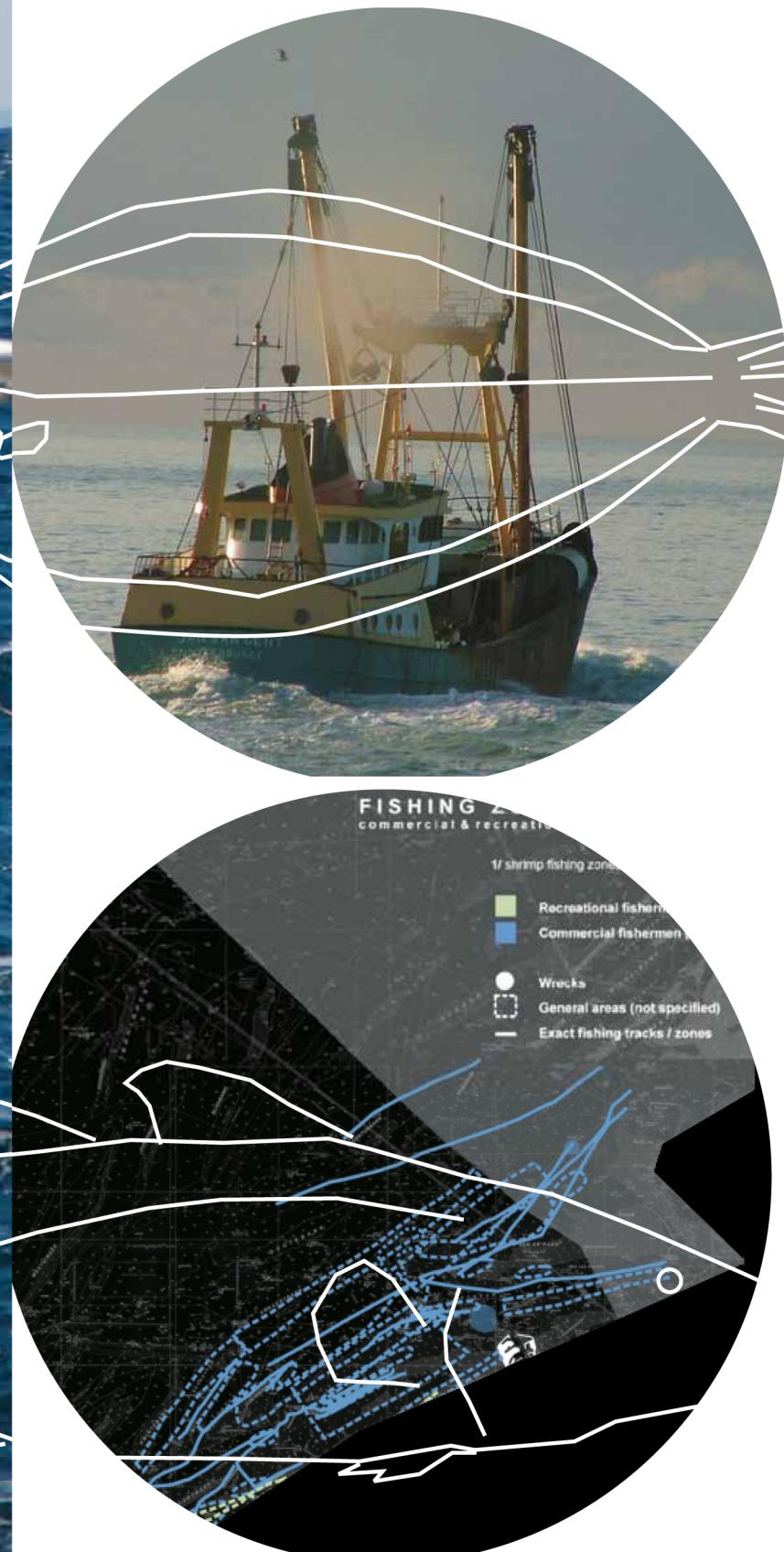


LECOFISH

An ecosystem approach in sustainable
fisheries management through
local ecological knowledge

Frank Maes
Jessica Coppens
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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

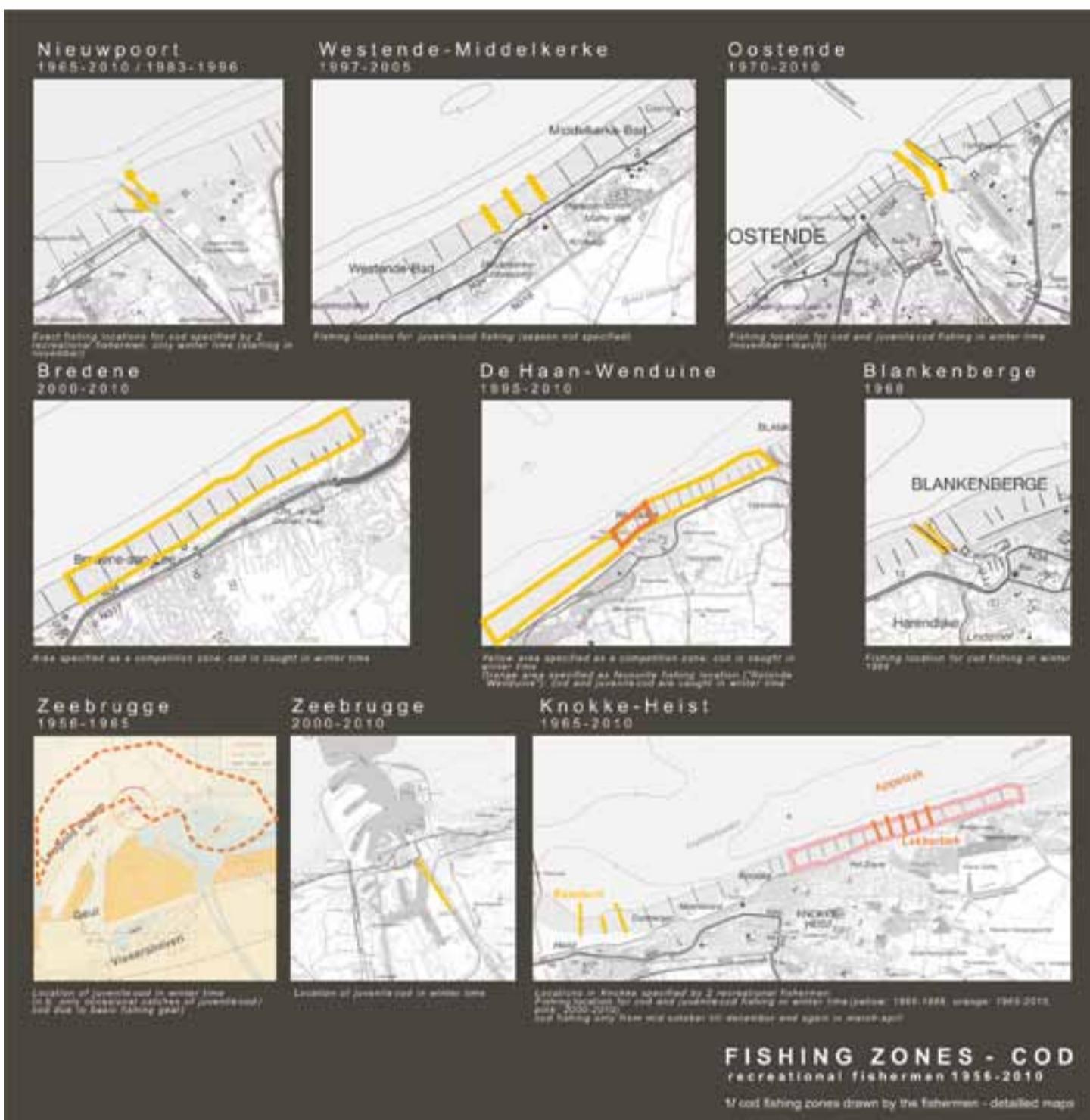
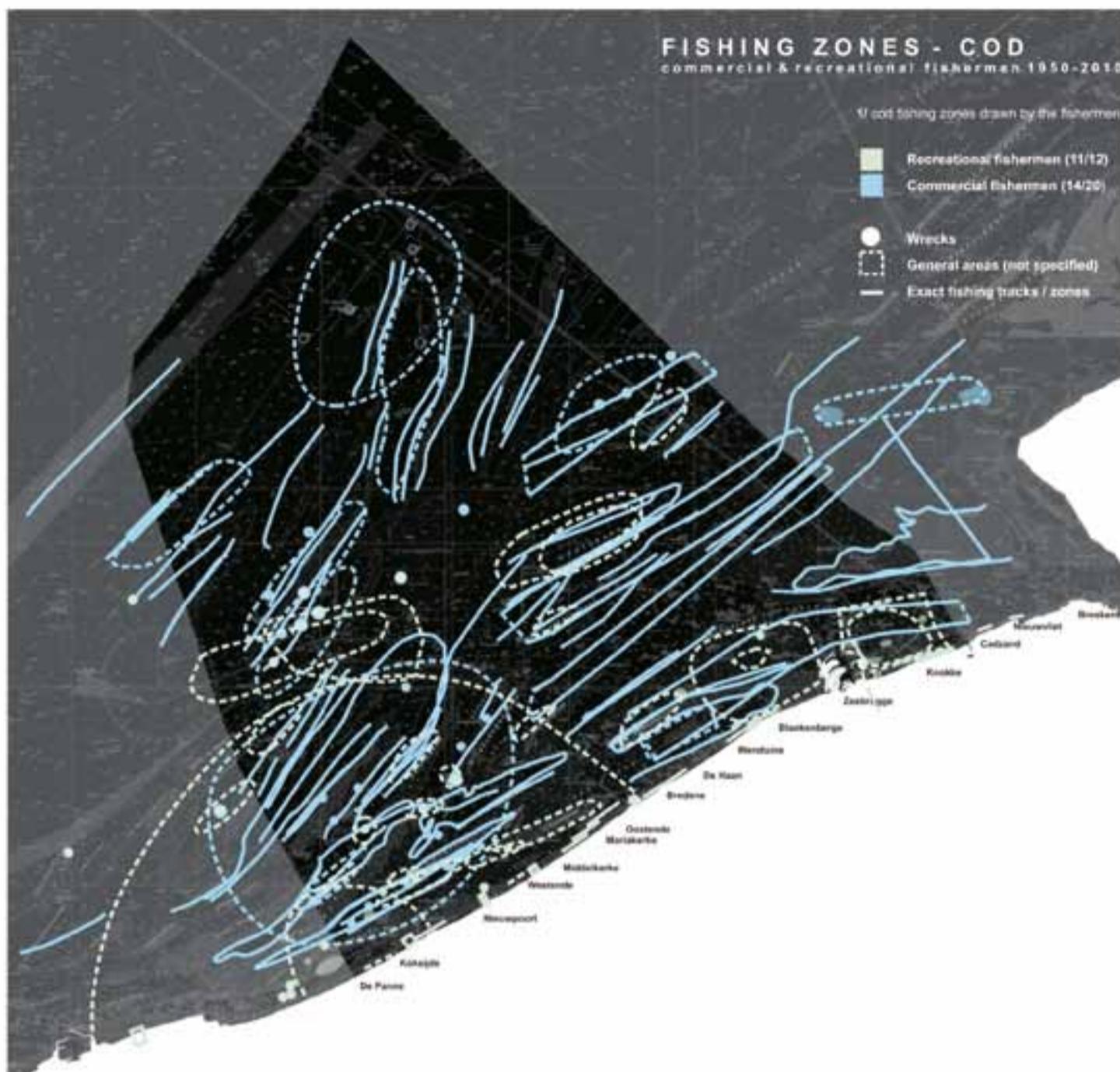
XII.1/ Sea mammals - locations commercial & recreational fishermen 1950-2010 - overview - zones drawn and talked about	113
XII.2/ Sea mammals - locations specific species : Seal & Porpoise	114
XII.3/ Sea mammals - locations specific species: Dolphin & Whale	115



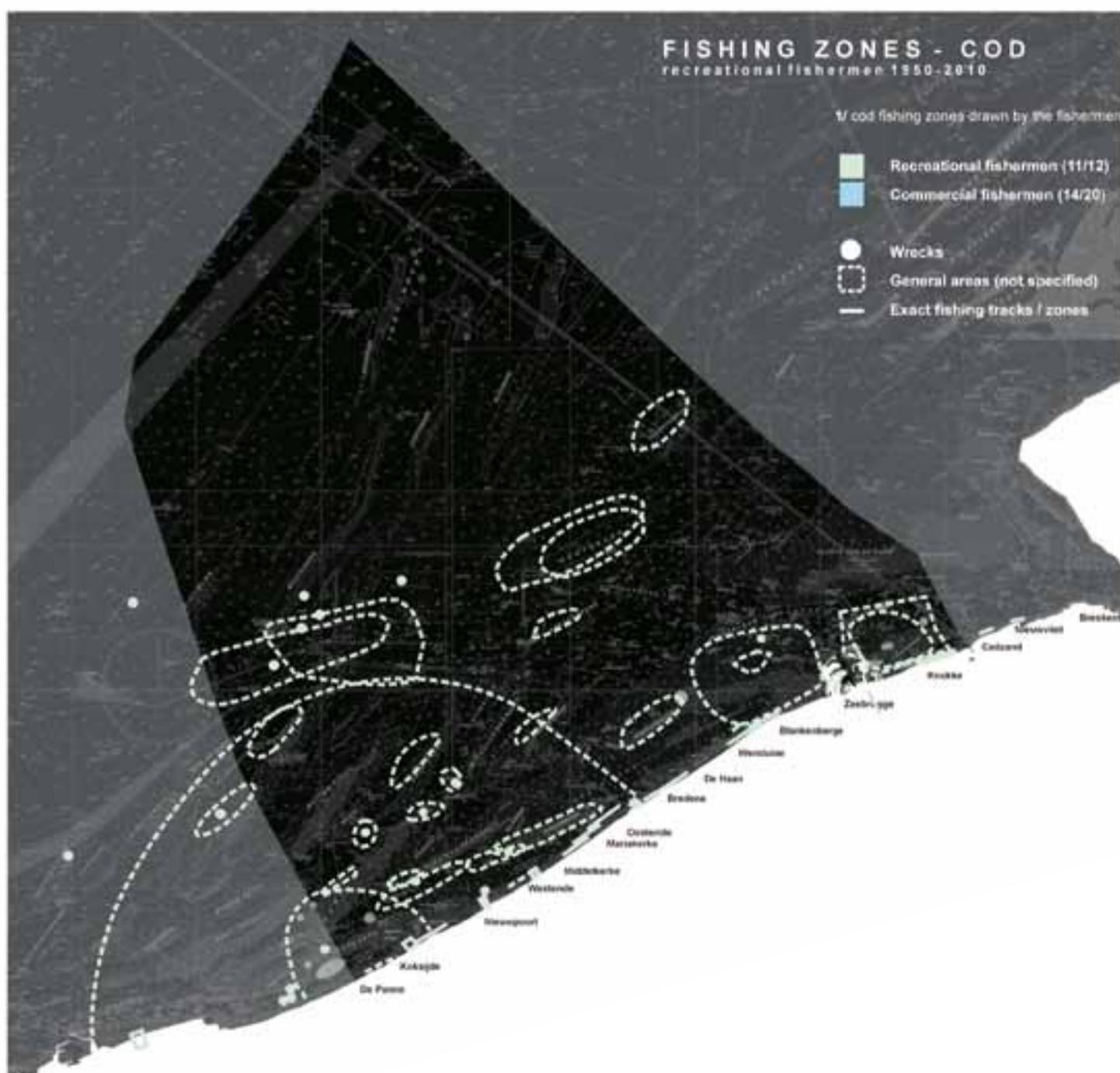
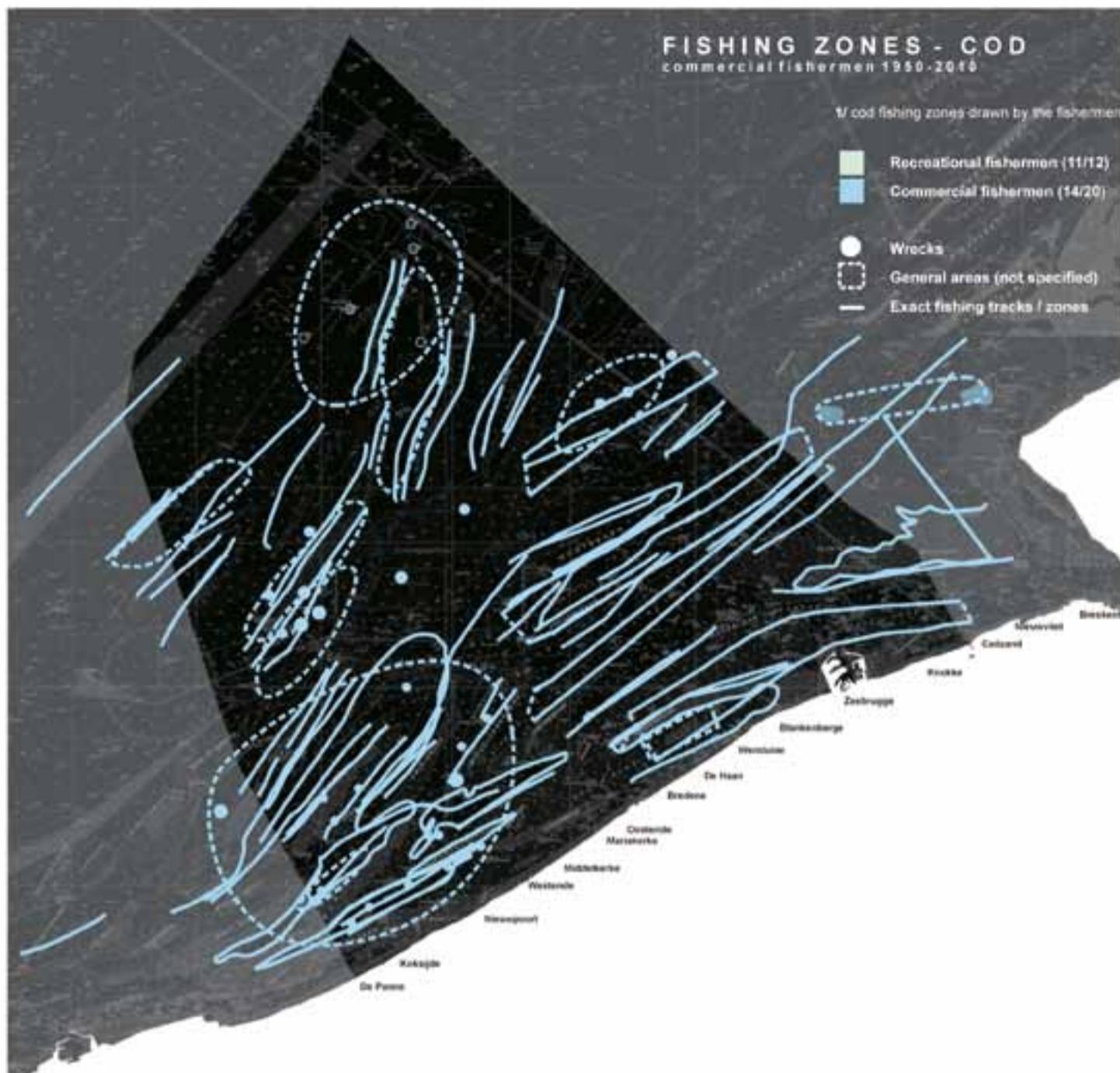


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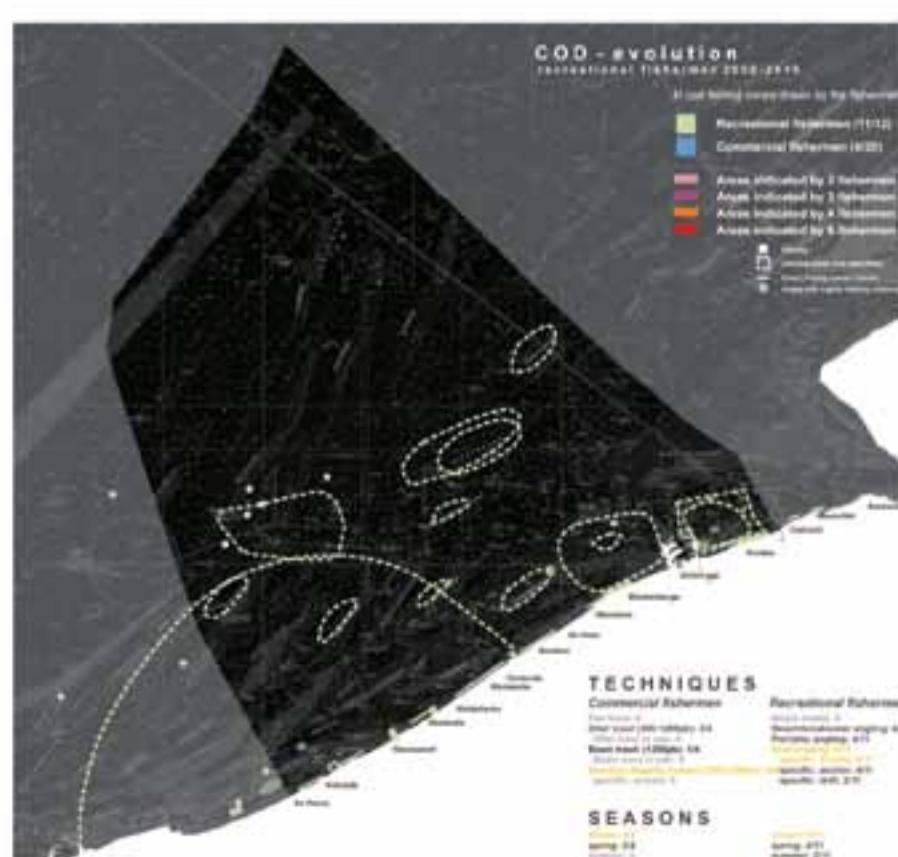
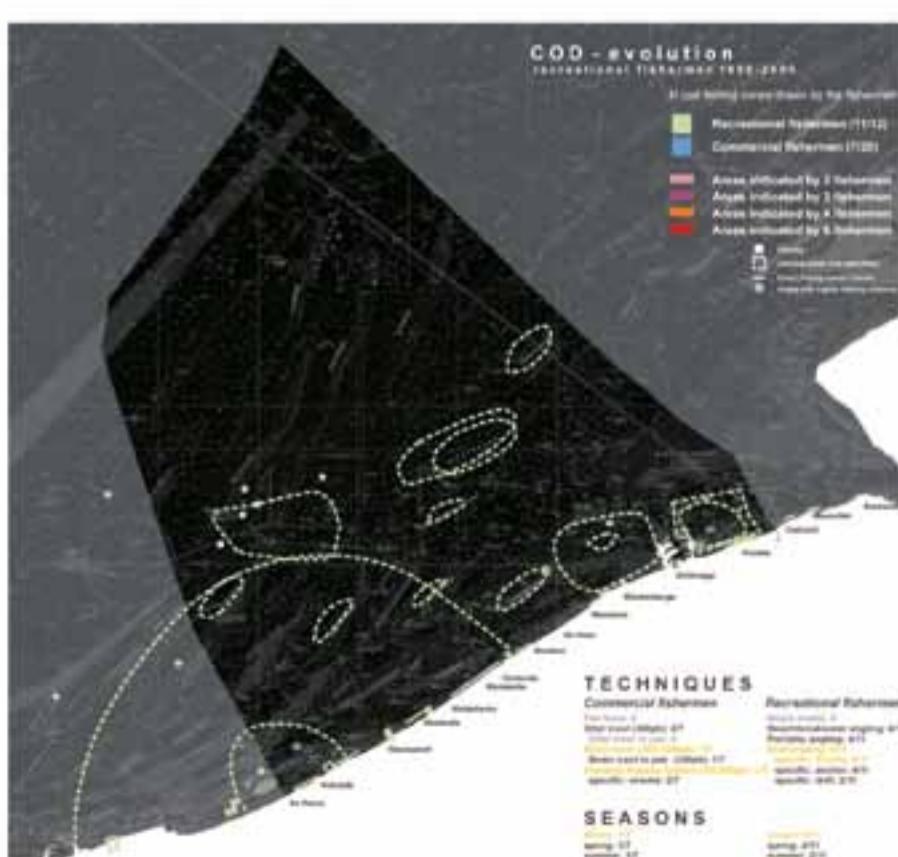
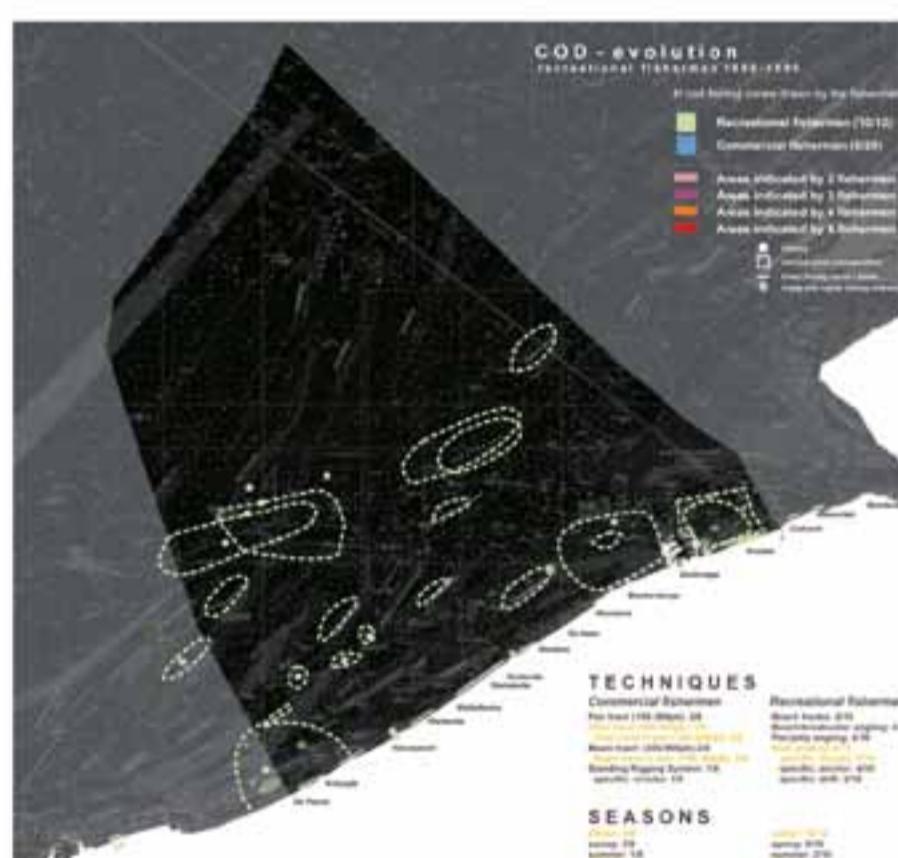
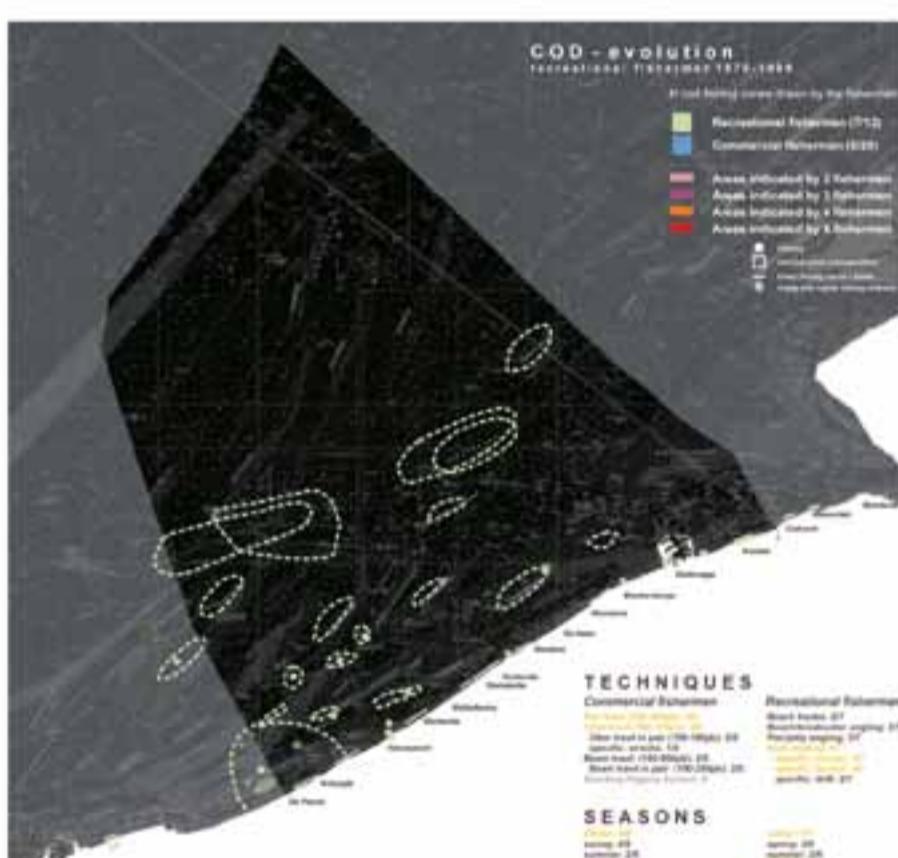
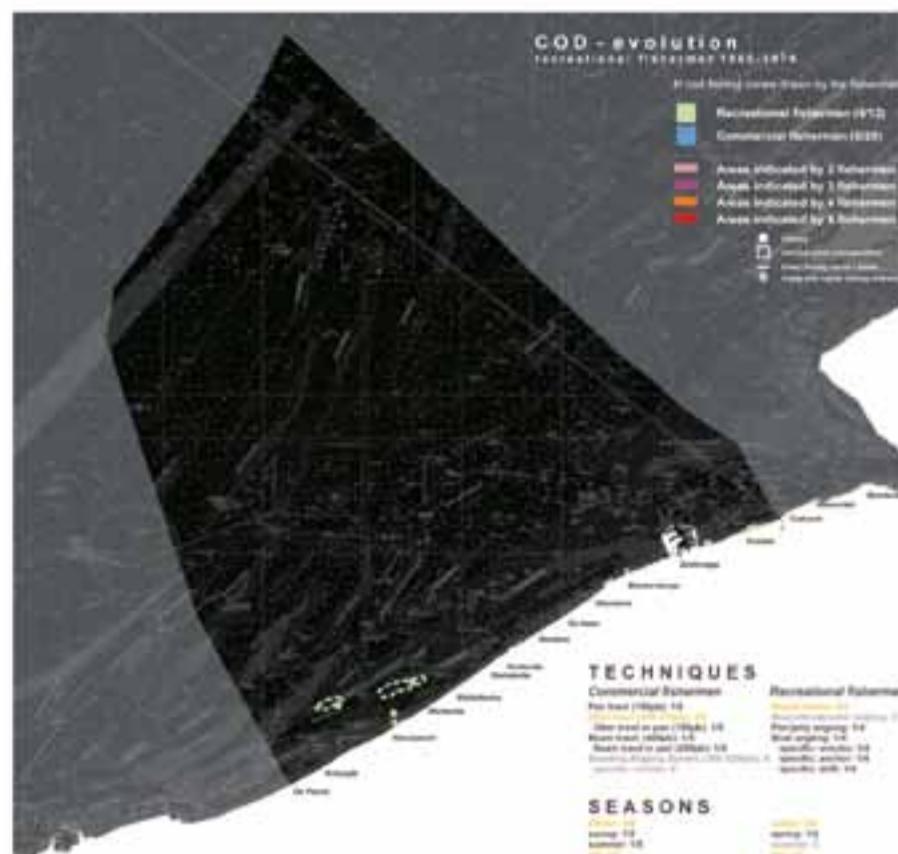
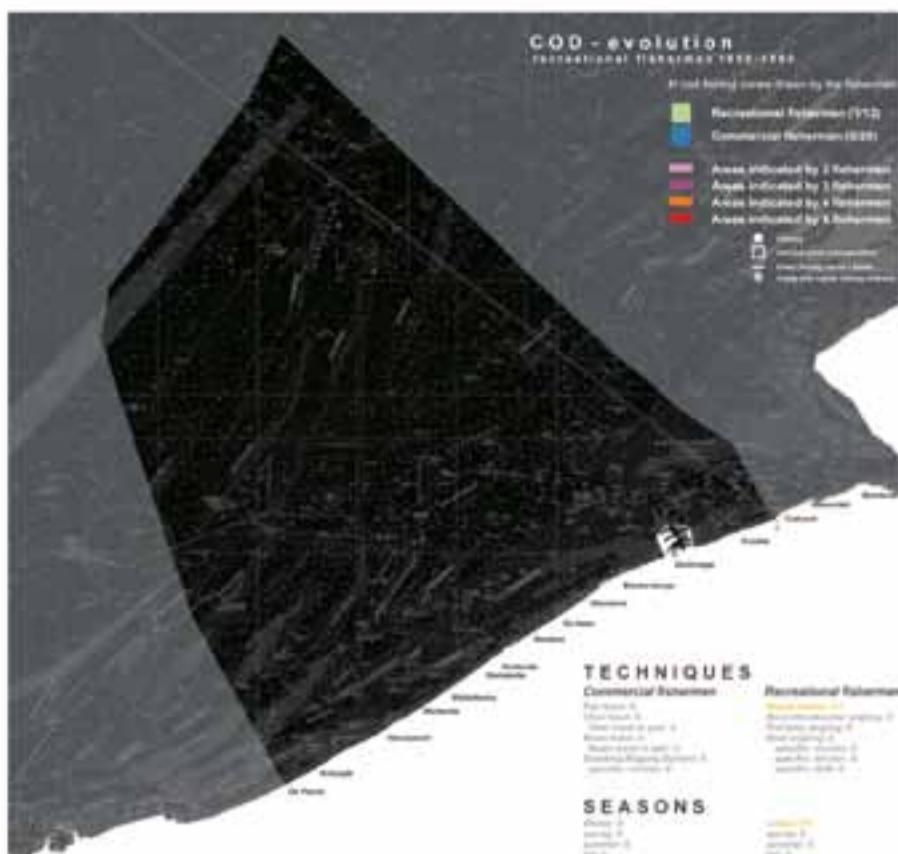
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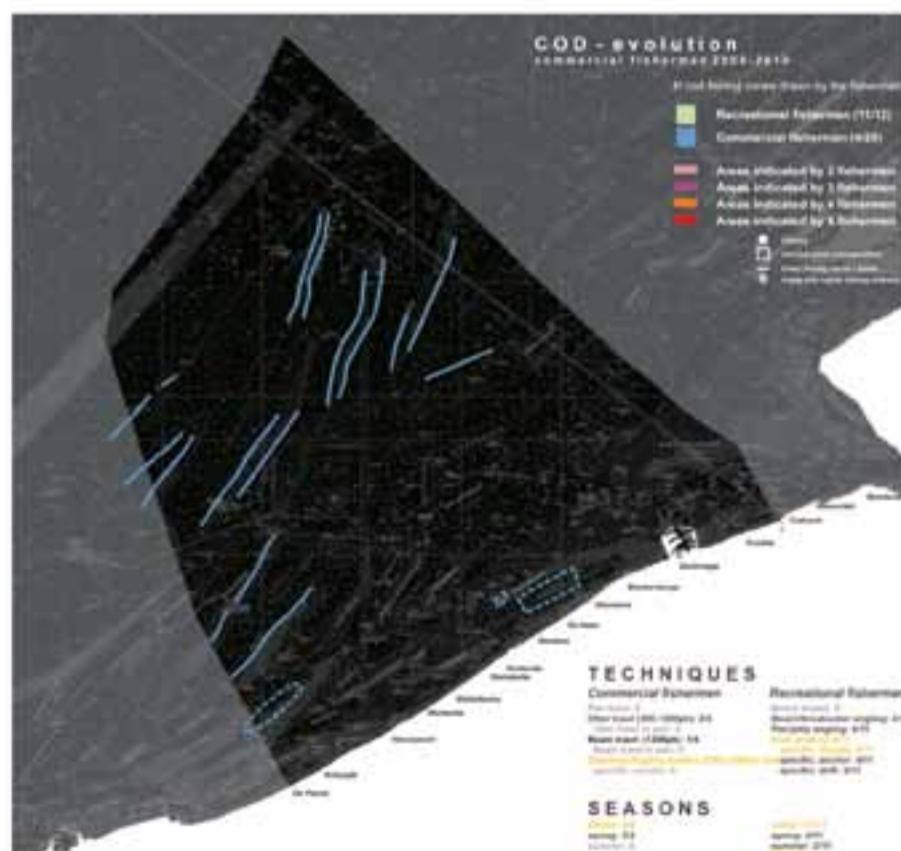
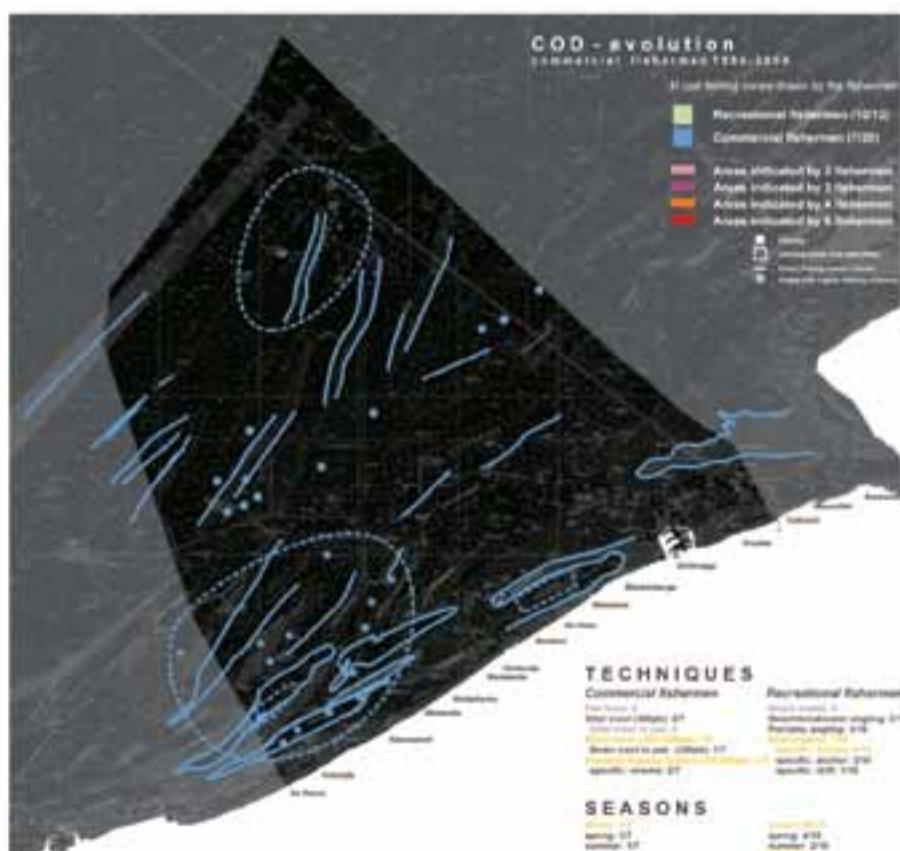
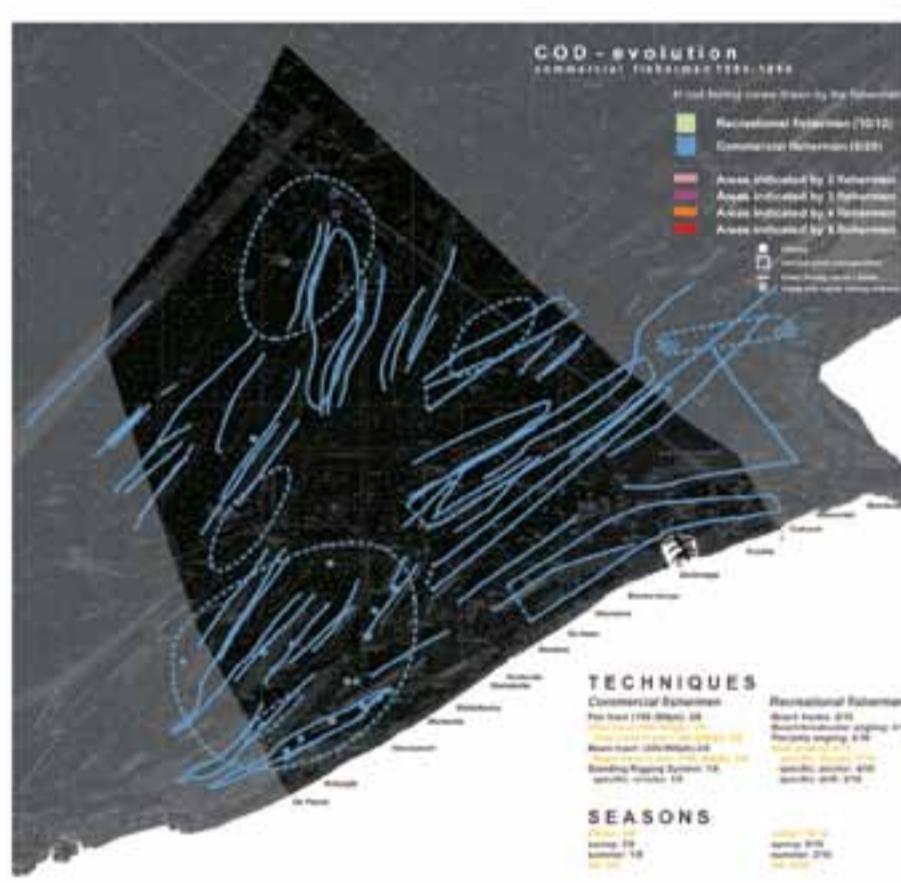
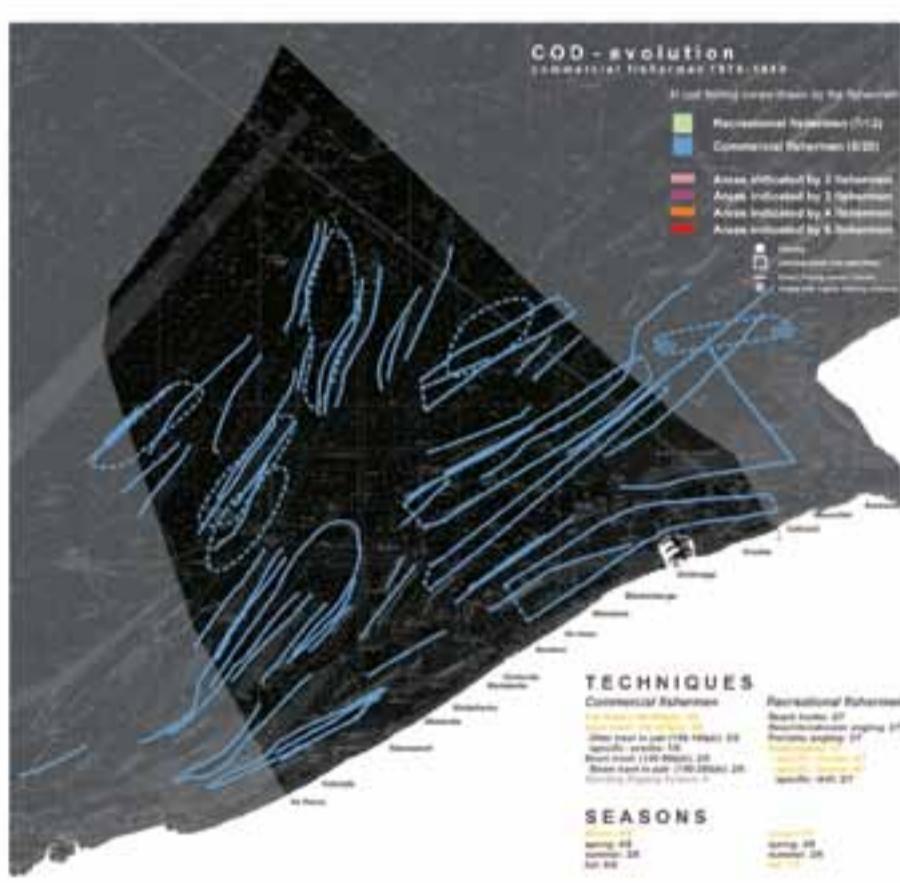
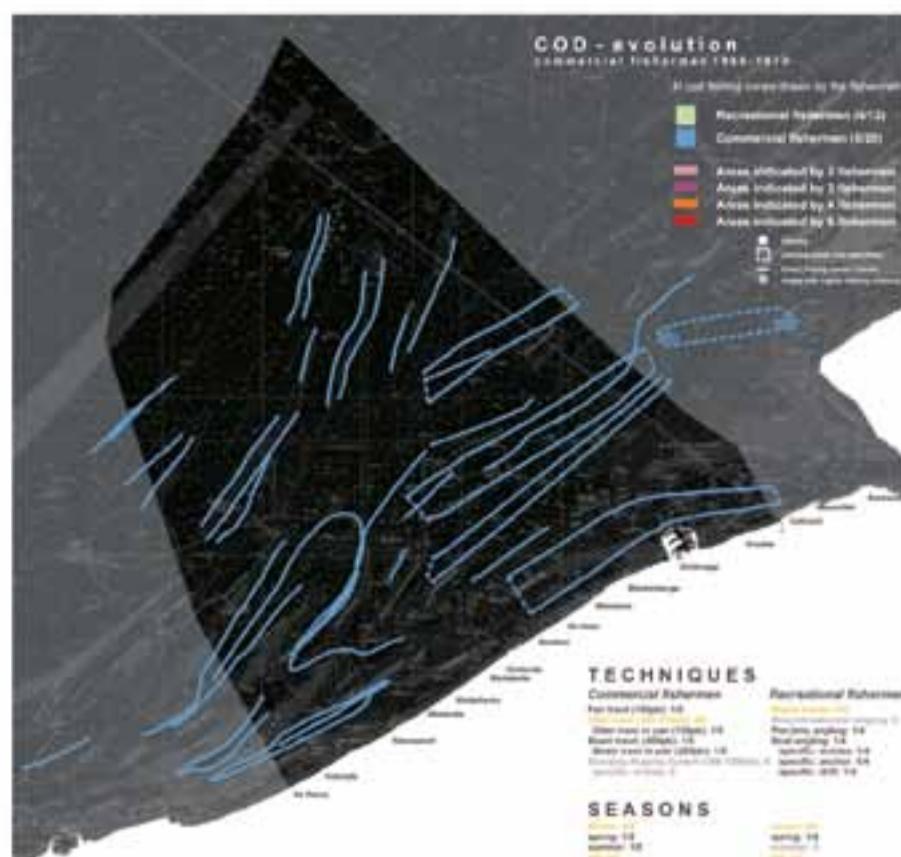
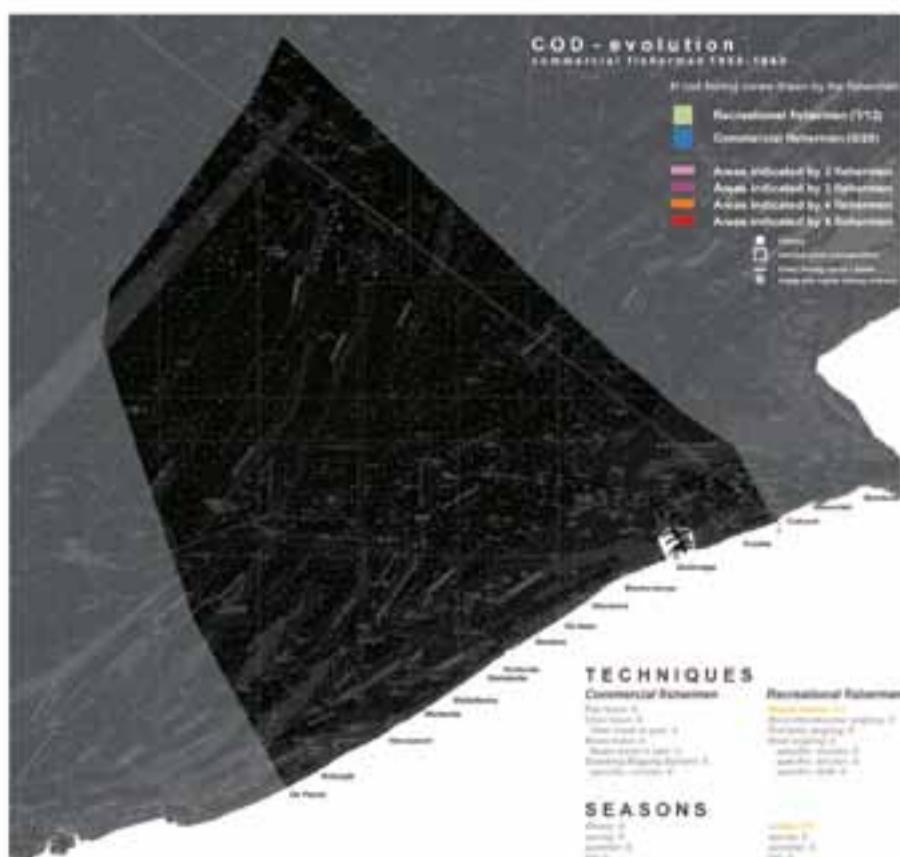
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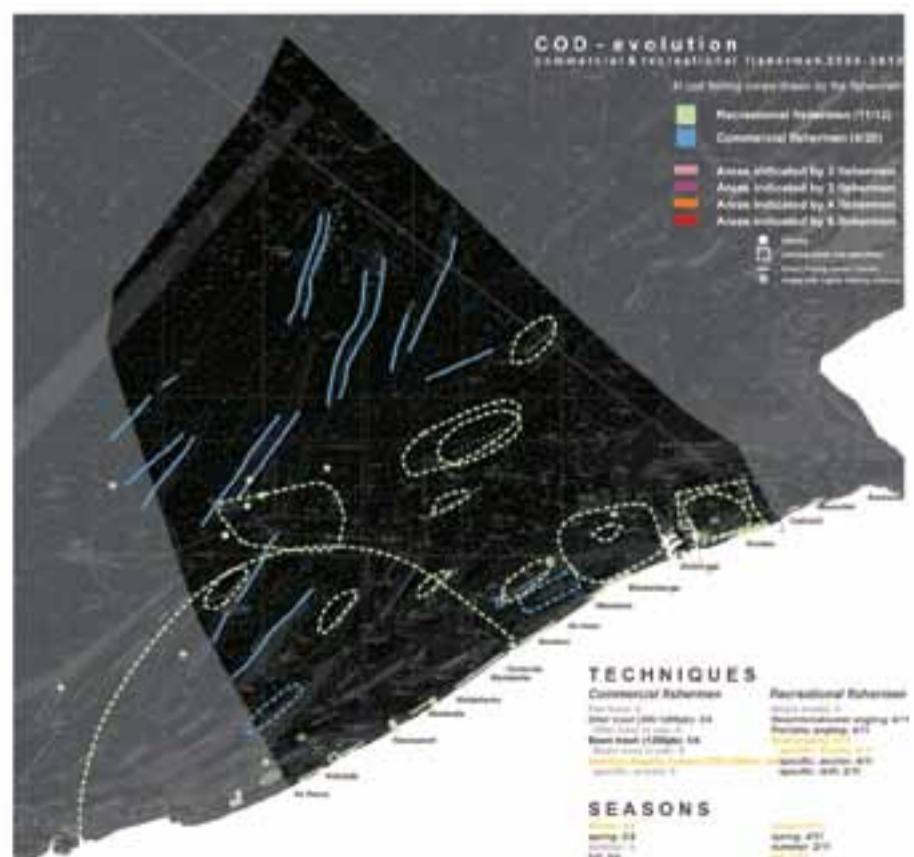
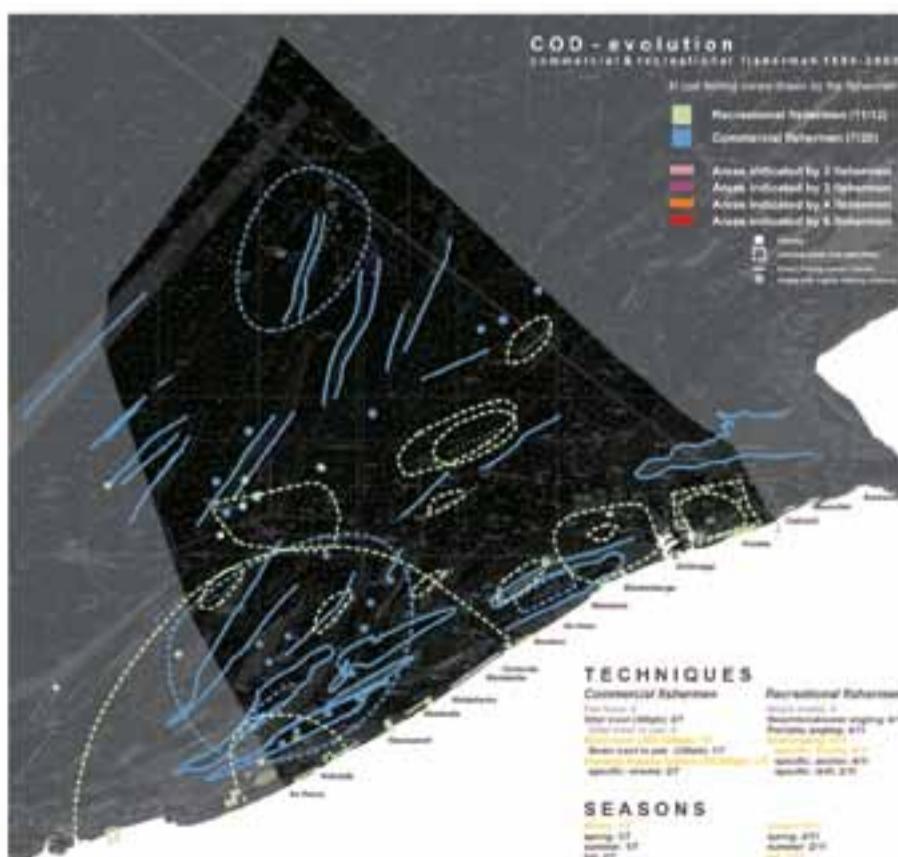
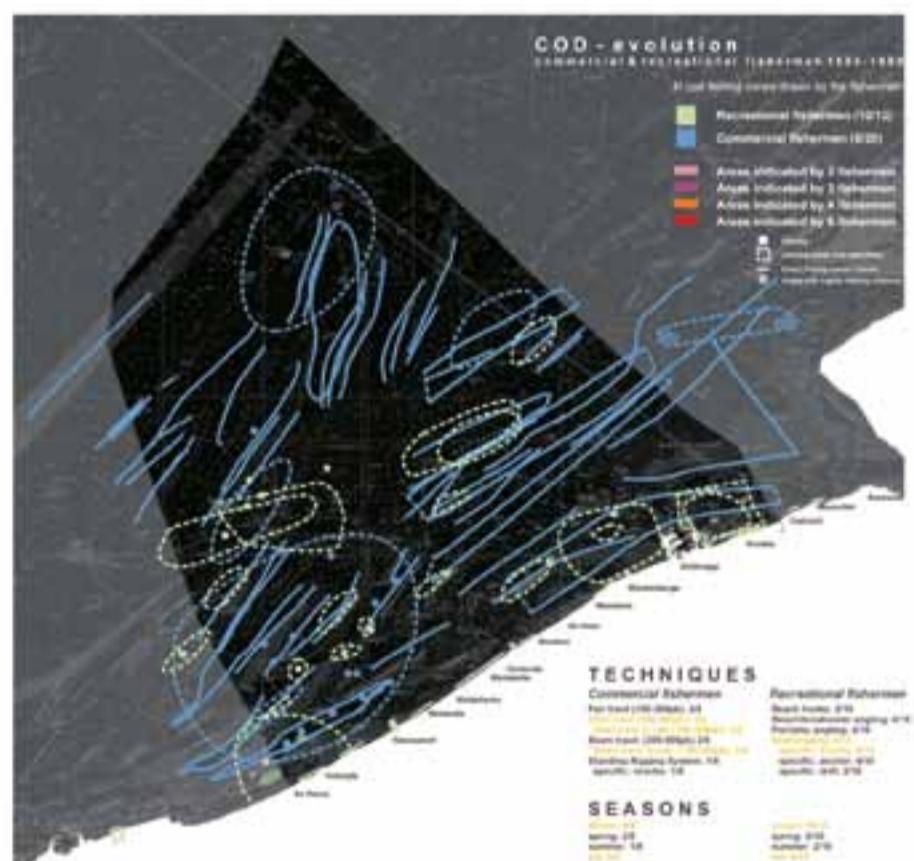
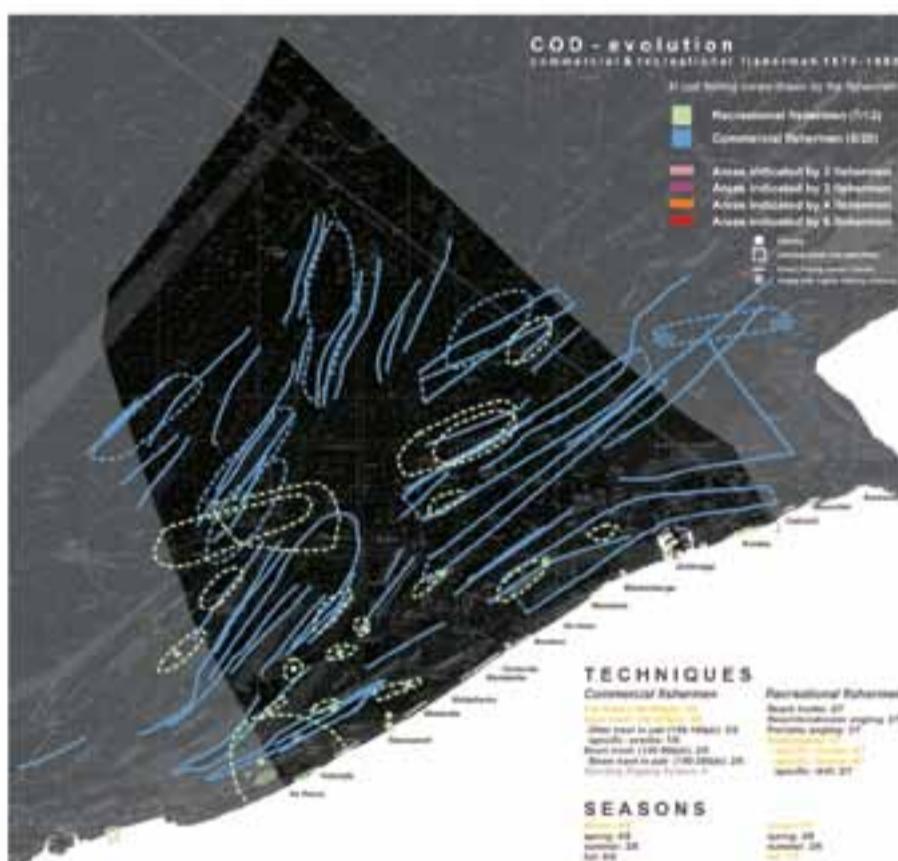
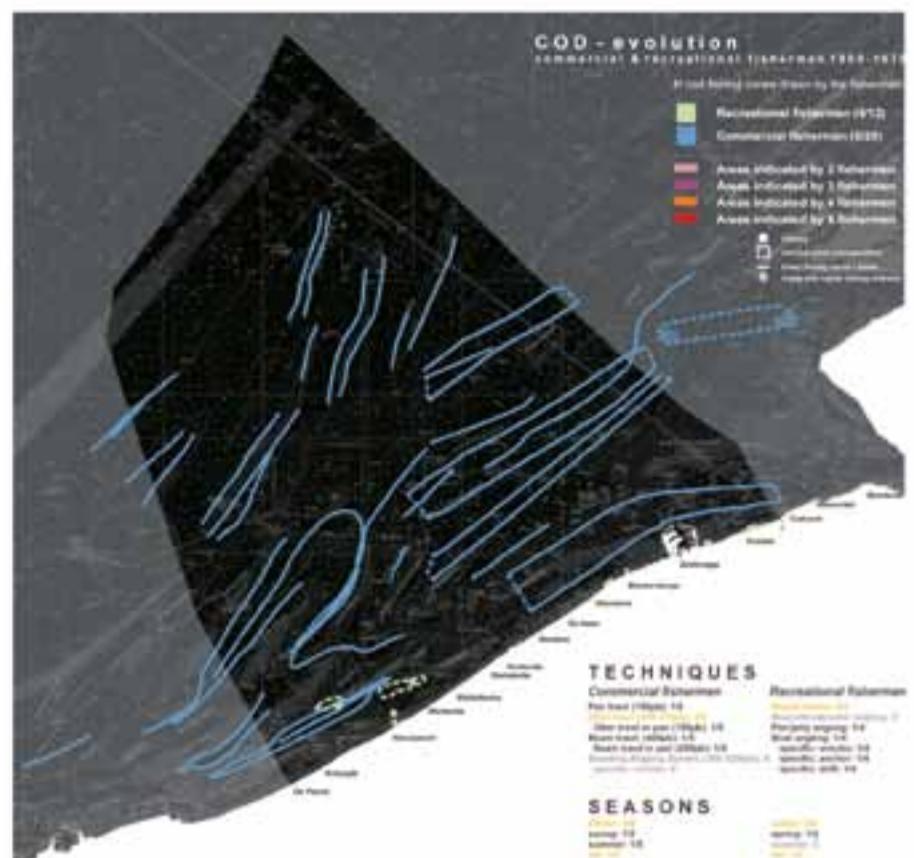
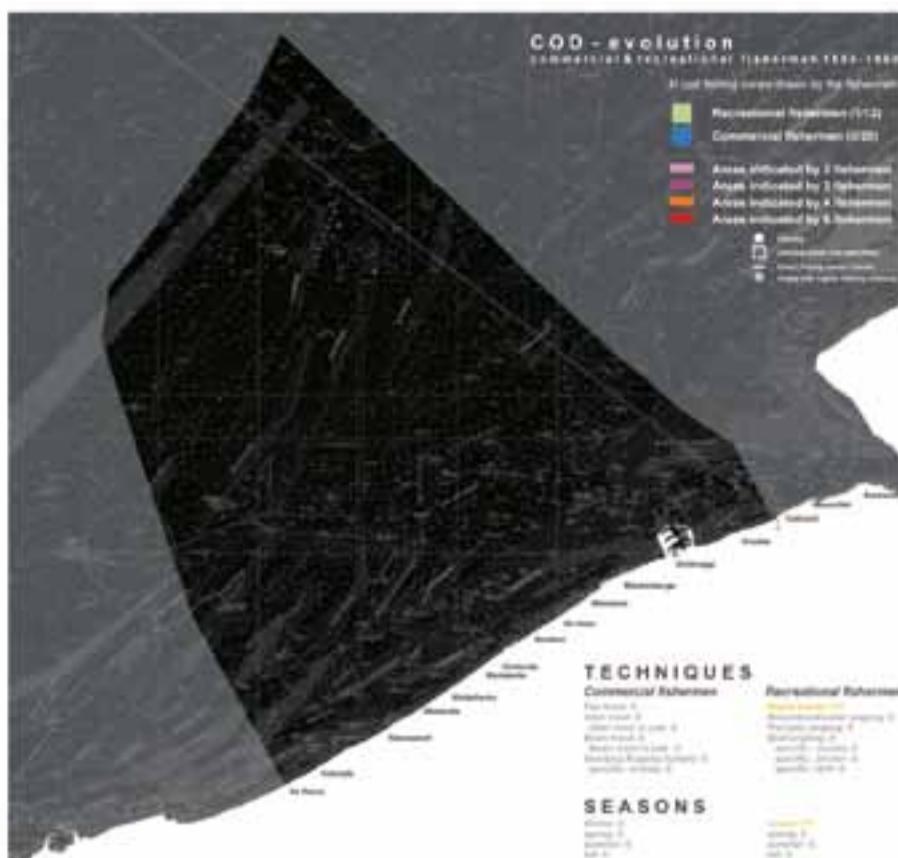
COD - fishing zones
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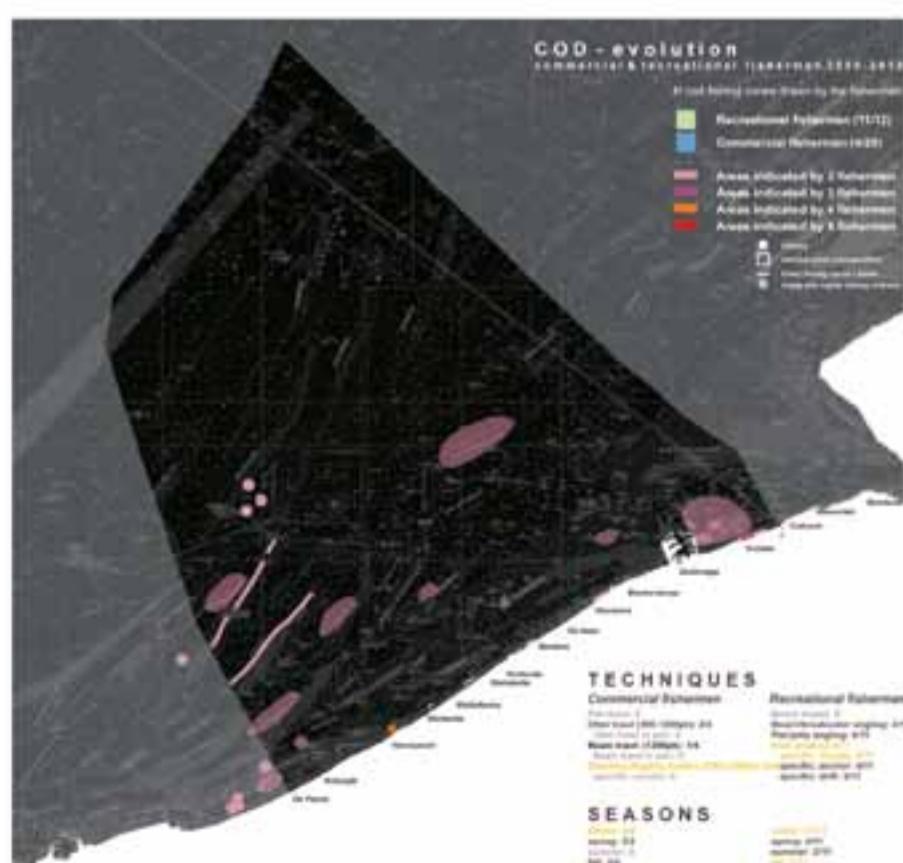
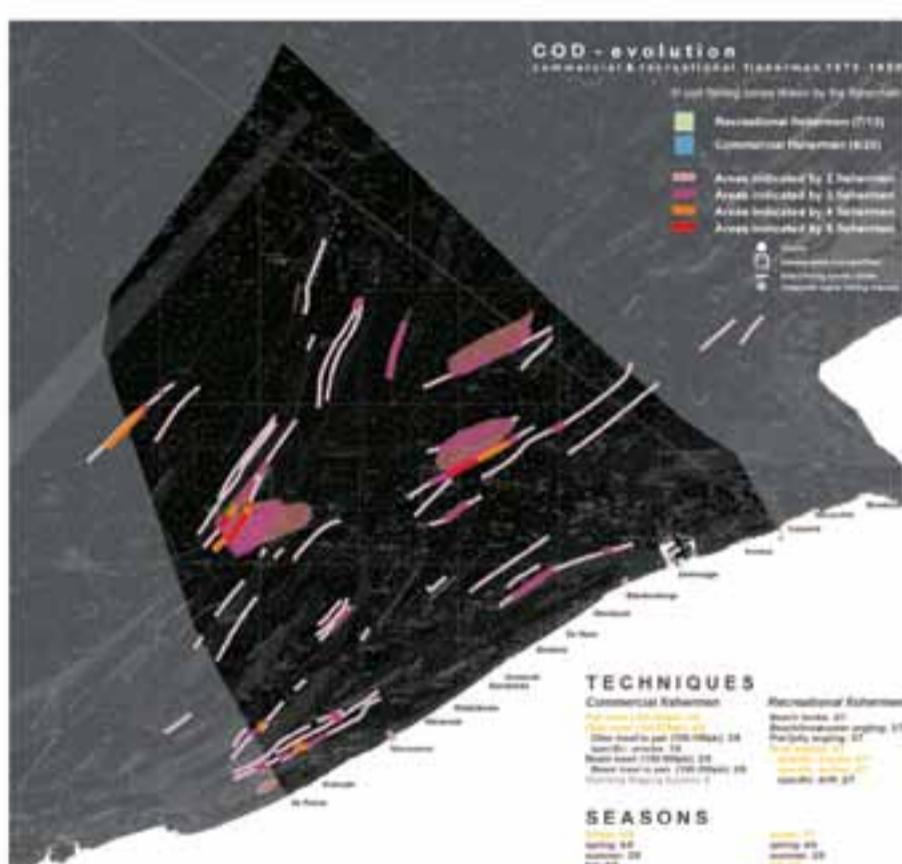
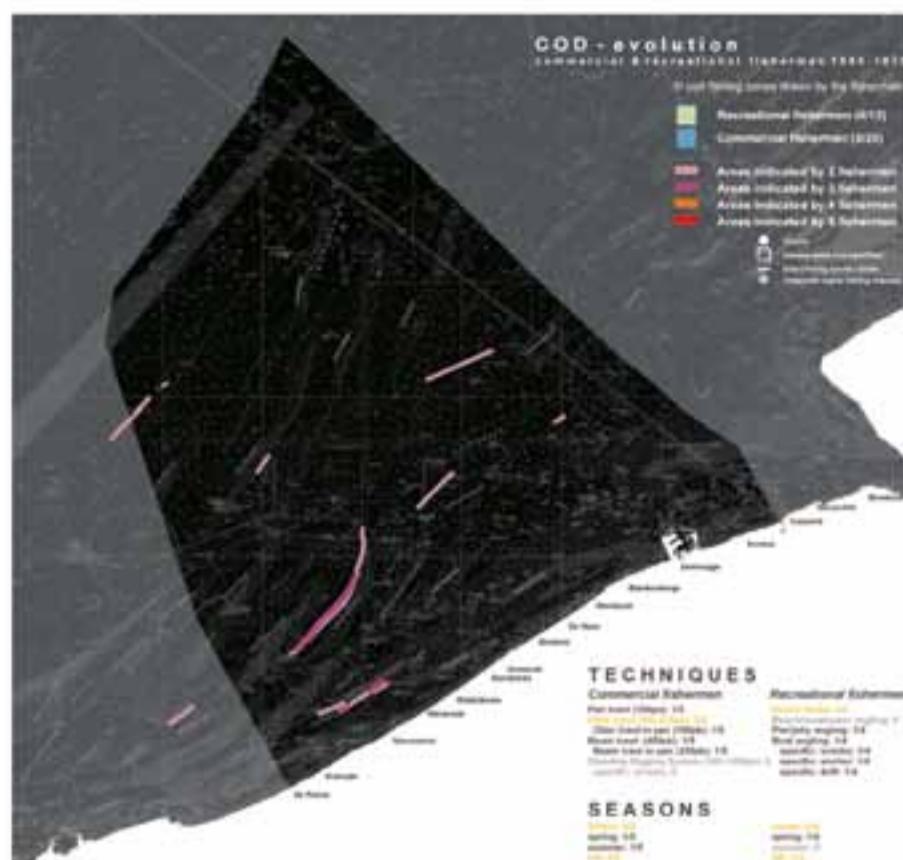
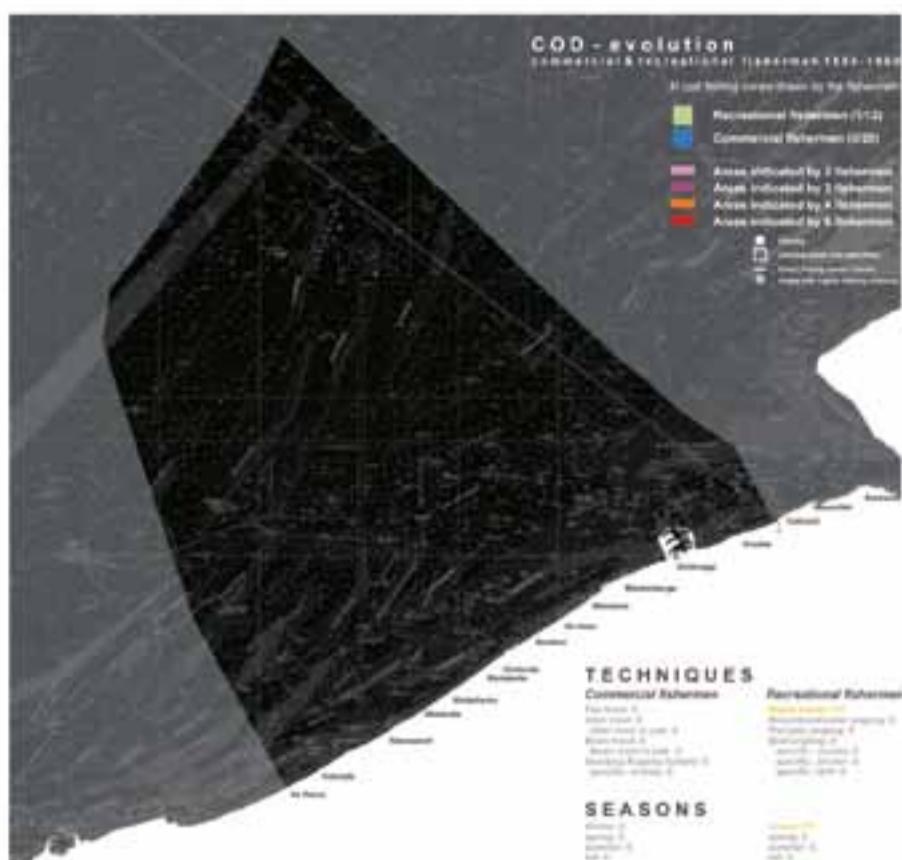
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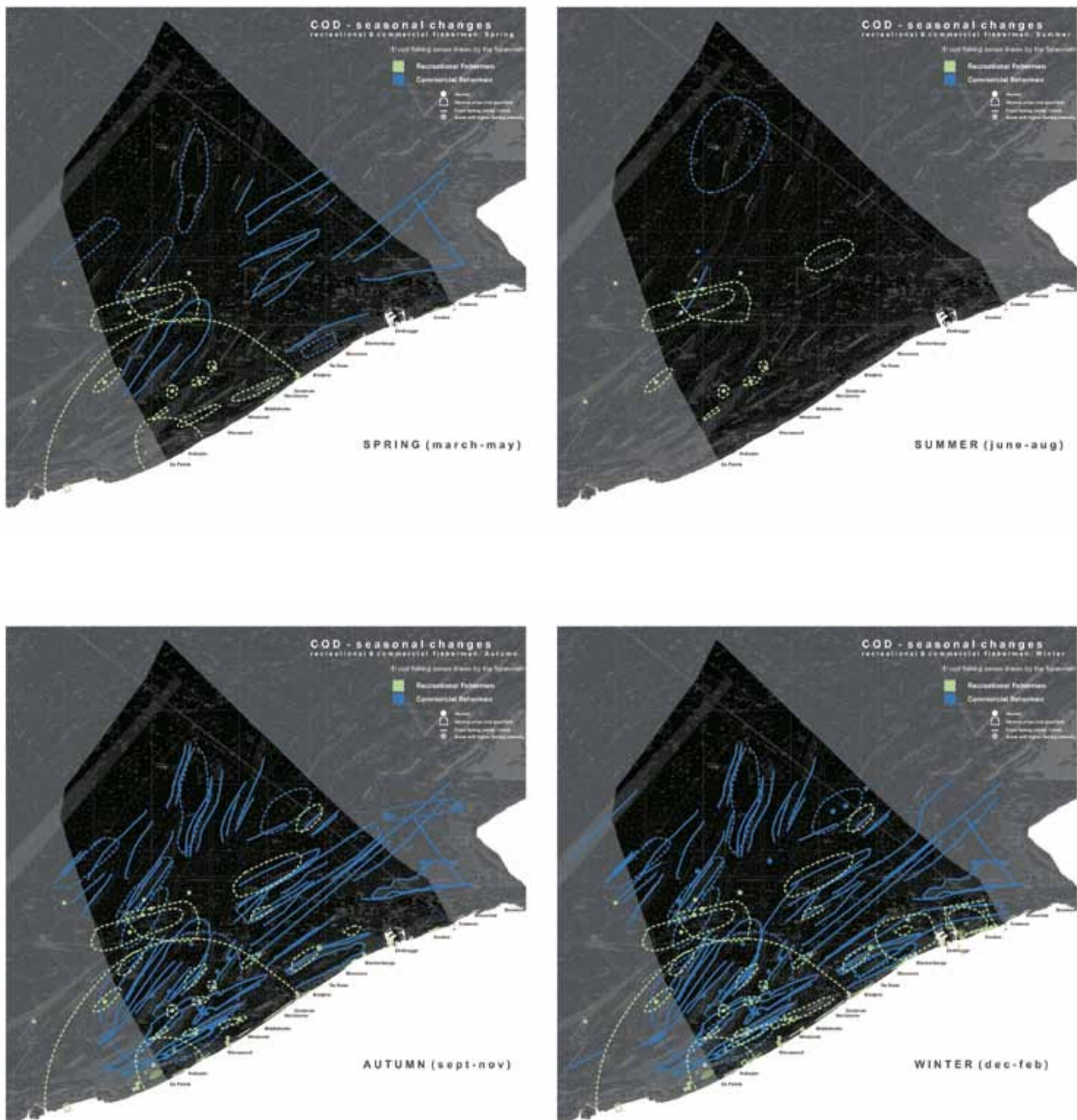
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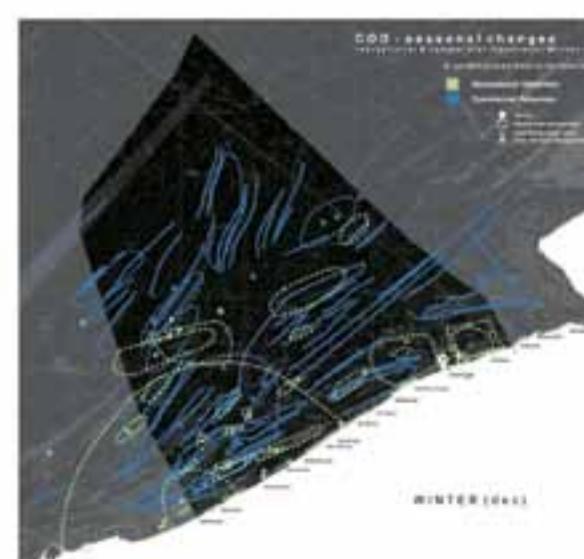
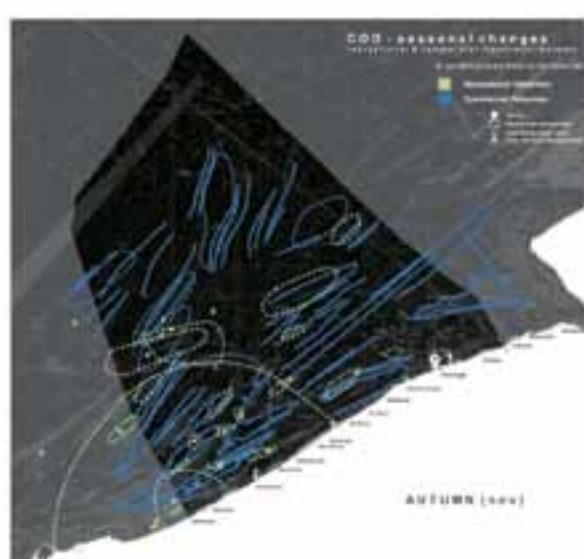
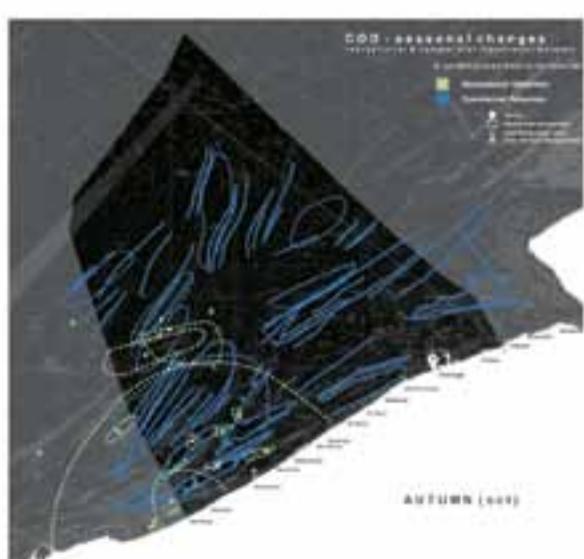
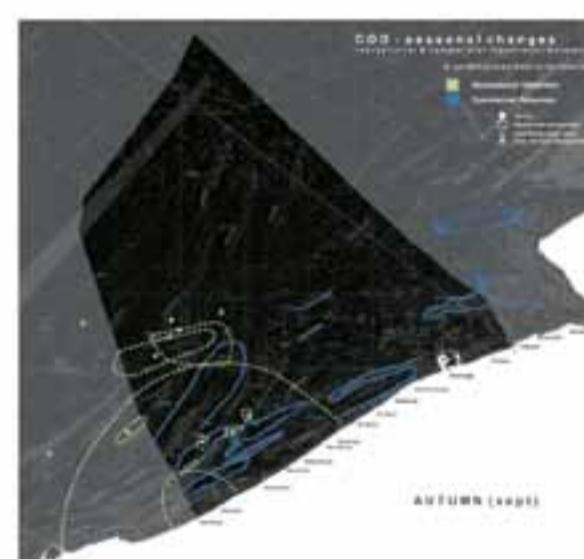
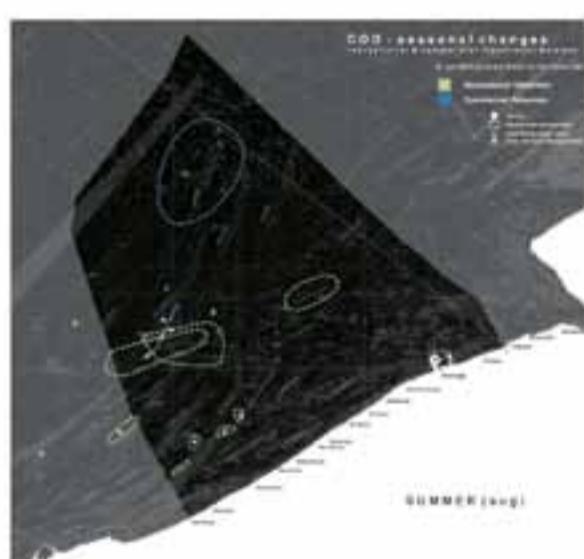
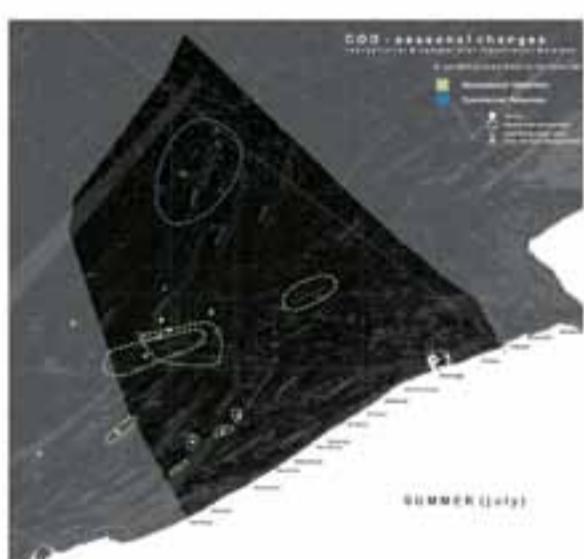
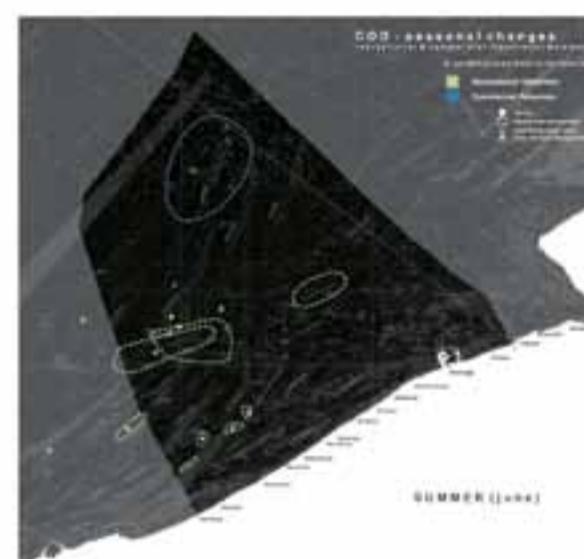
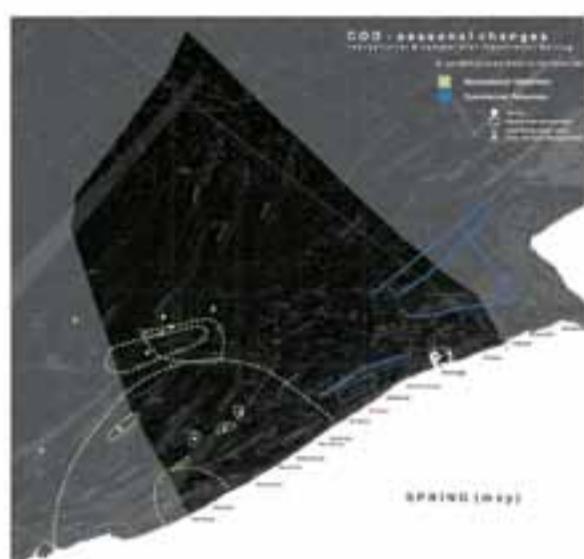
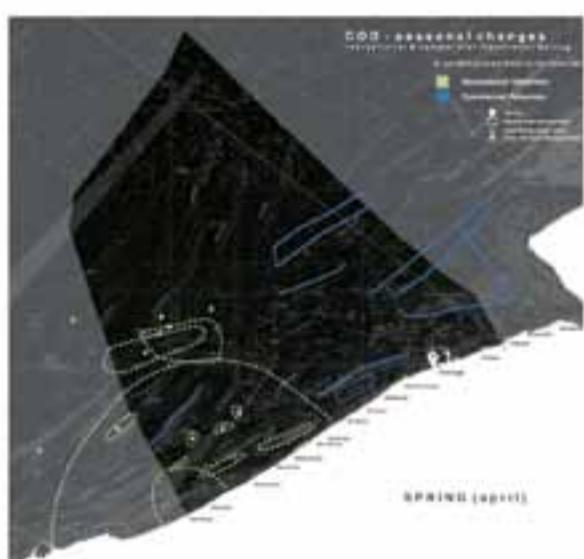
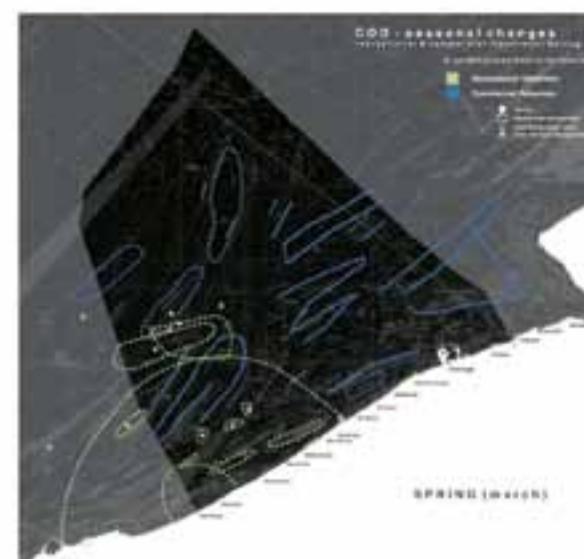
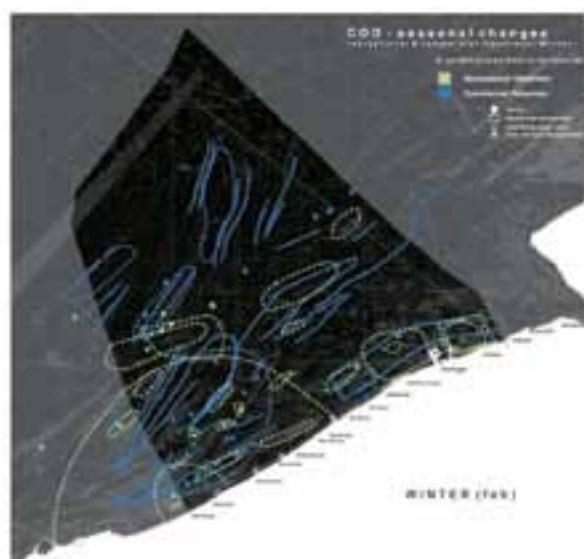
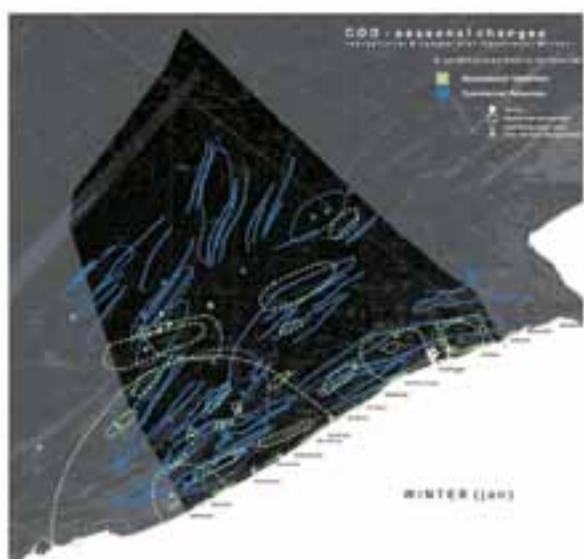
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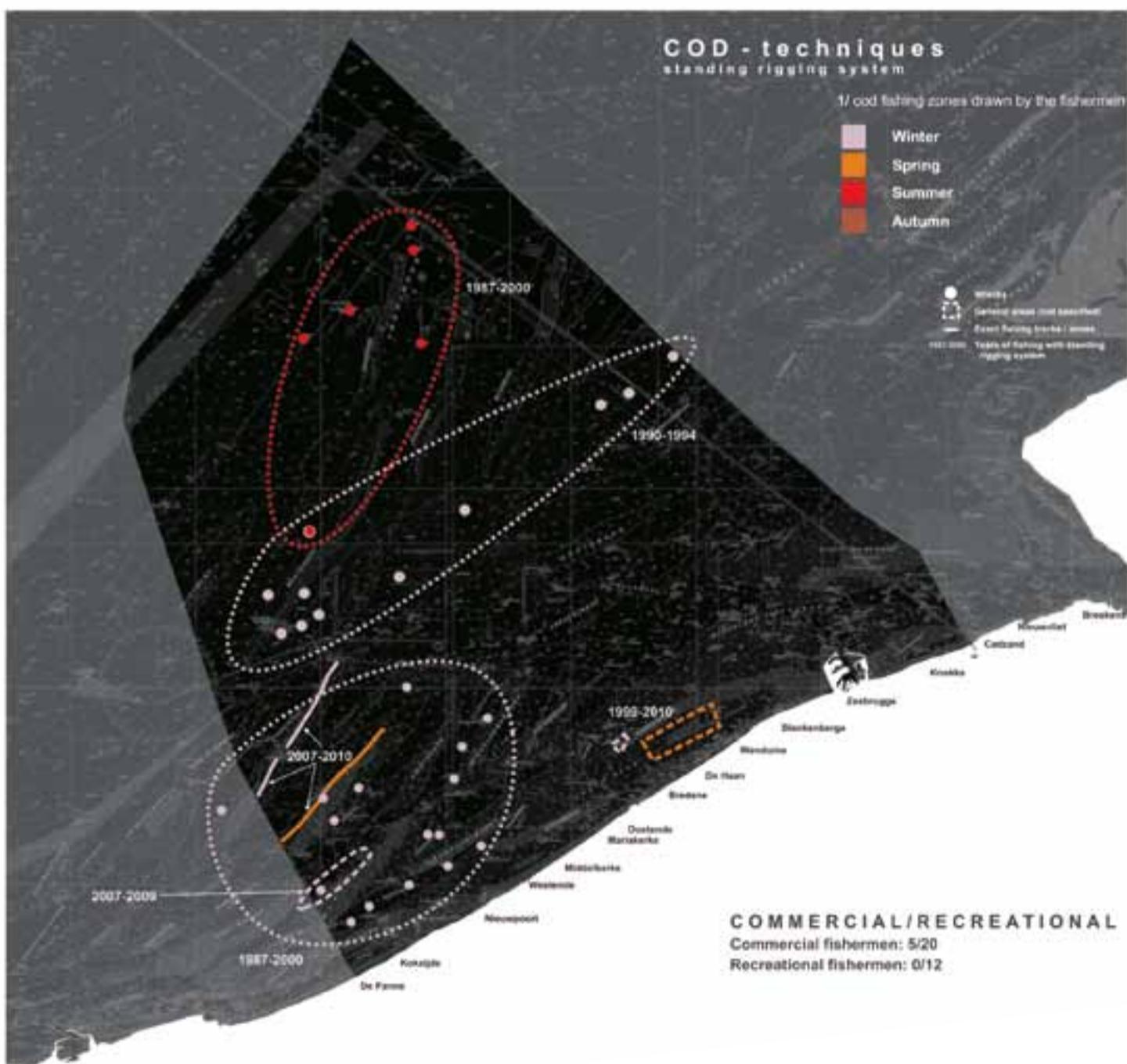
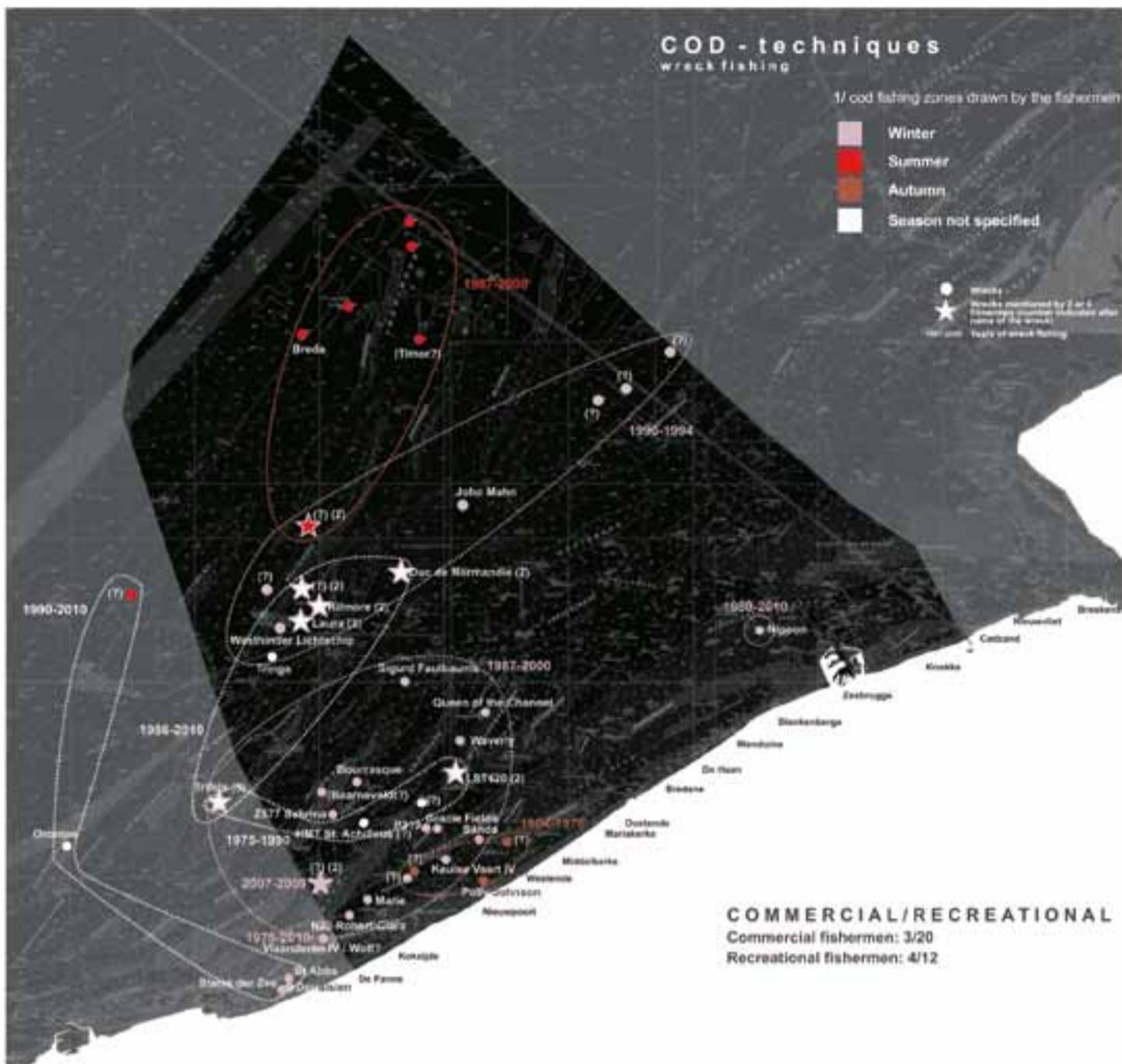
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areas fished by 2 or more fishermen



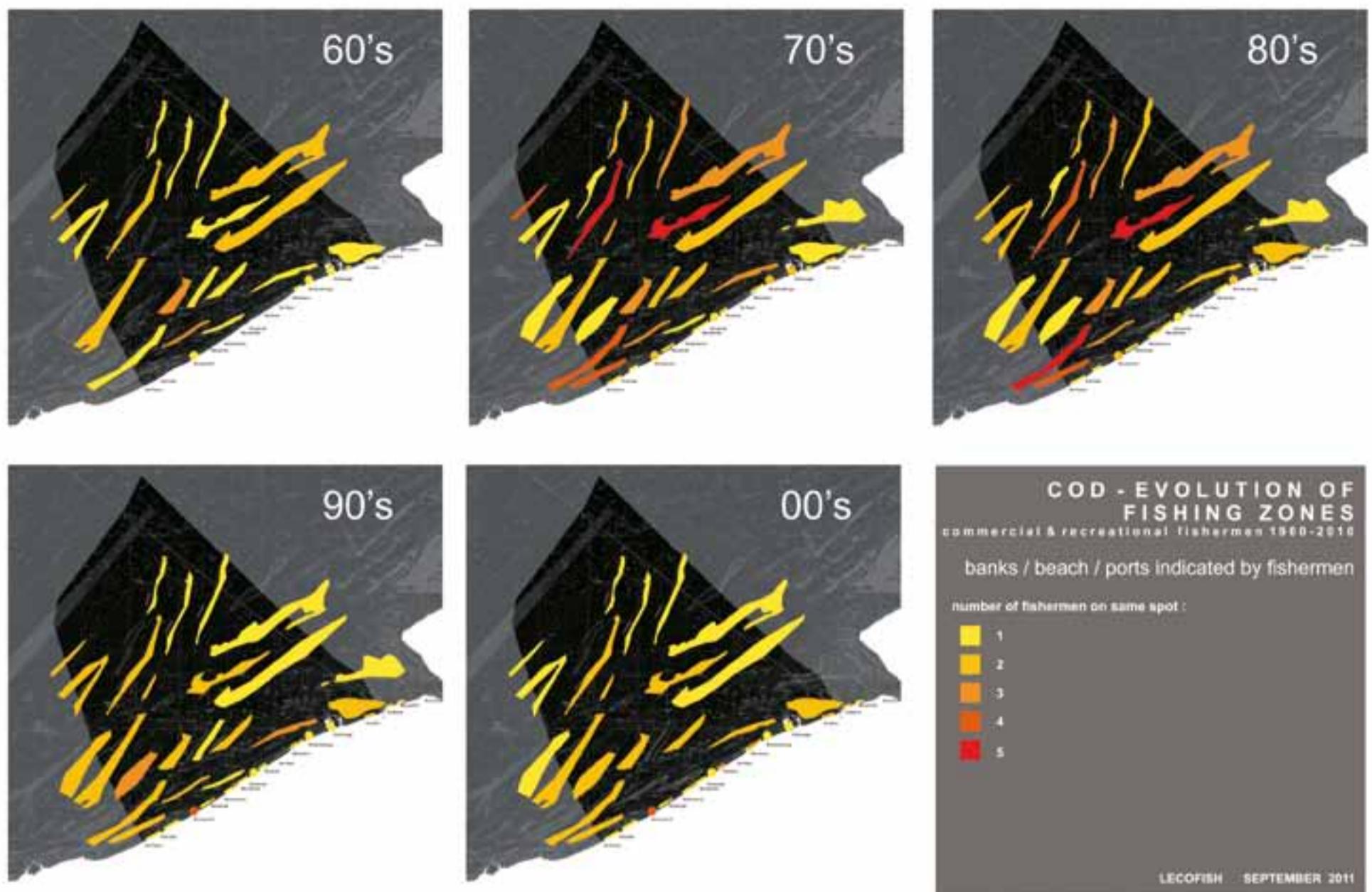
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**COD - seasonal changes
january-december**
commercial & recreational fishermen 1950 - 2010



COD - technique
commercial & recreational fishermen 1950 - 2010

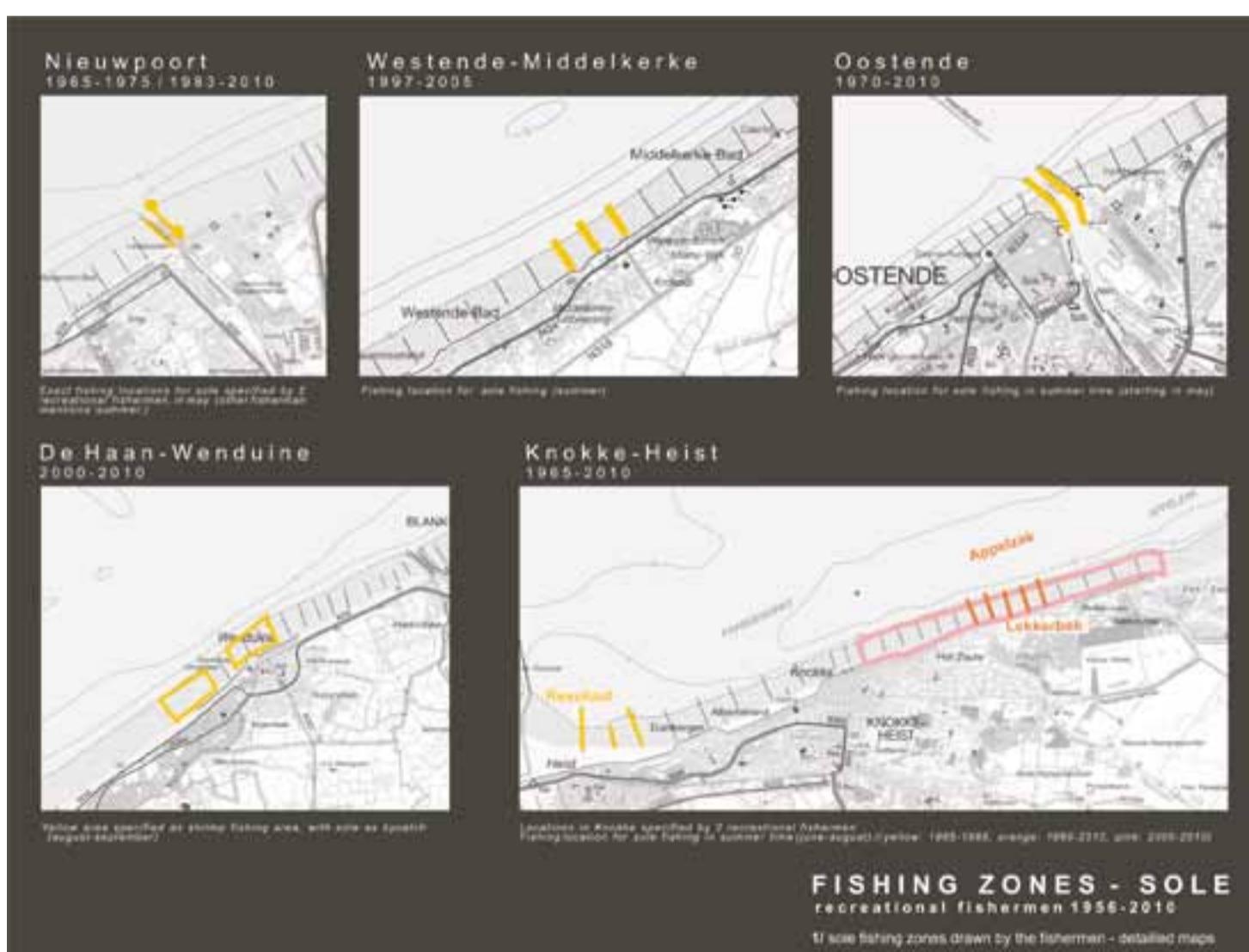
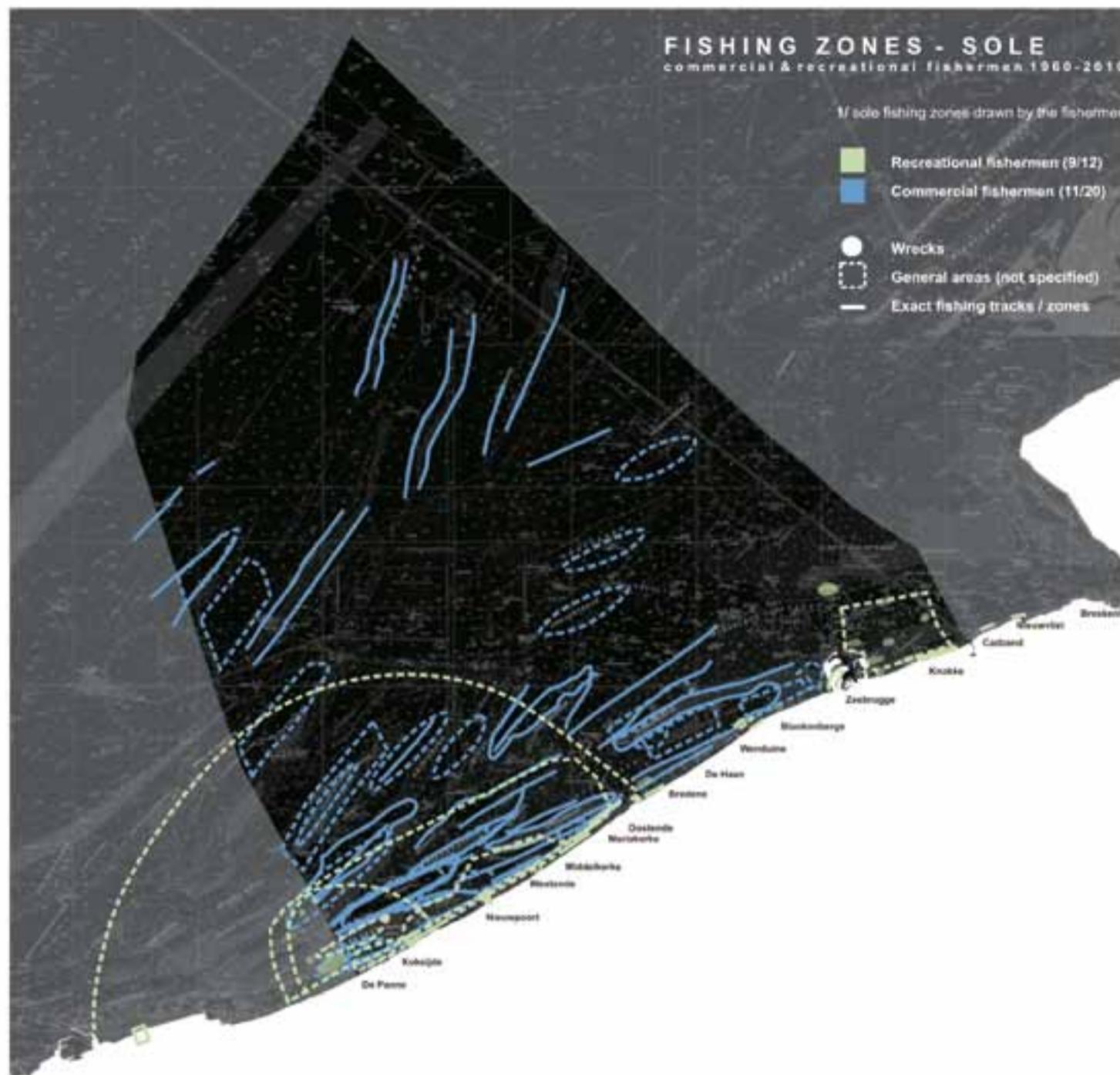


COD - structure maps
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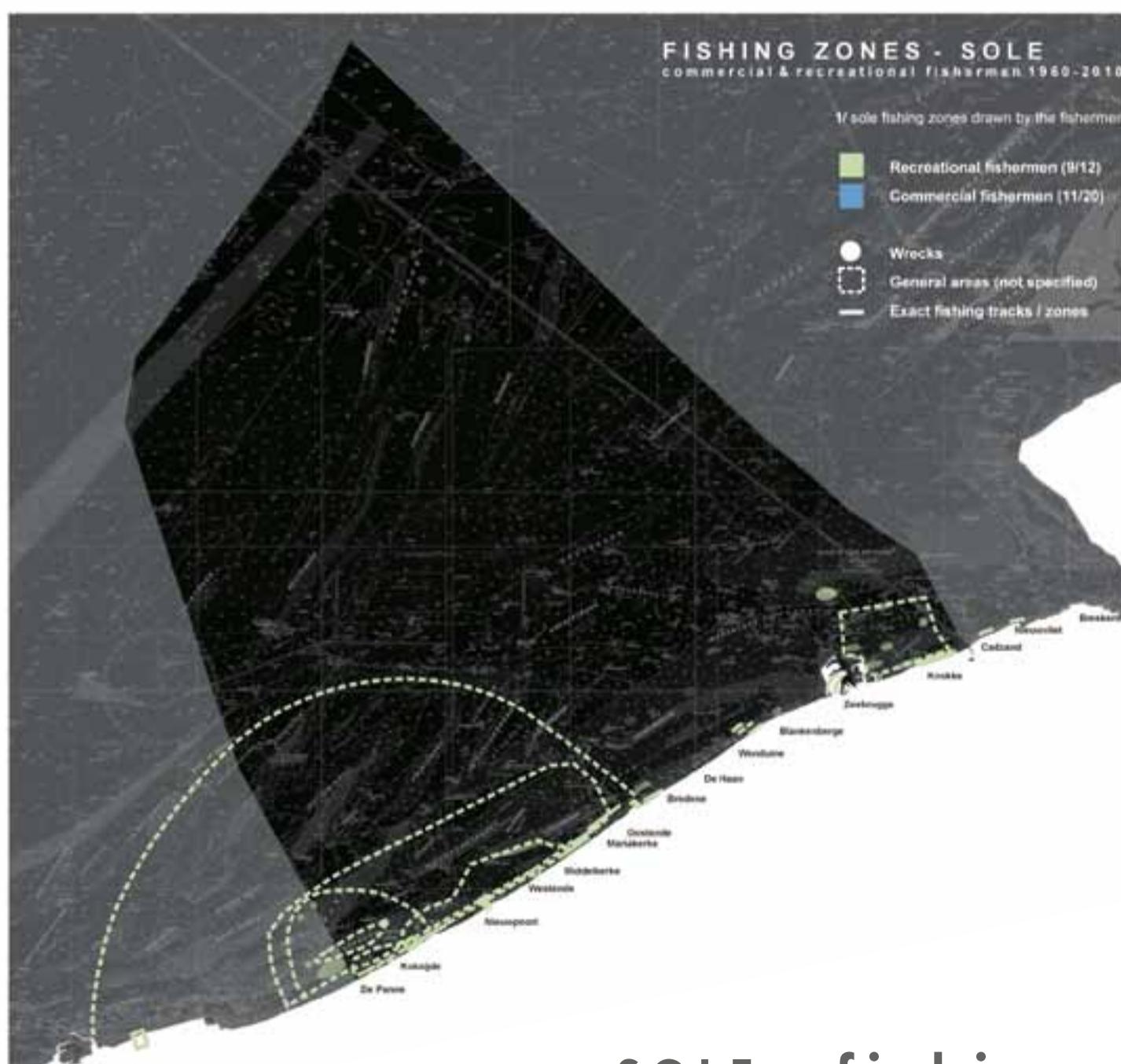
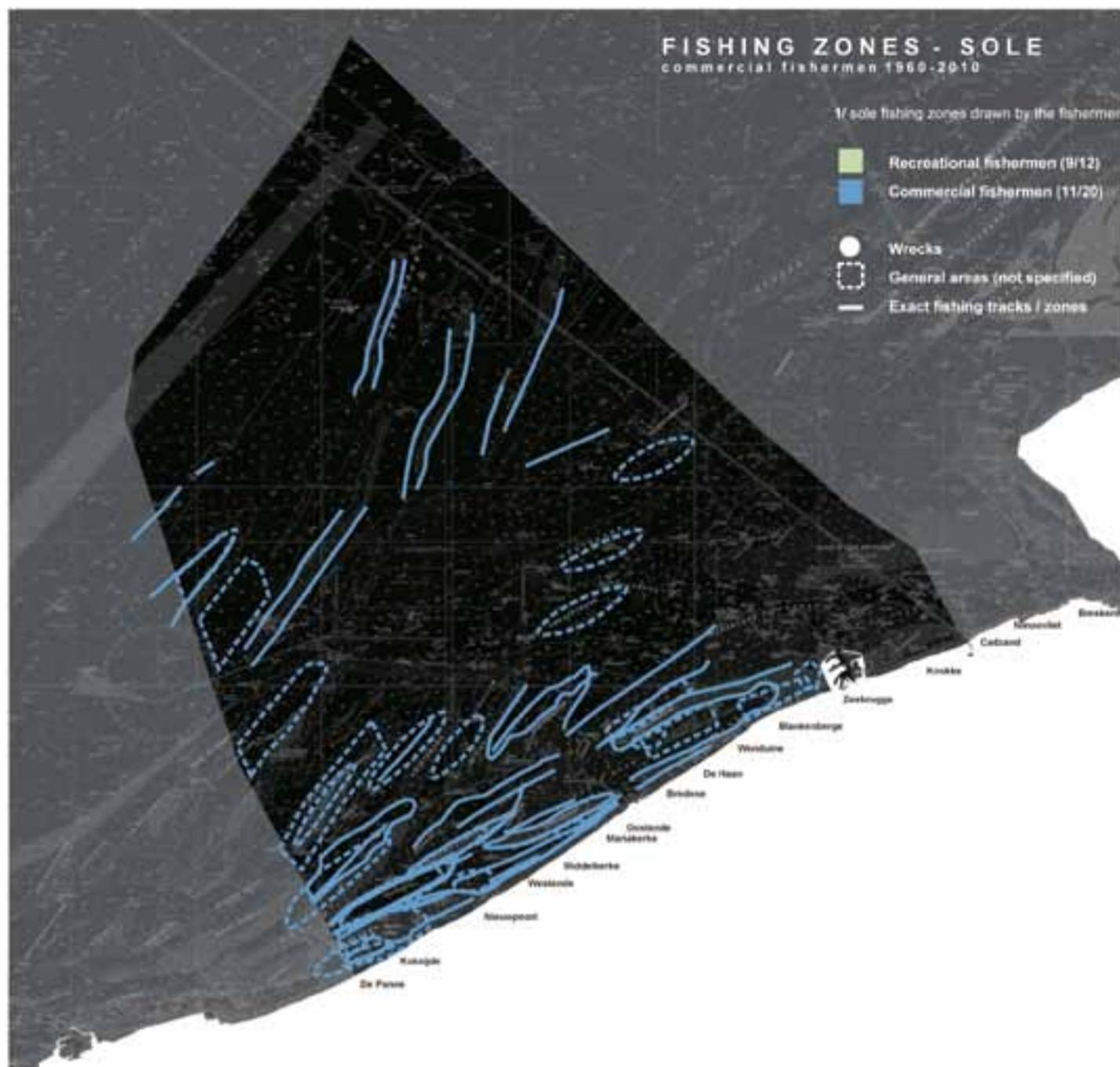


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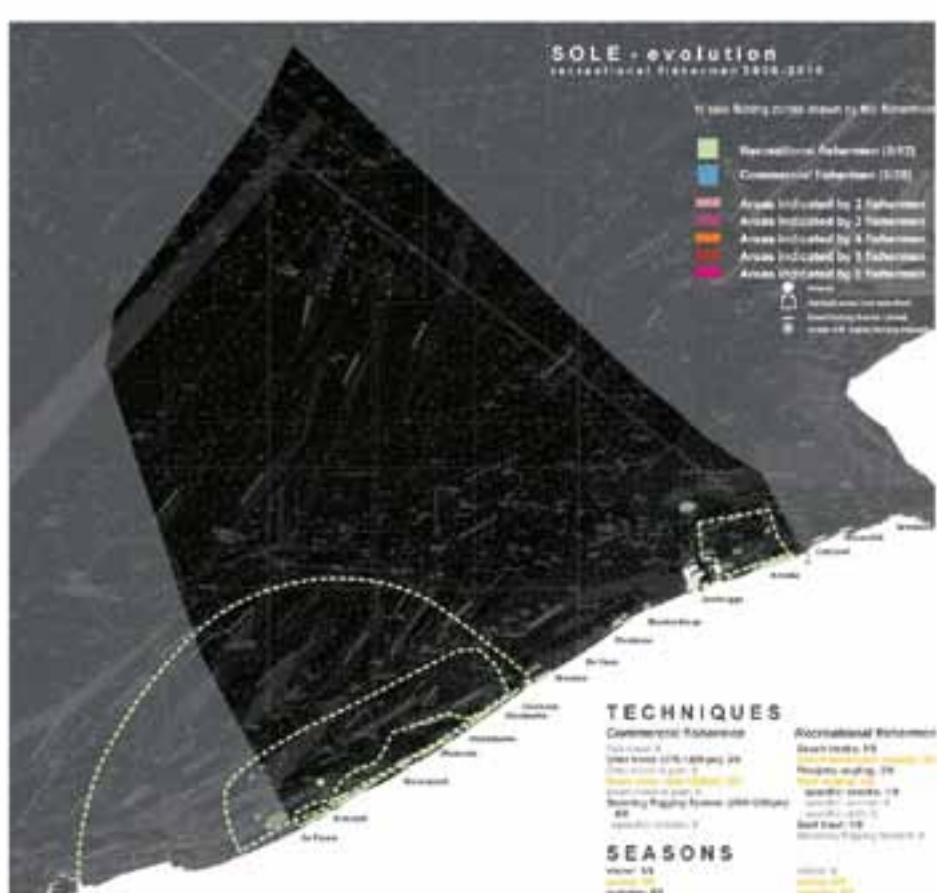
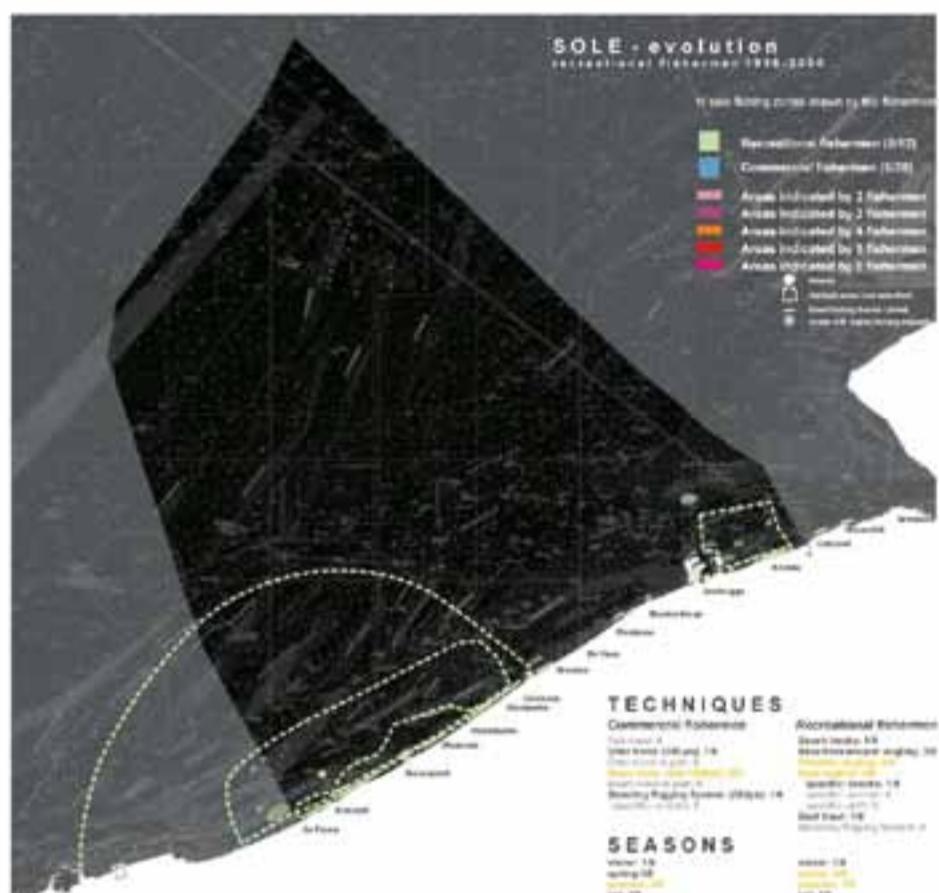
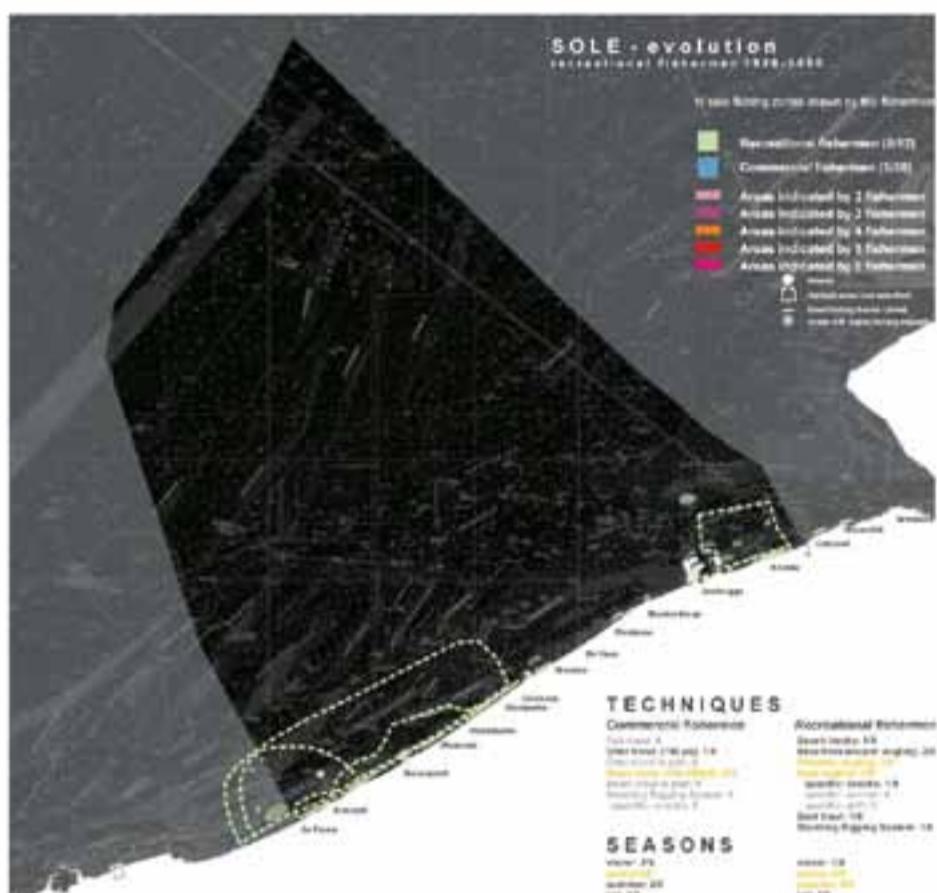
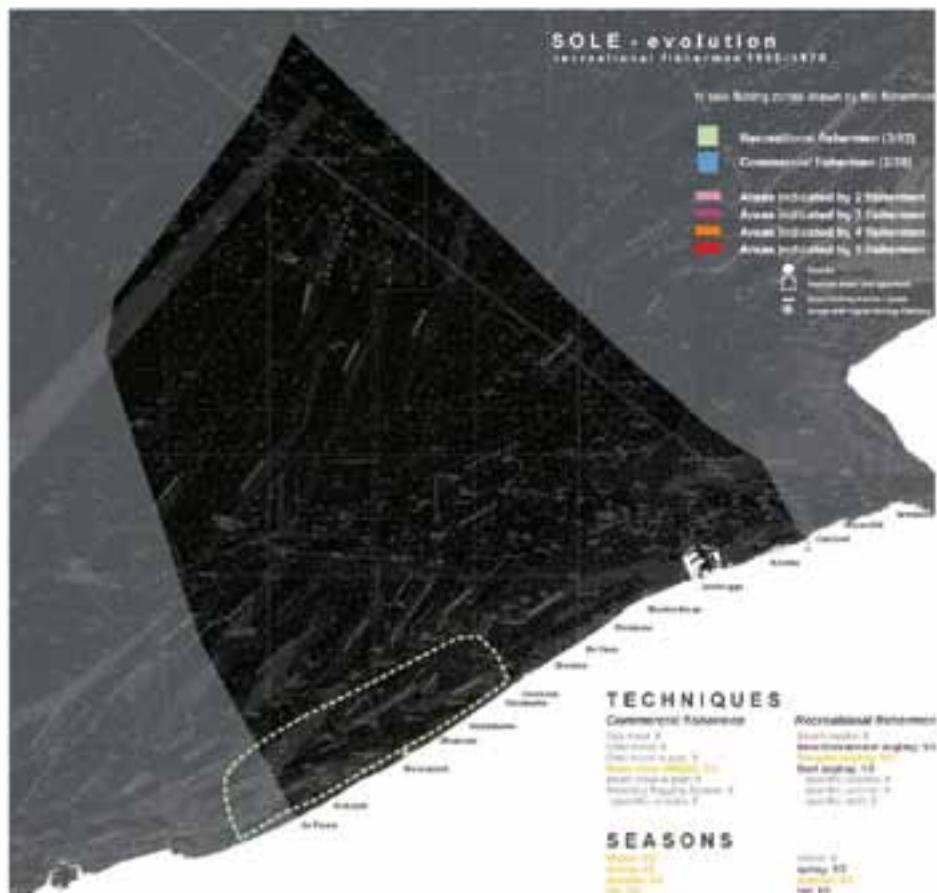
SOLE



SOLE - fishing zones
commercial & recreational fishermen 1950 - 2010

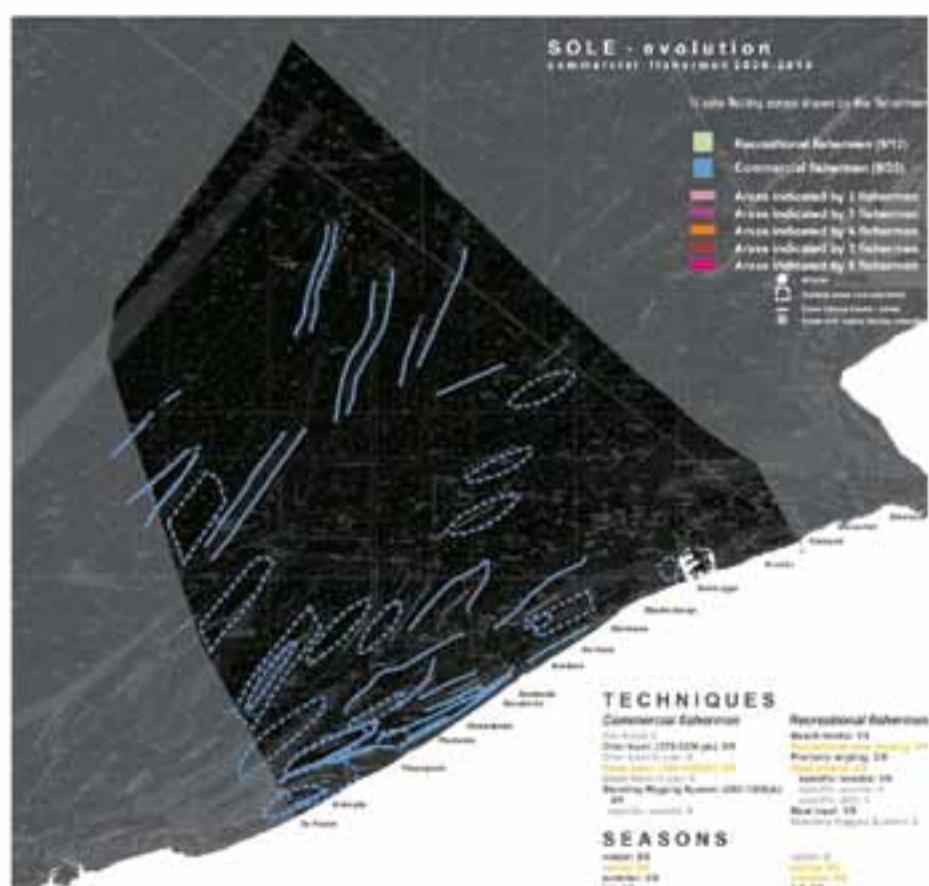
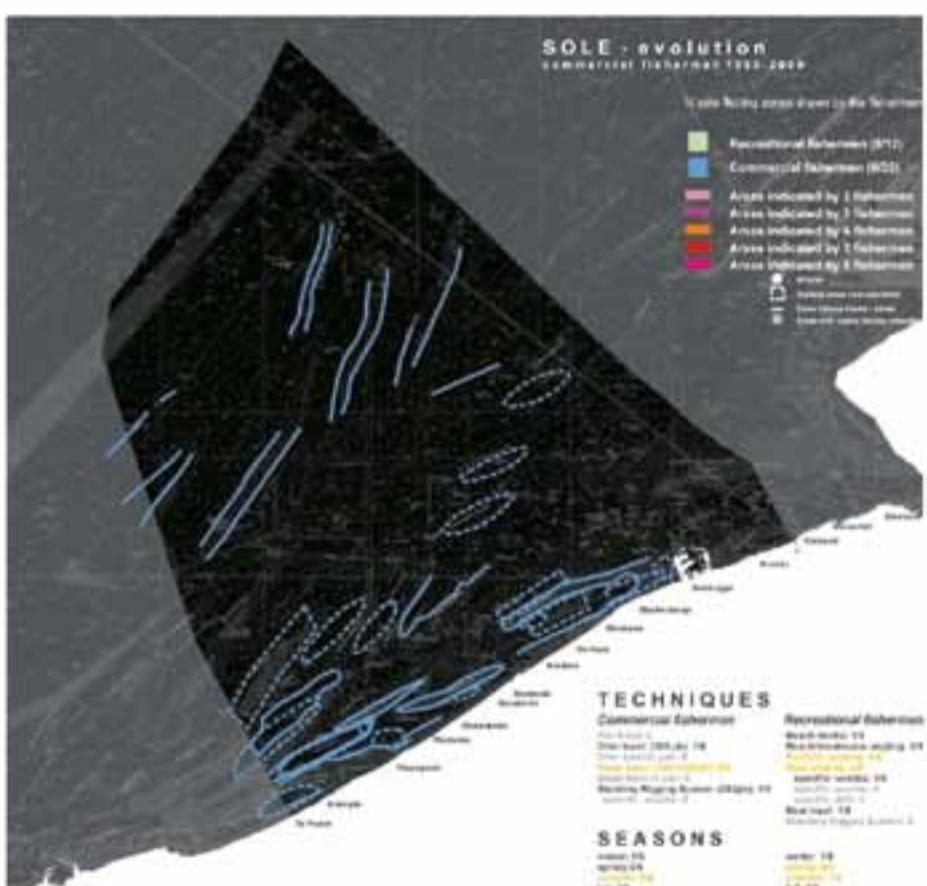
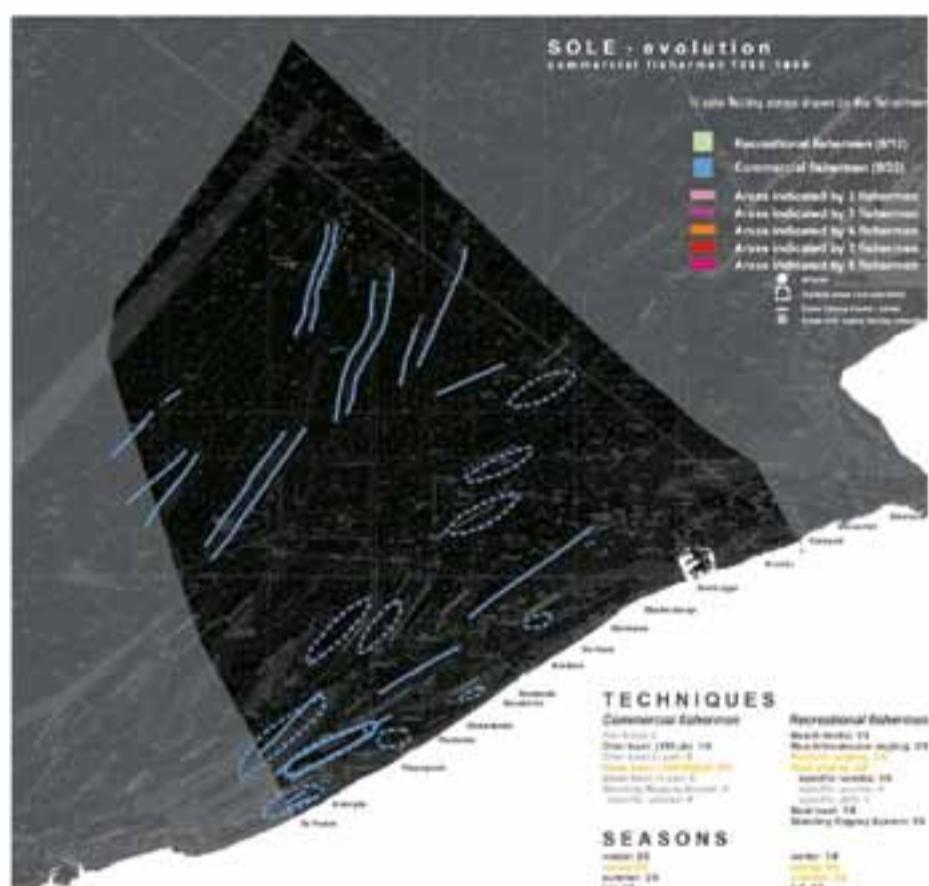
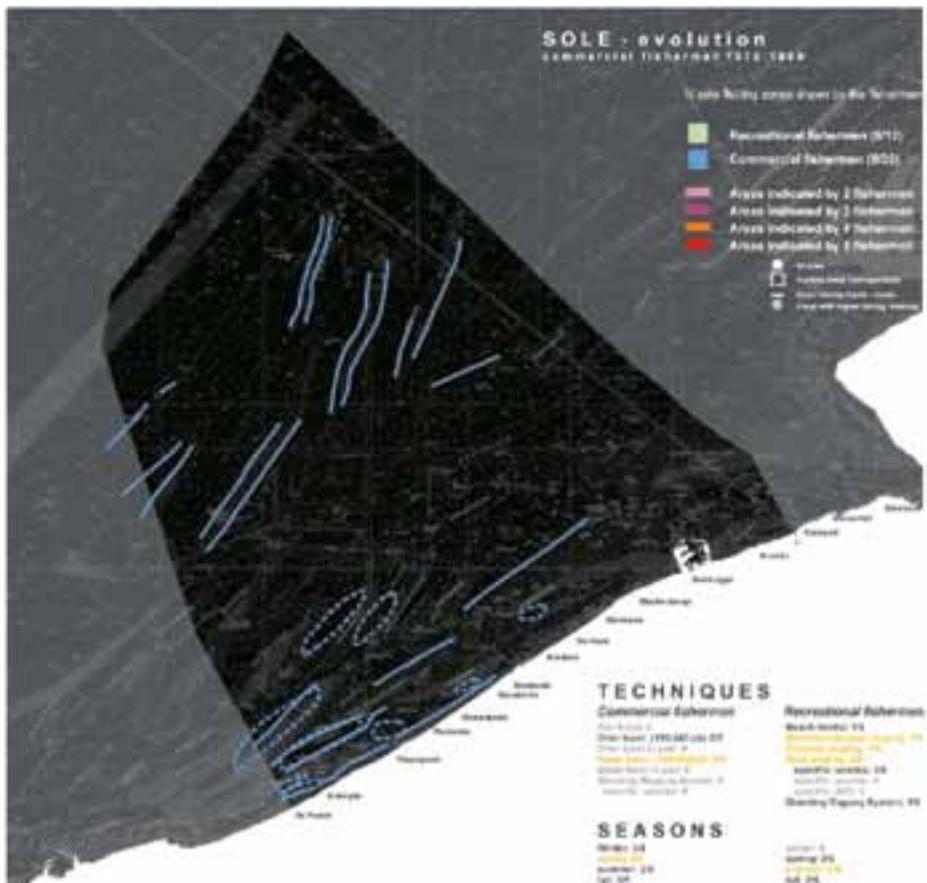
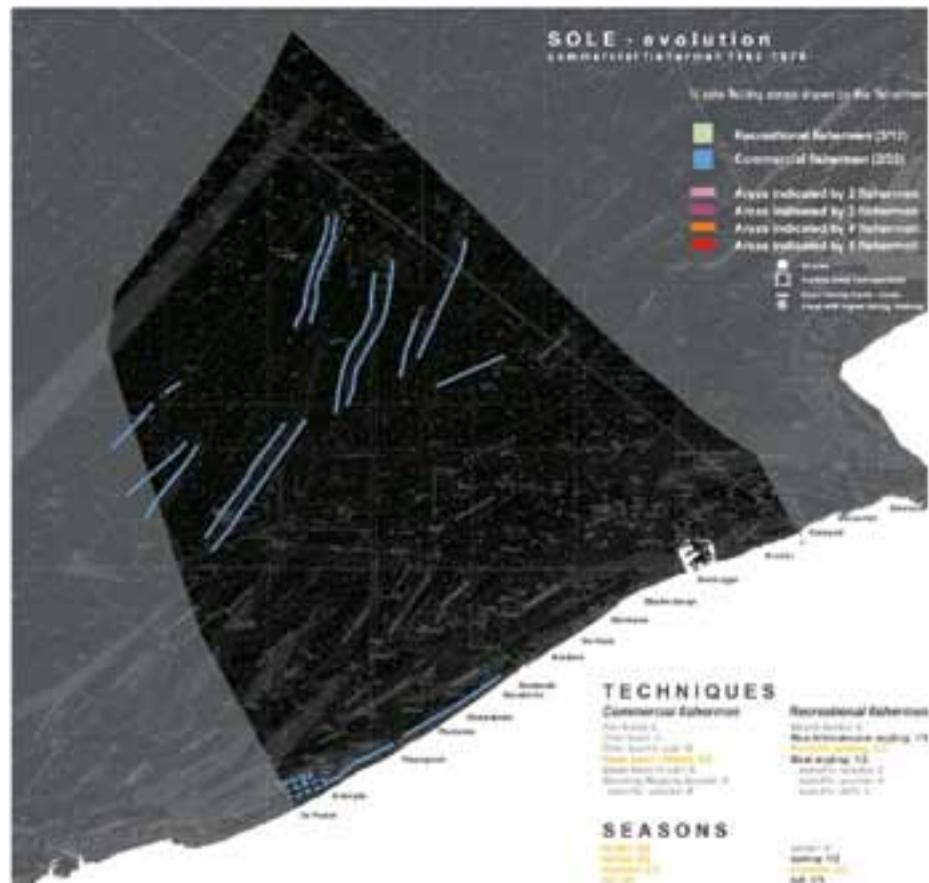


SOLE - fishing zones
commercial & recreational fishermen 1960 - 2010

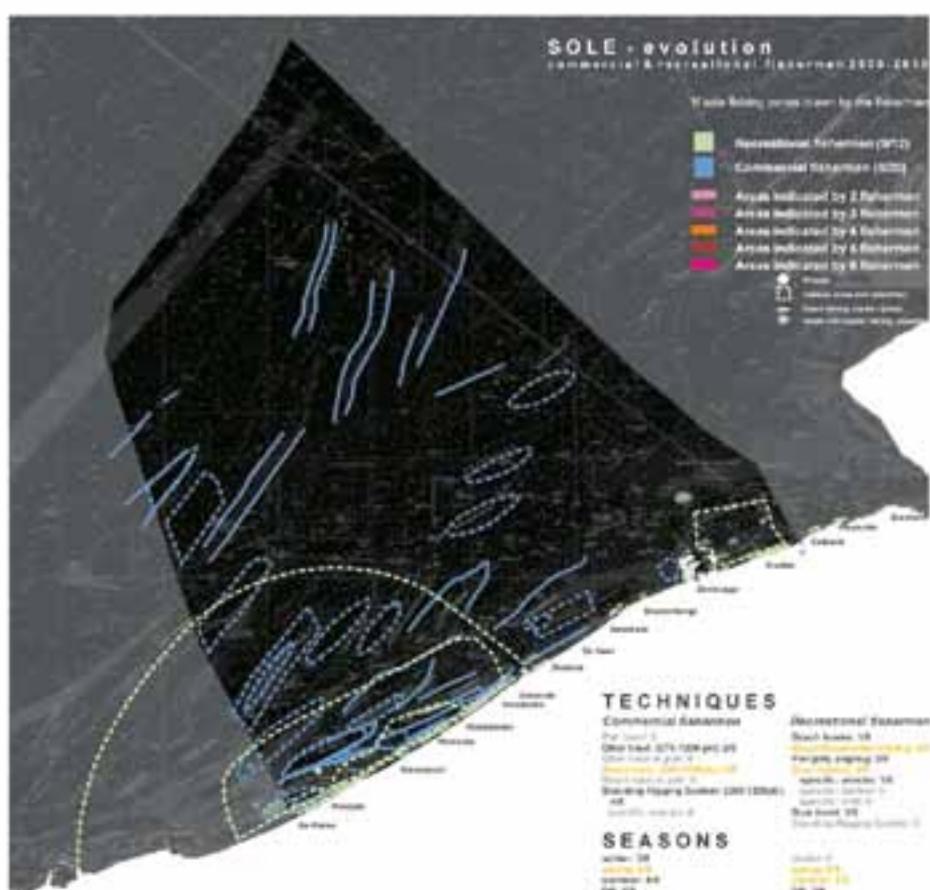
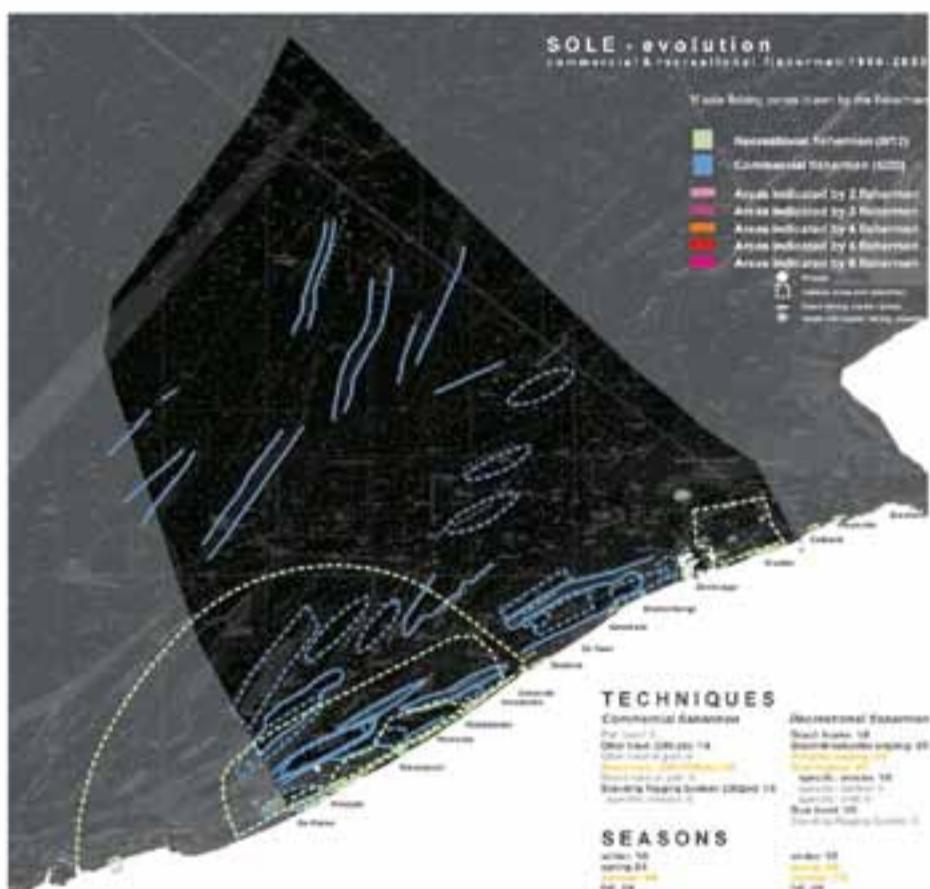
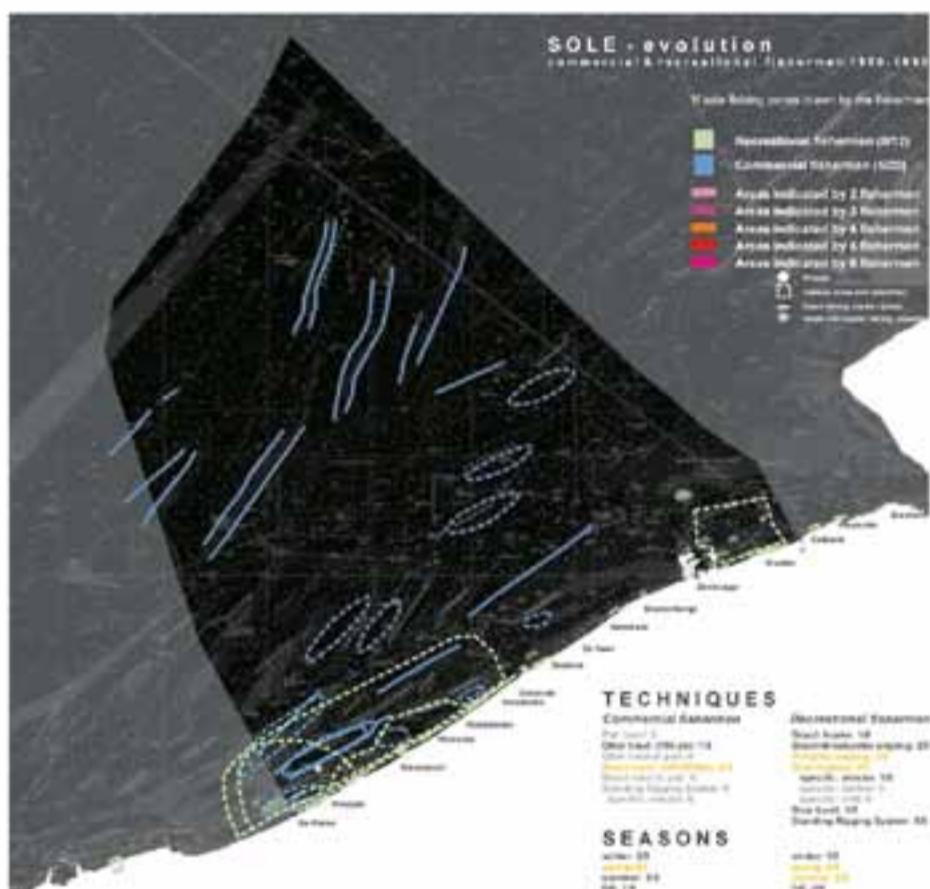
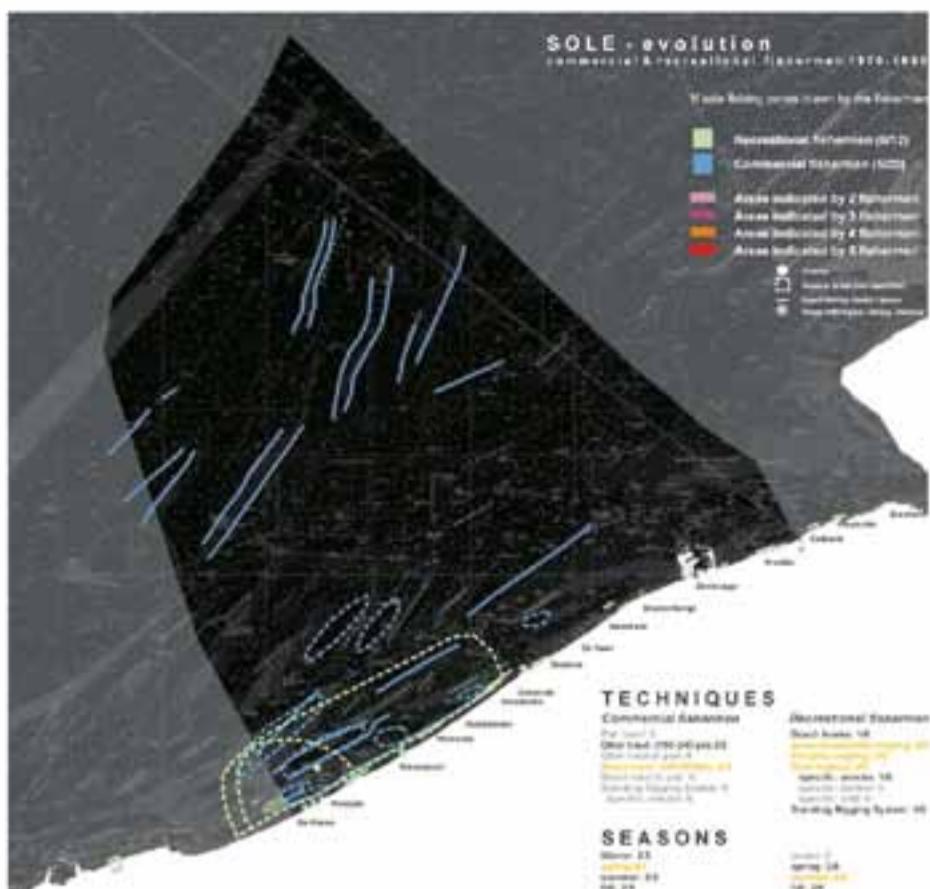
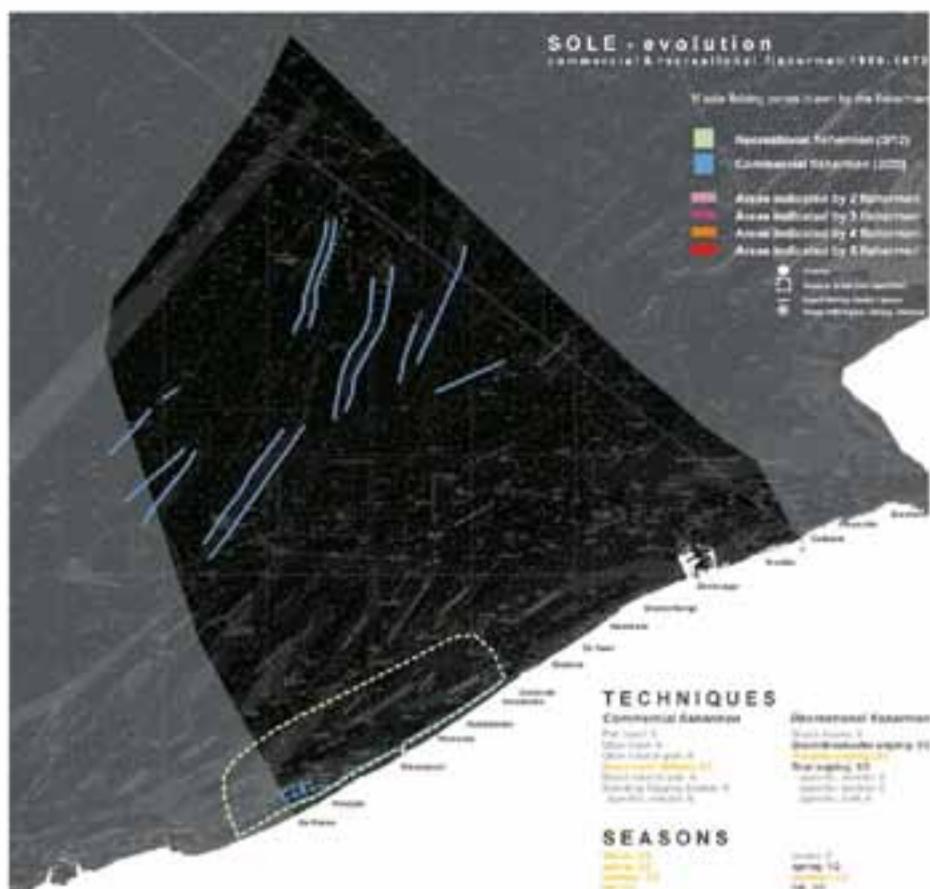


SOLE - evolution

recreational fishermen 1960 - 2010

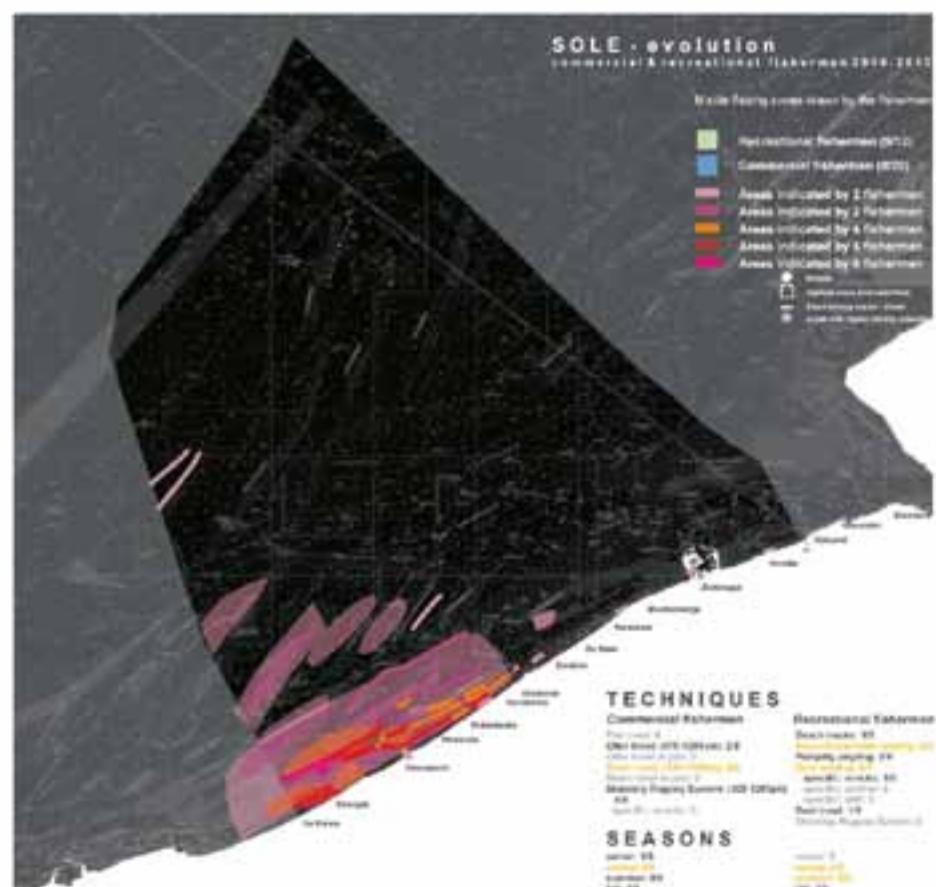
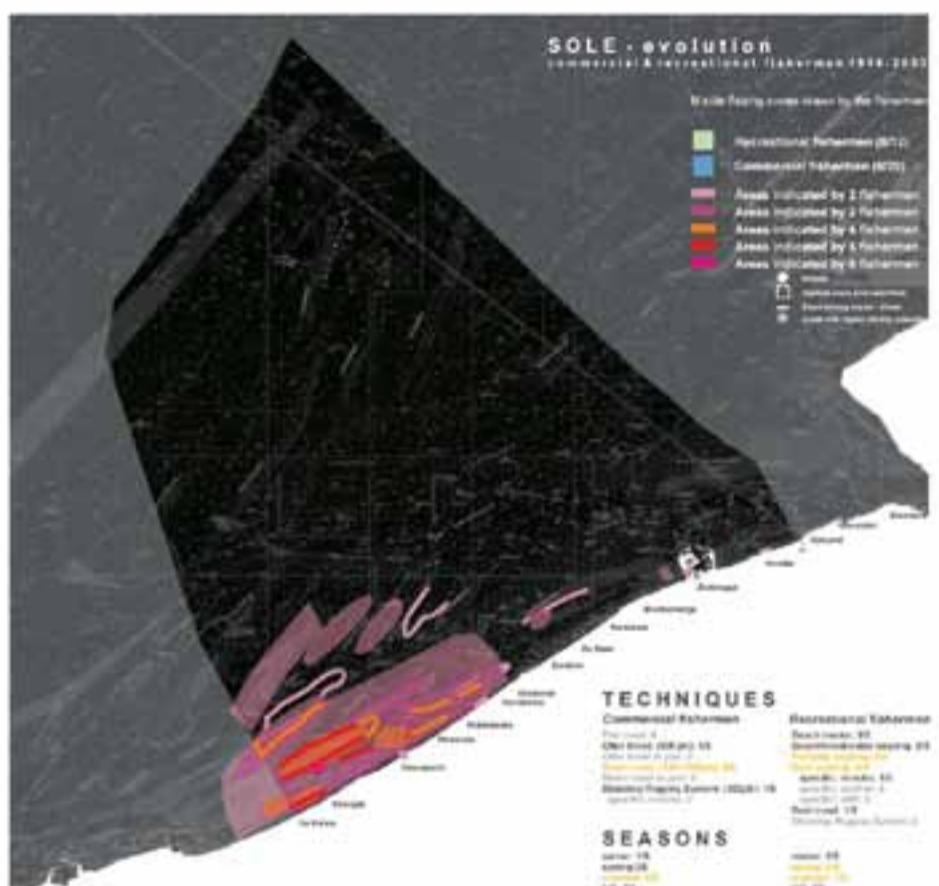
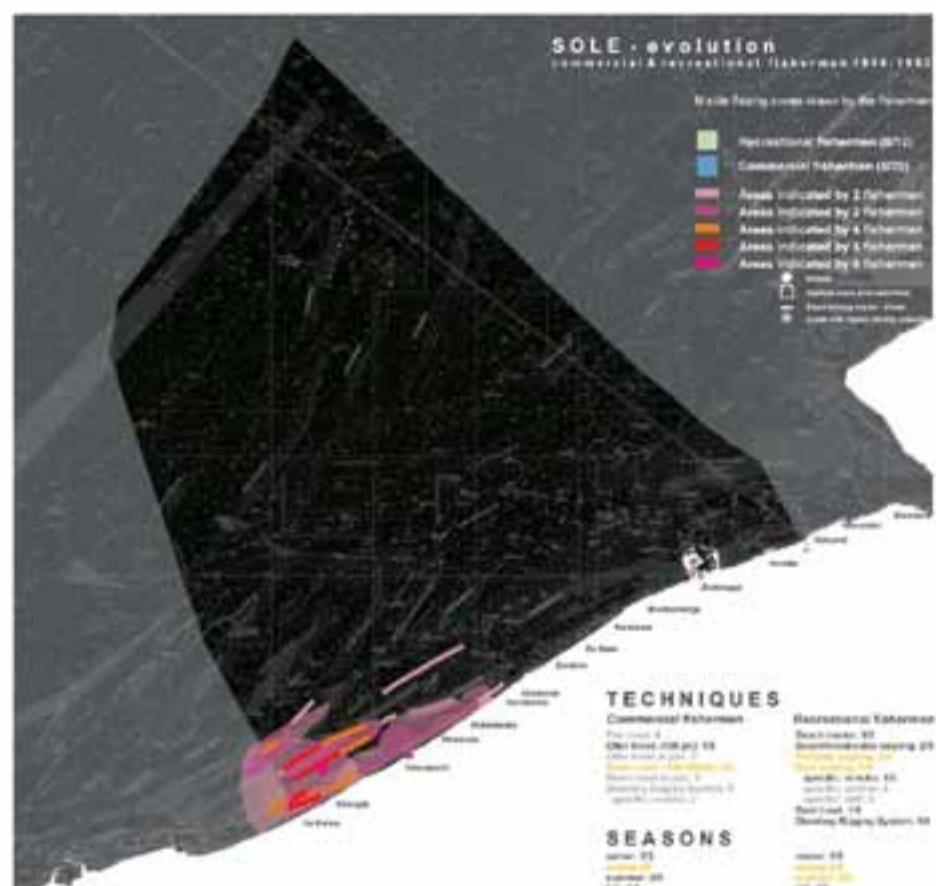
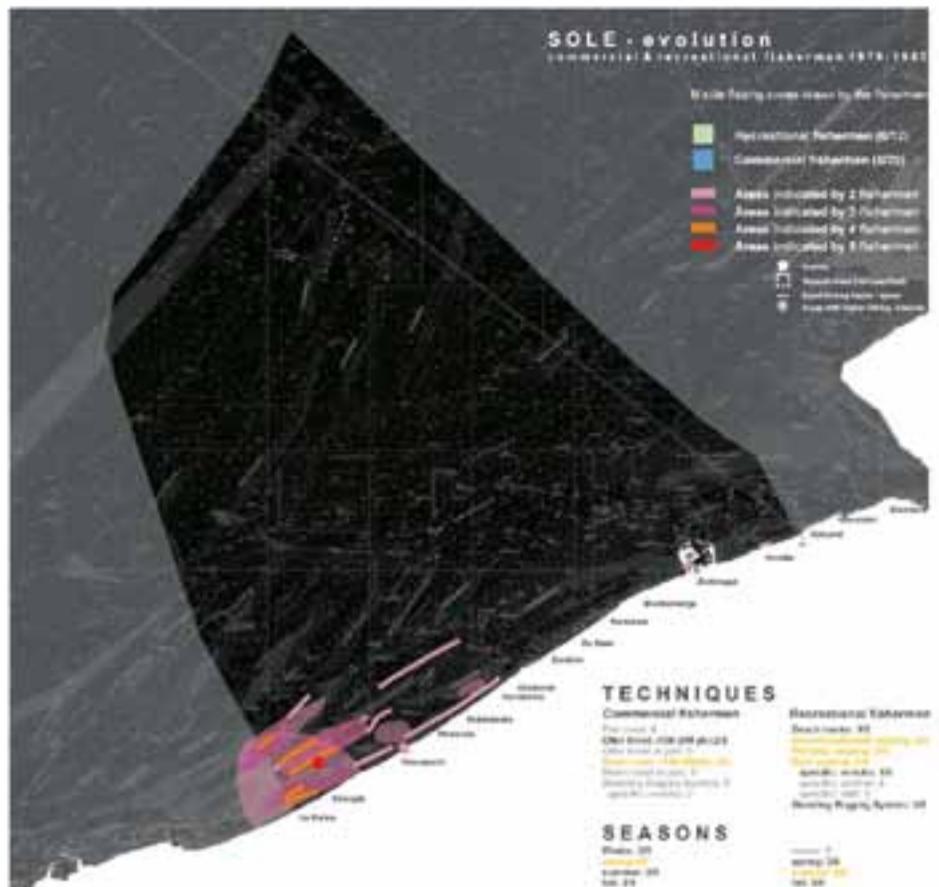
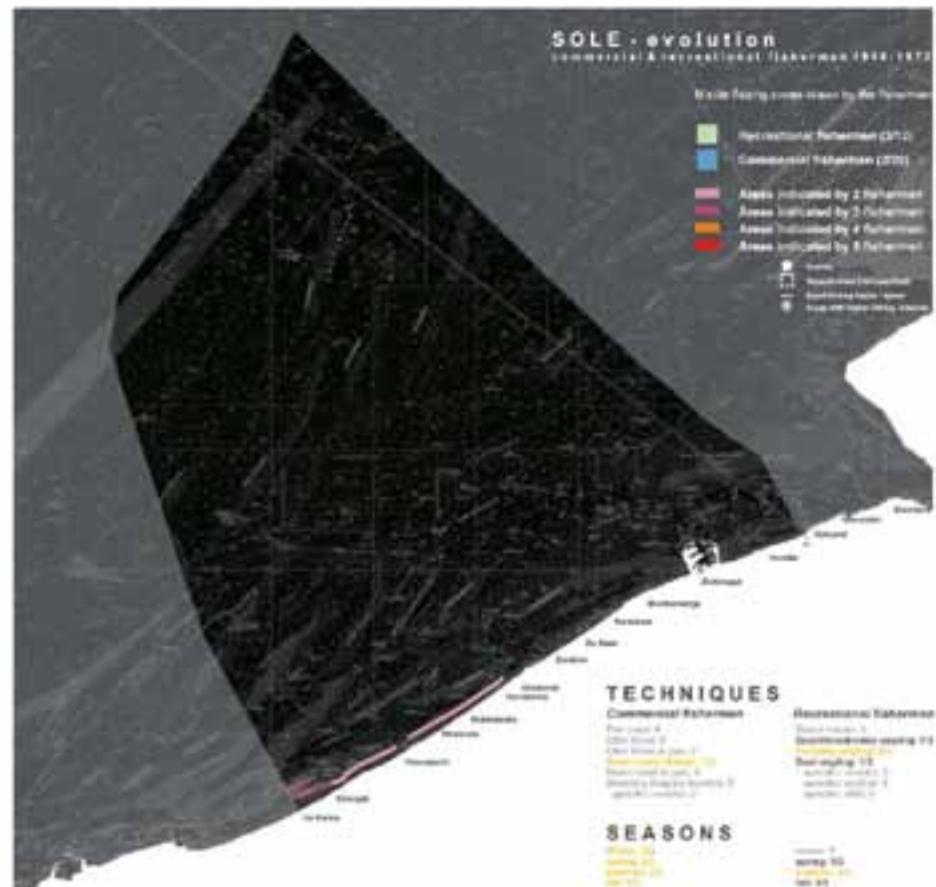


SOLE - evolution



SOLE - evolution

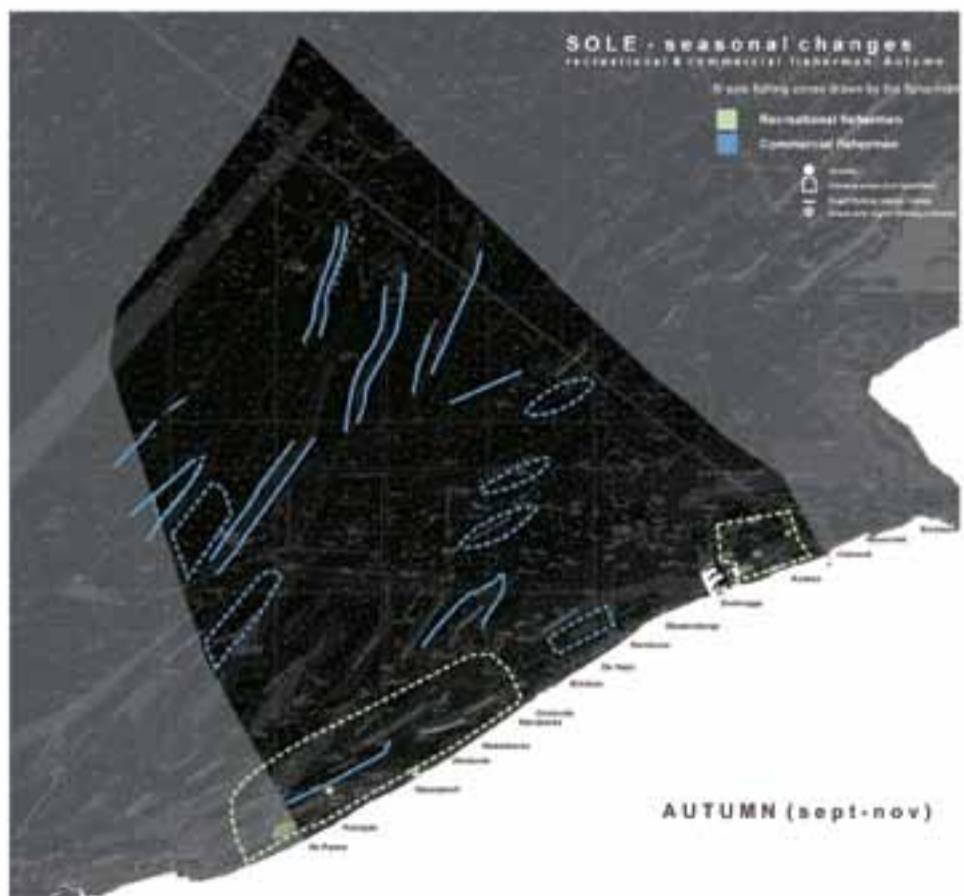
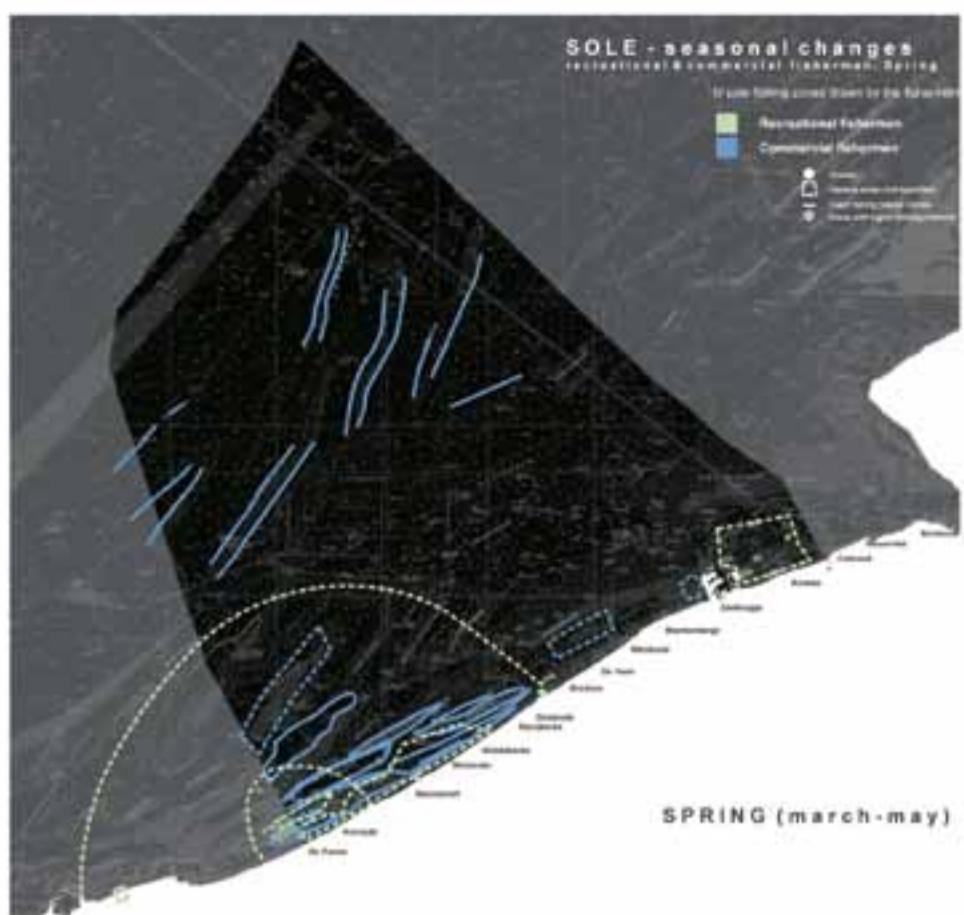
commercial & recreational fishermen 1960 - 2010



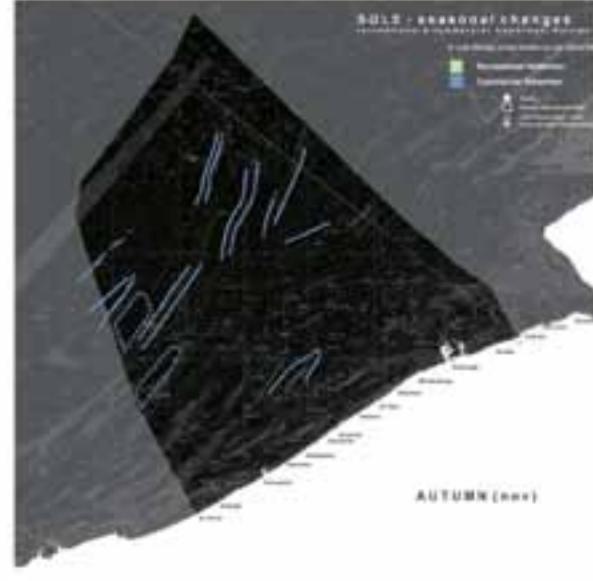
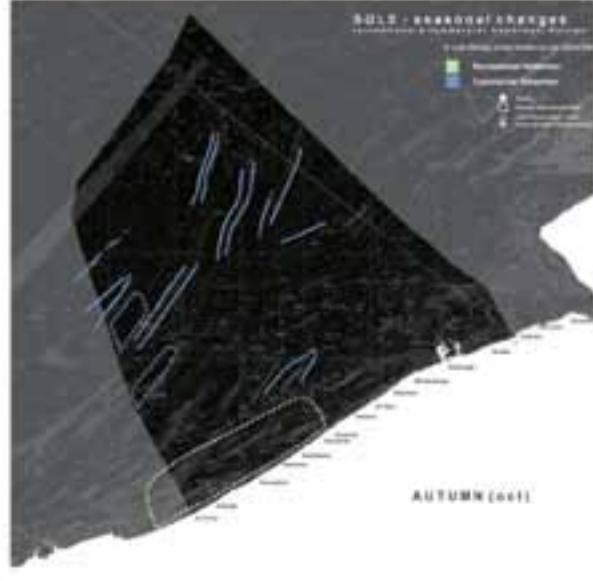
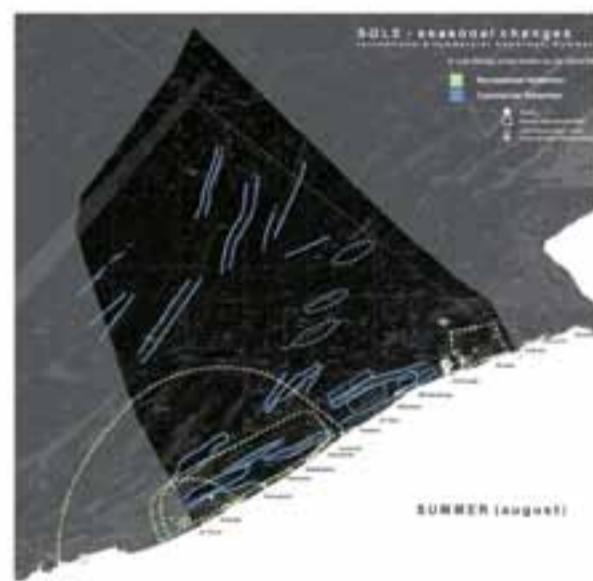
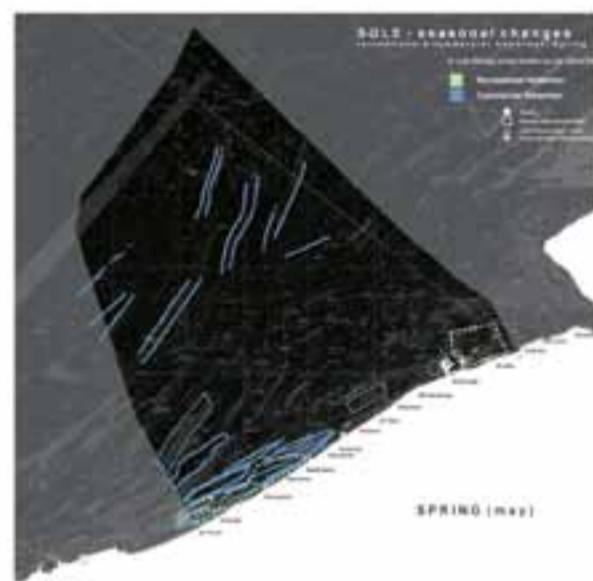
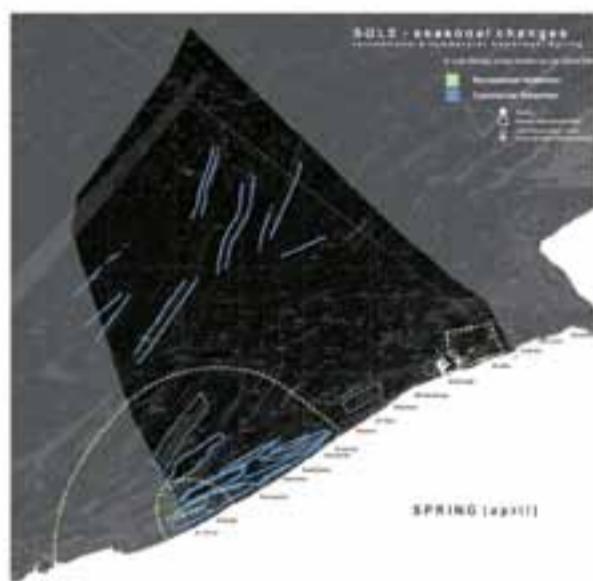
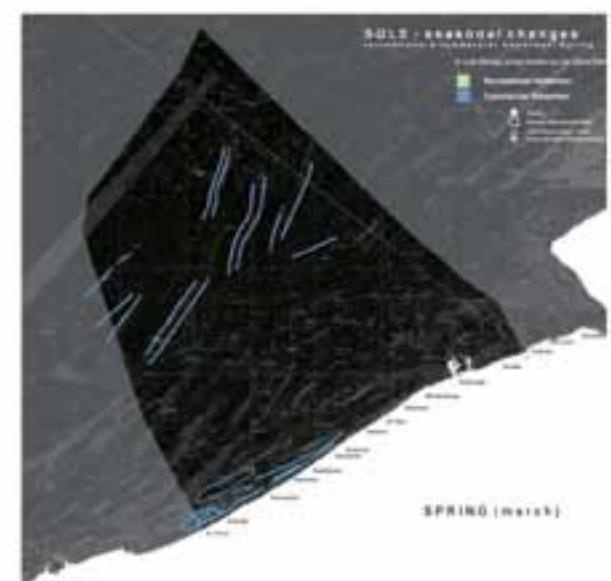
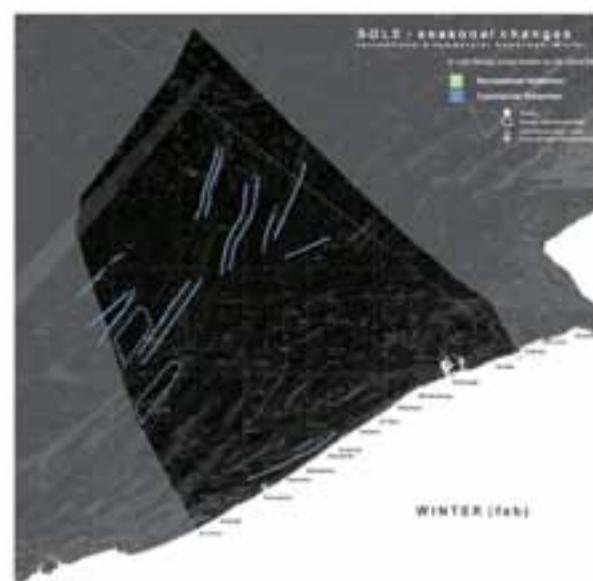
SOLE - evolution

commercial & recreational fishermen 1960 - 2010

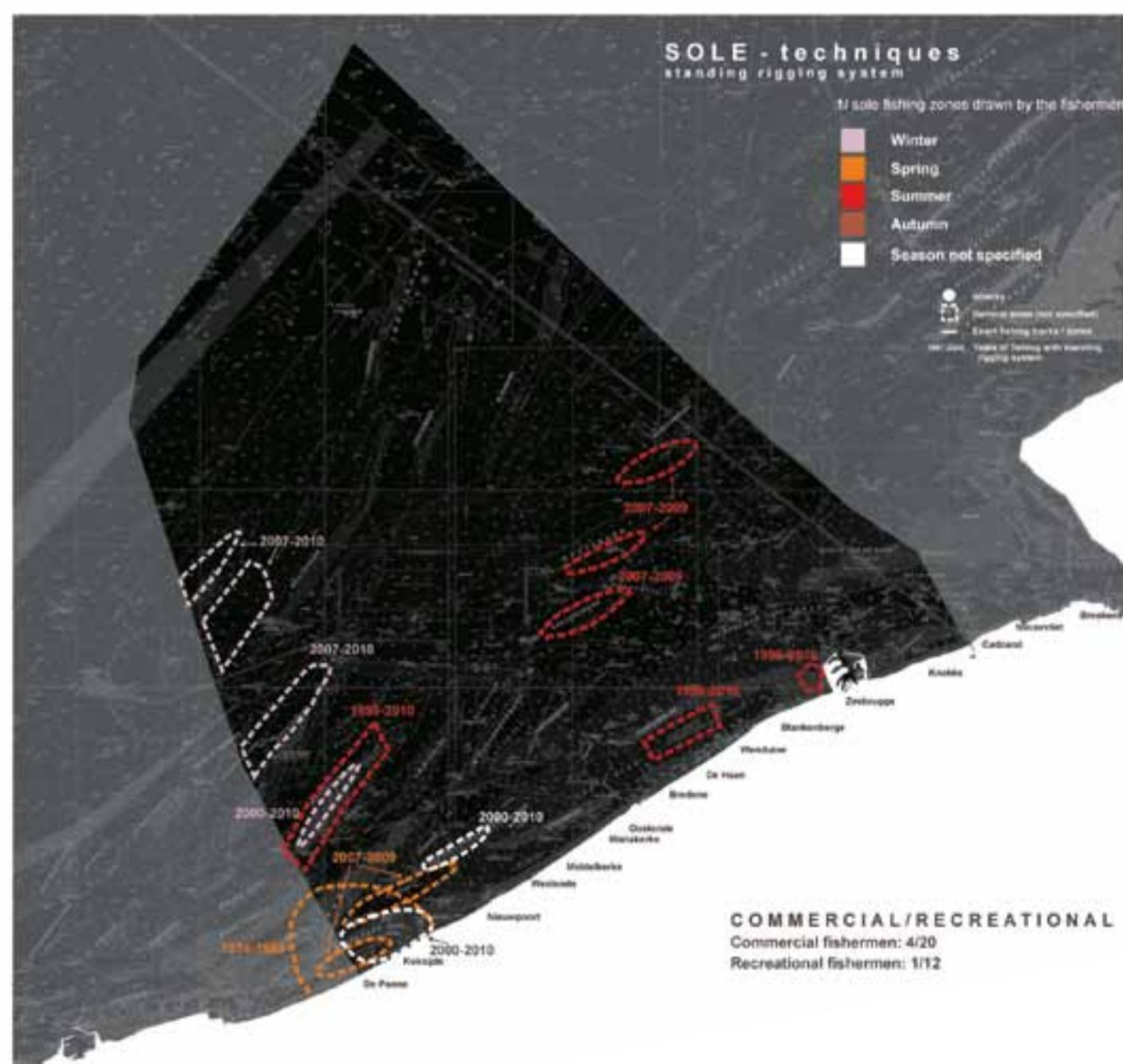
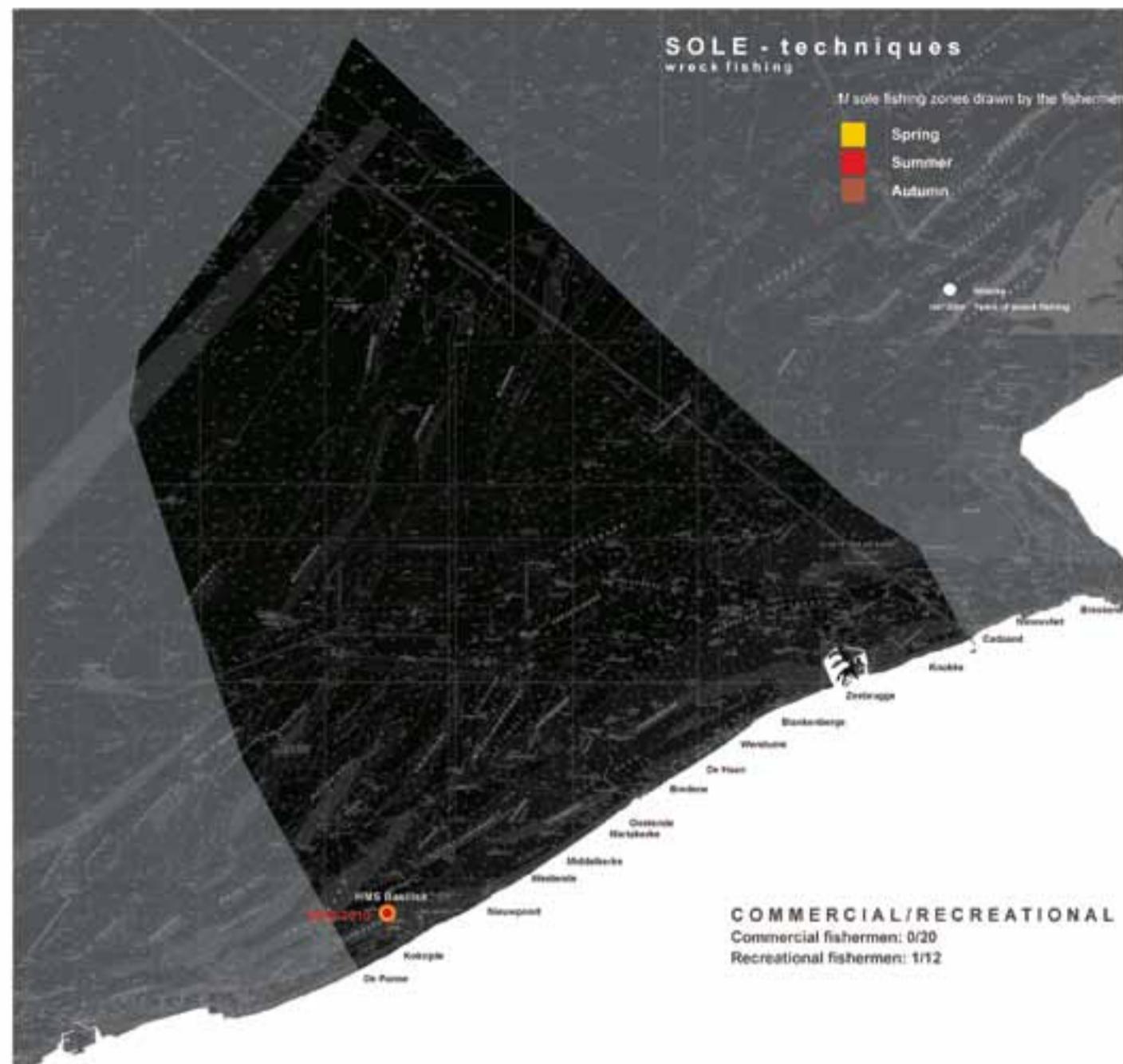
areas fished by 2 or more fishermen



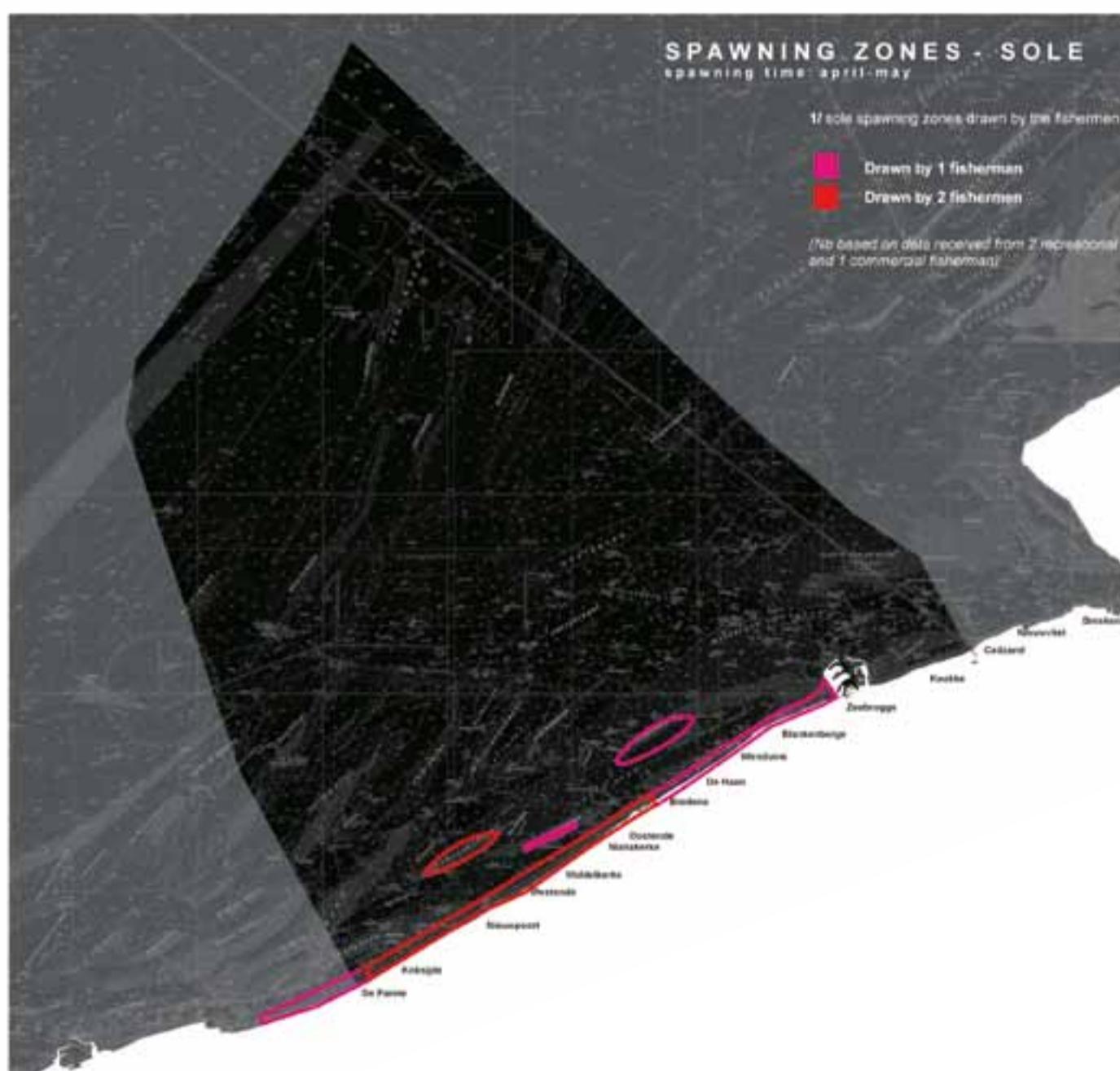
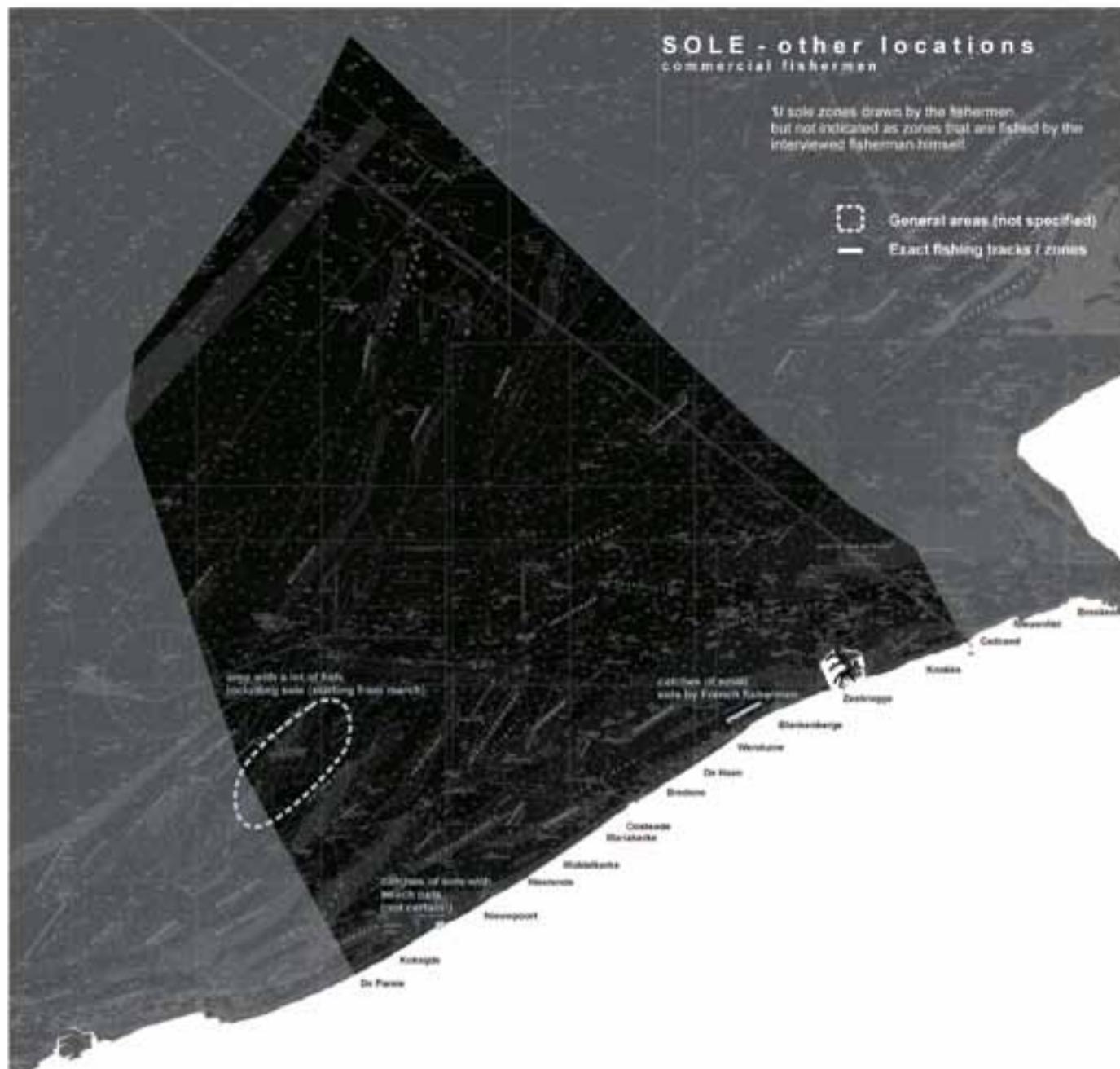
SOLE - seasonal changes
commercial & recreational fishermen 1960 - 2010



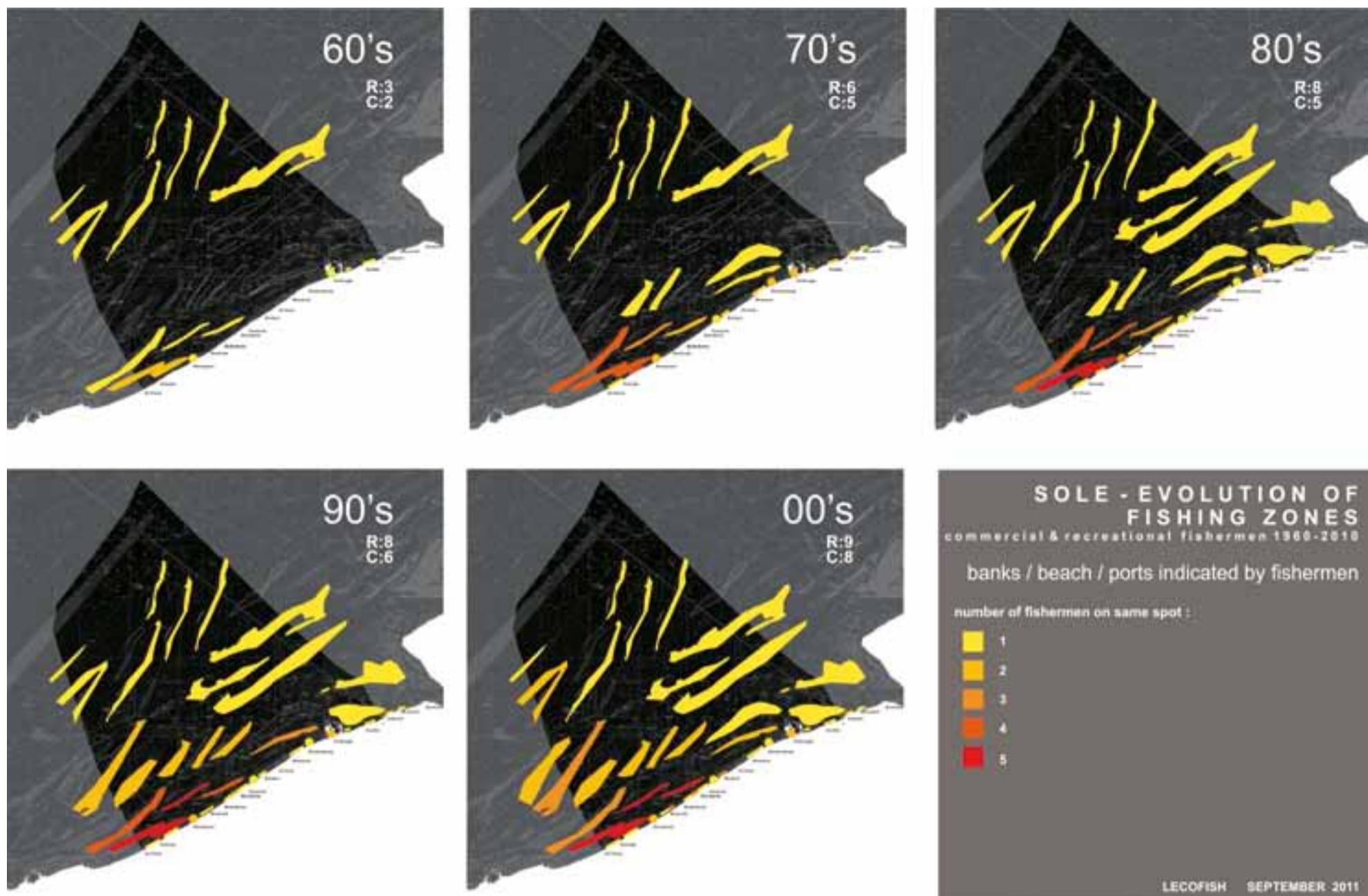
**SOLE - seasonal changes
january-december**
commercial & recreational fishermen 1960 - 2010



SOLE - techniques
commercial & recreational fishermen 1960 - 2010



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

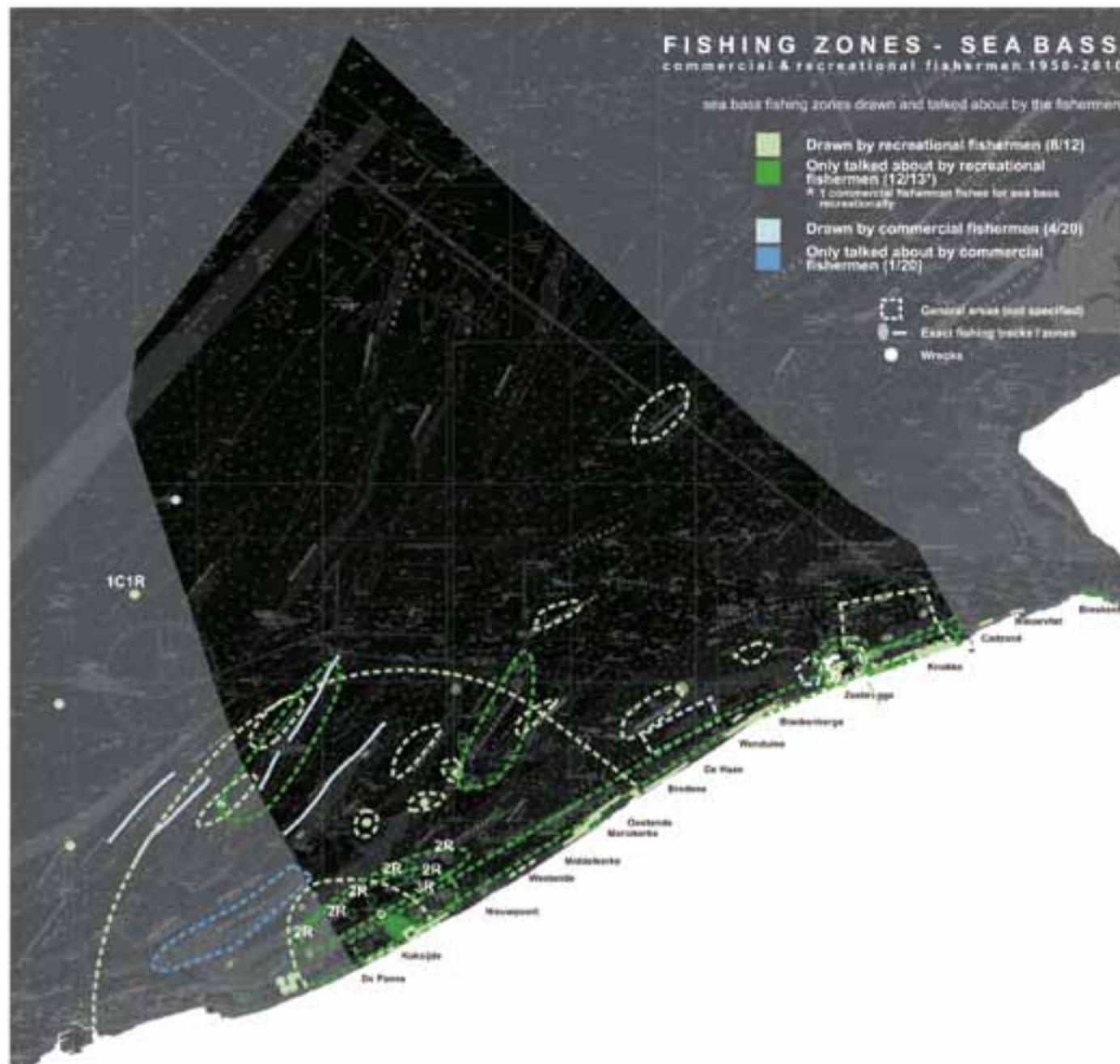


SOLE - structure maps
commercial & recreational fishermen 1950 - 2010

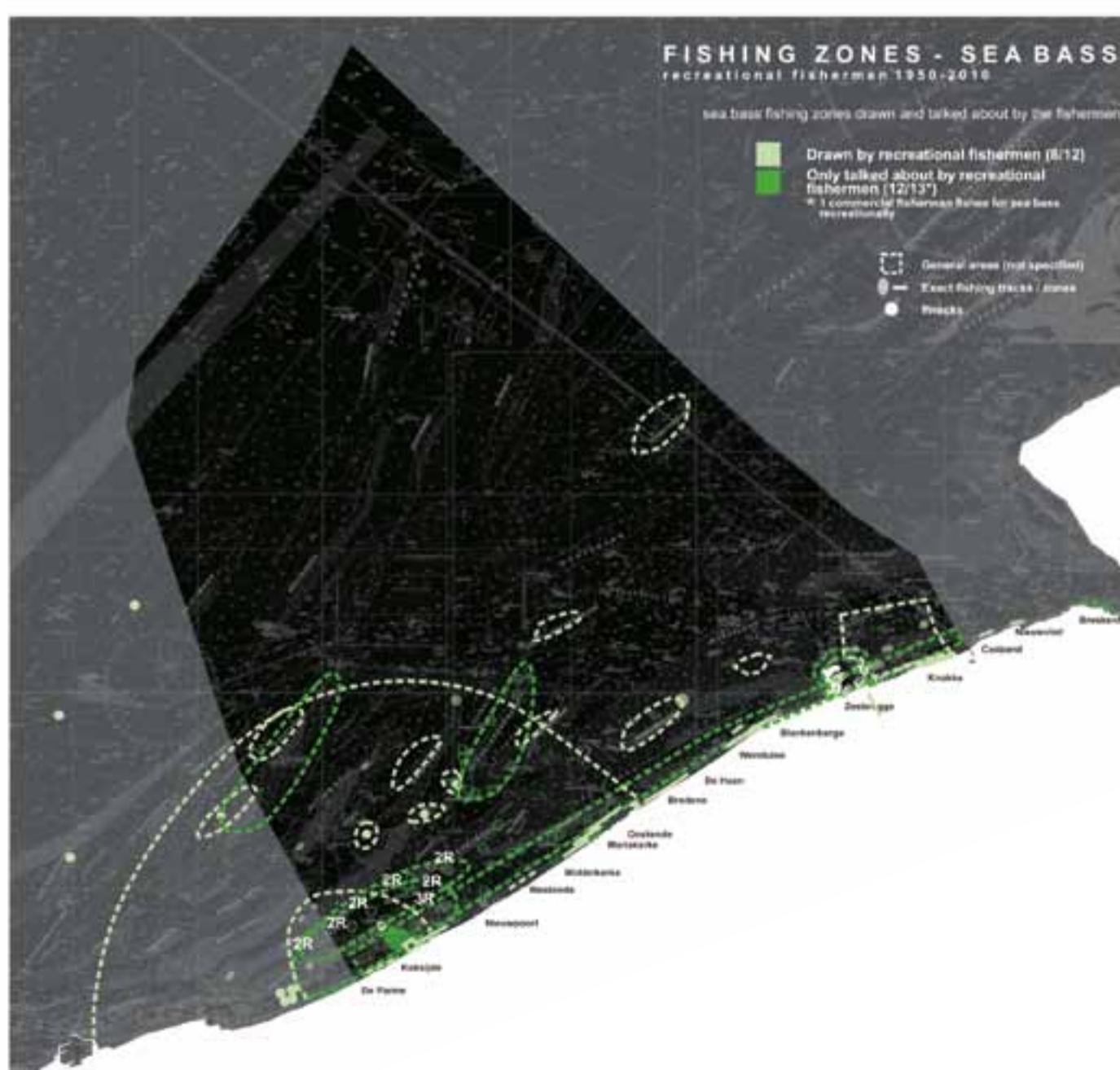
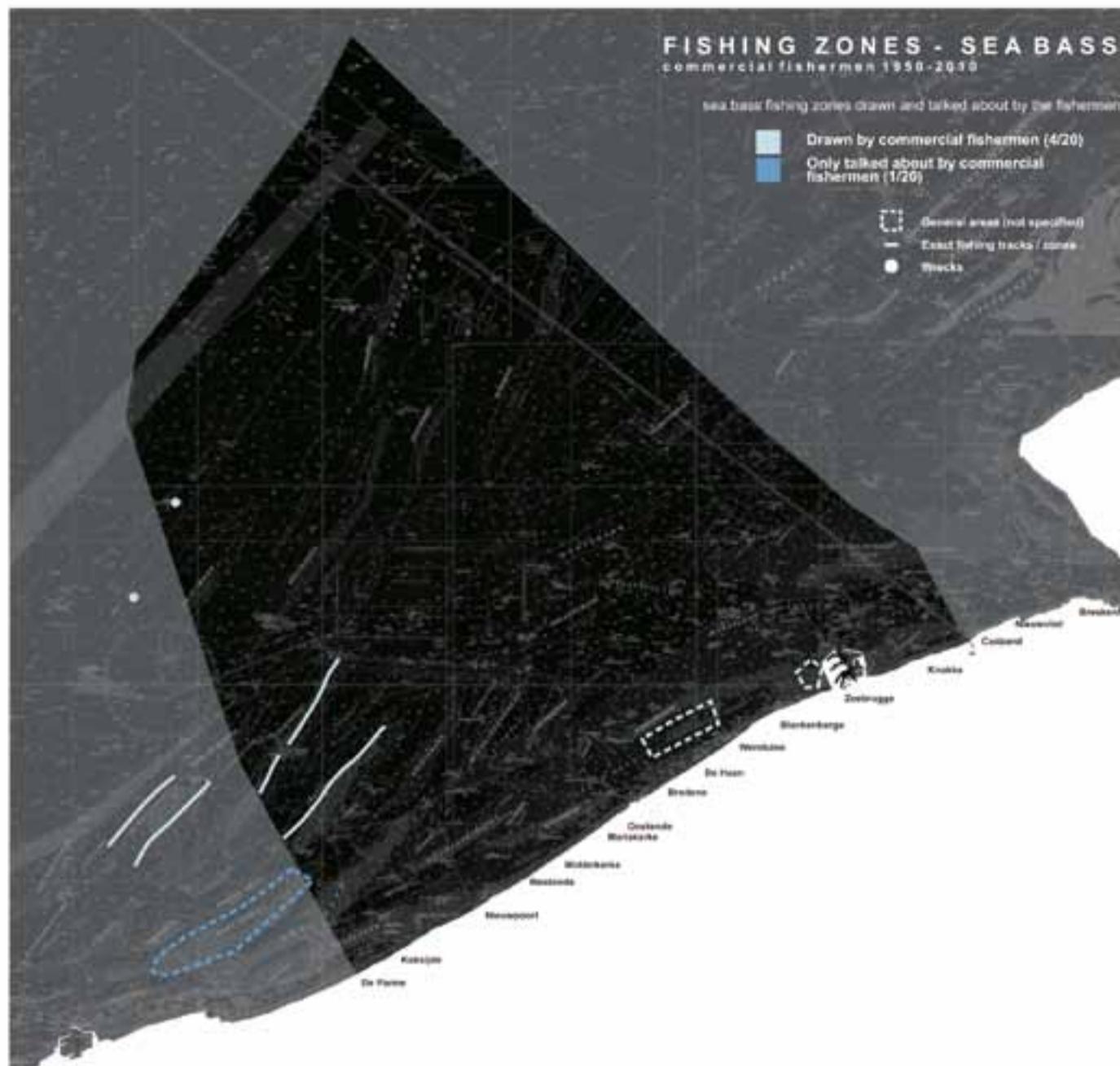


MAPS SERIES III

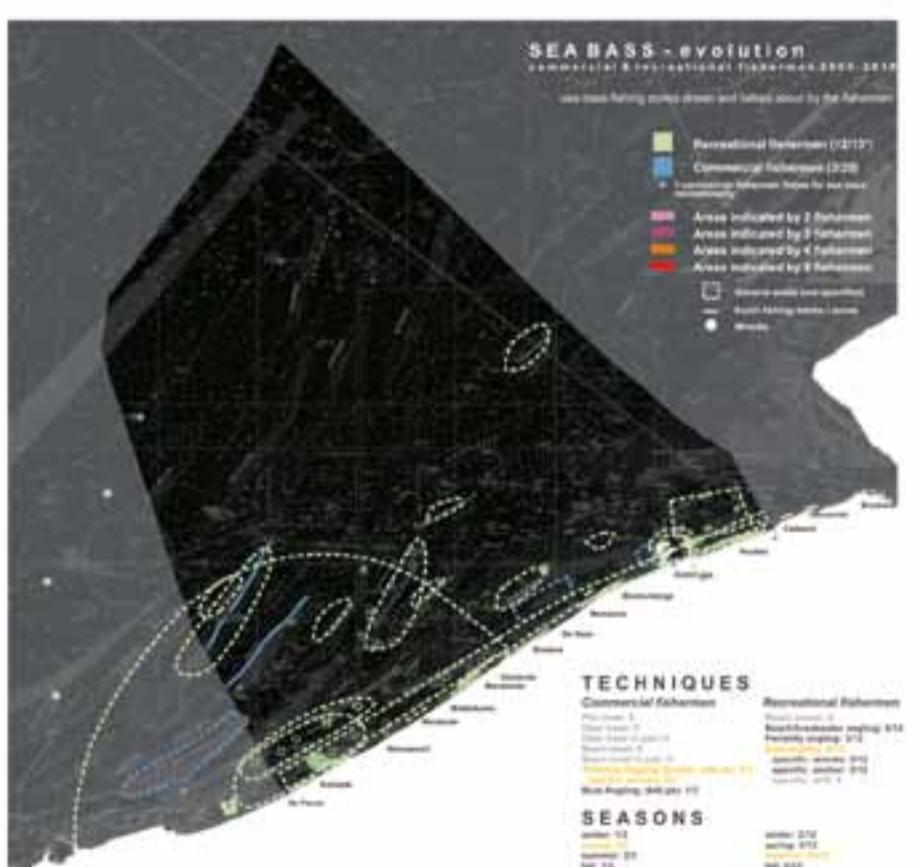
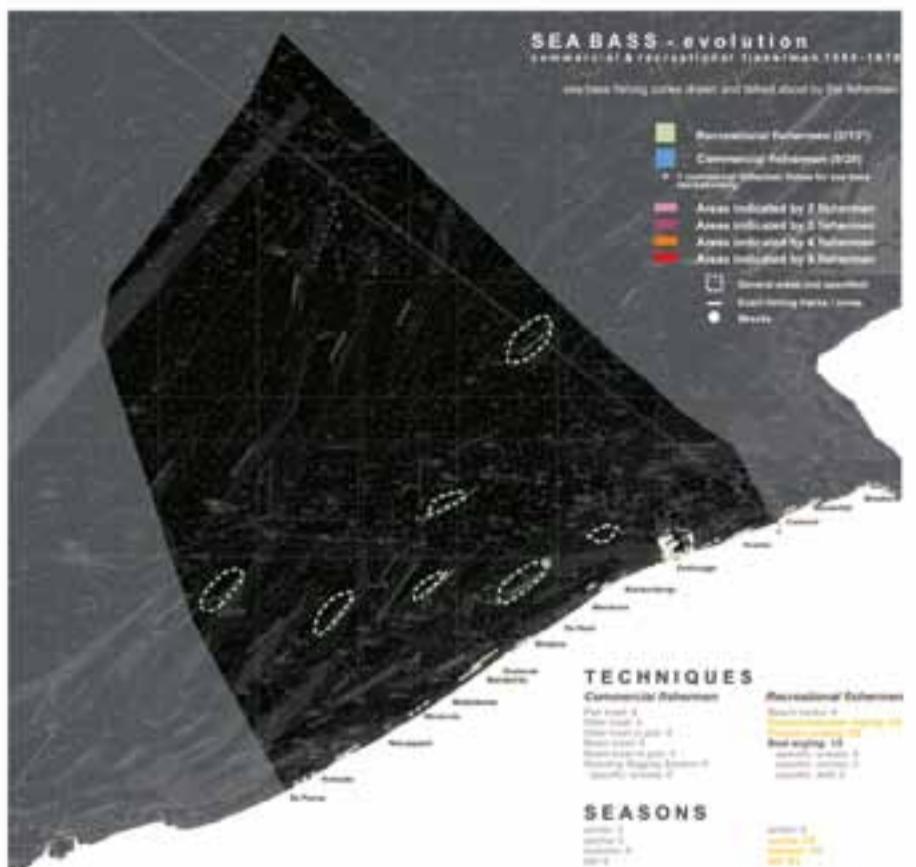
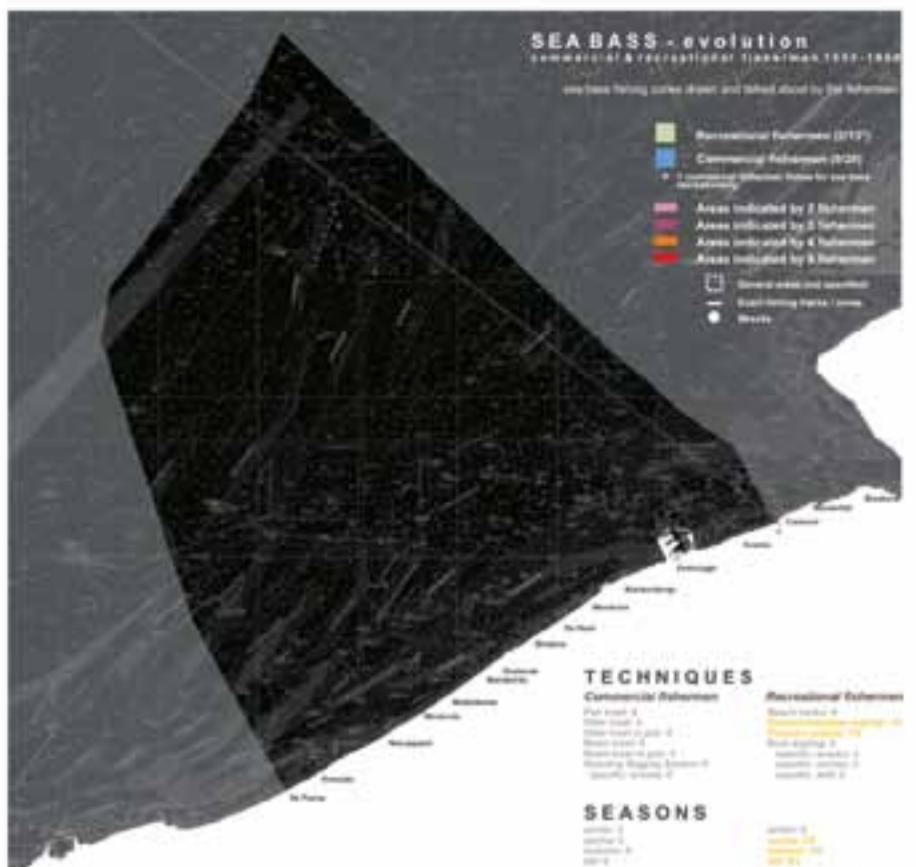
SEA BASS



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

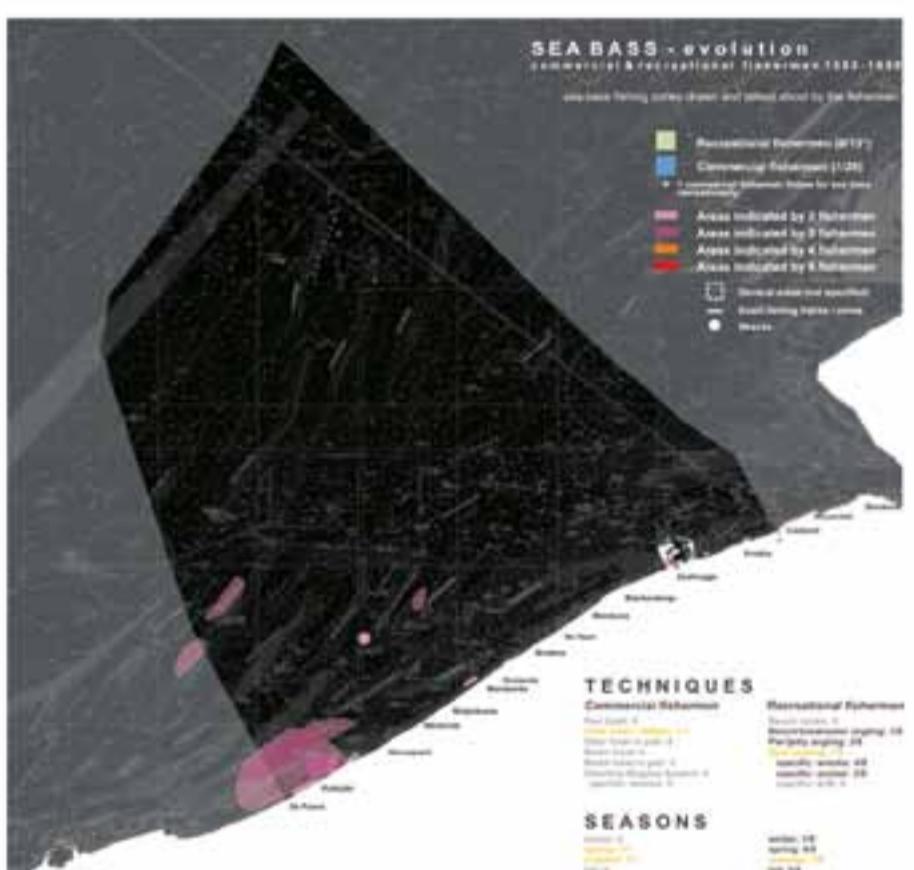
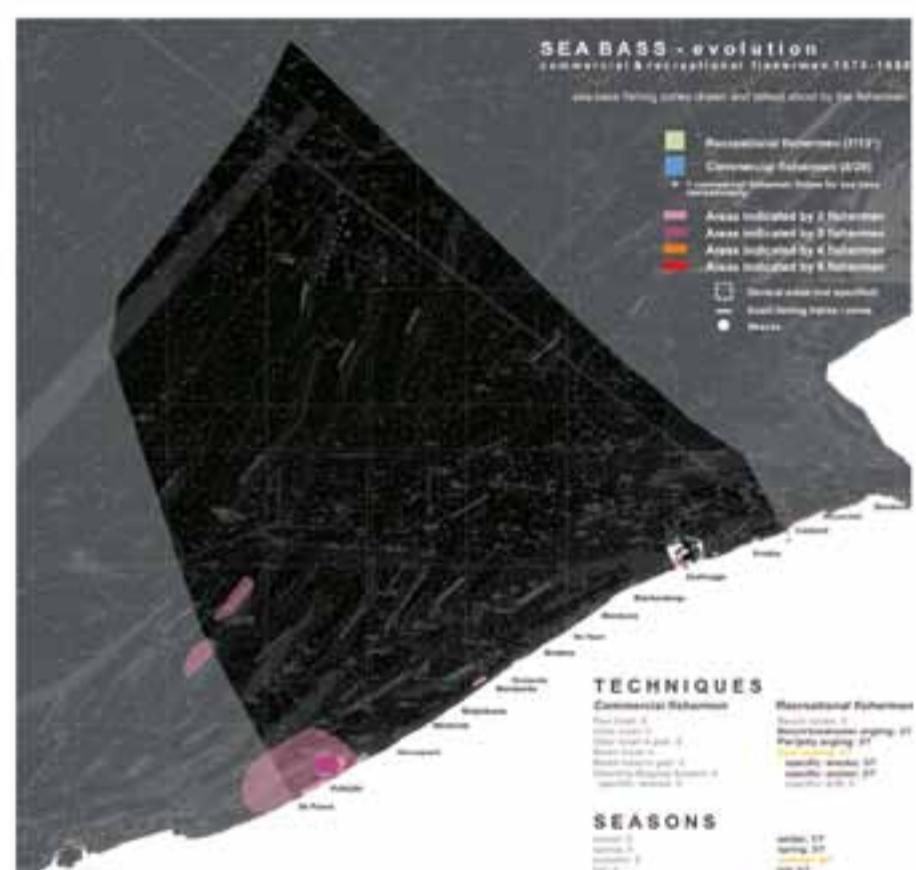
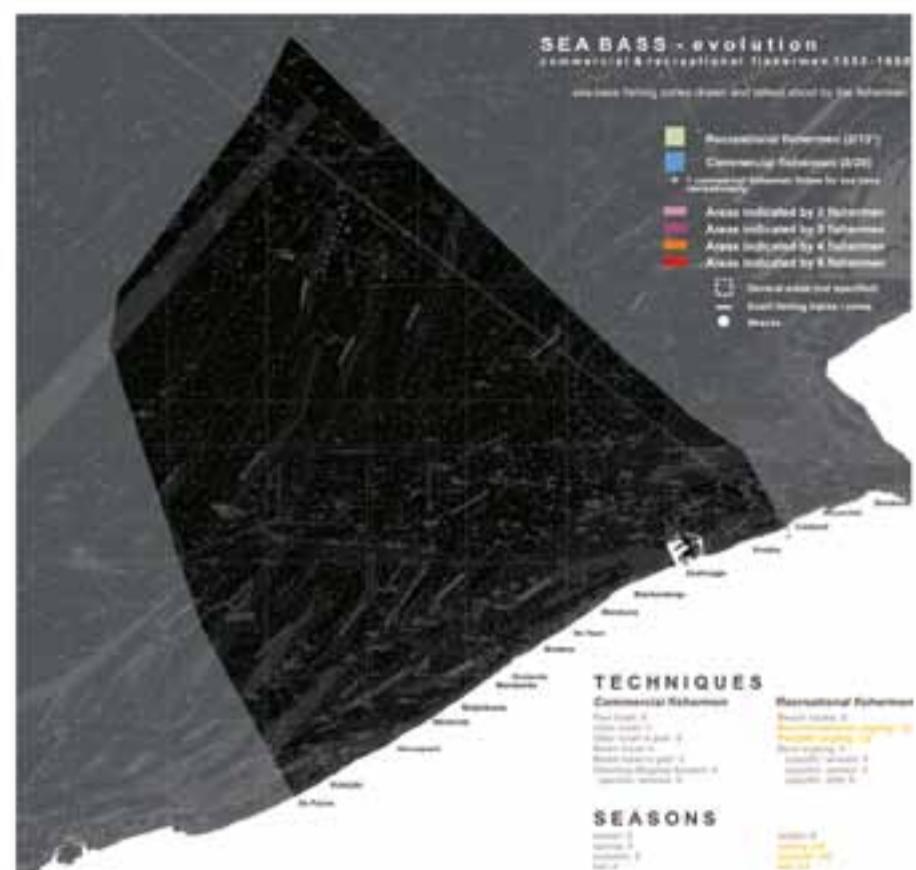


SEA BASS - fishing zones
commercial & recreational fishermen 1950 - 2010



SEA BASS - evolution

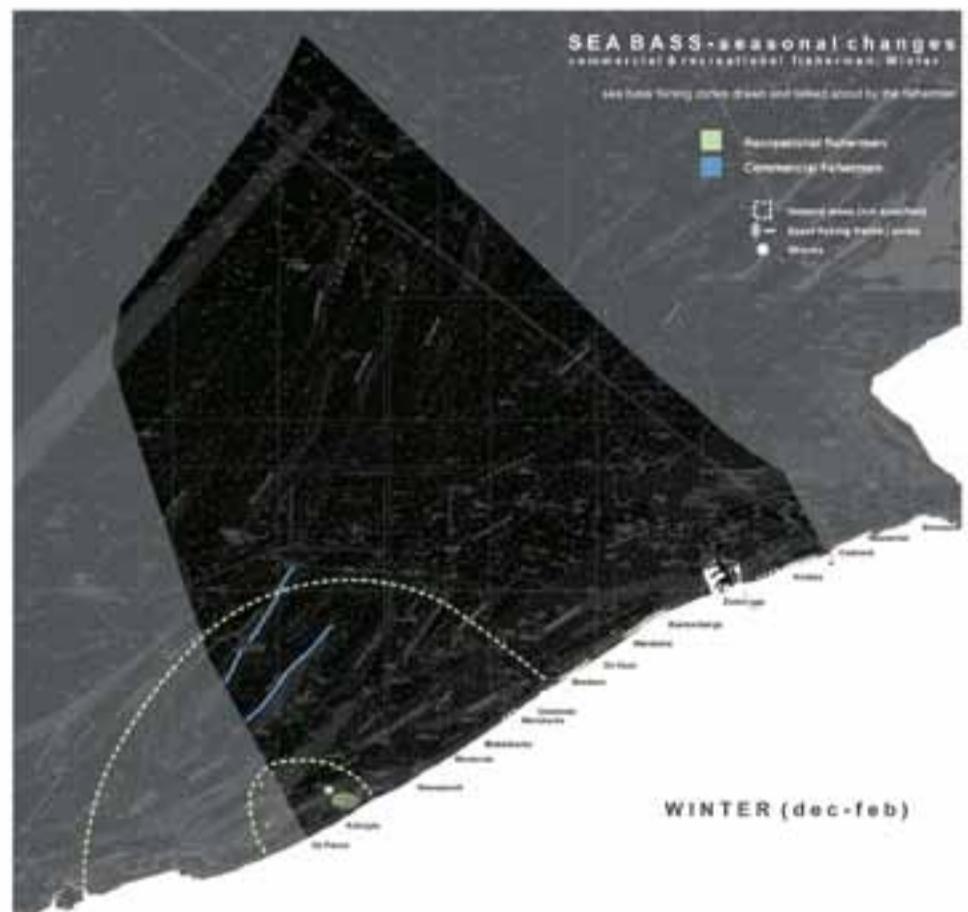
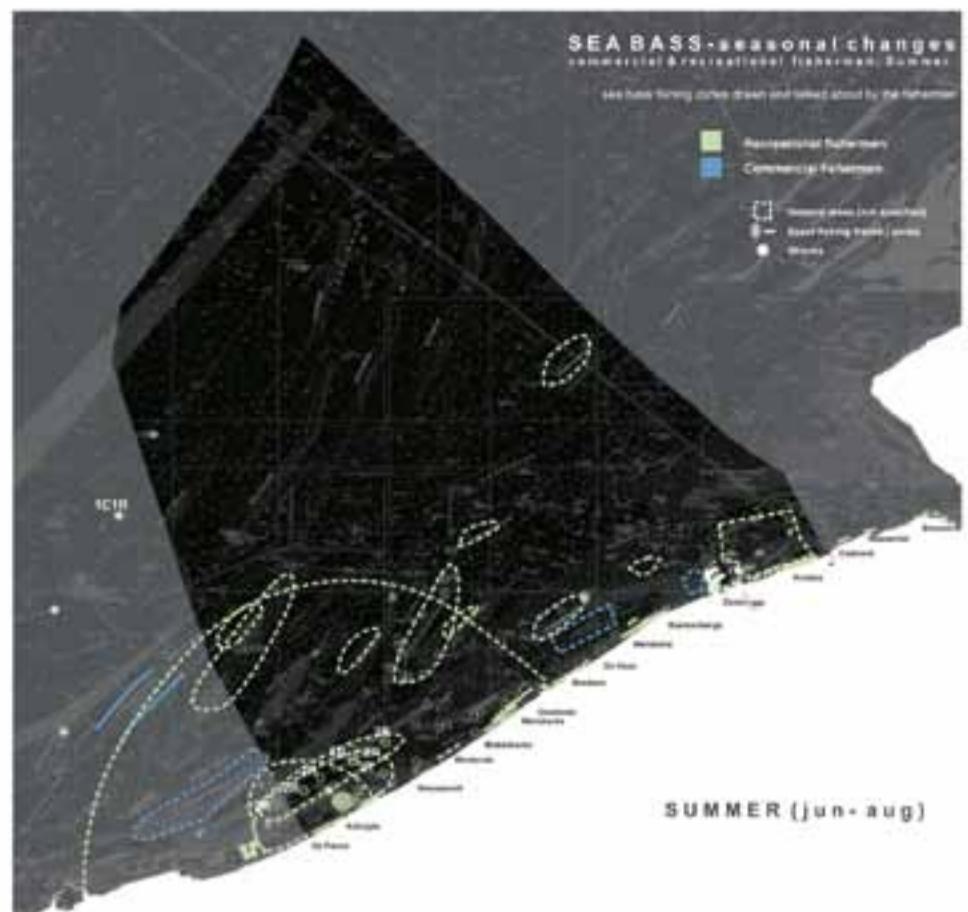
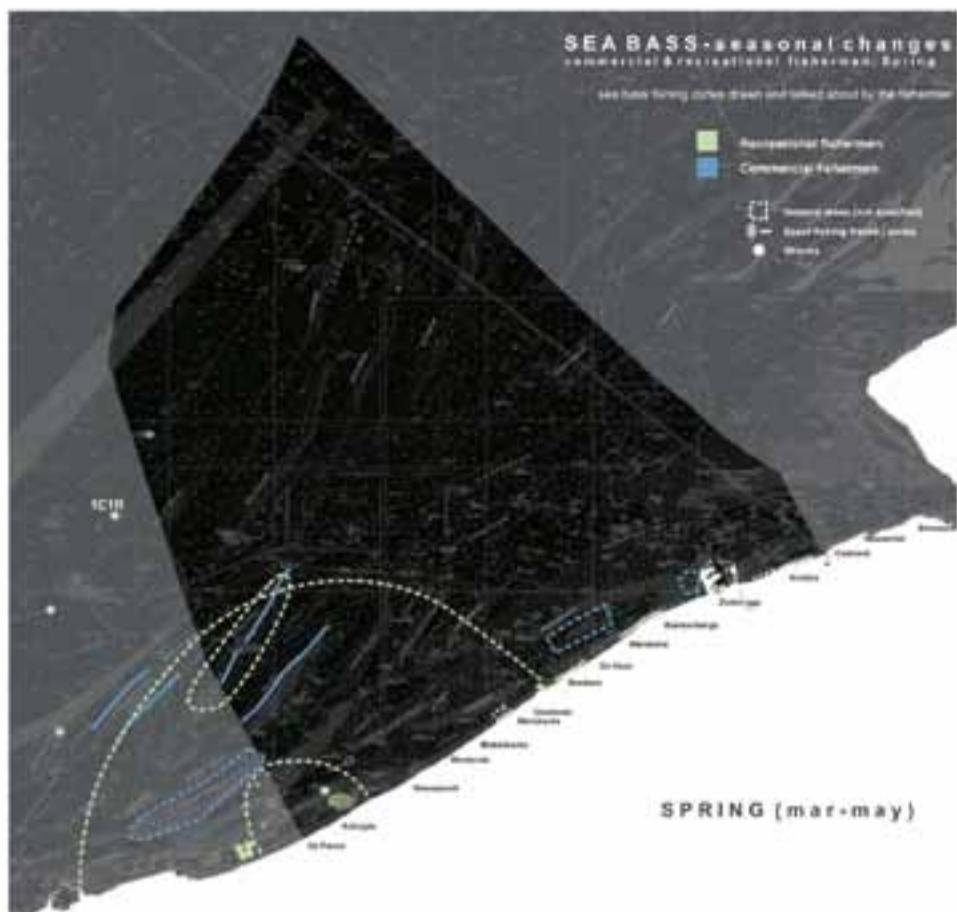
recreational & commercial fishermen 1950 - 2010



SEA BASS - evolution

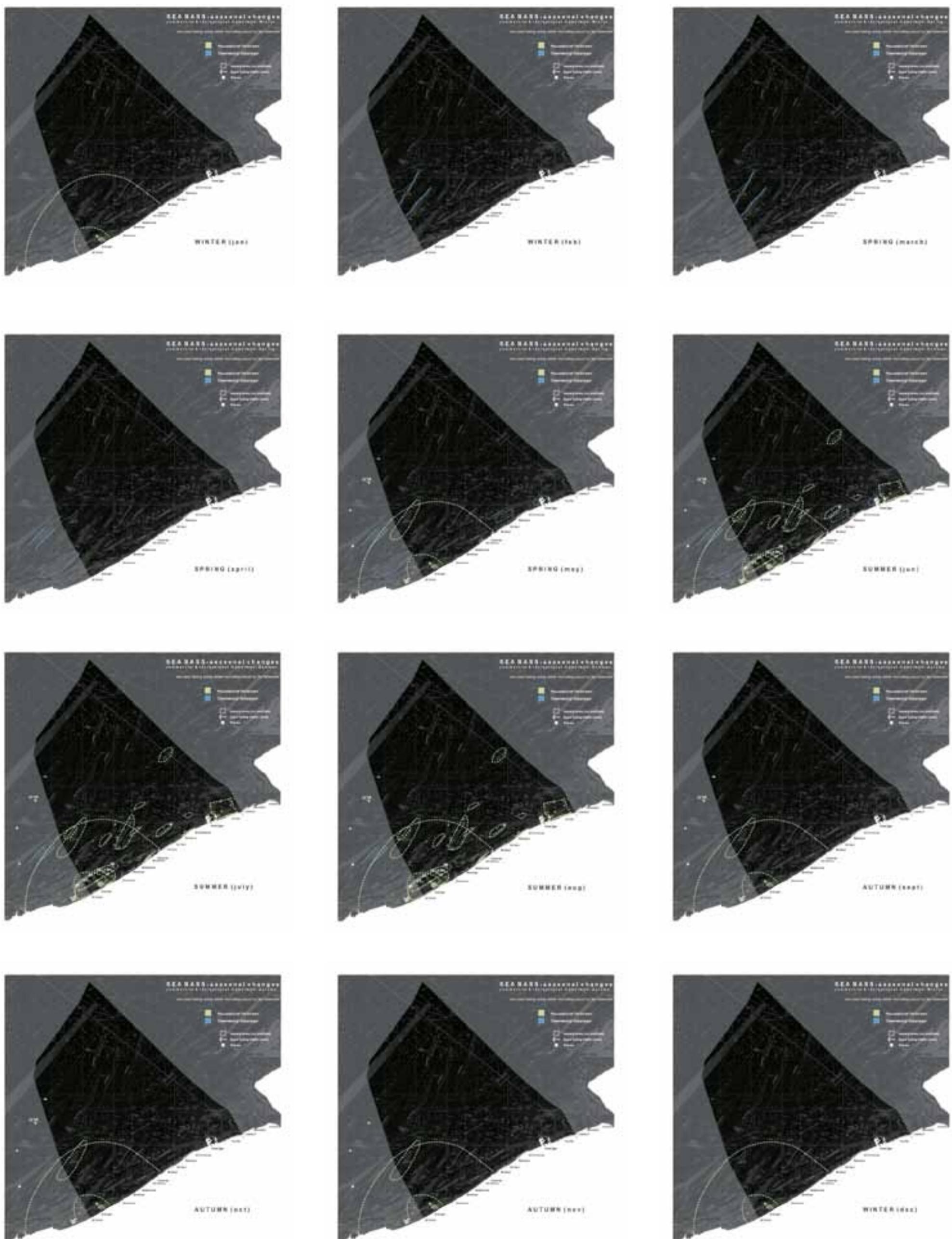
commercial & recreational fishermen 1950 - 2010

areas fished by 2 or more fishermen

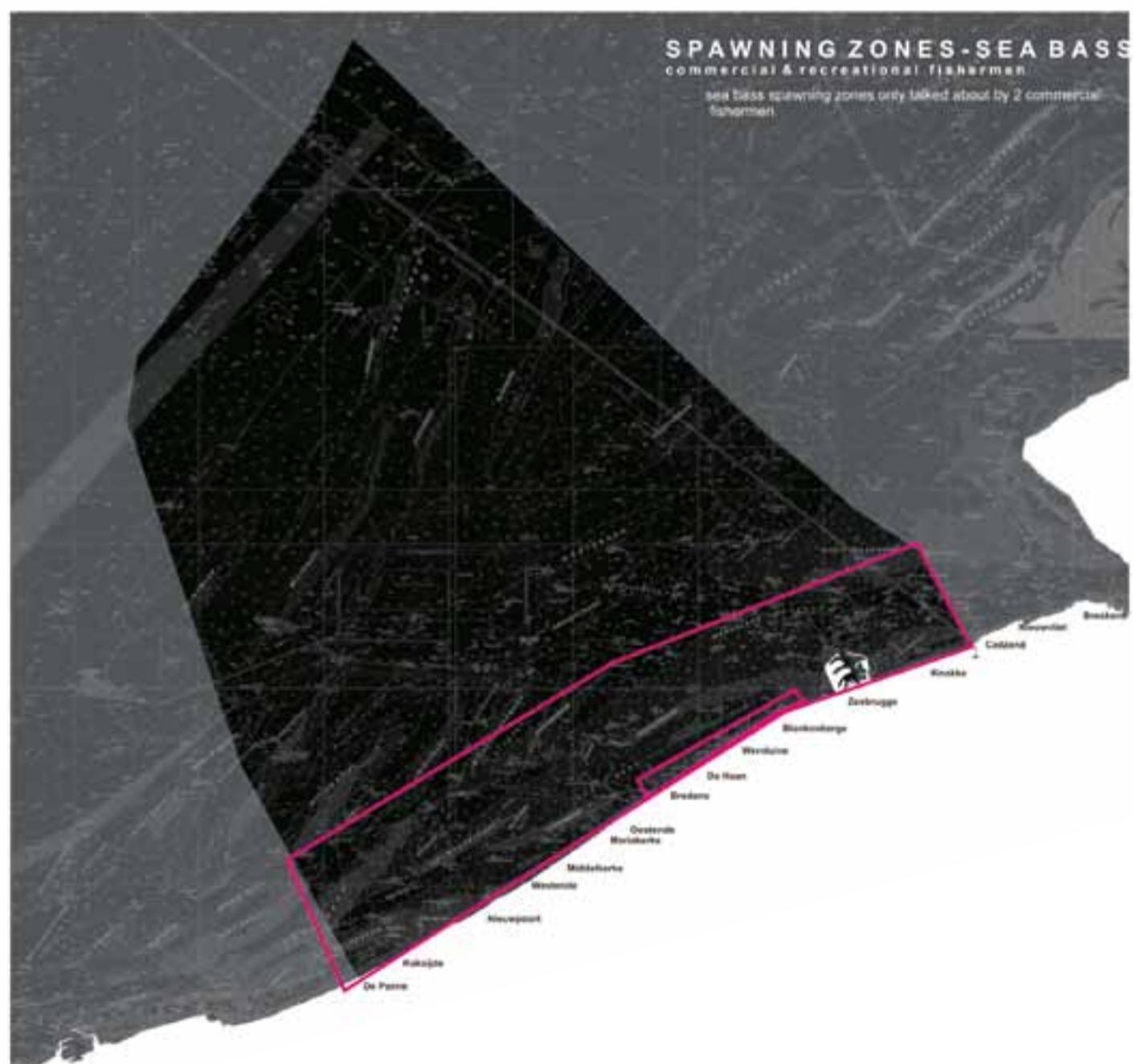
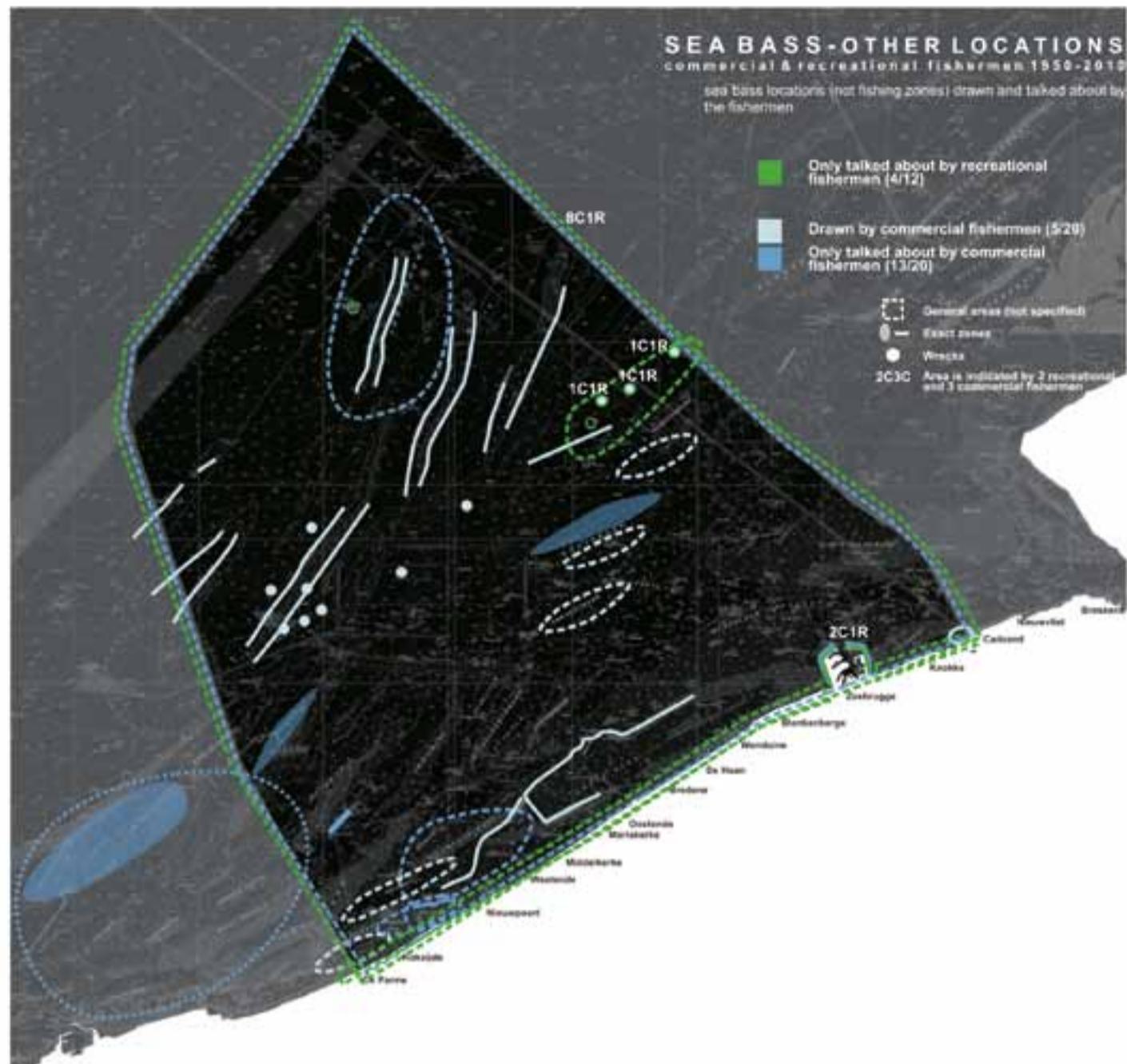


SEA BASS - seasonal changes

commercial & recreational fishermen 1950 - 2010



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

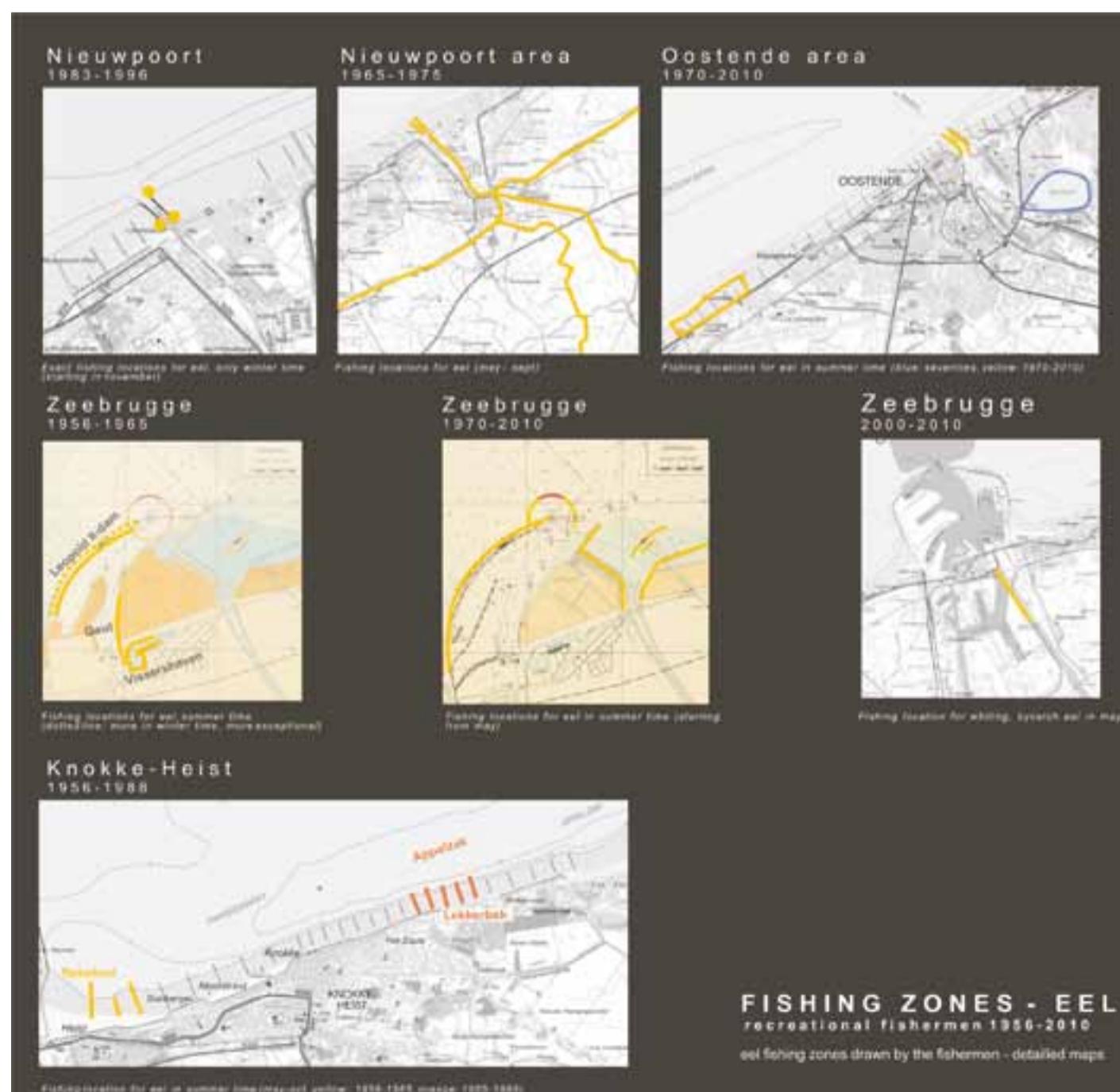
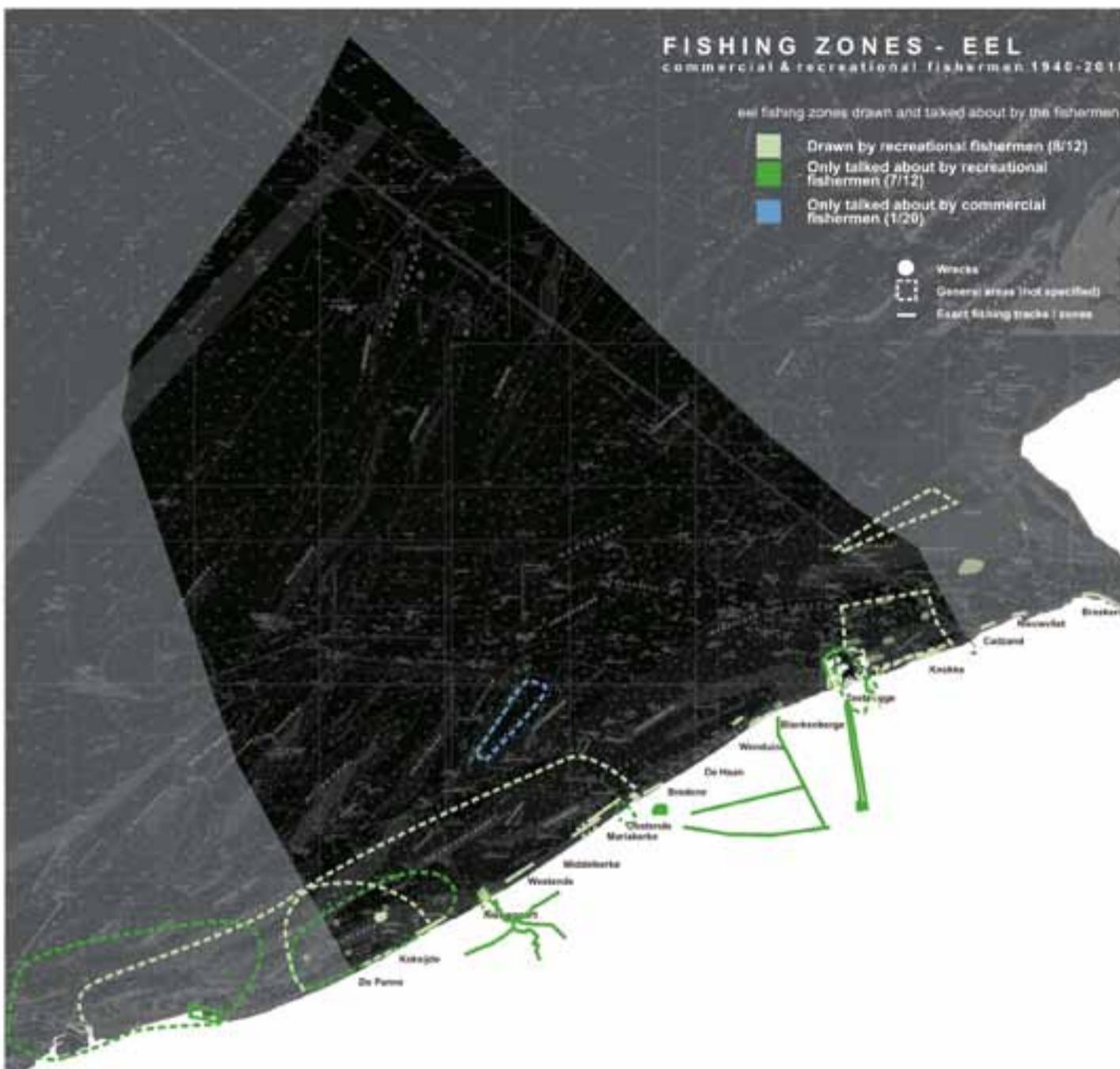


**SEA BASS - other locations
& spawning zones**
commercial & recreational fishermen 1950 - 2010



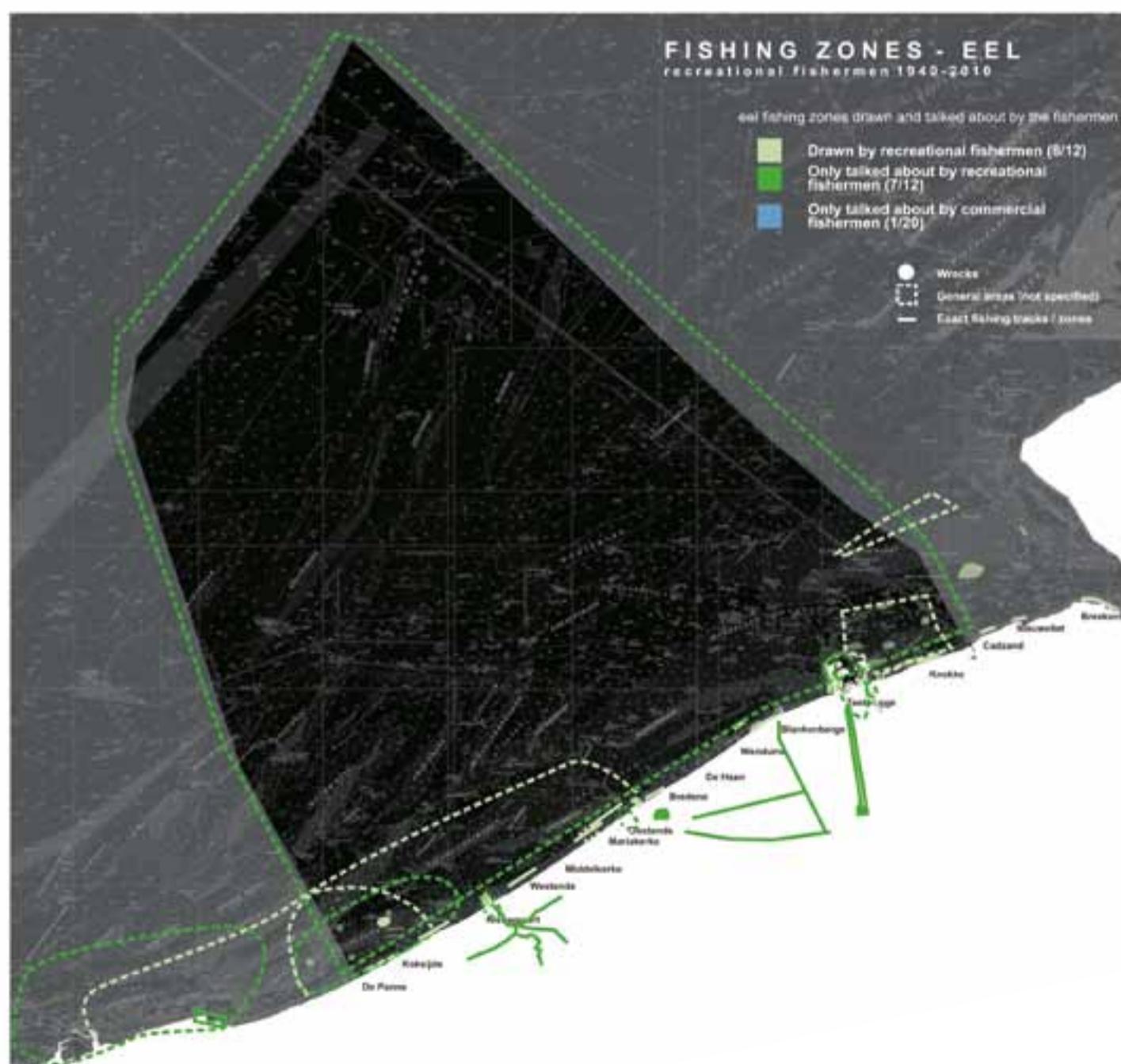
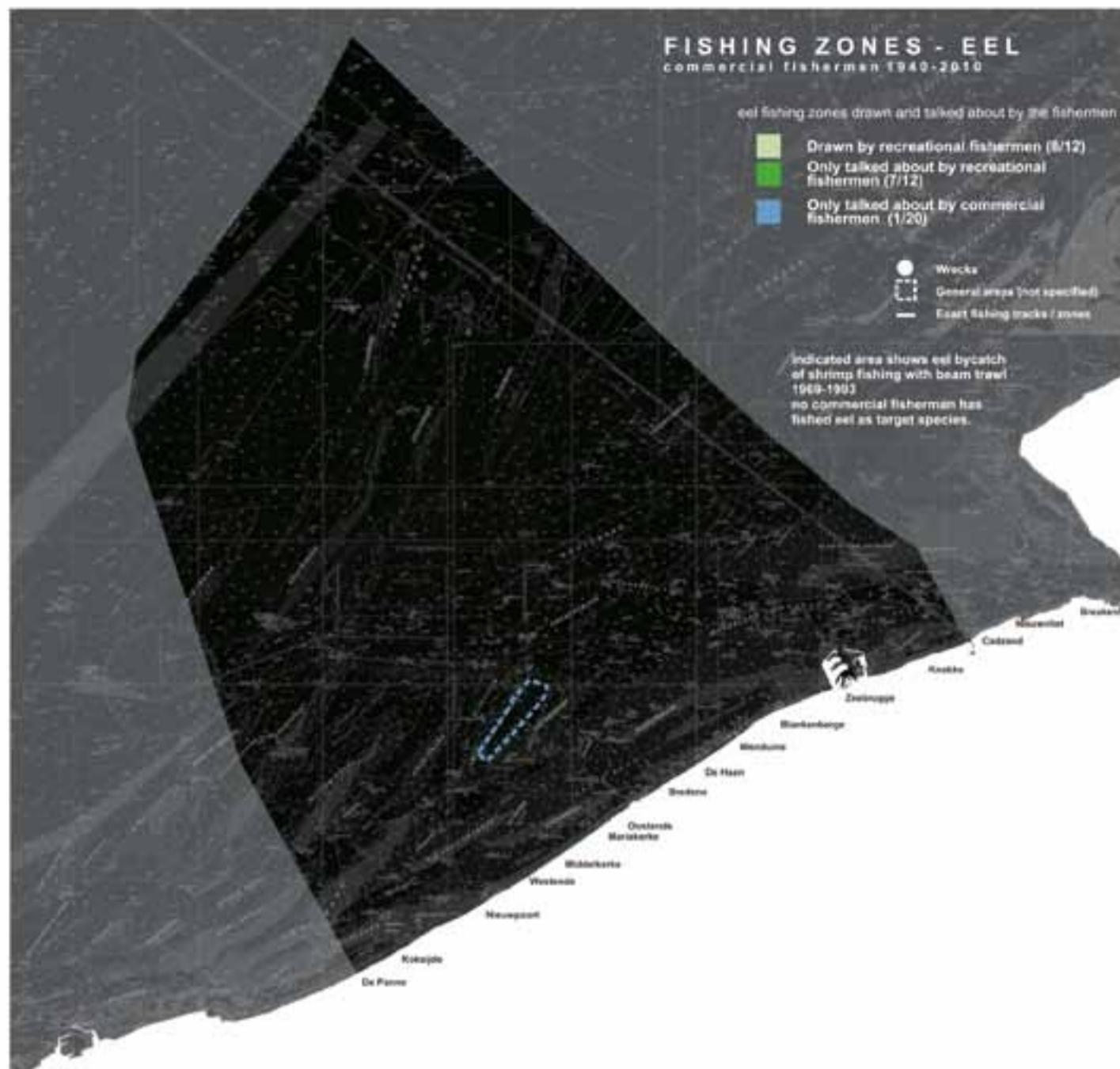
MAPS SERIES IV

EEL

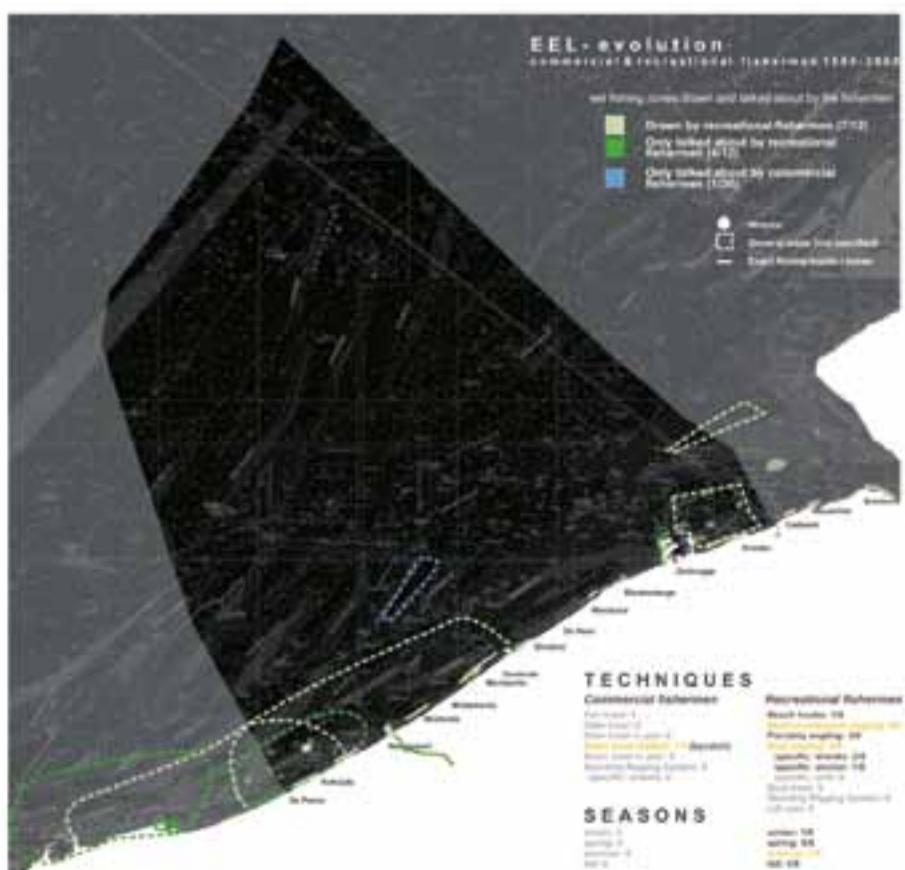
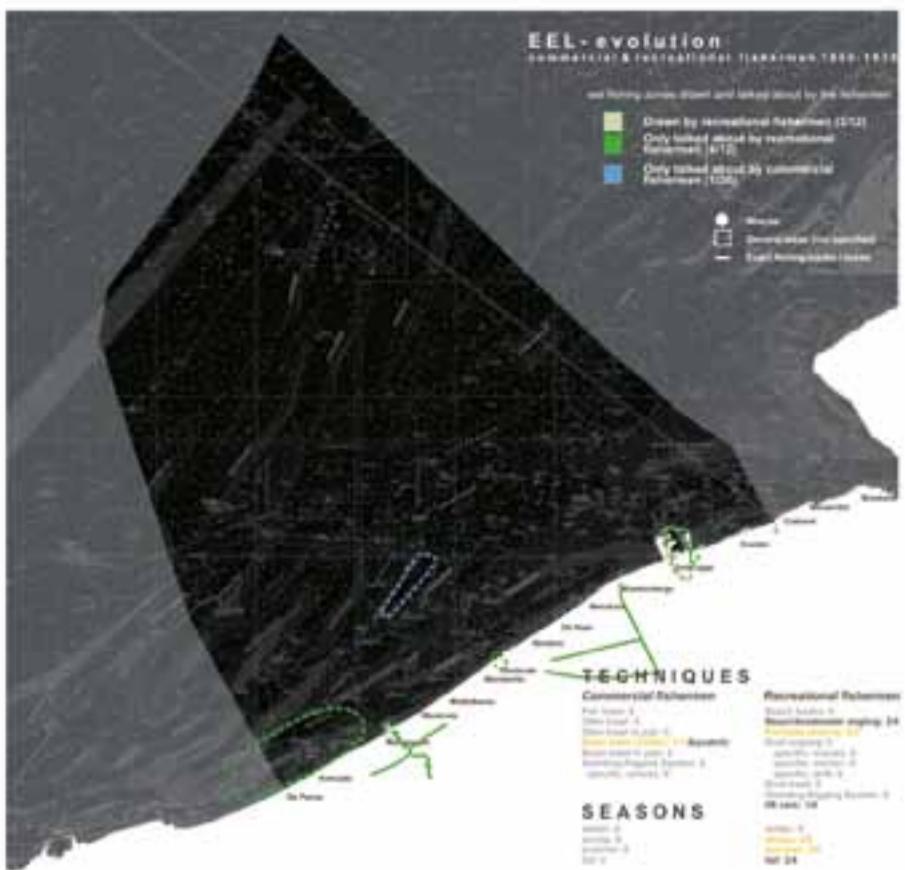
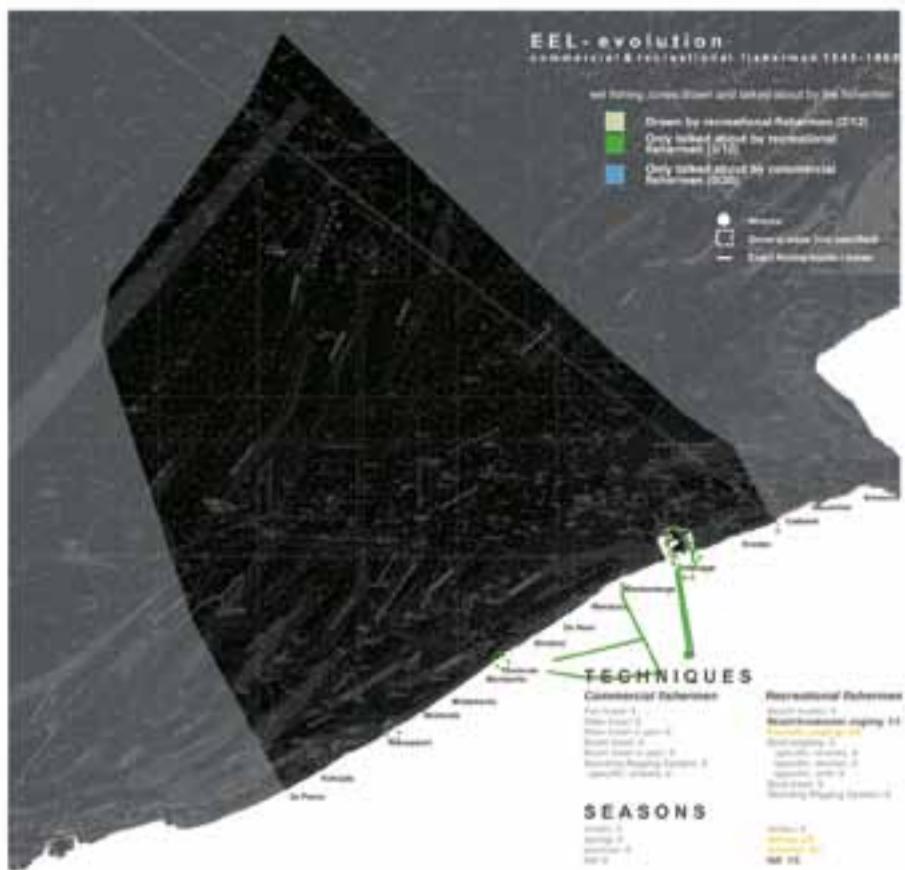


EEL - fishing zones

commercial & recreational fishermen 1940 - 2010

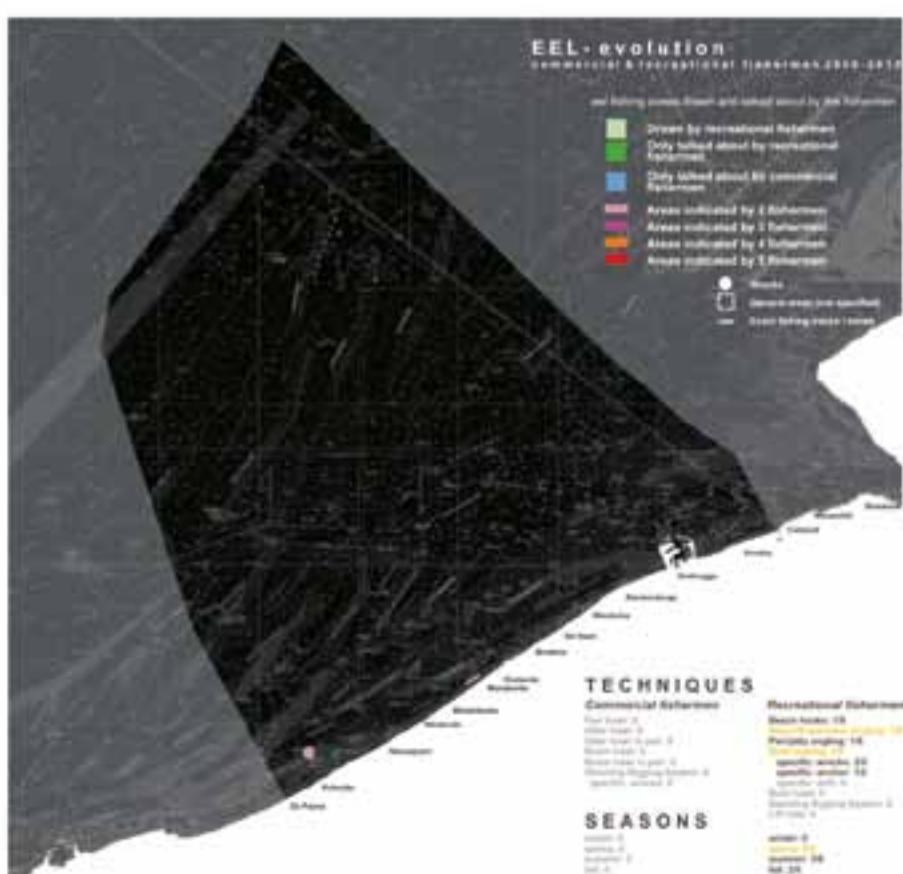
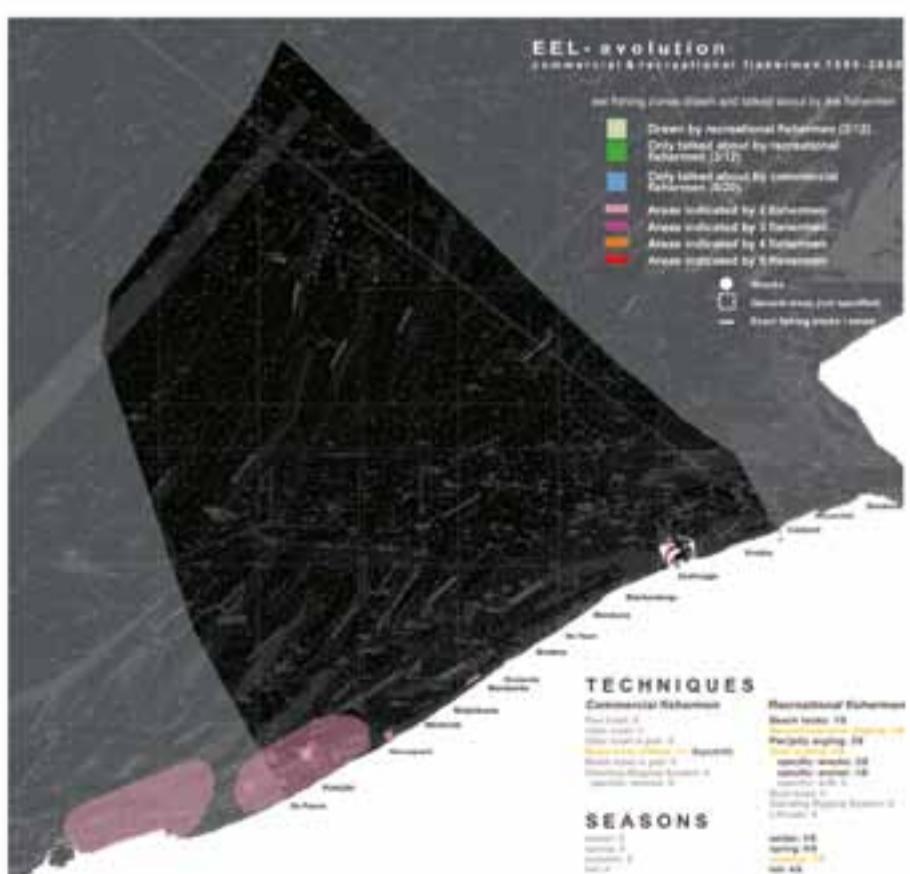
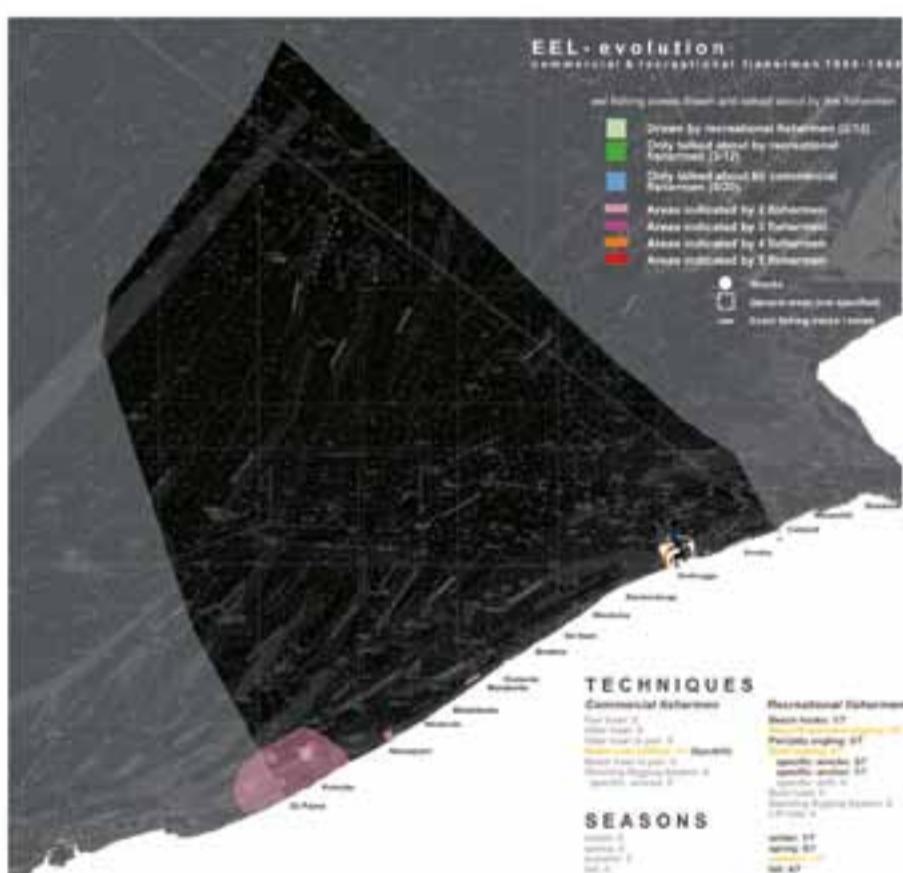
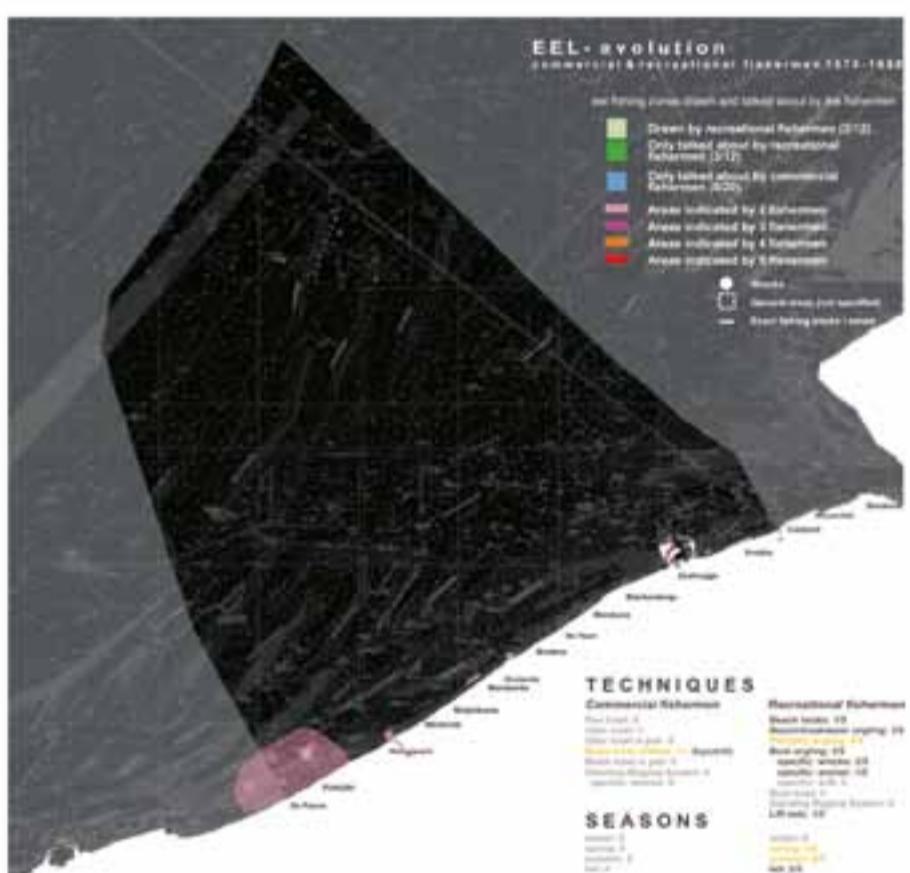
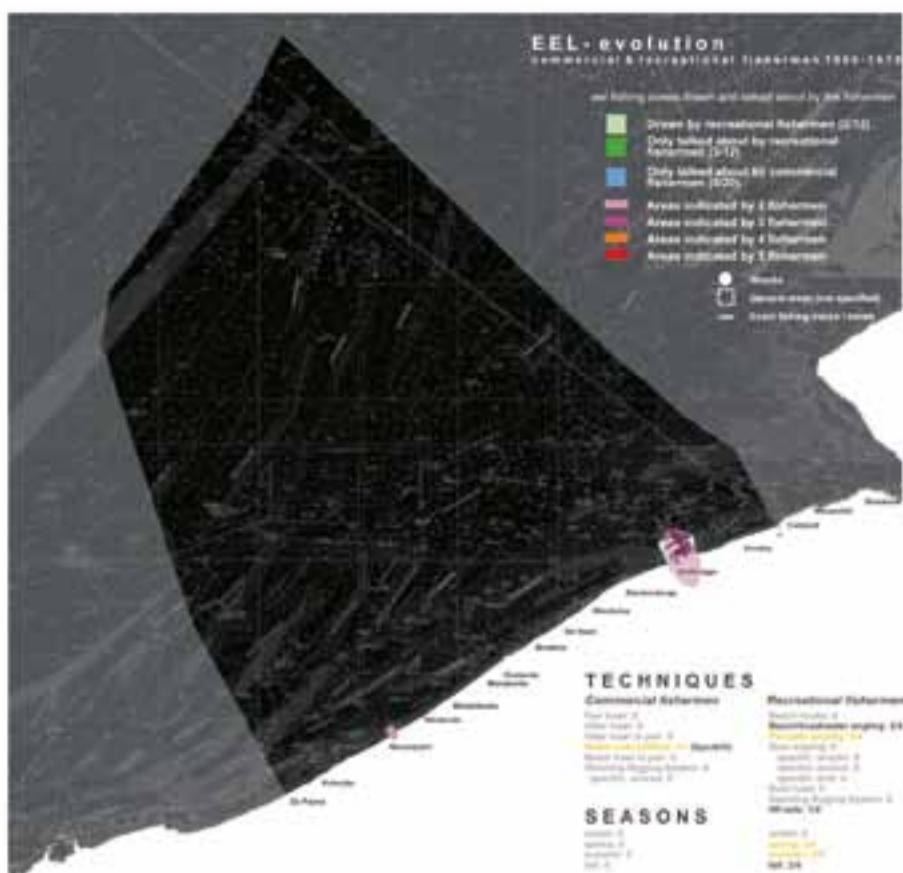
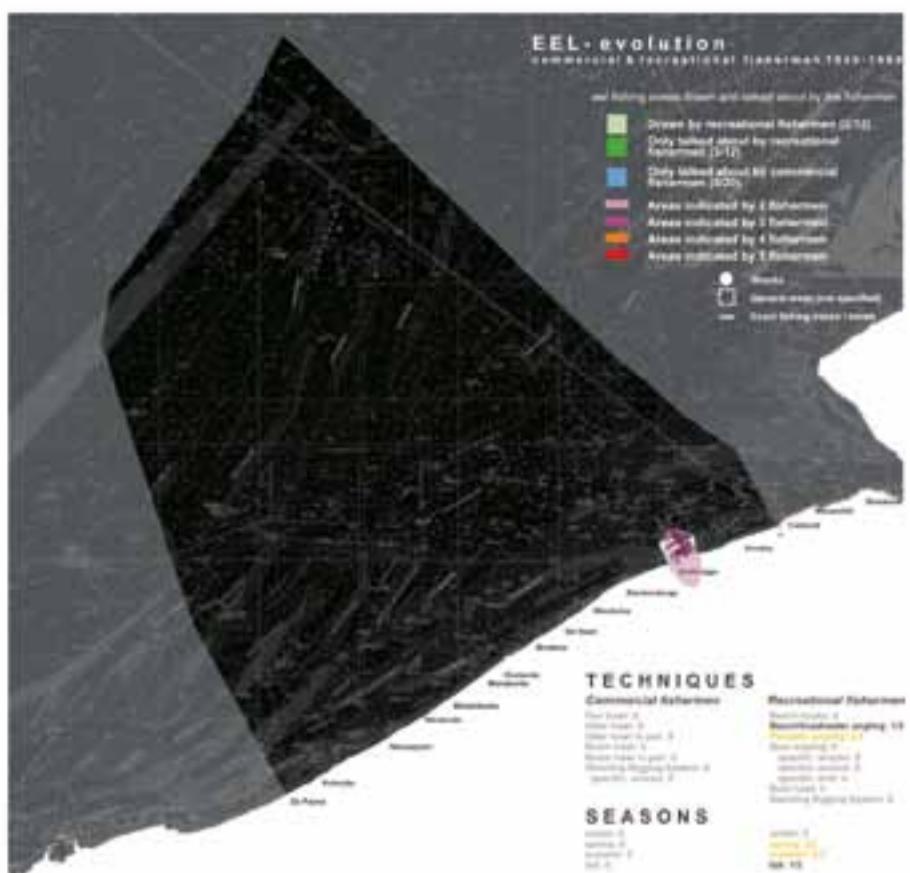


EEL - fishing zones
commercial & recreational fishermen 1940 - 2010

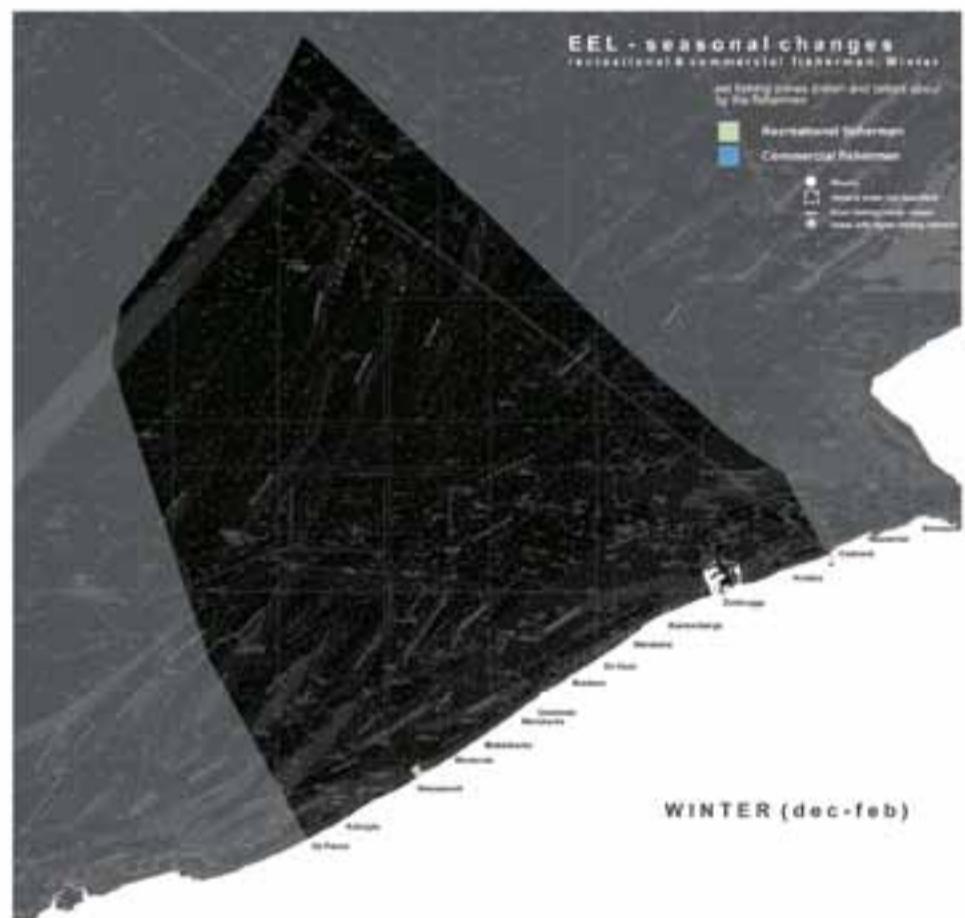
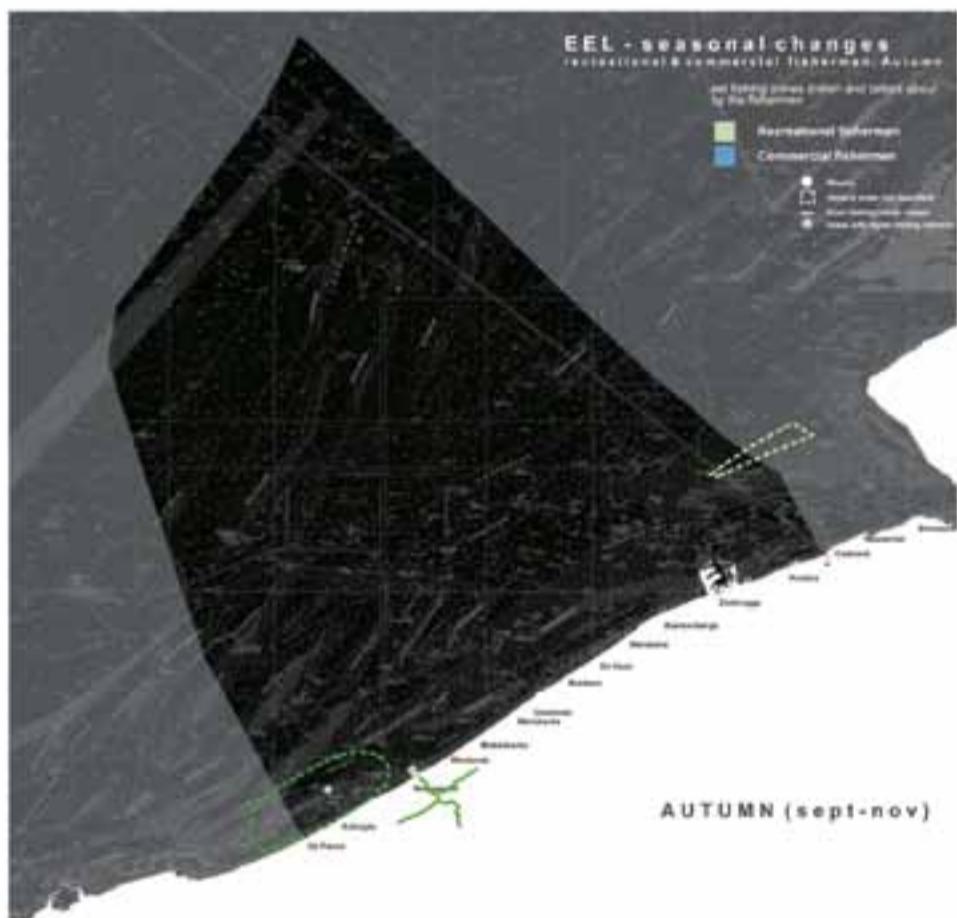
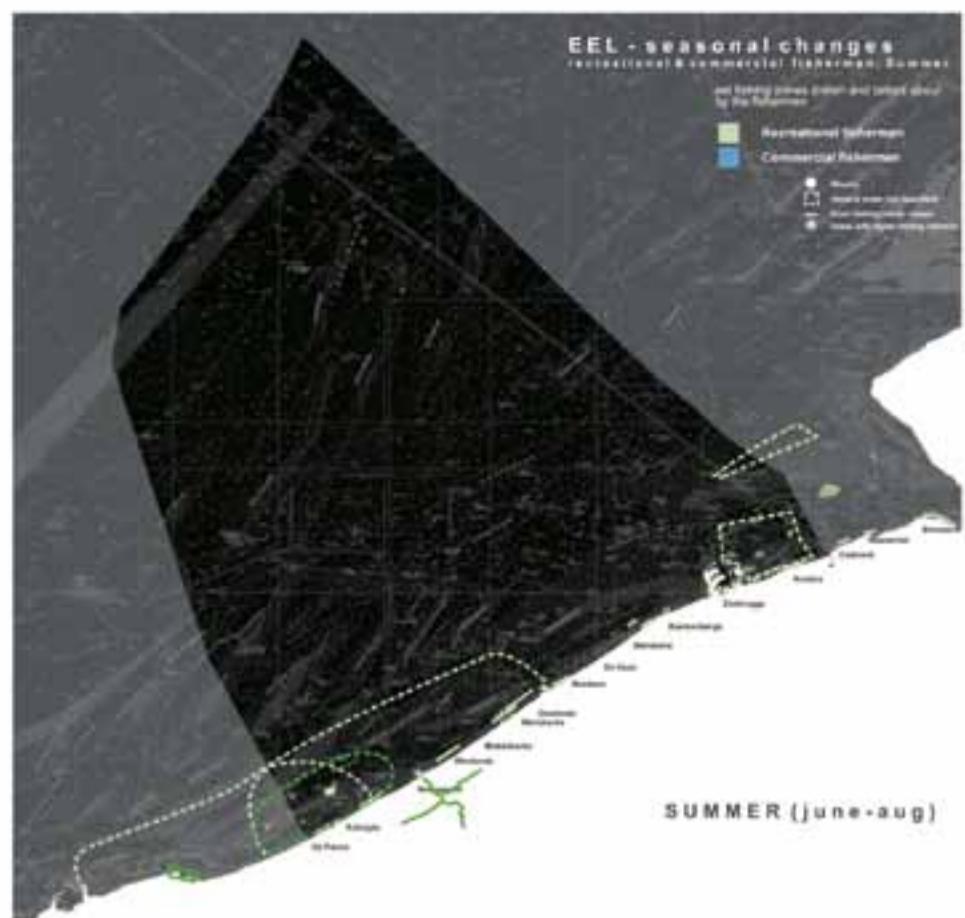
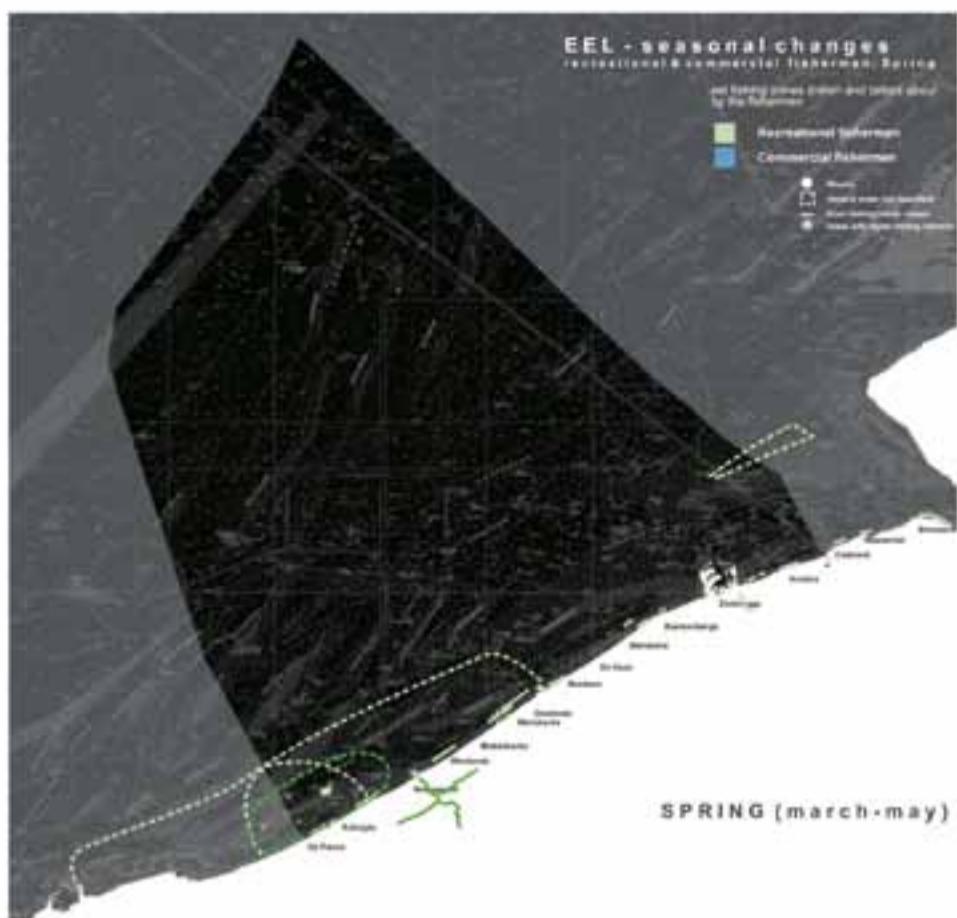


EEL - evolution

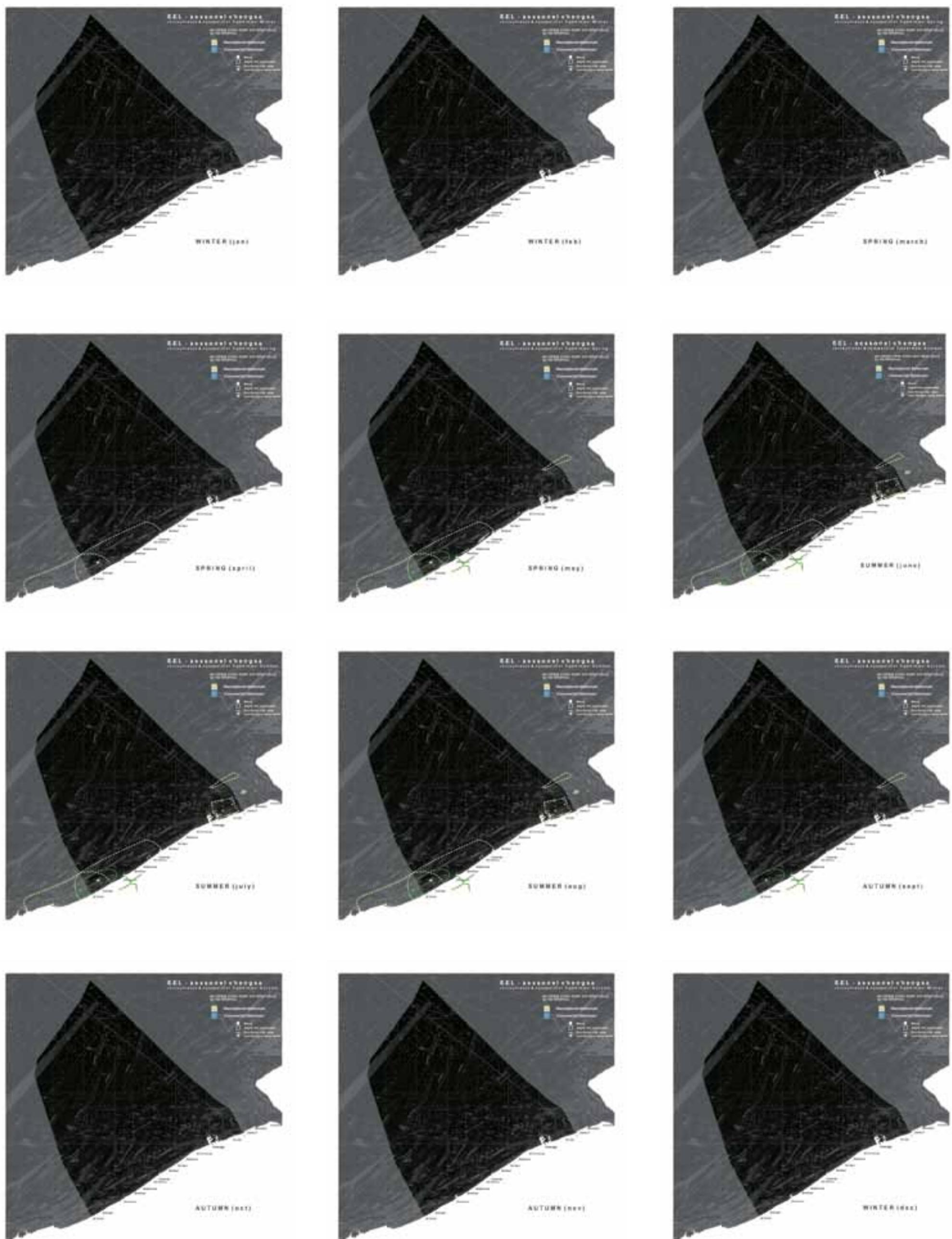
recreational & commercial fishermen 1940 - 2010



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



EEL - seasonal changes
commercial & recreational fishermen 1940 - 2010

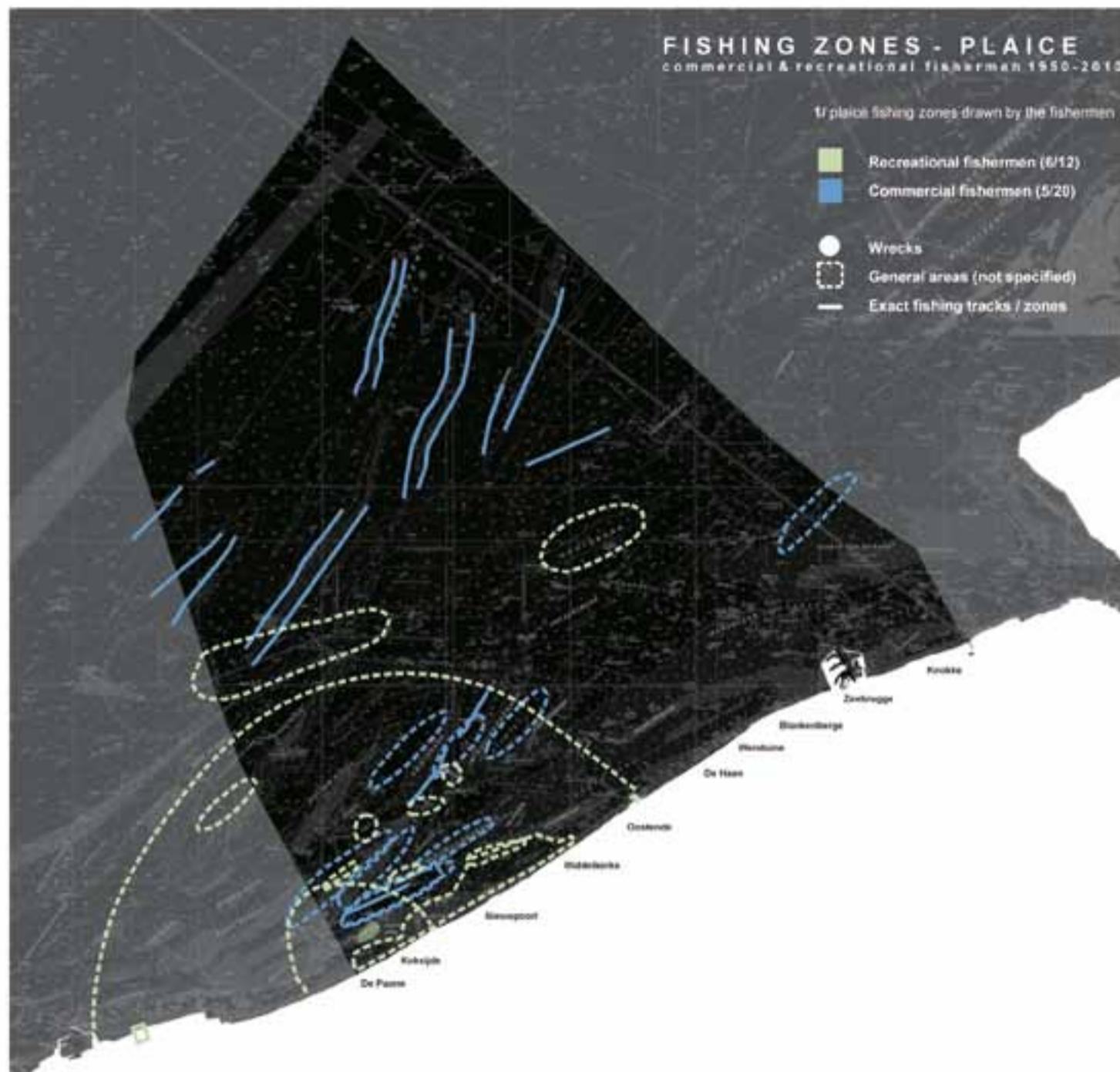


**EEL - seasonal changes
january-december**
commercial & recreational fishermen 1940 - 2010

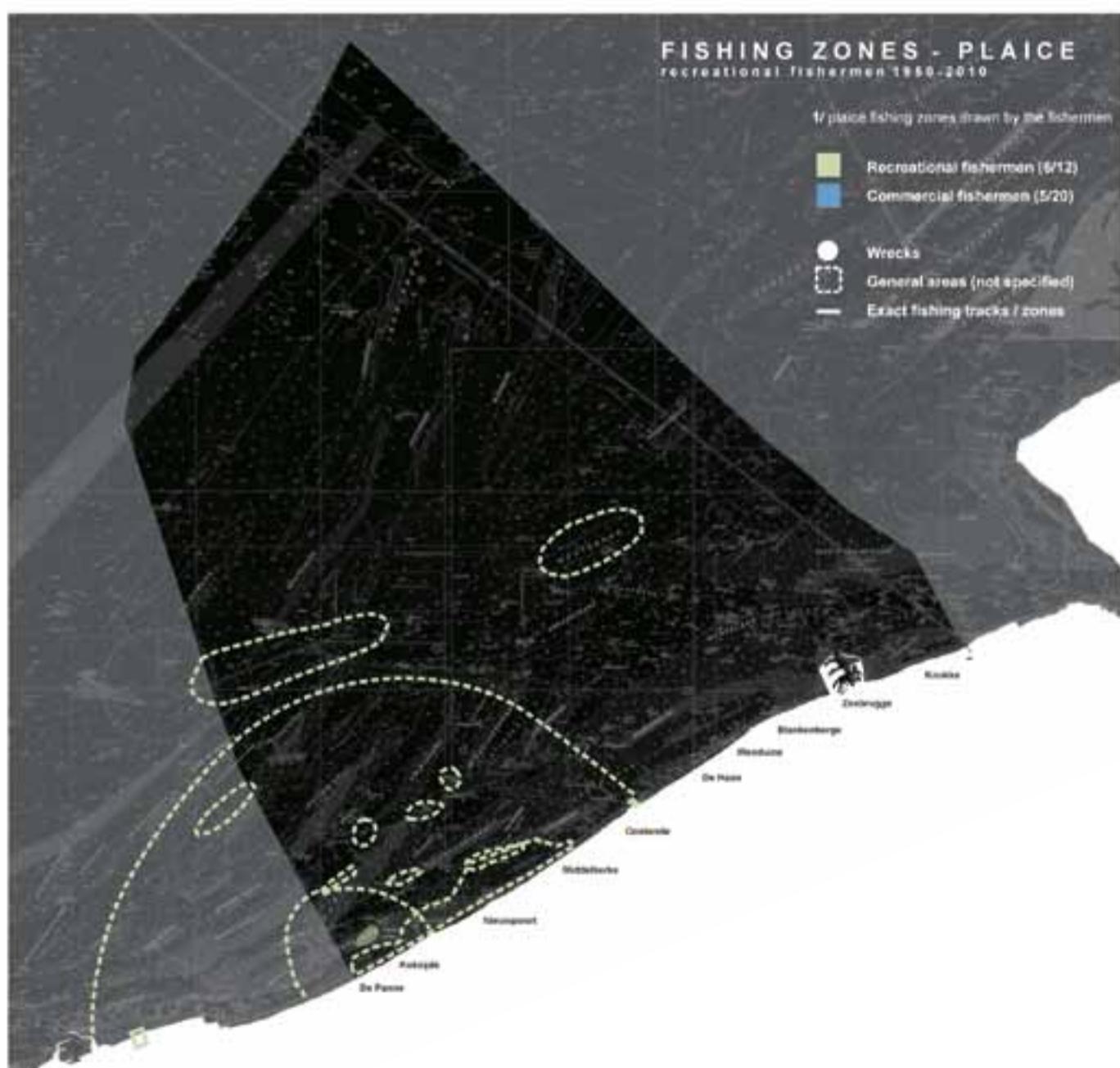
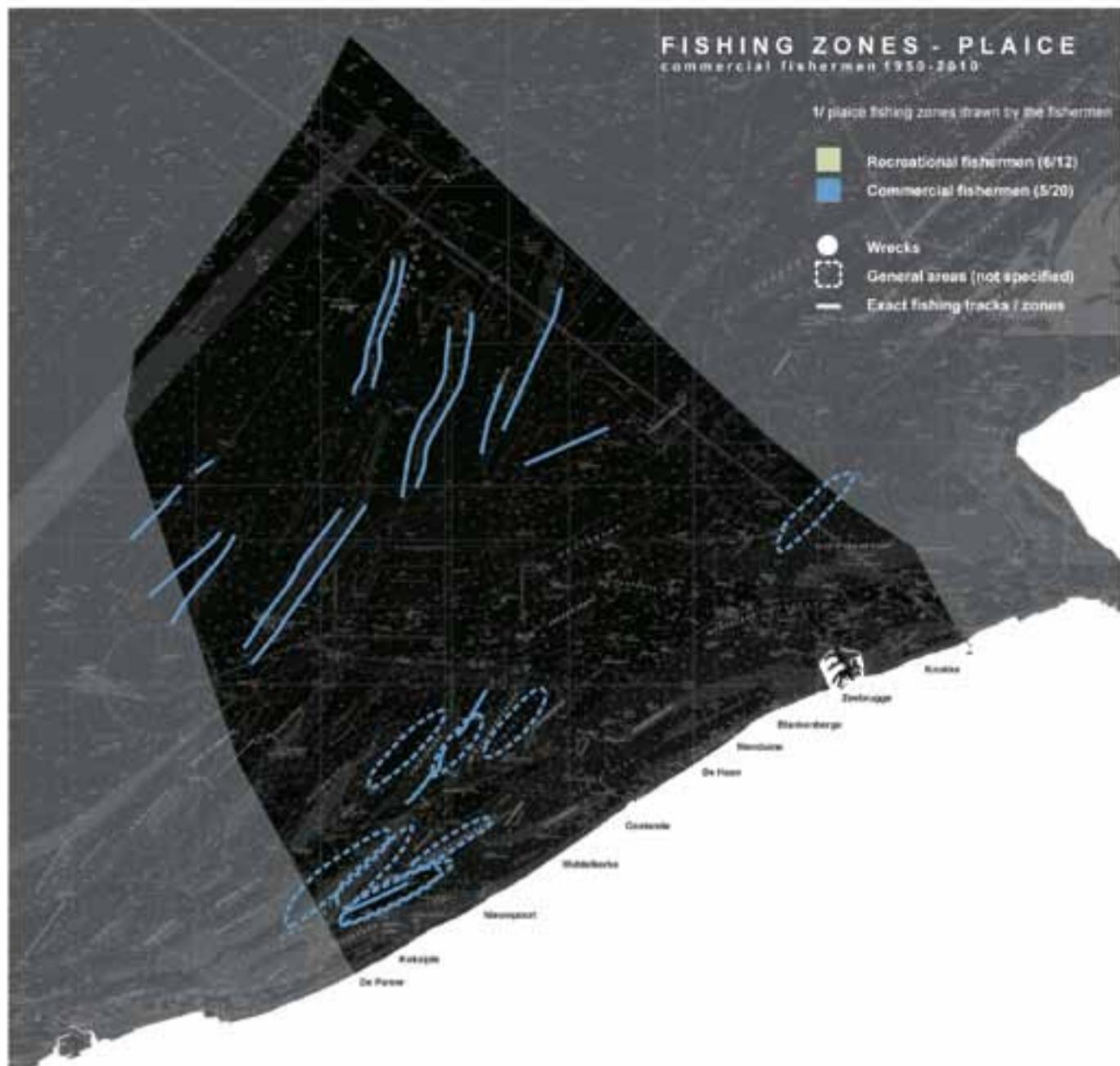


MAPS SERIES V

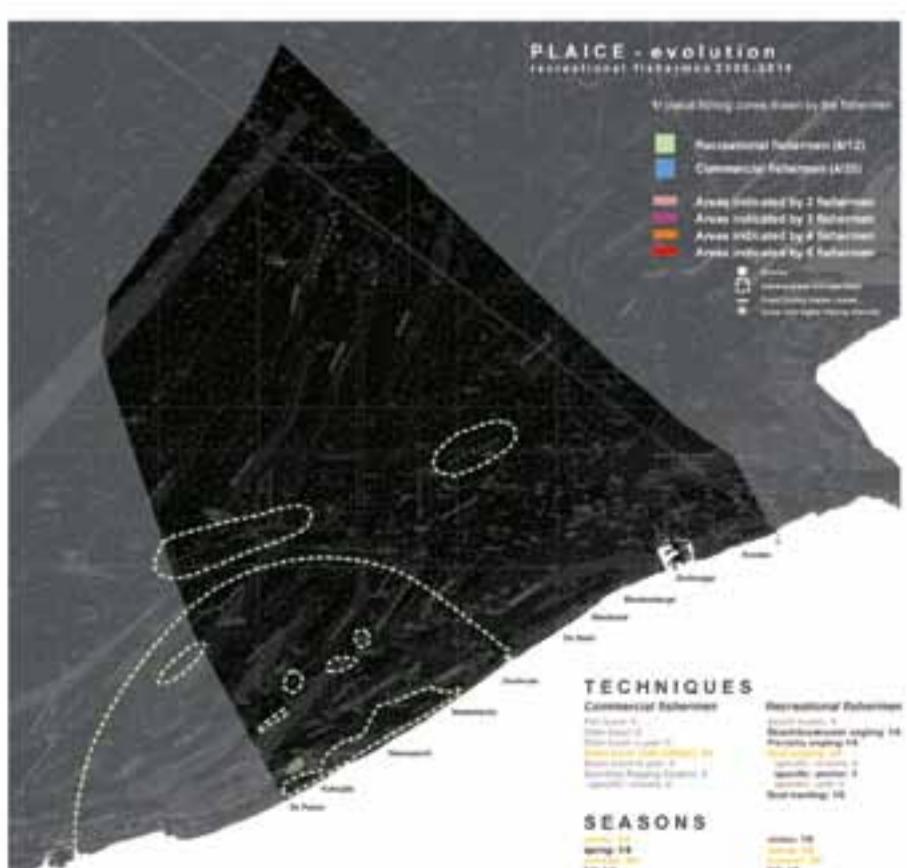
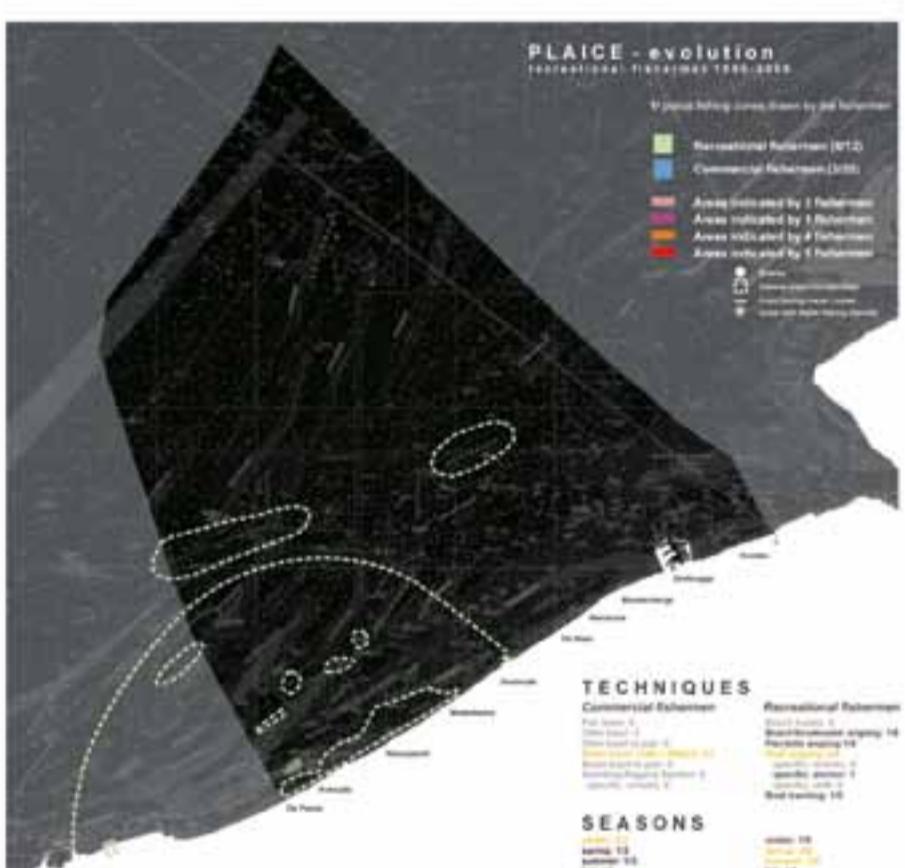
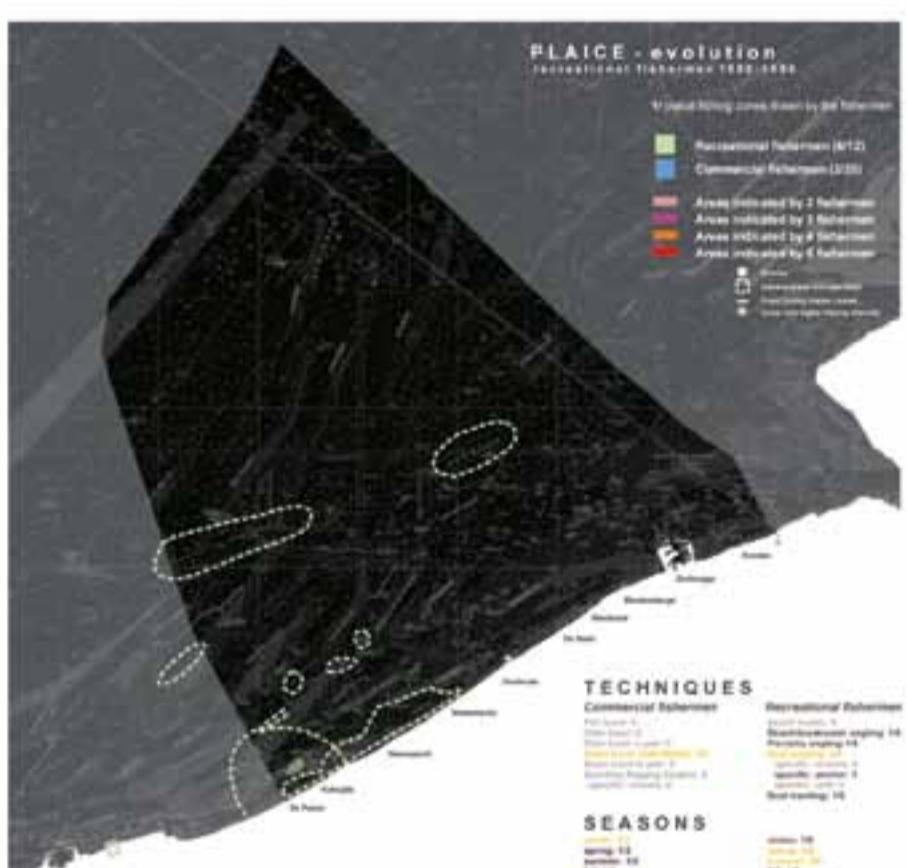
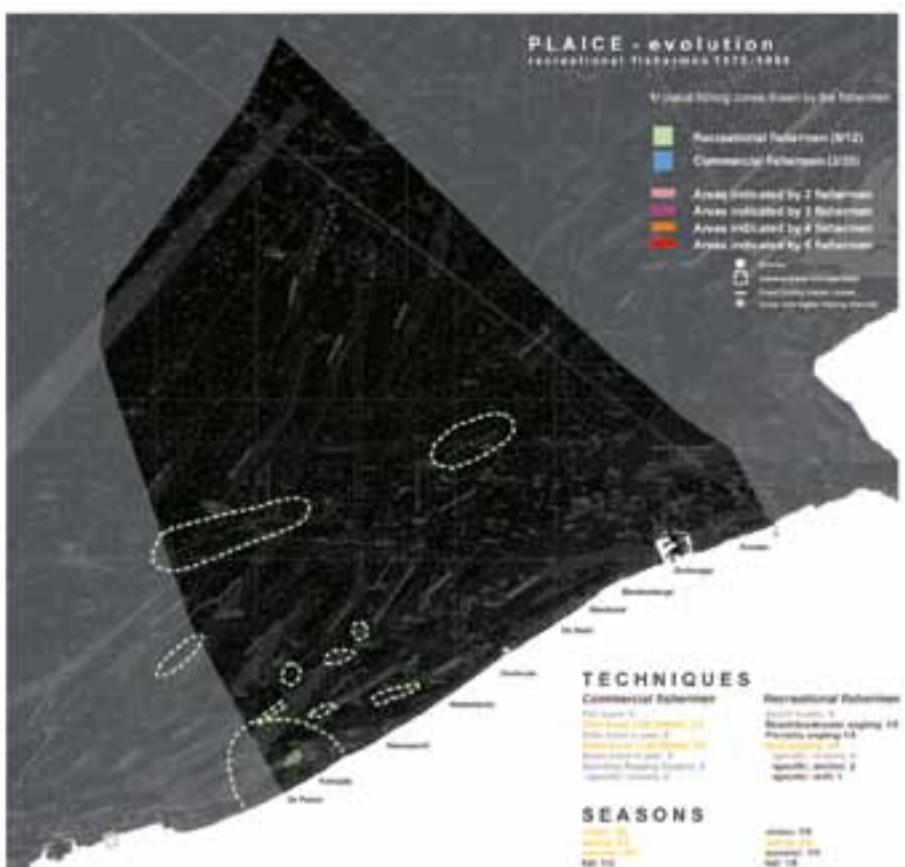
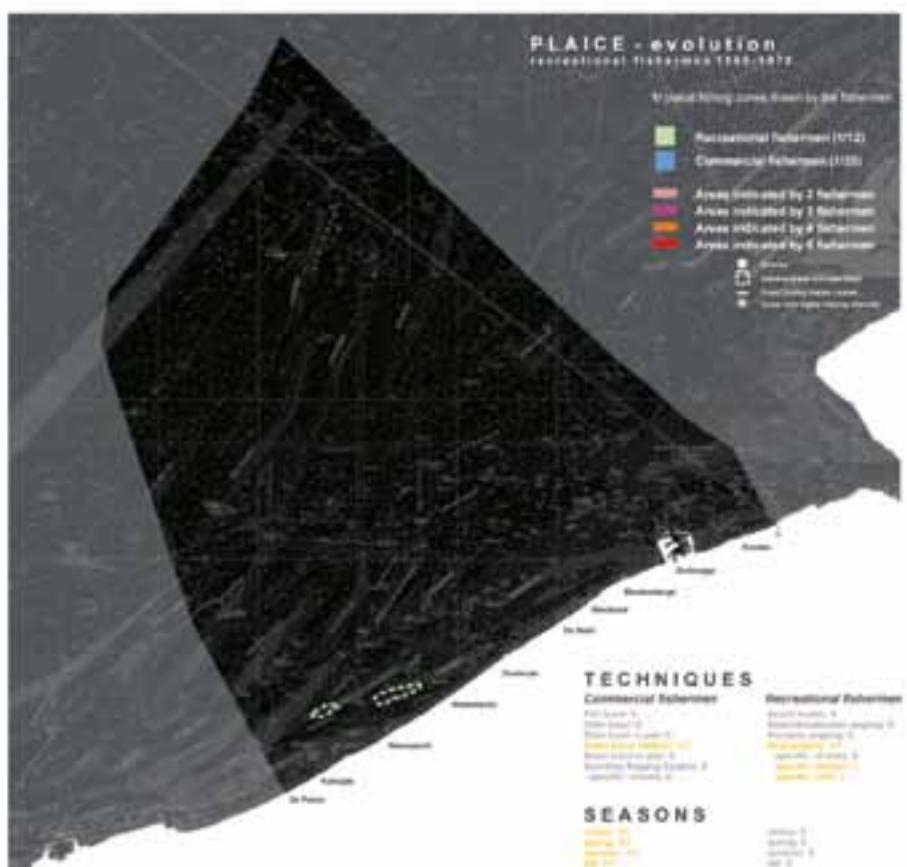
PLAICE



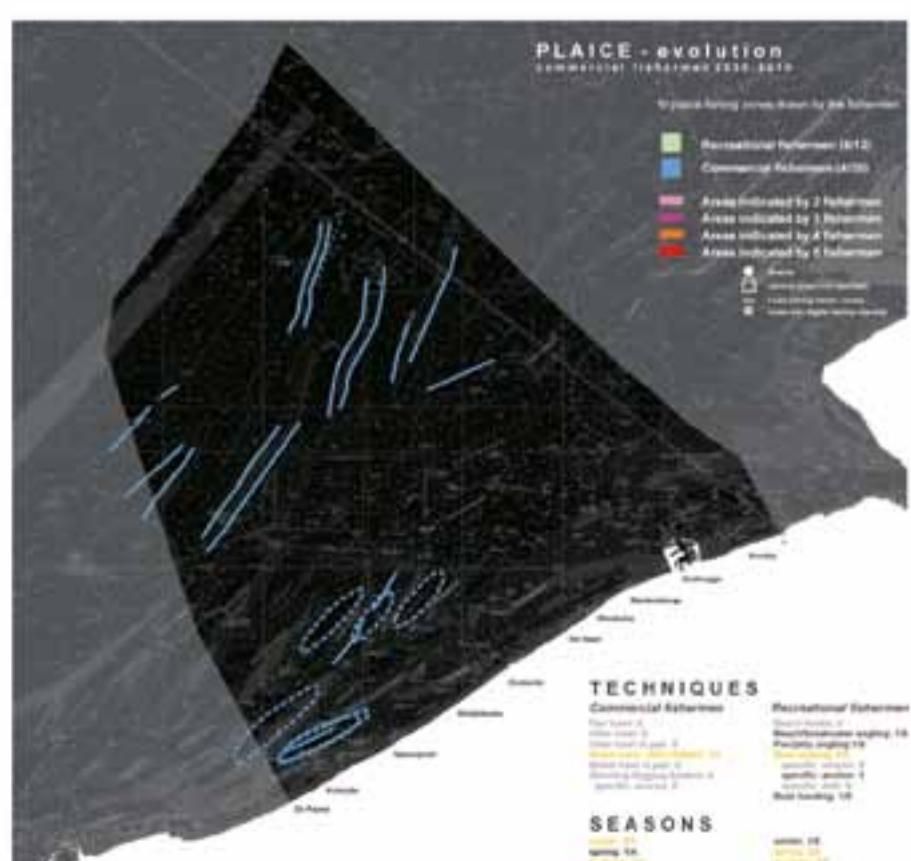
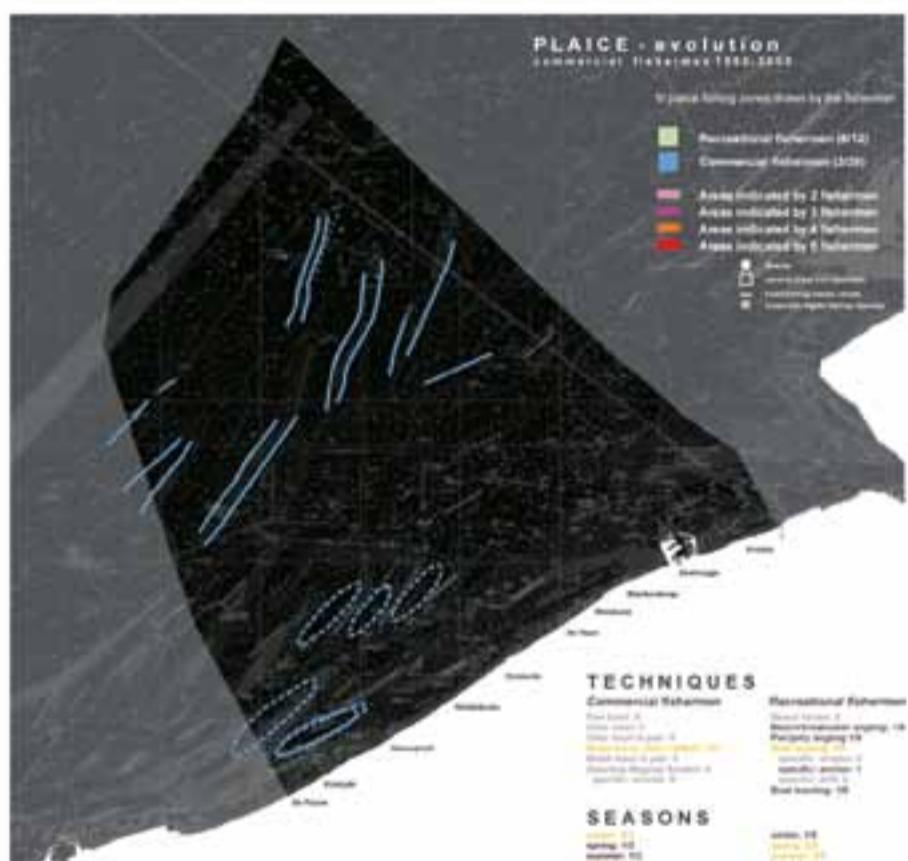
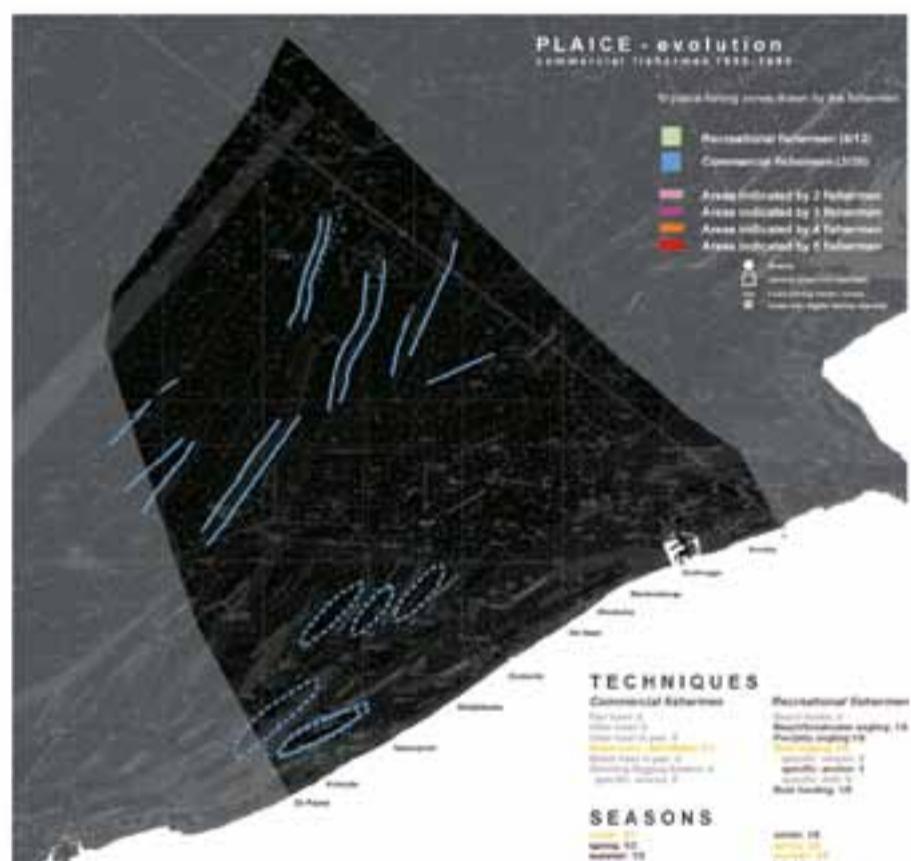
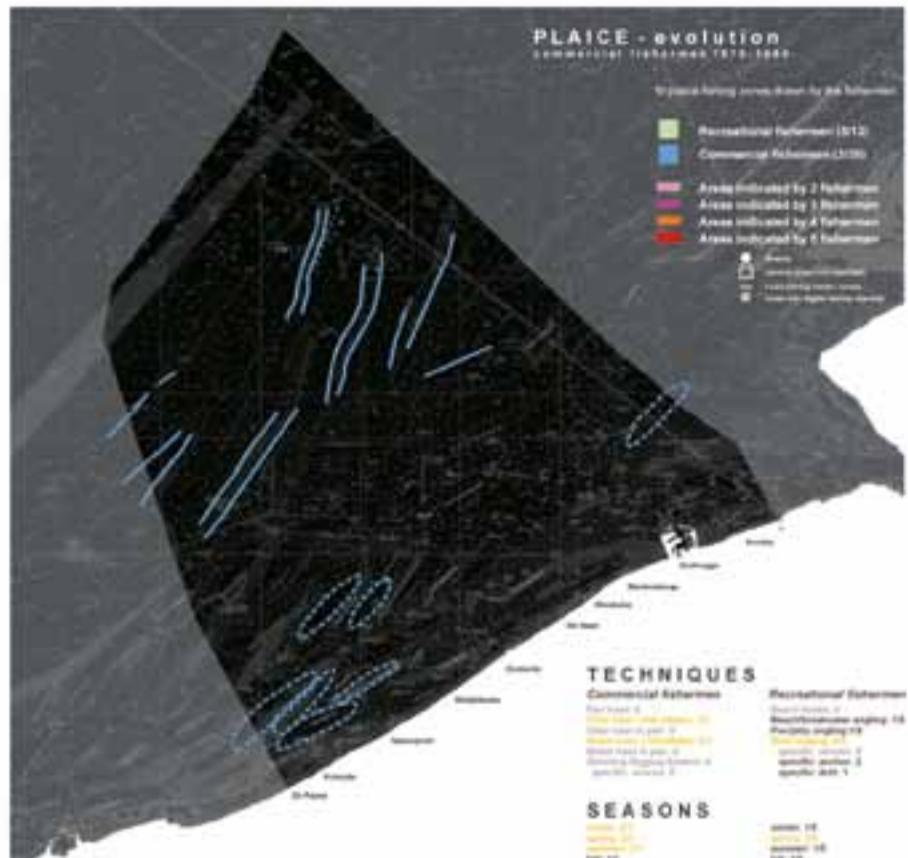
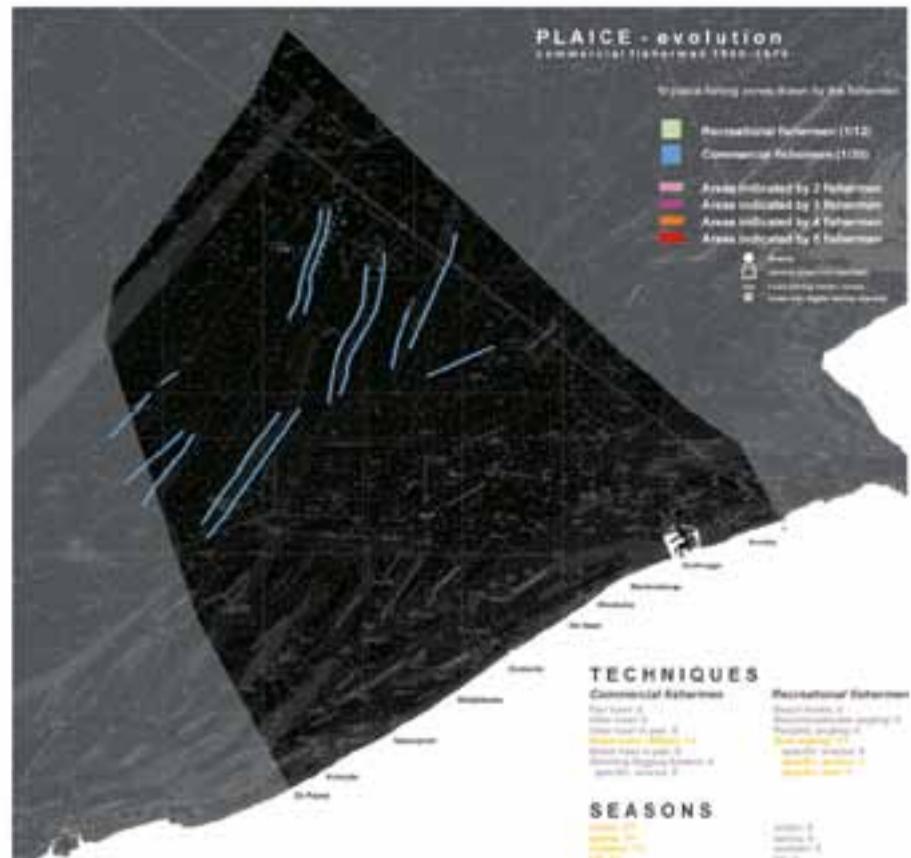
PLAICE - fishing zones
commercial & recreational fishermen 1950 - 2010



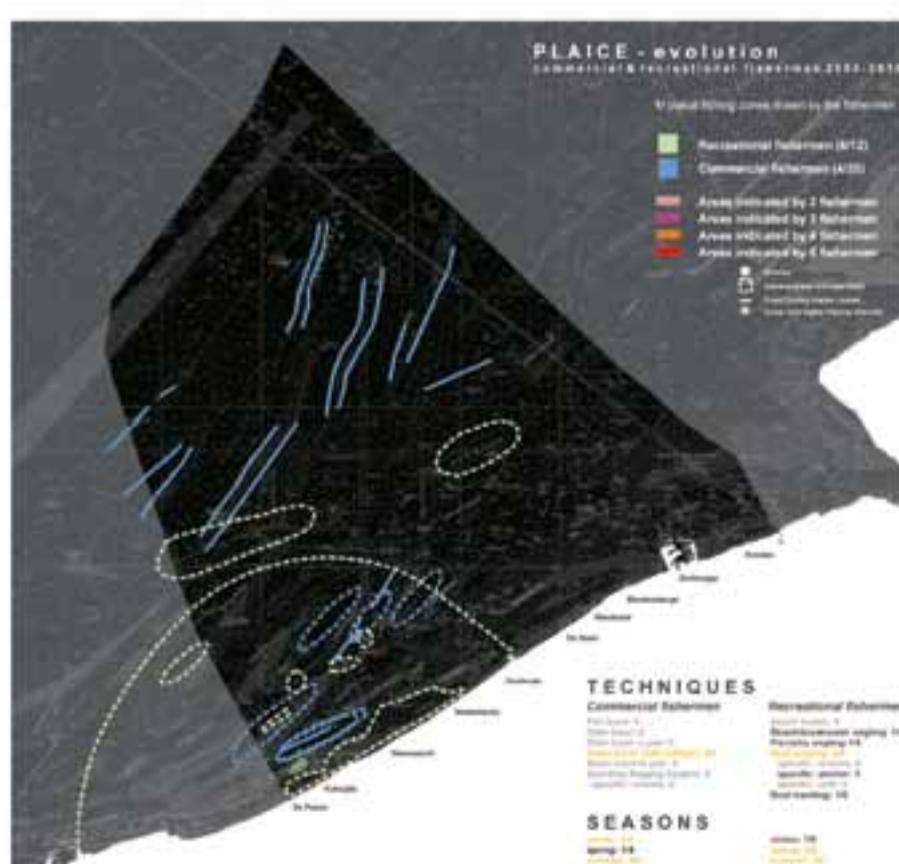
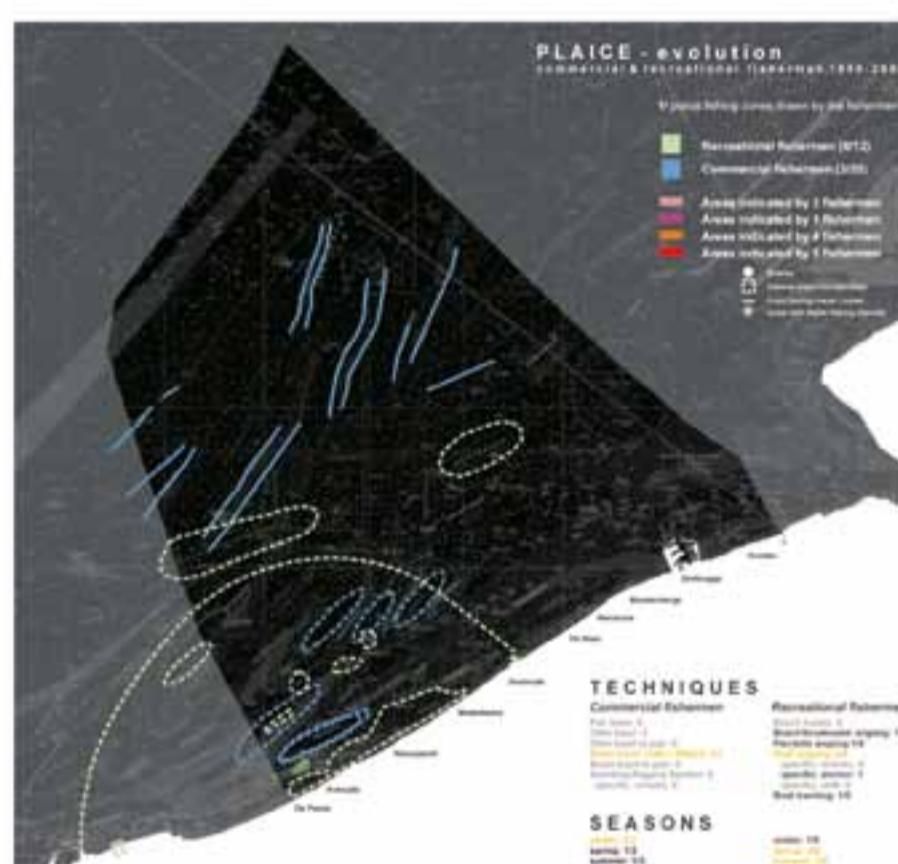
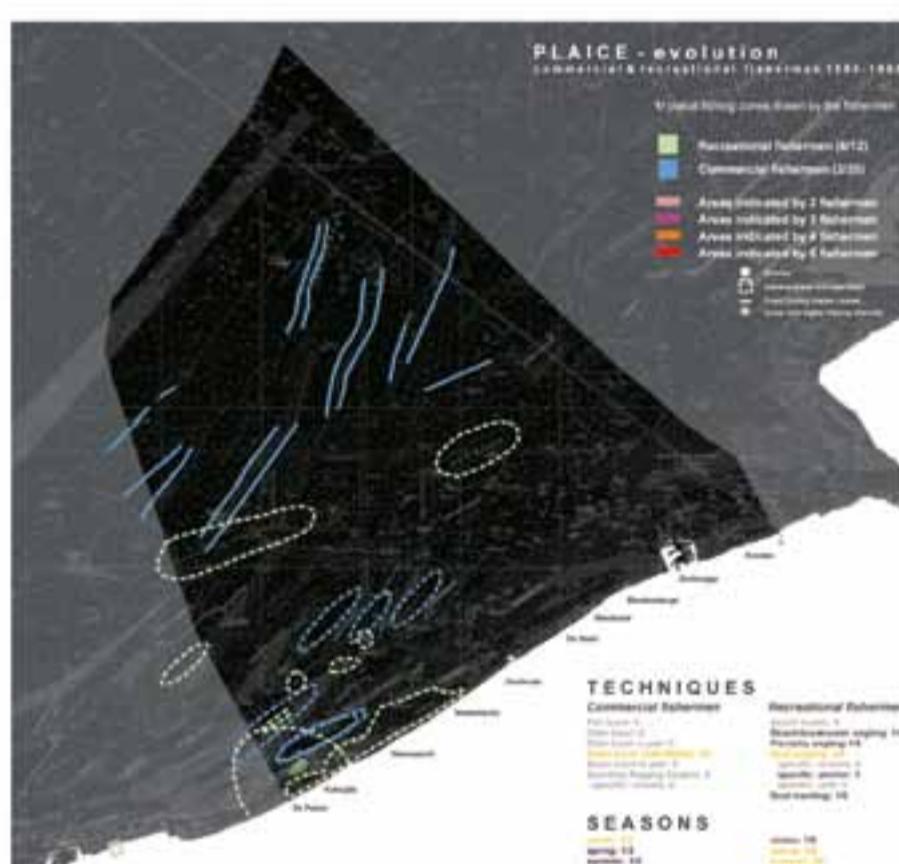
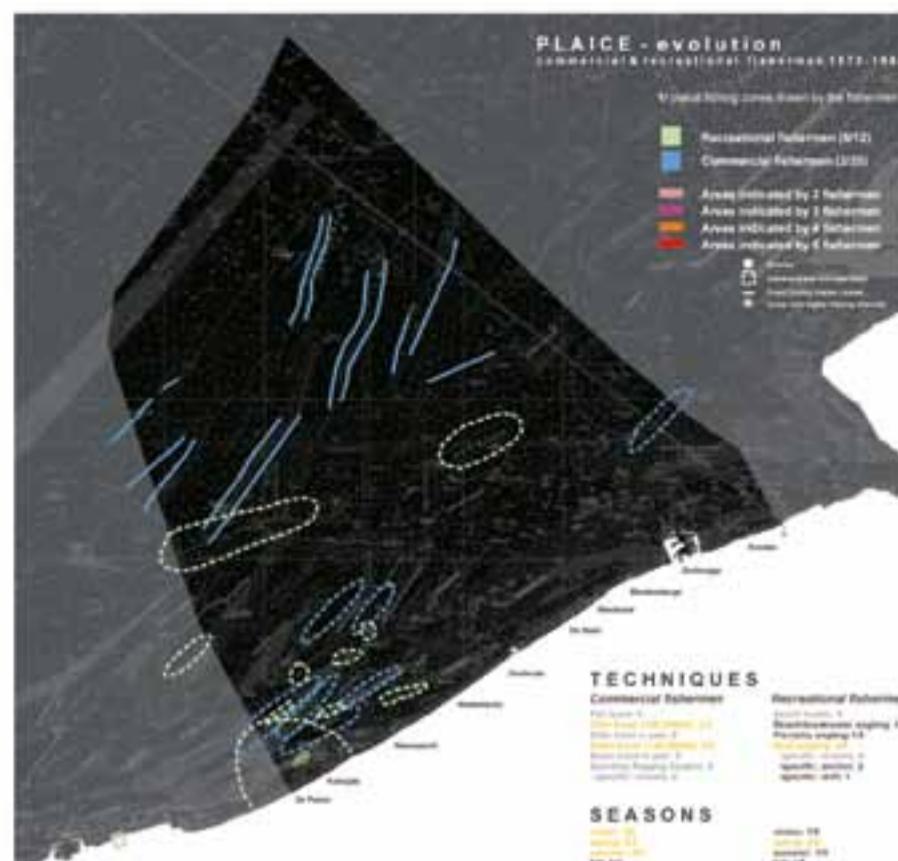
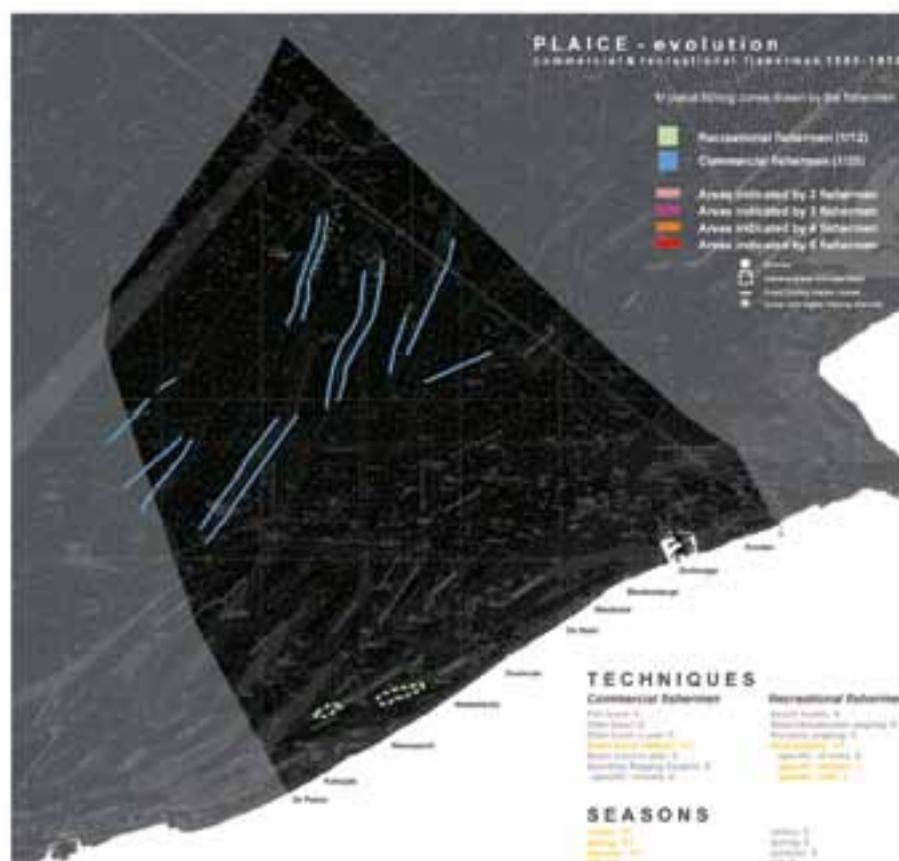
PLAICE - fishing zones
commercial & recreational fishermen 1950 - 2010



PLAICE - evolution recreational fishermen 1960 - 2010

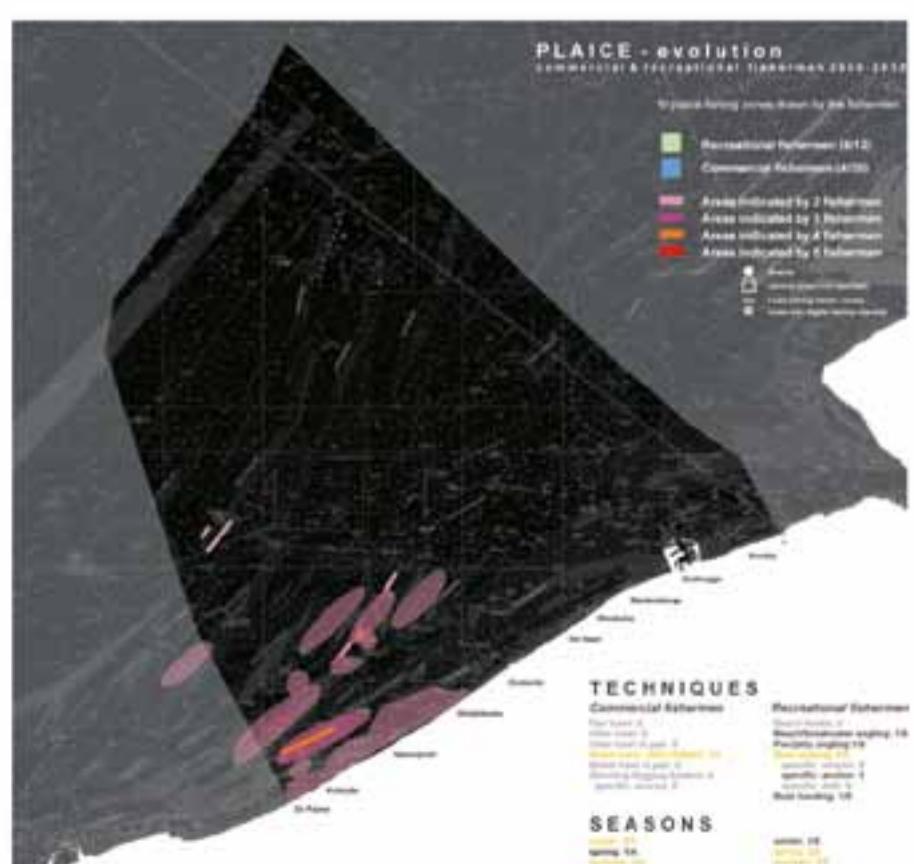
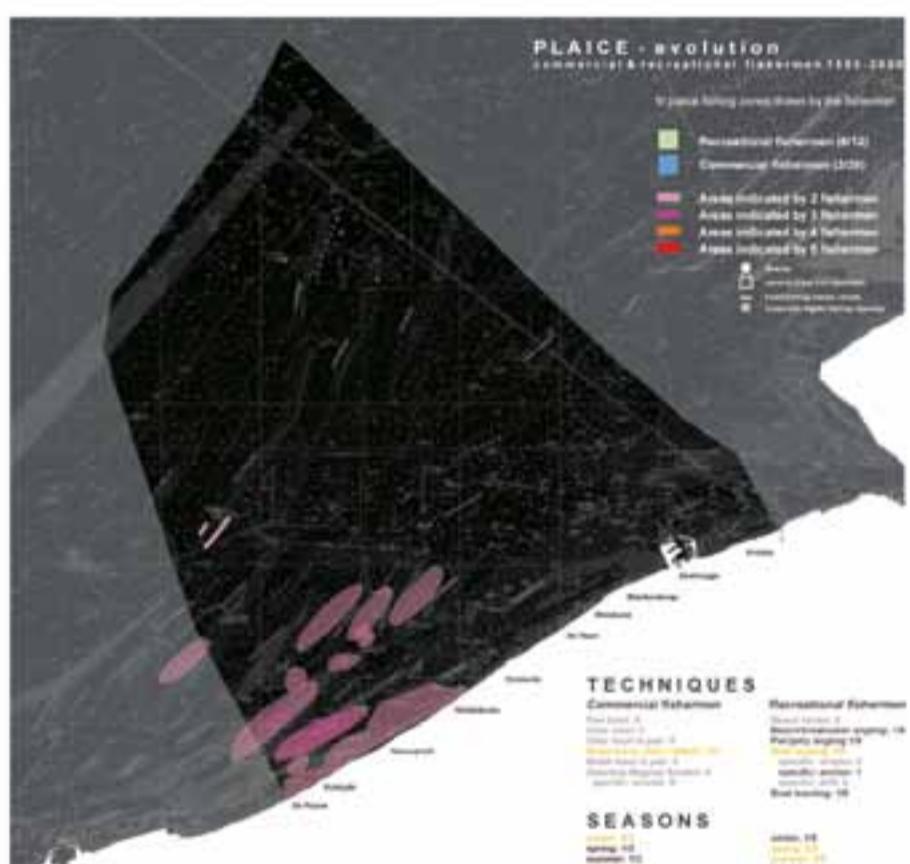
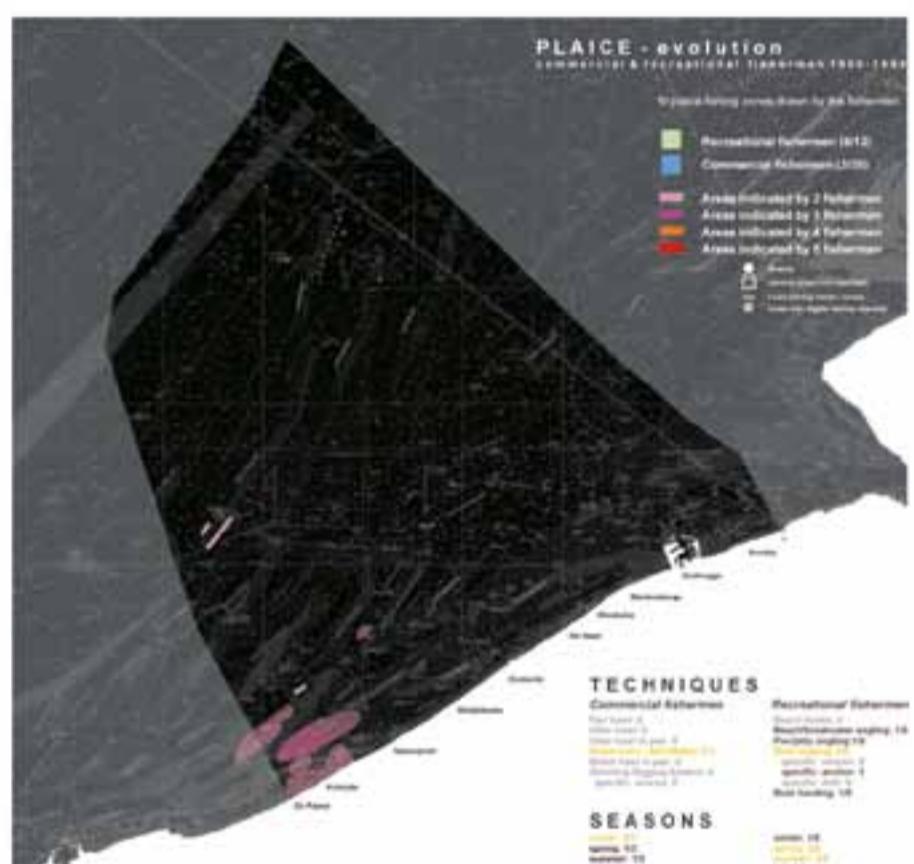
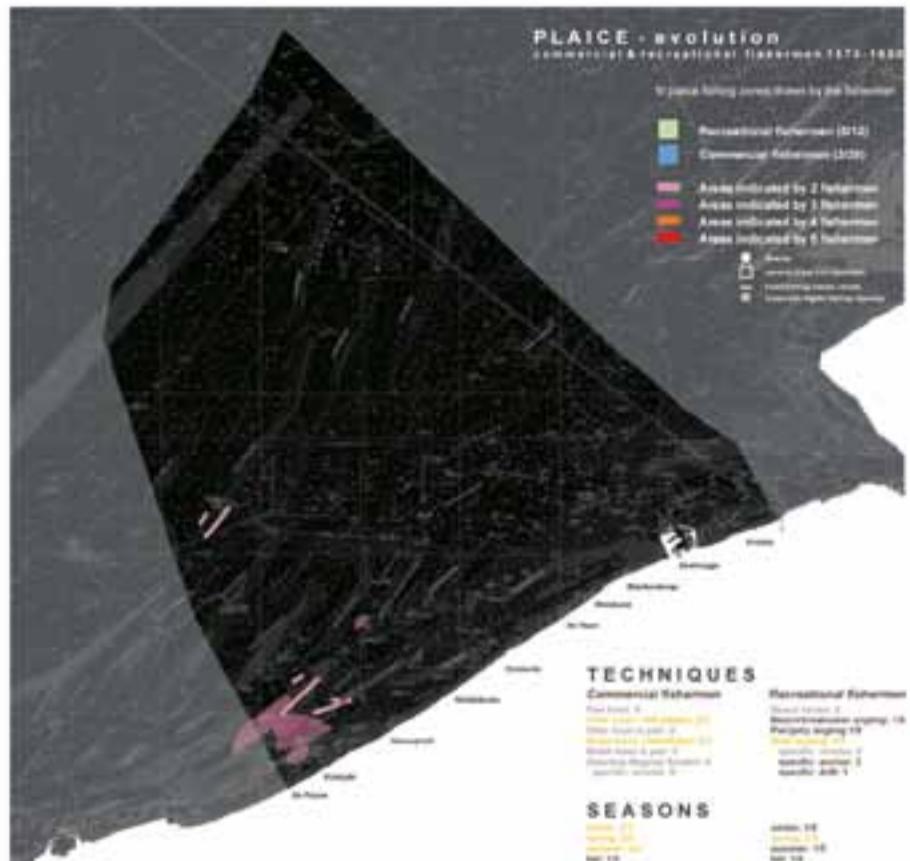
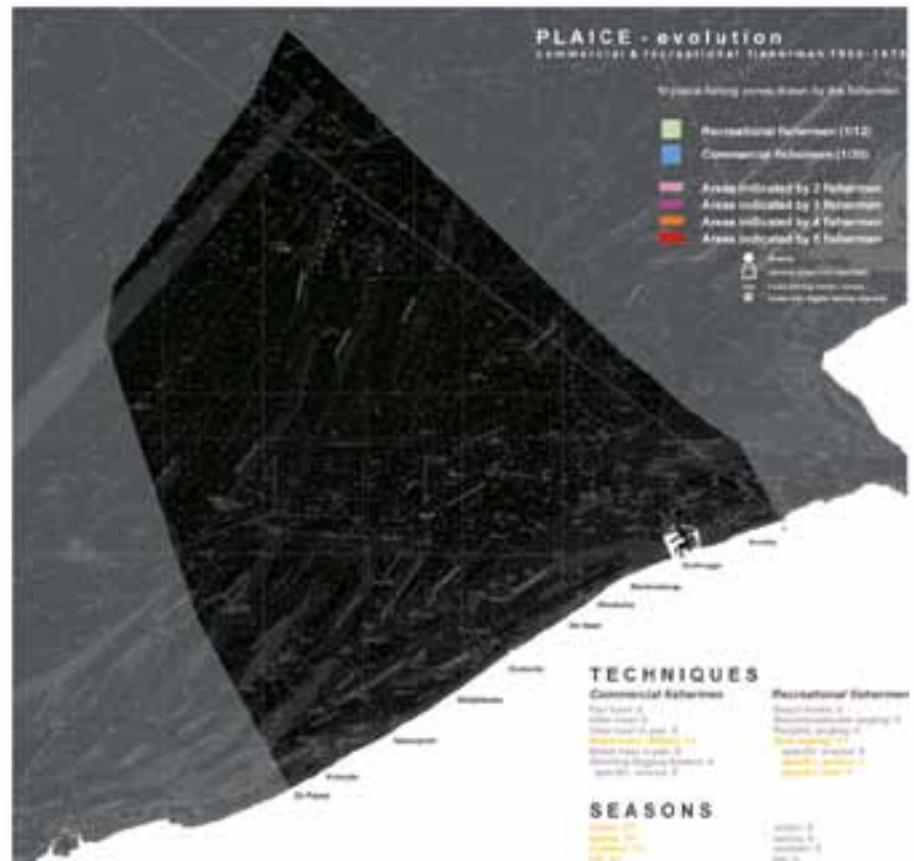


PLAICE - evolution



PLAICE - evolution

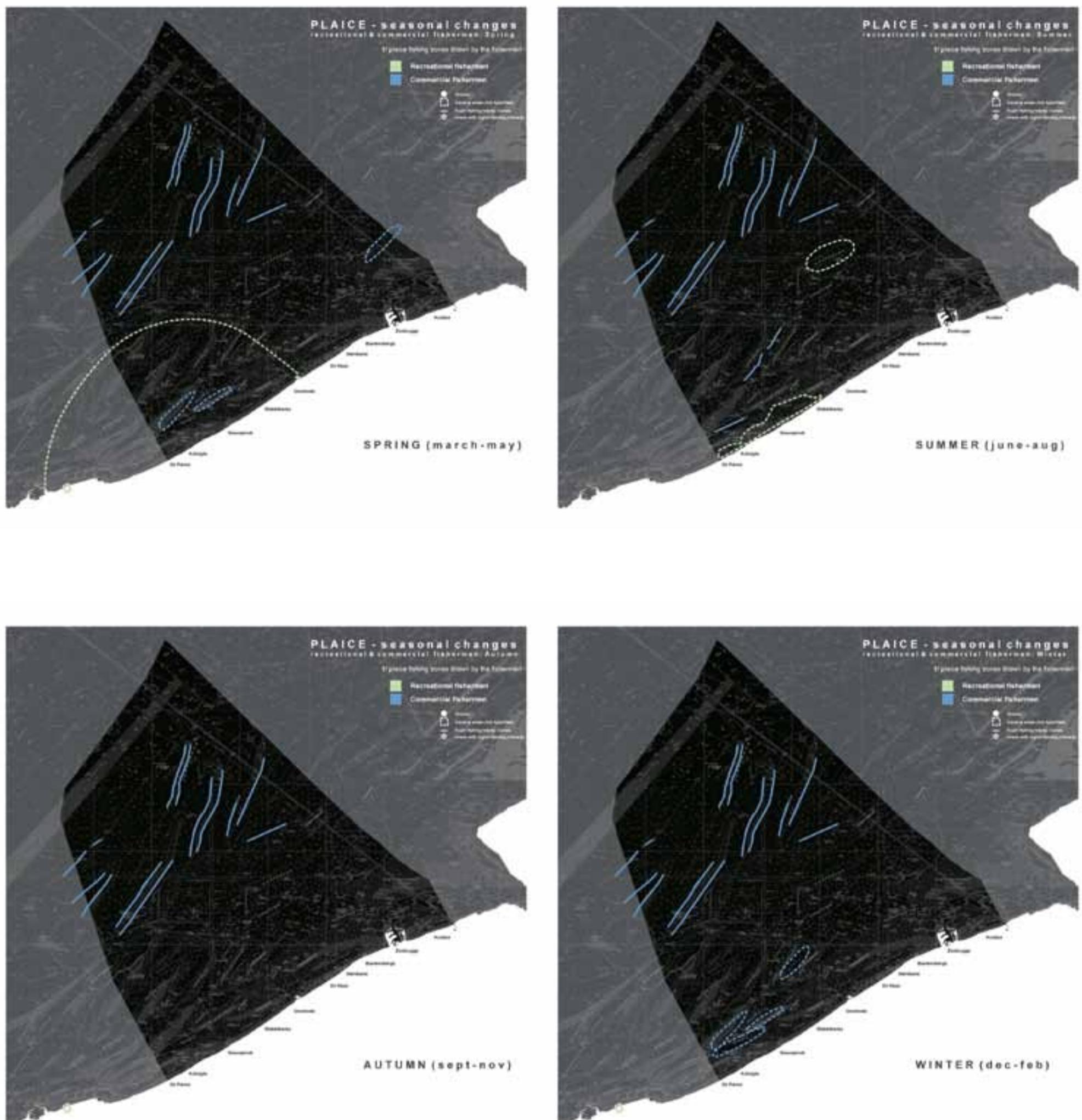
recreational & commercial fishermen 1960 - 2010



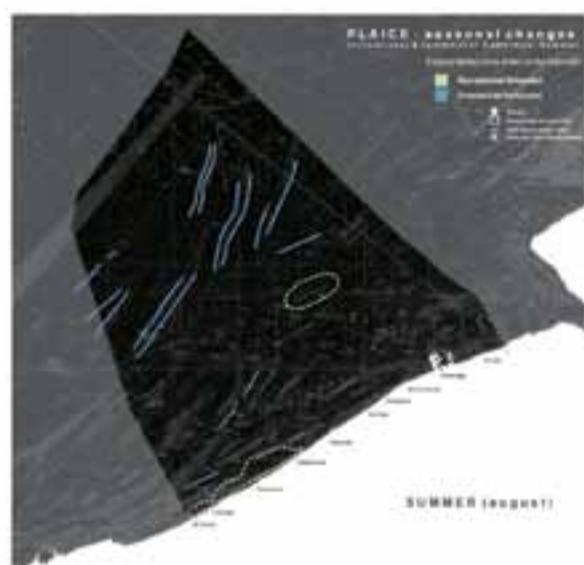
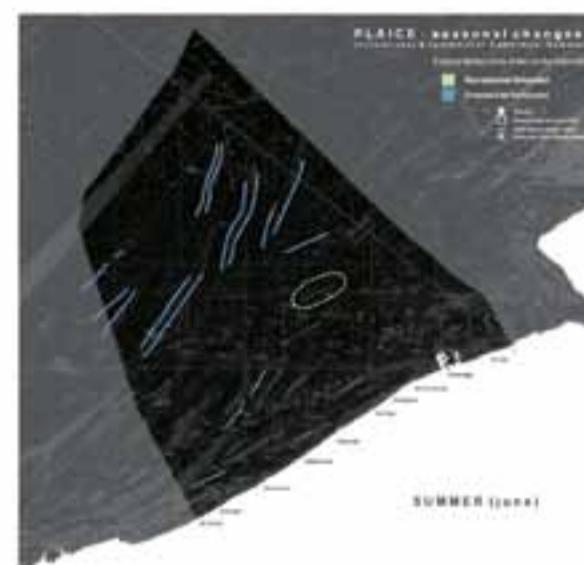
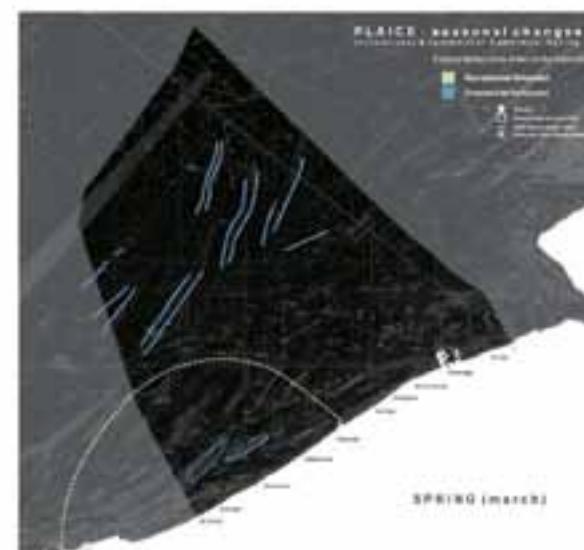
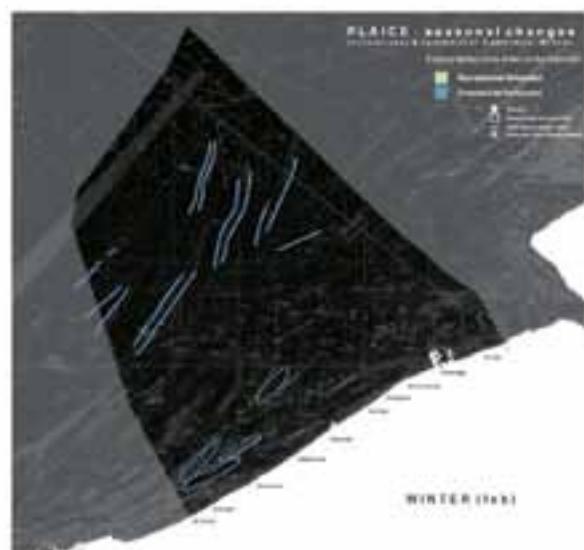
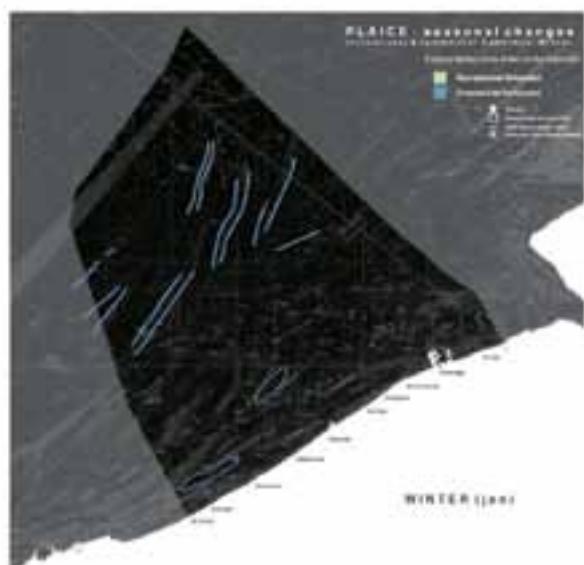
PLAICE - evolution

commercial & recreational fishermen 1960 - 2010

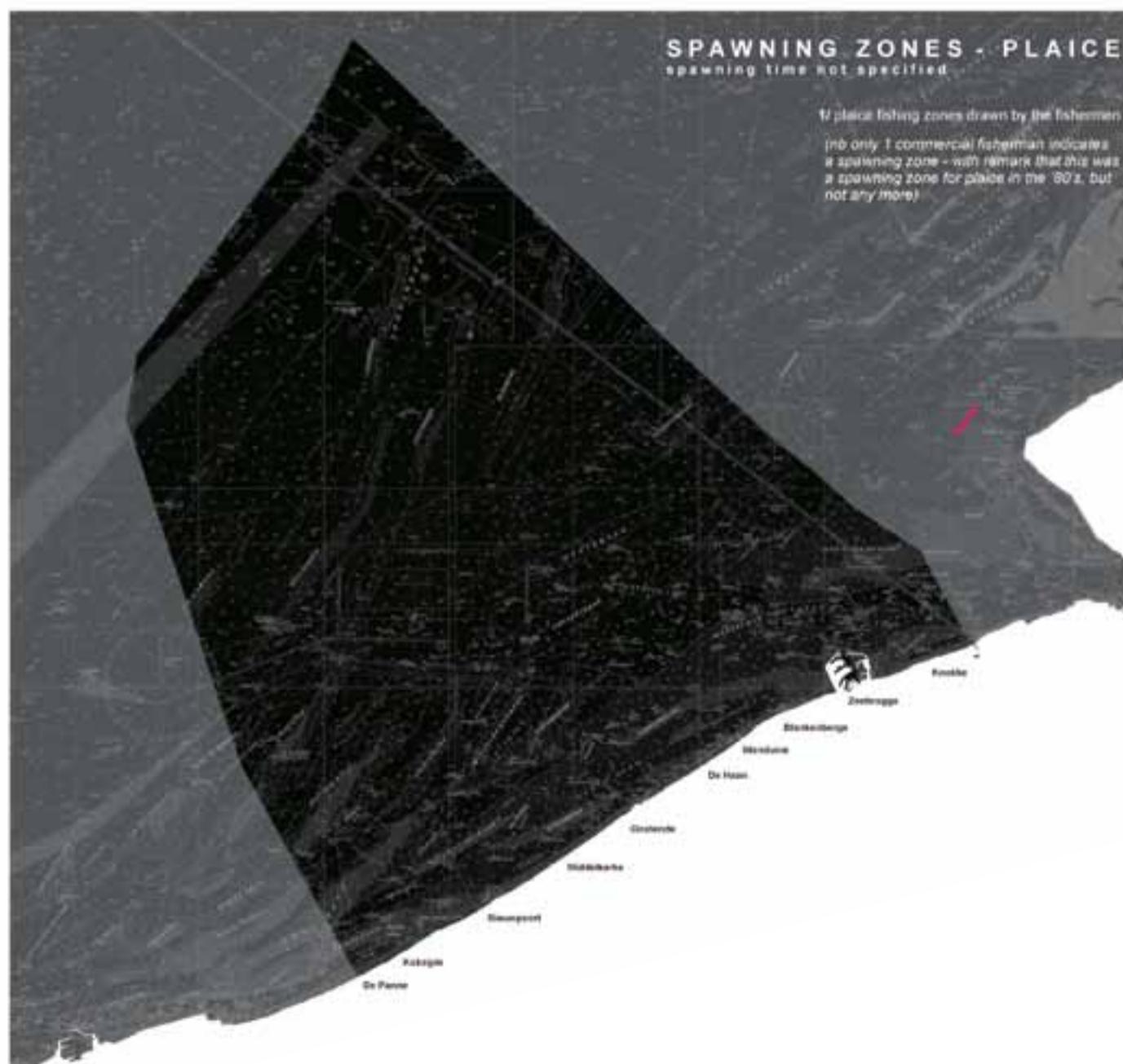
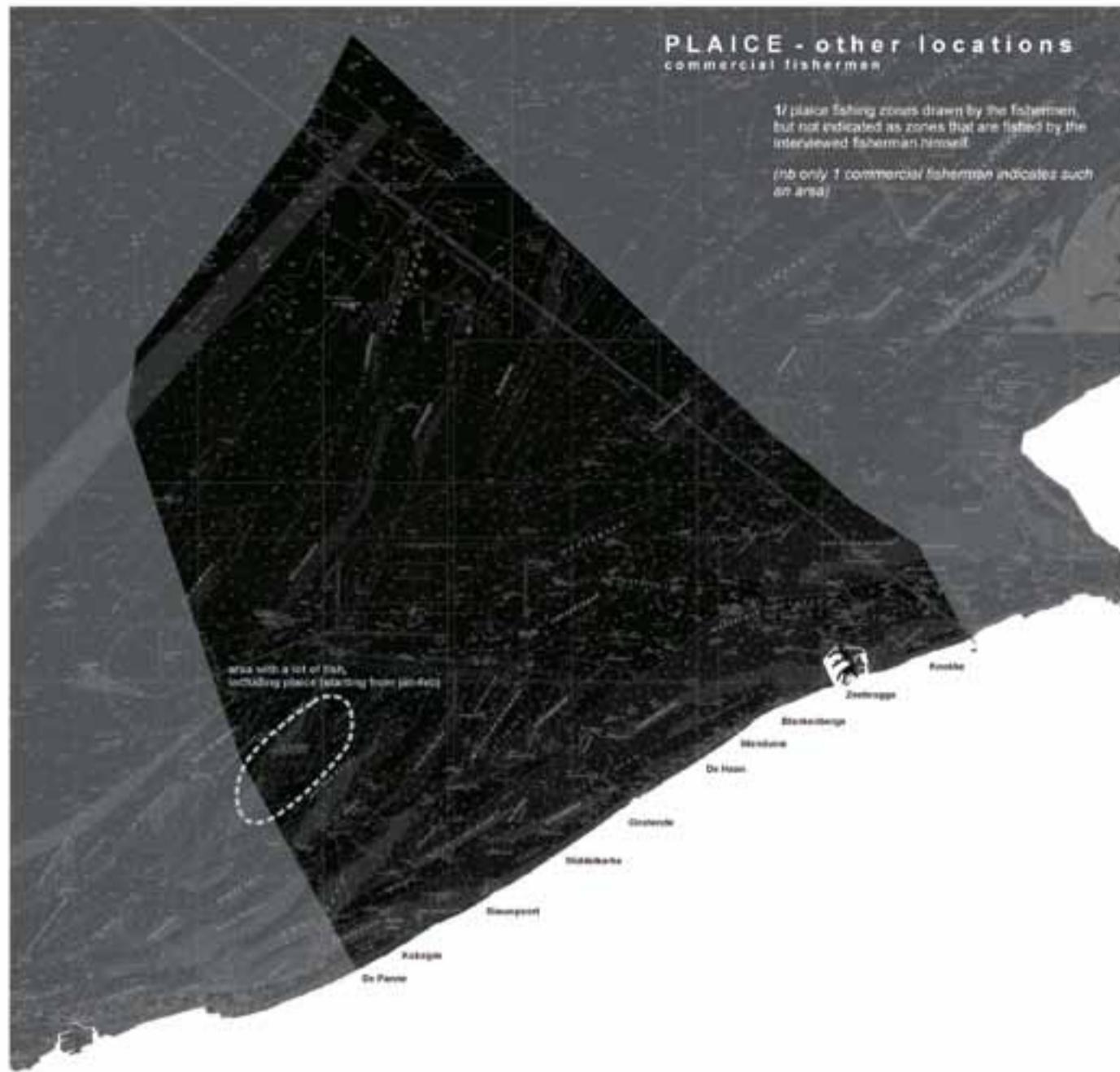
areas fished by 2 or more fishermen



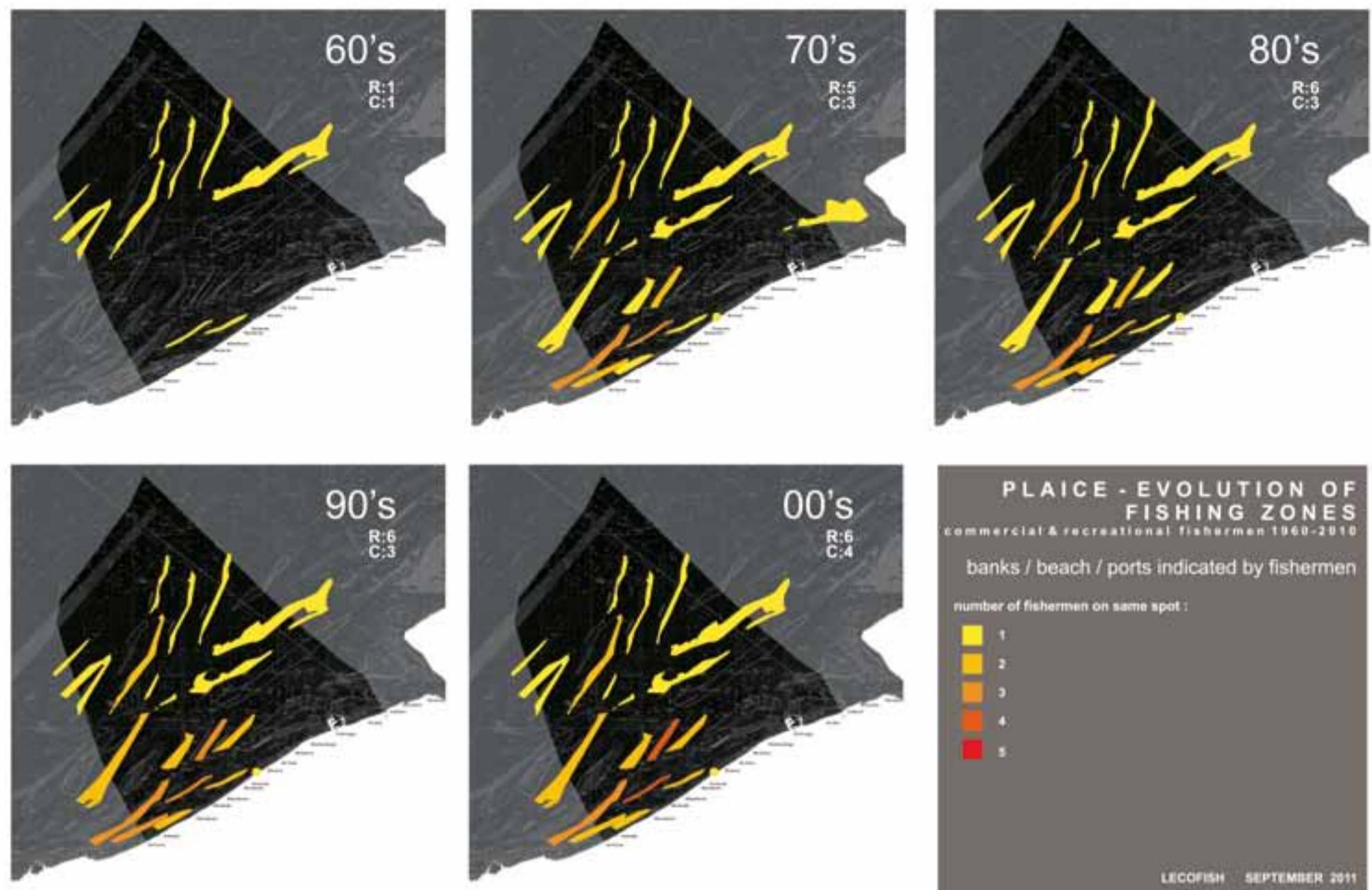
PLAICE - seasonal changes
commercial & recreational fishermen 1950 - 2010



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



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

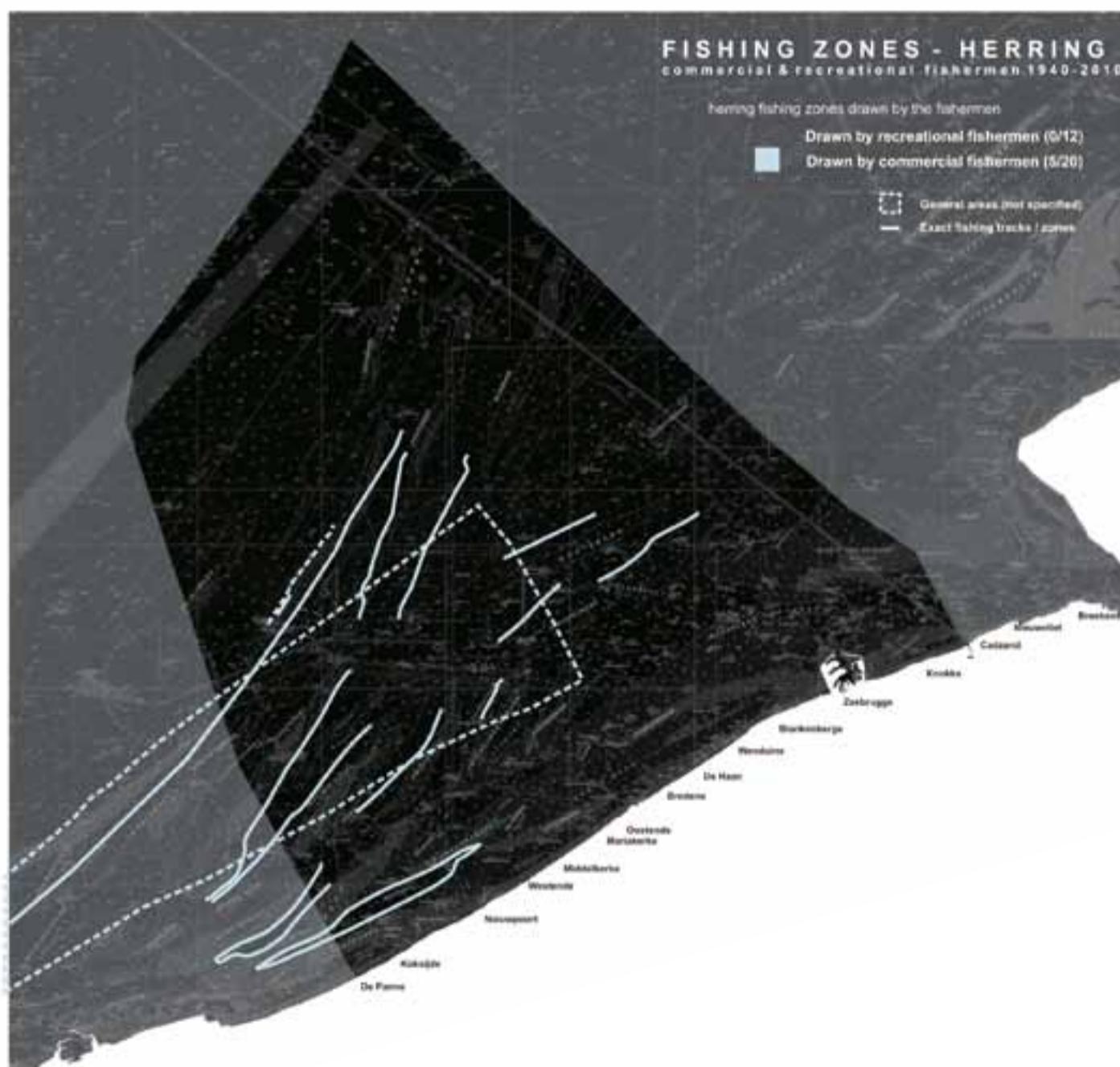
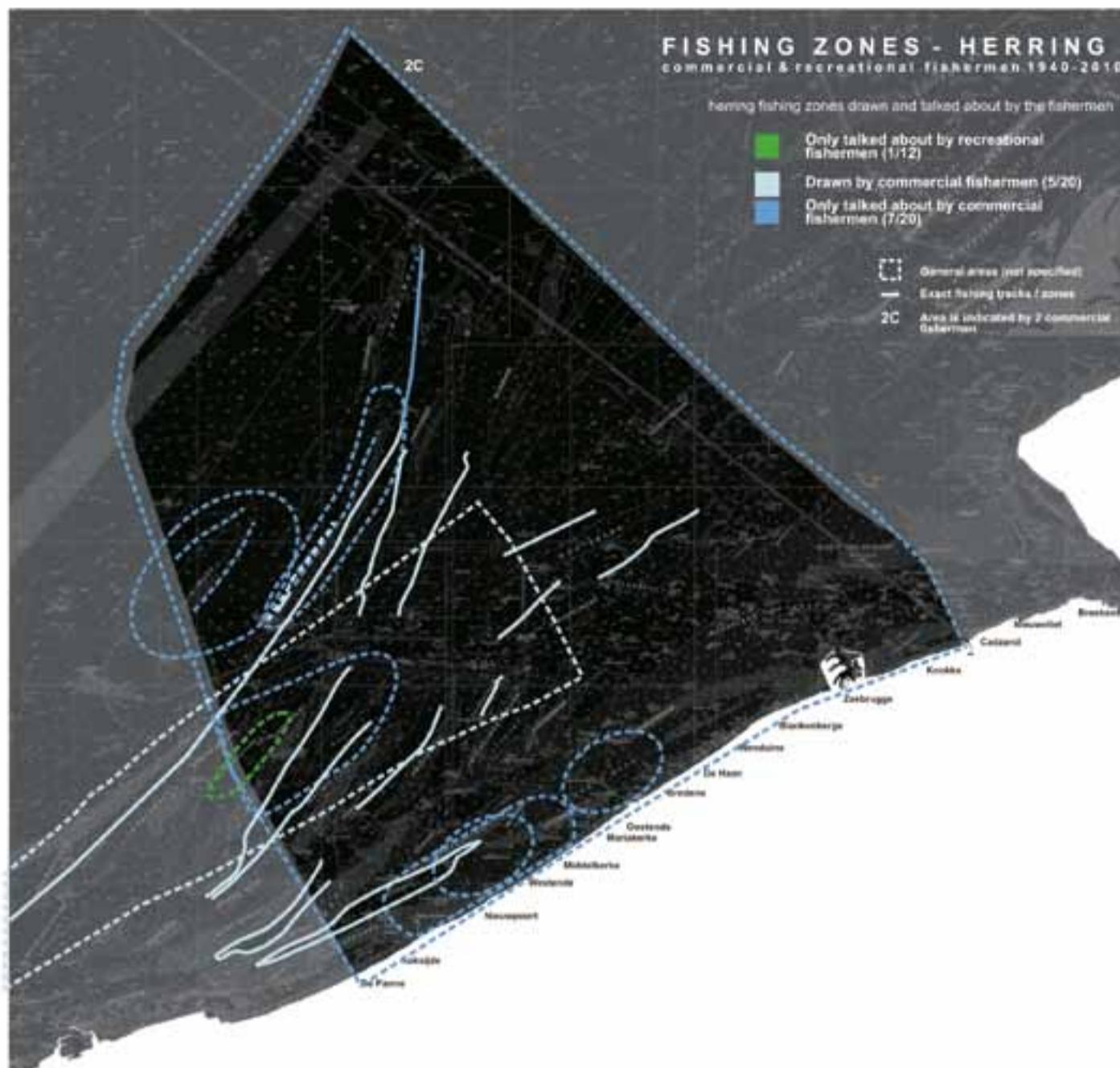


PLAICE - structure maps
commercial & recreational fishermen 1950 - 2010

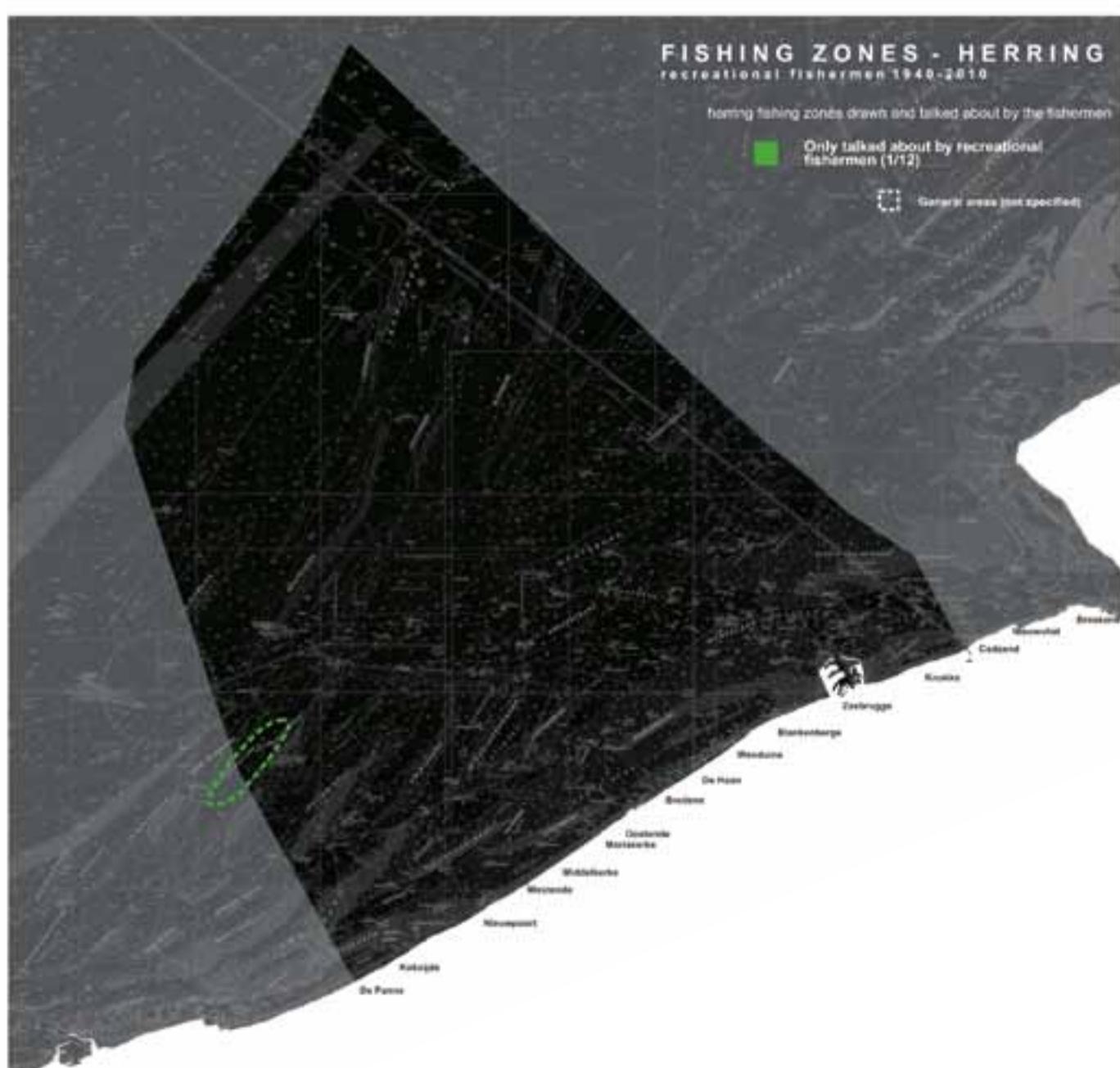
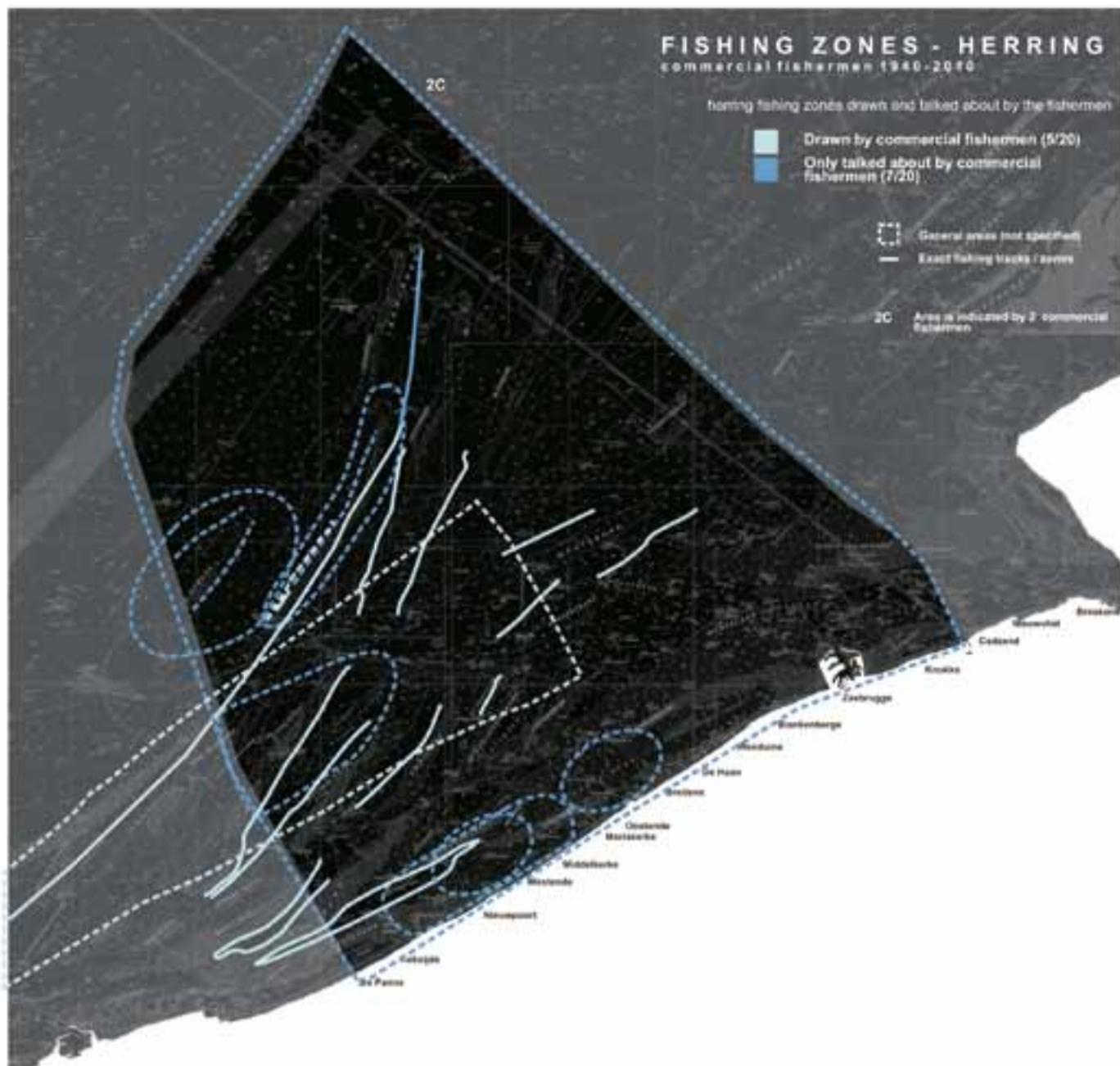


MAPS SERIES VI

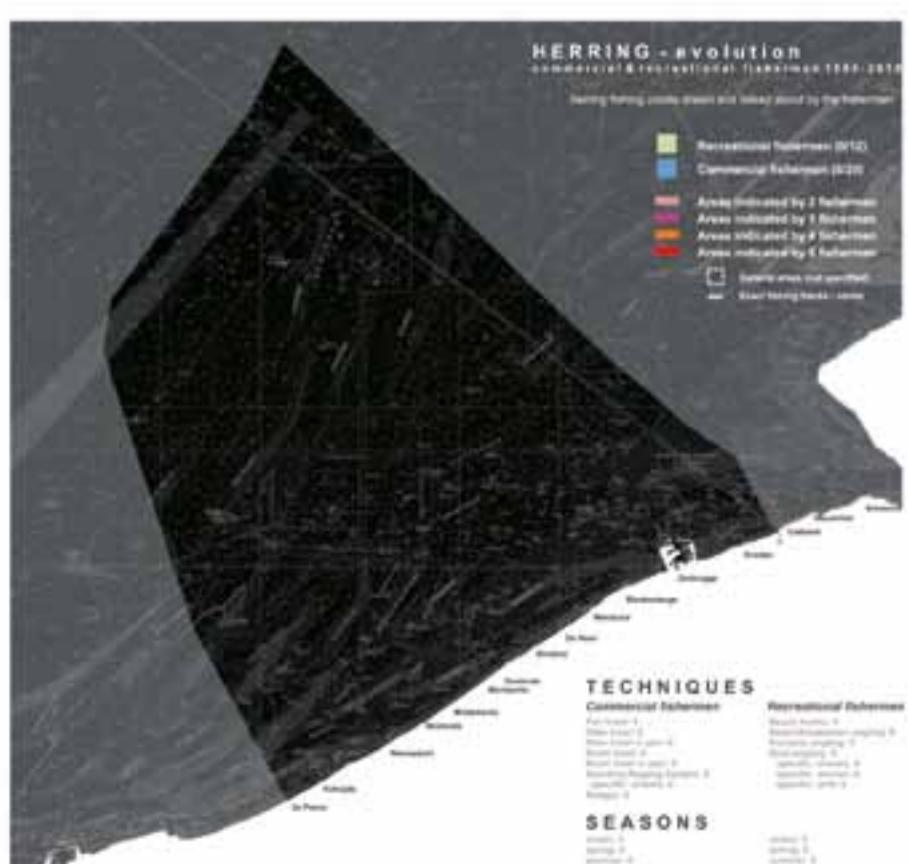
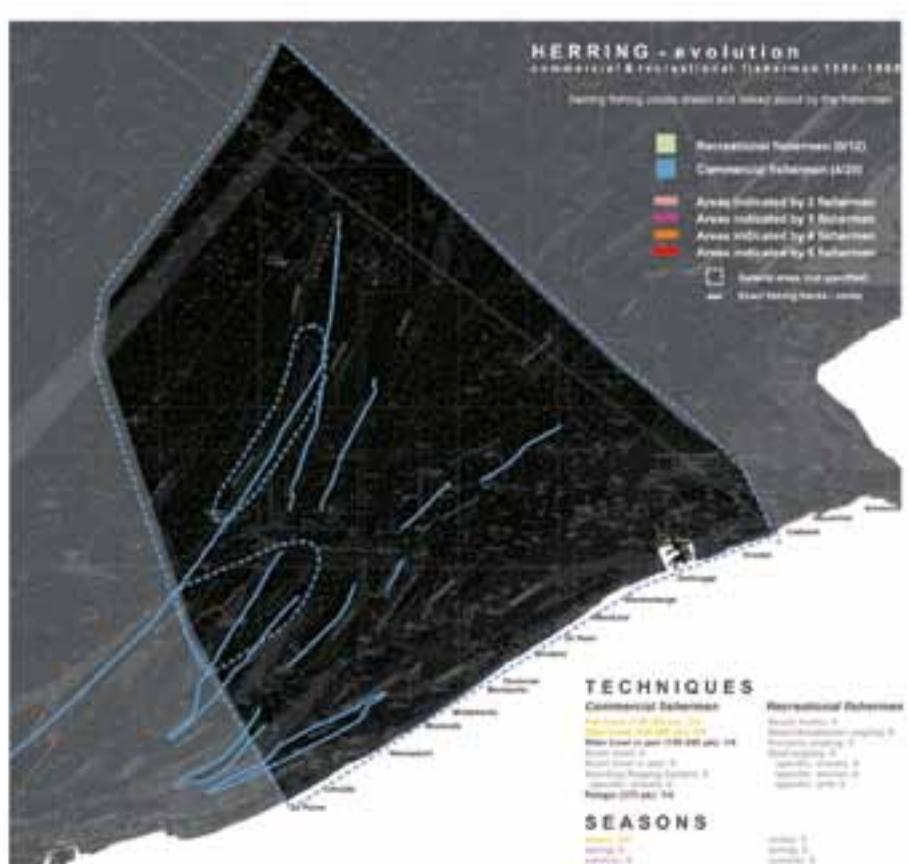
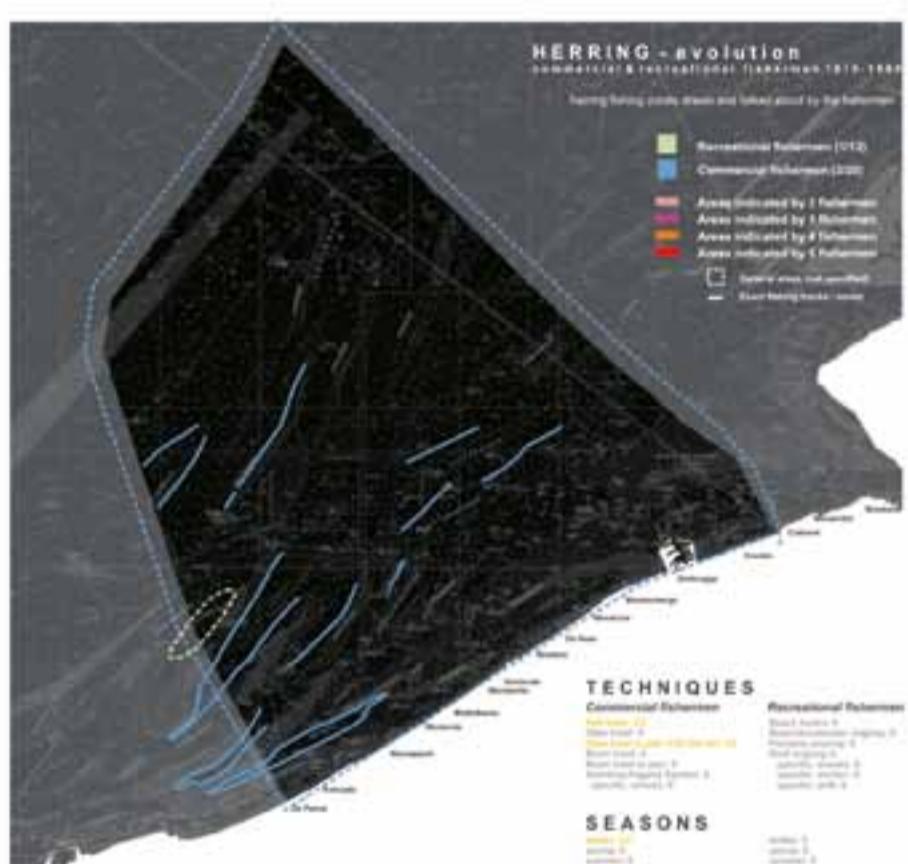
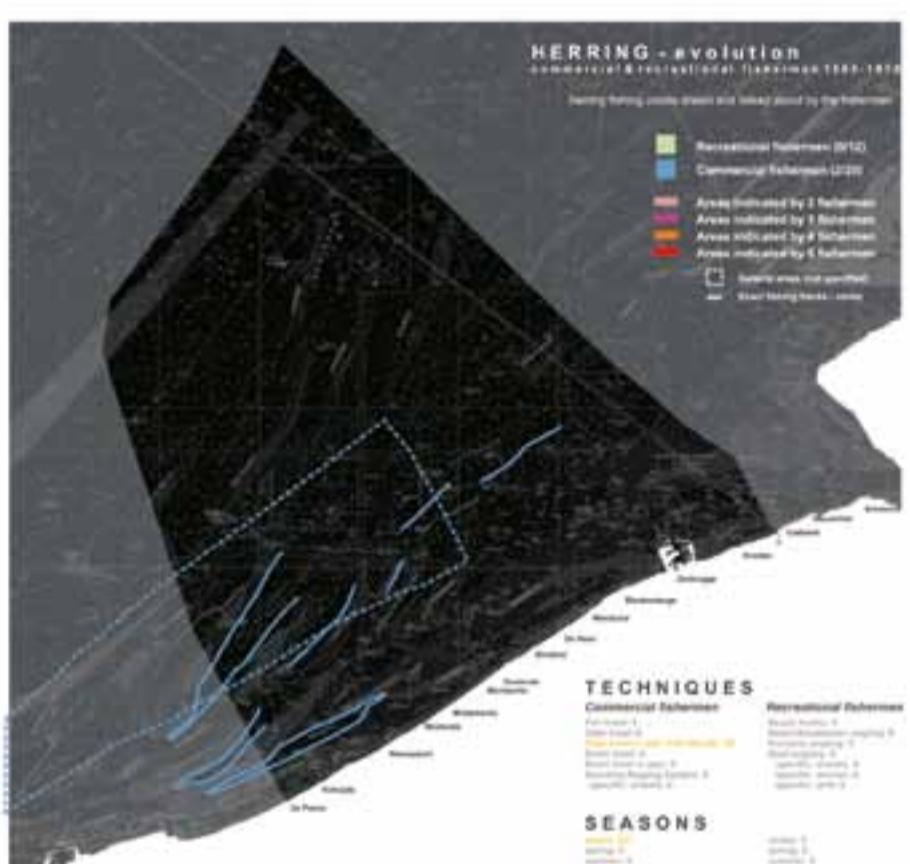
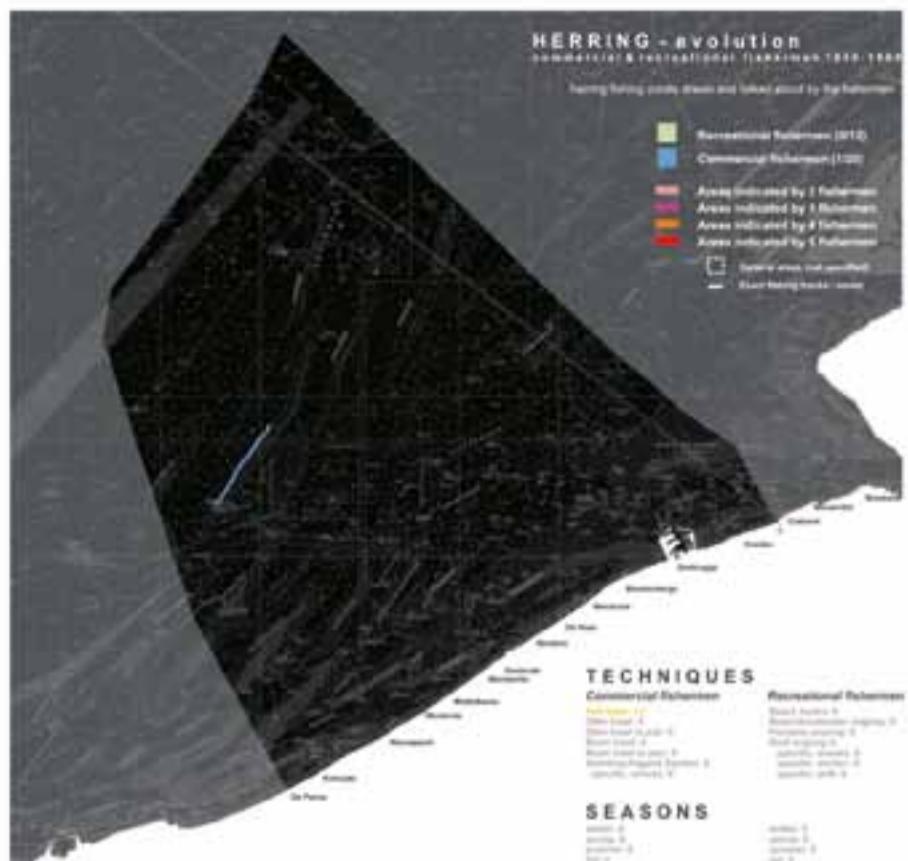
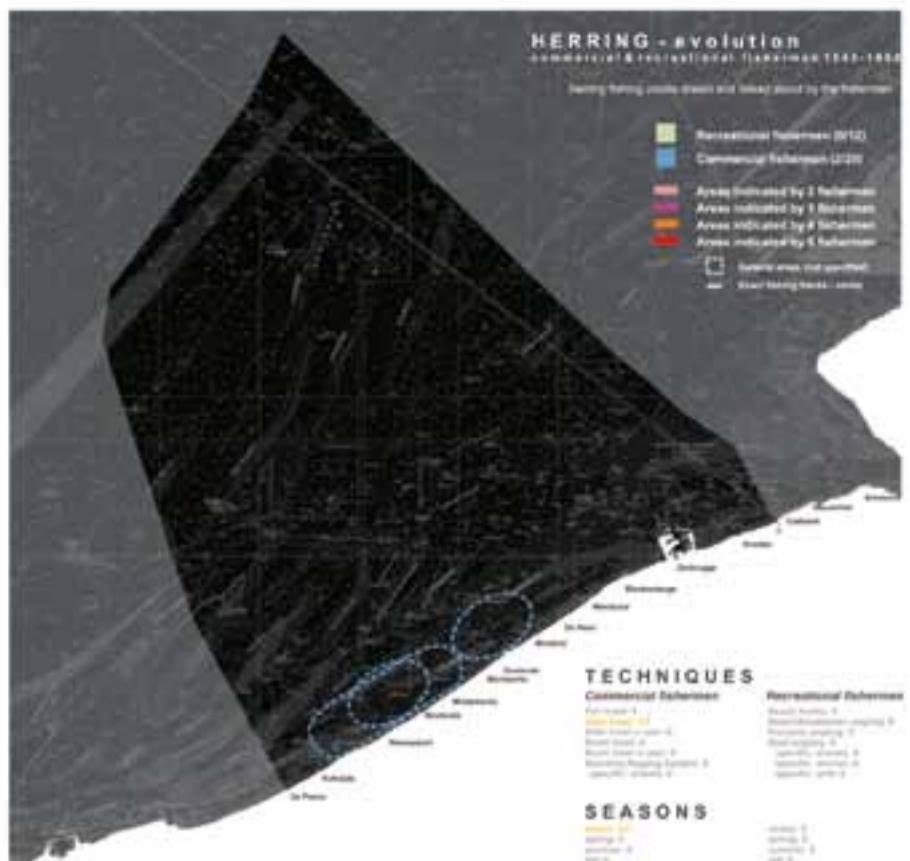
HERRING



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

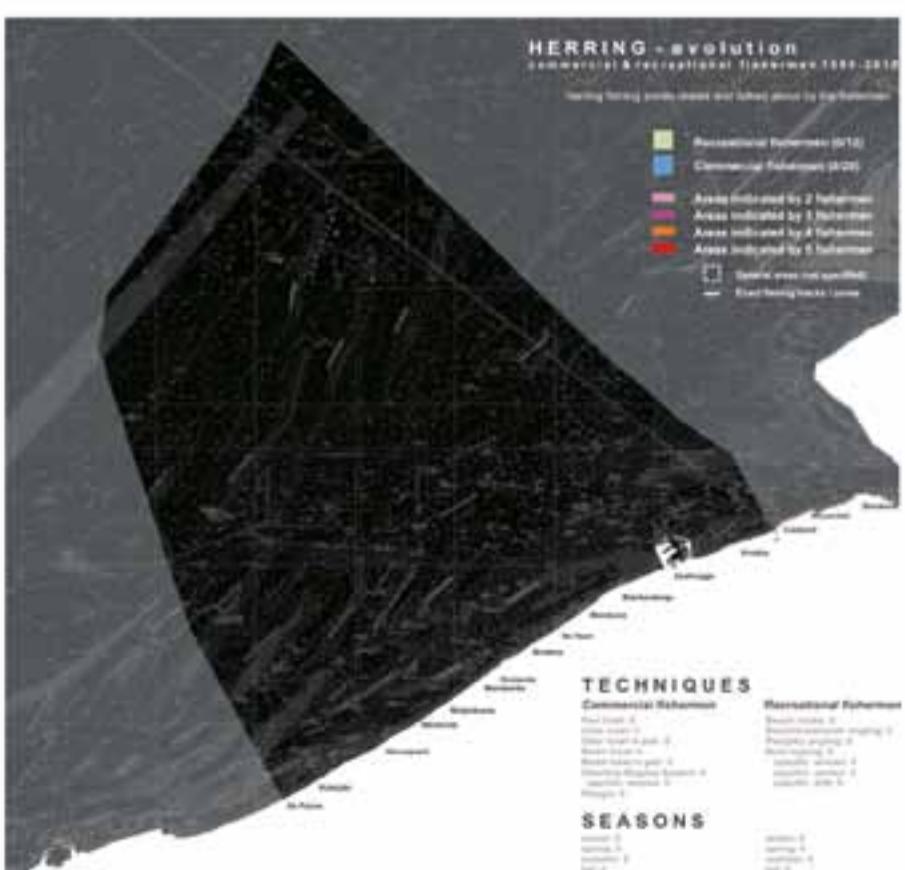
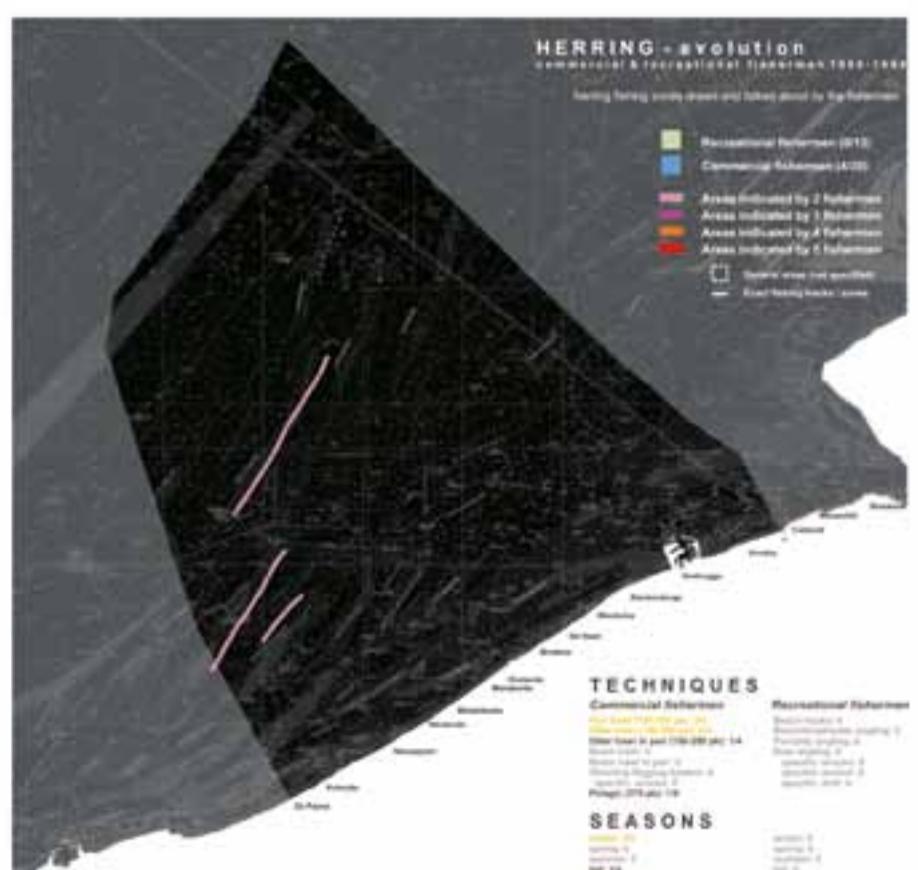
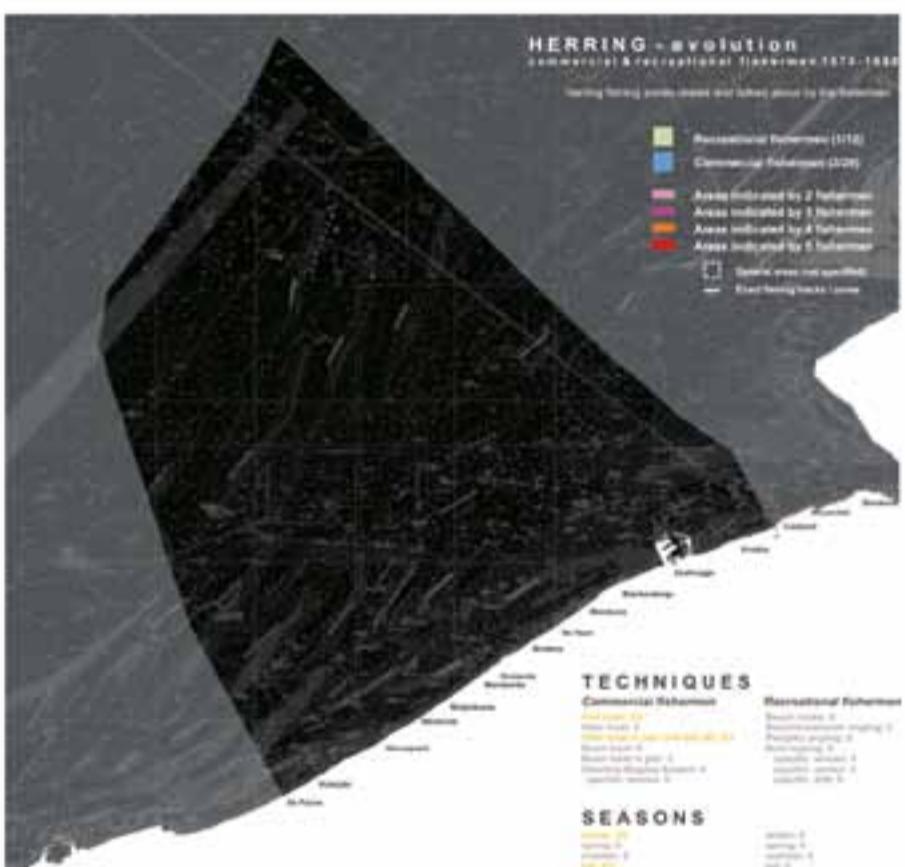
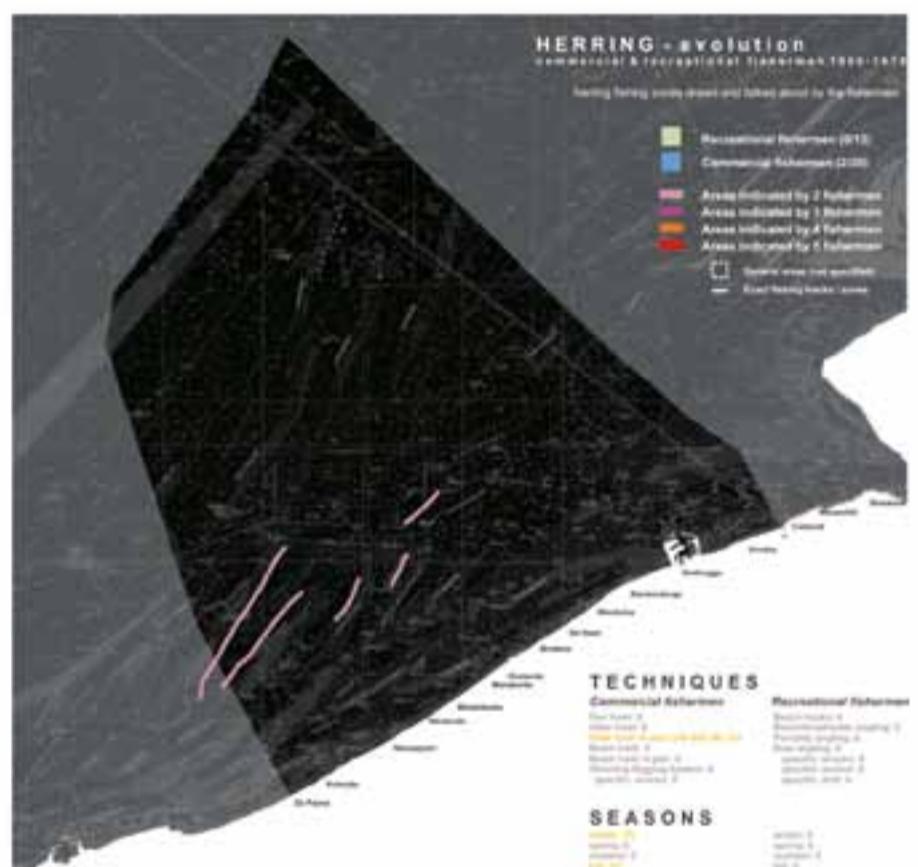
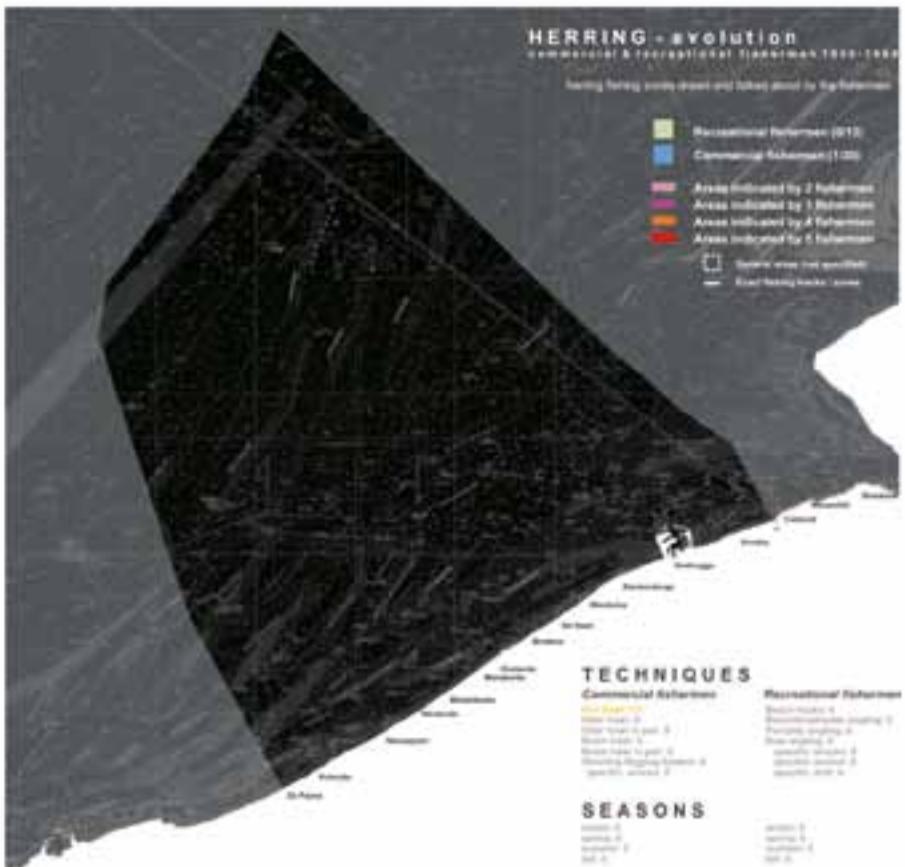
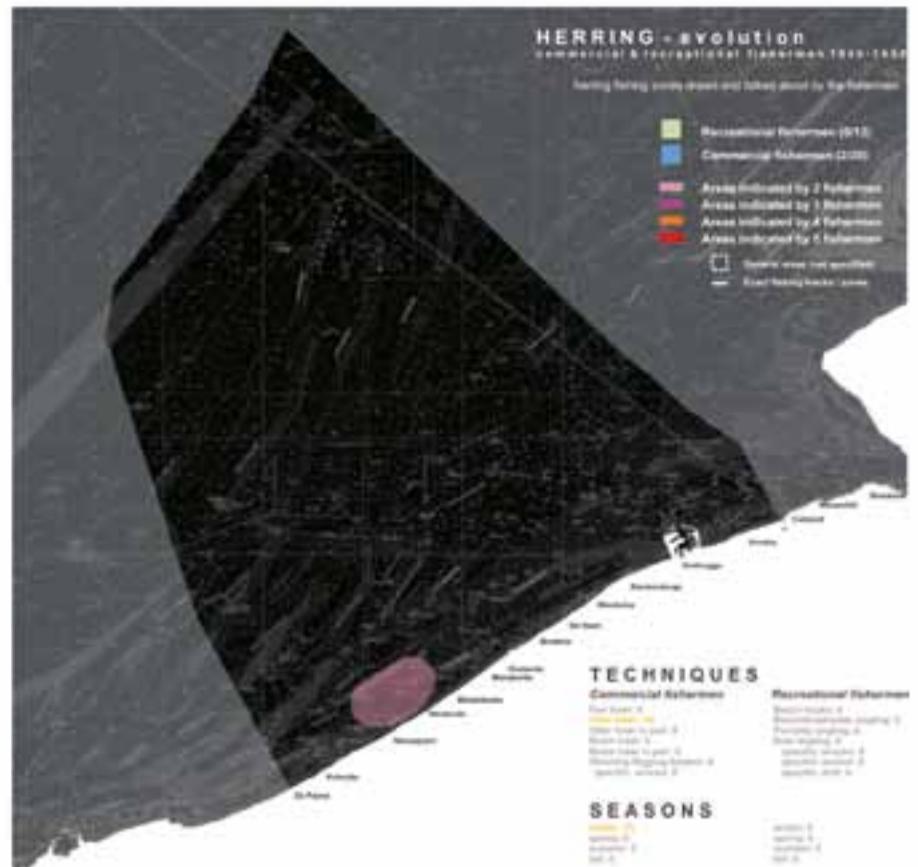


HERRING - fishing zones
commercial & recreational fishermen 1940 - 2010



HERRING - evolution

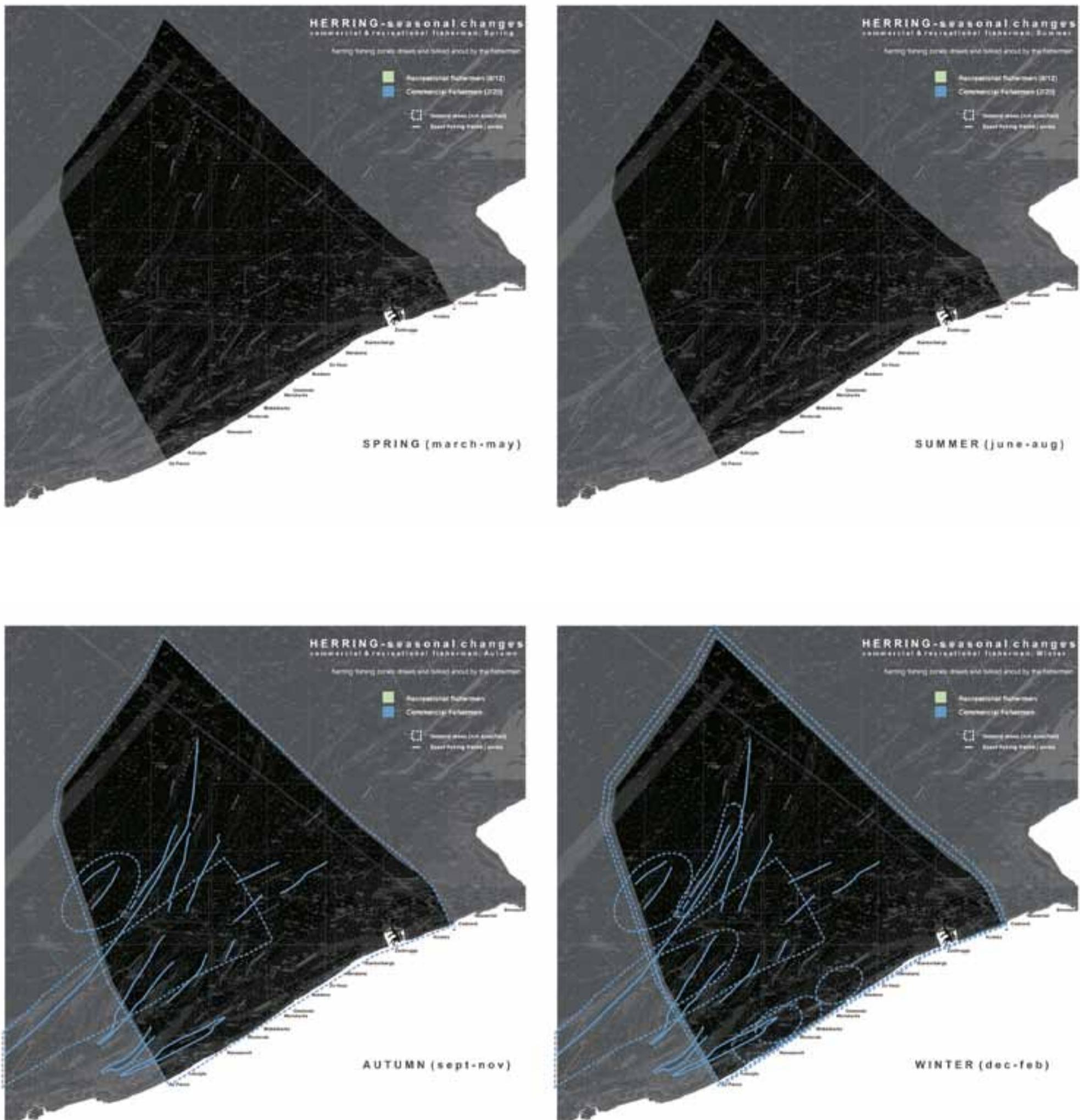
recreational & commercial fishermen 1940 - 2010



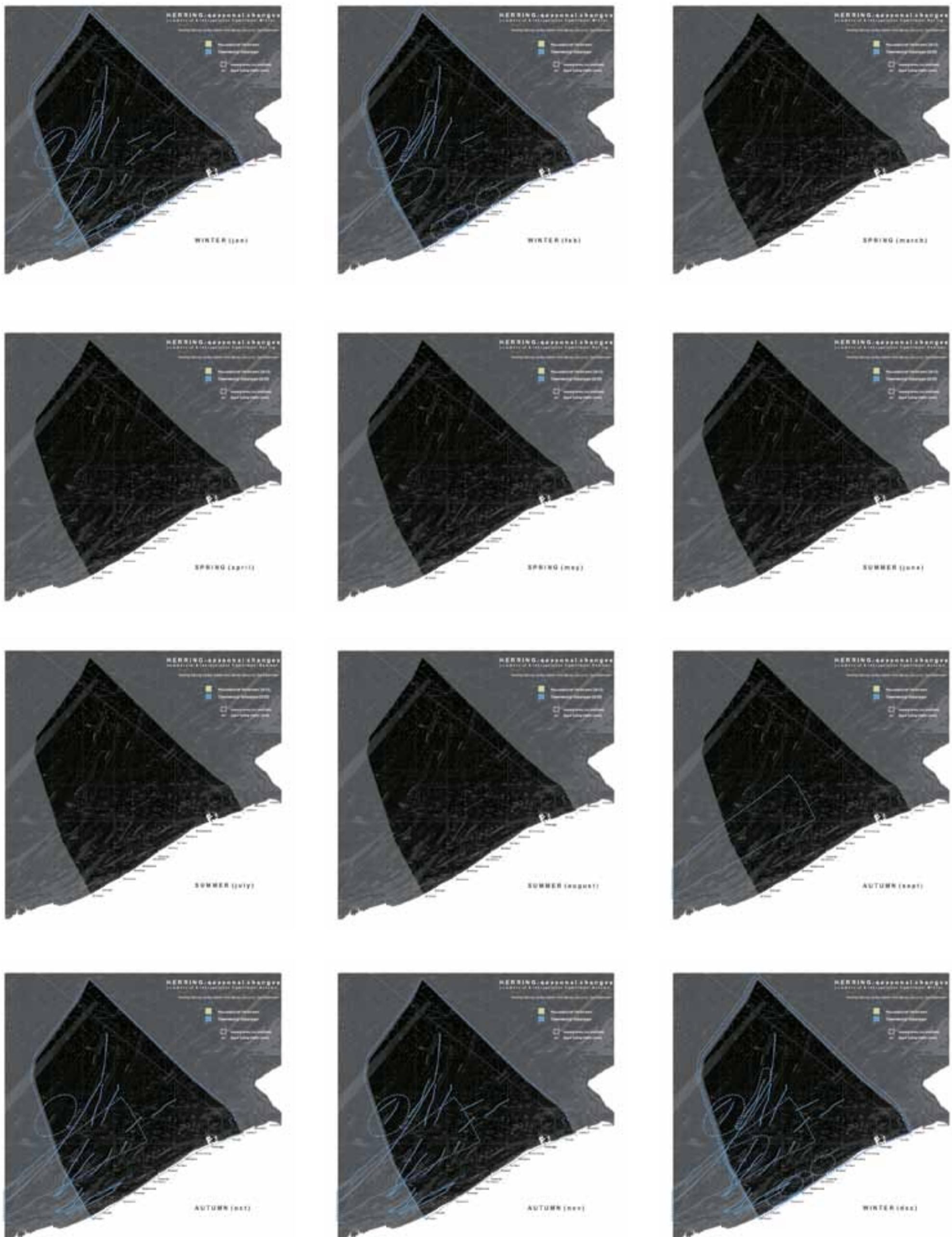
HERRING - evolution

commercial & recreational fishermen 1940 - 2010

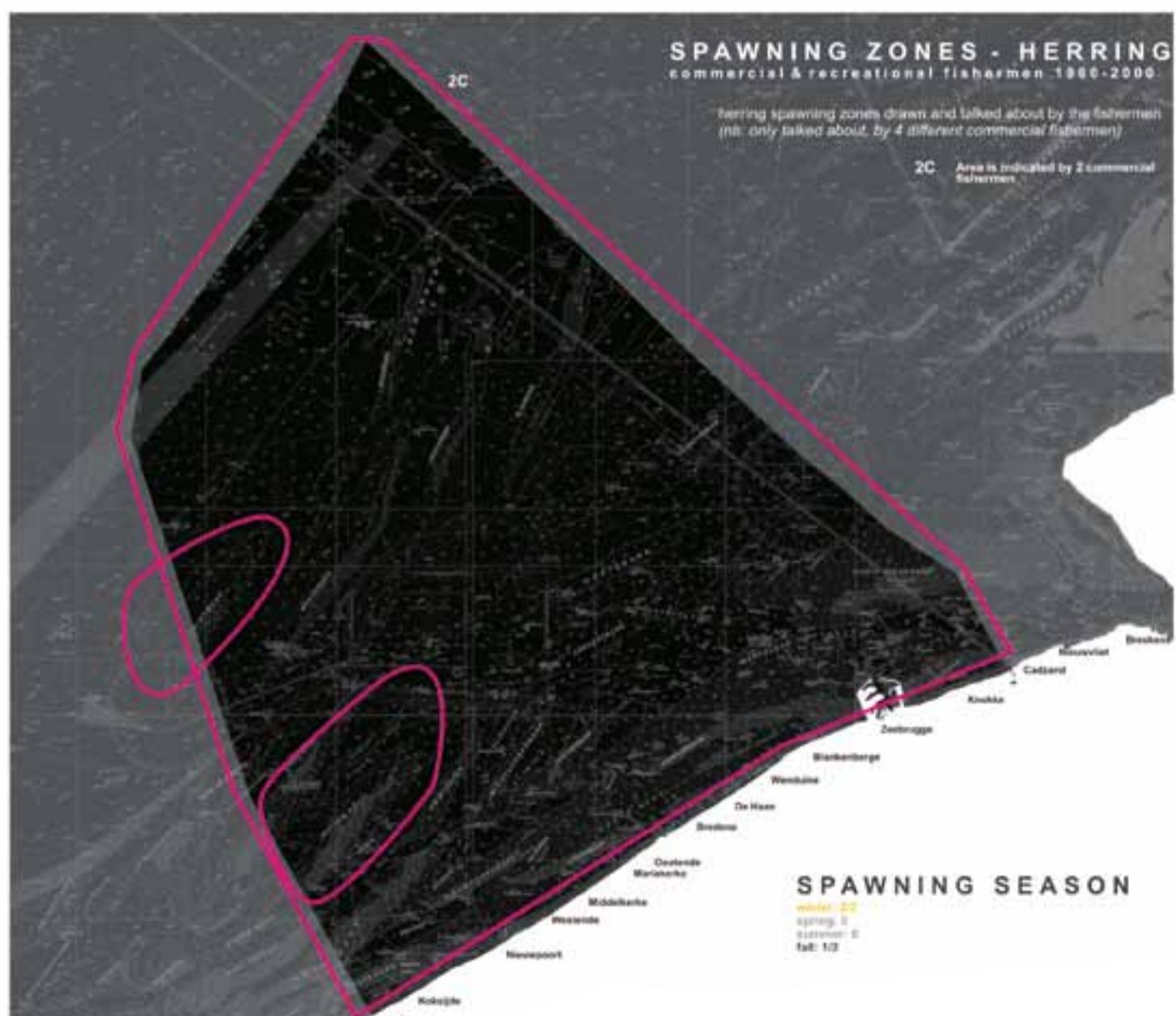
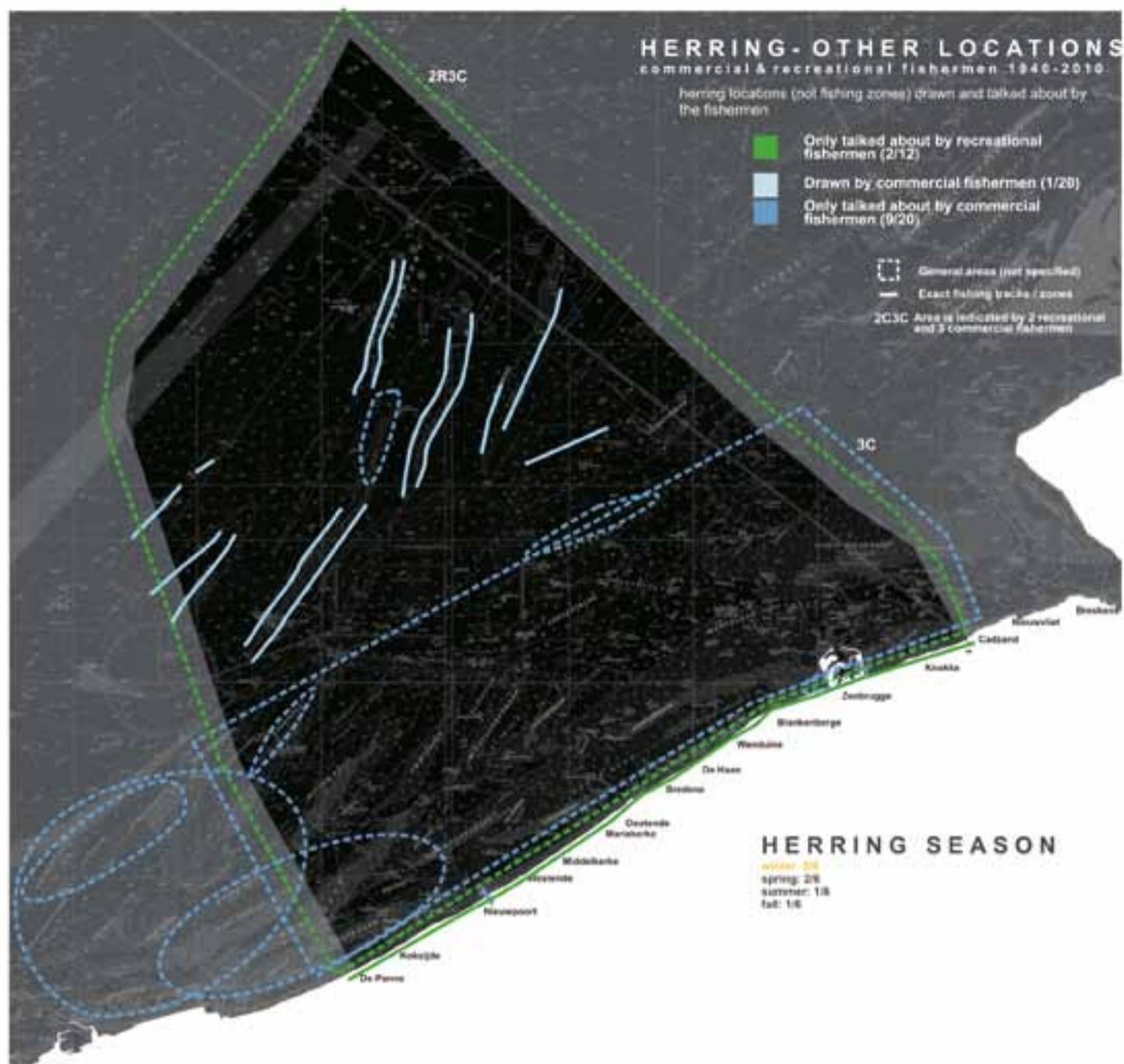
areas fished by 2 or more fishermen



HERRING - seasonal changes
commercial & recreational fishermen 1940 - 2010



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

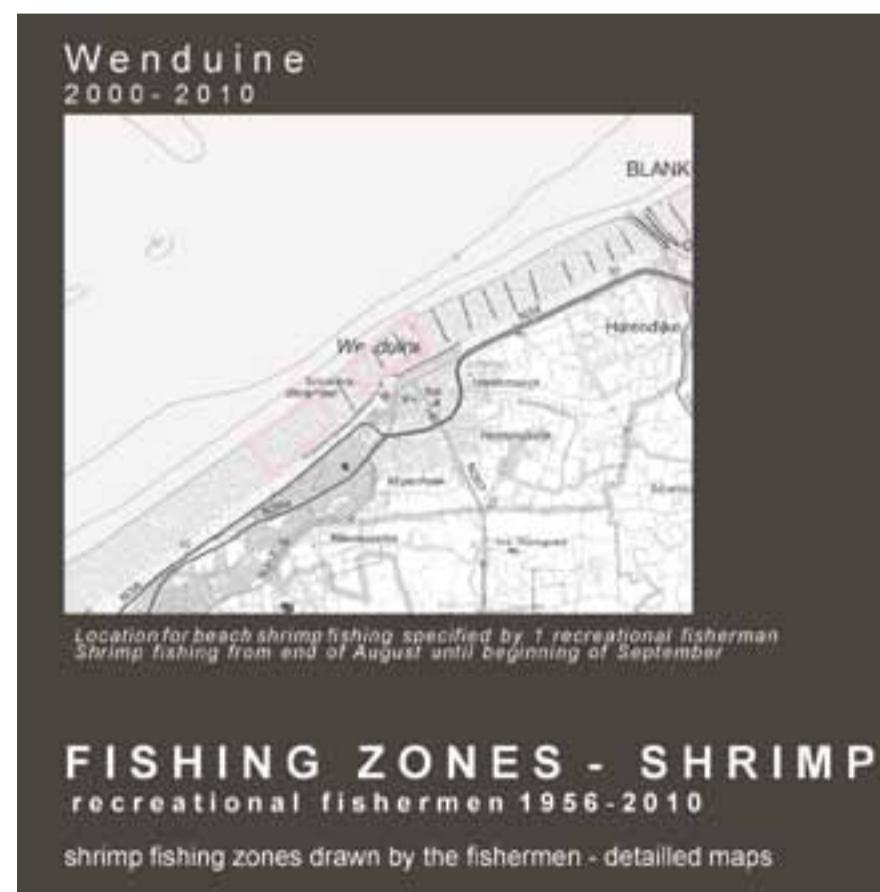
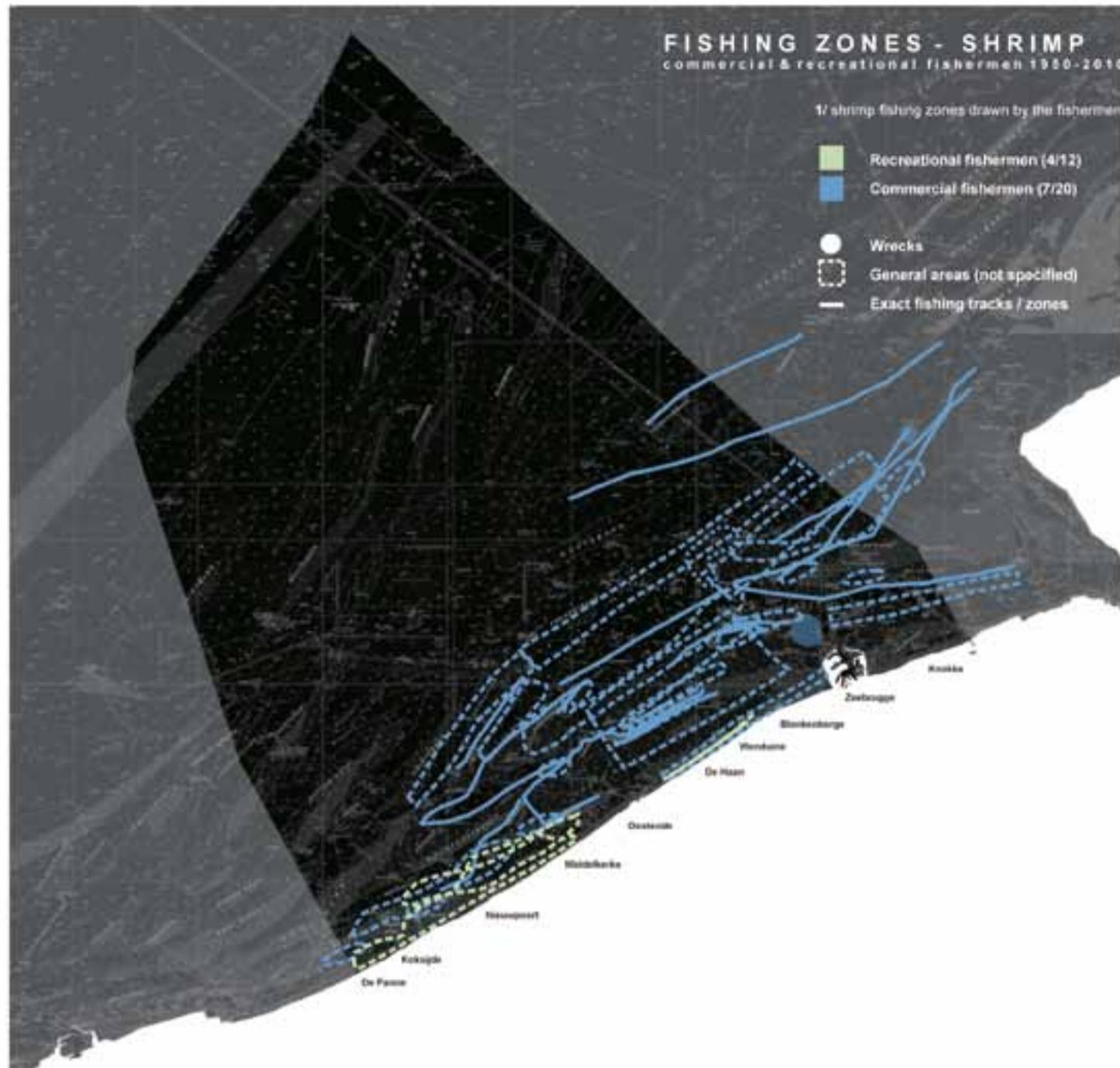


HERRING - other locations & spawning zones
commercial & recreational fishermen 1940 - 2010

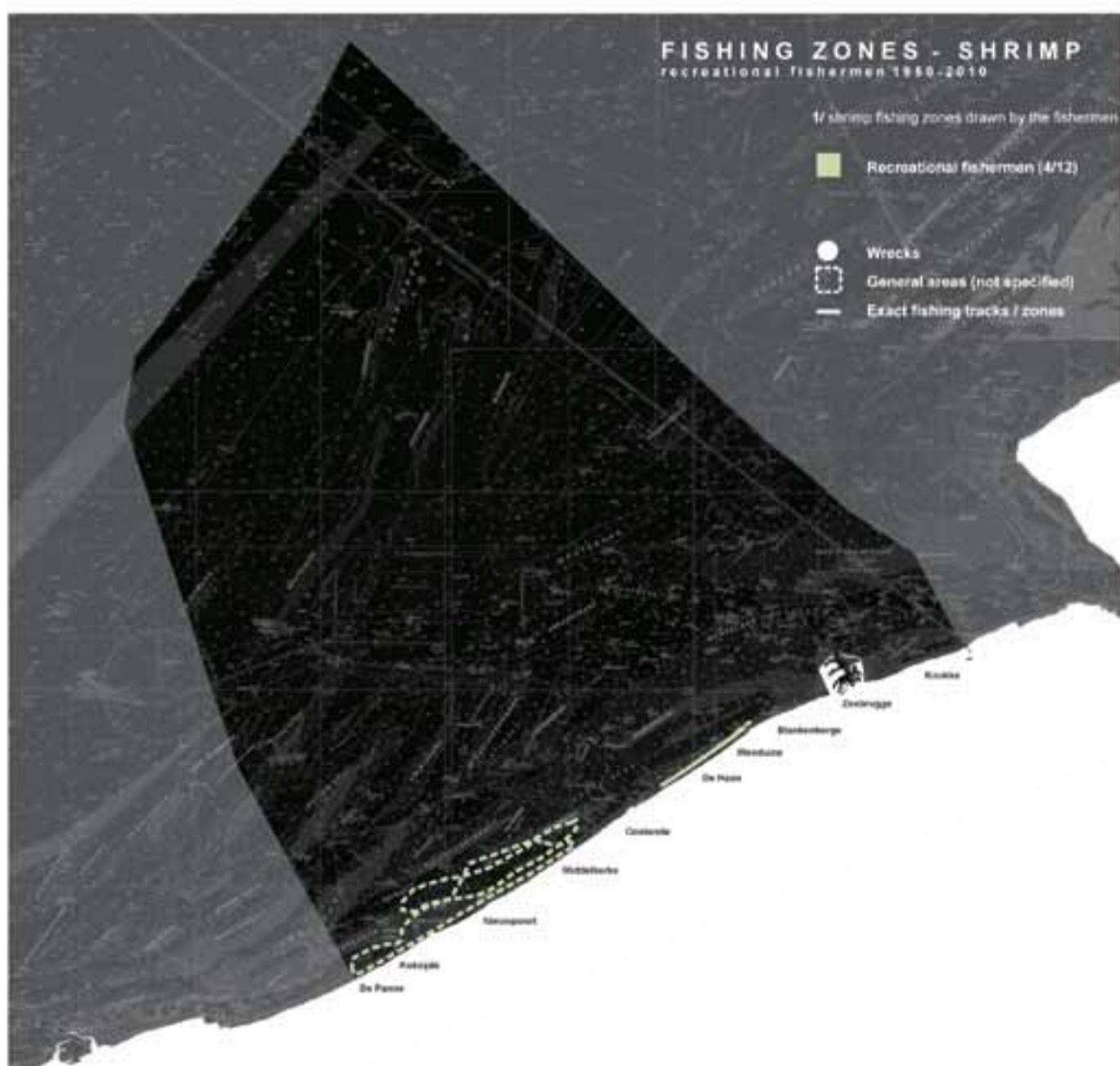
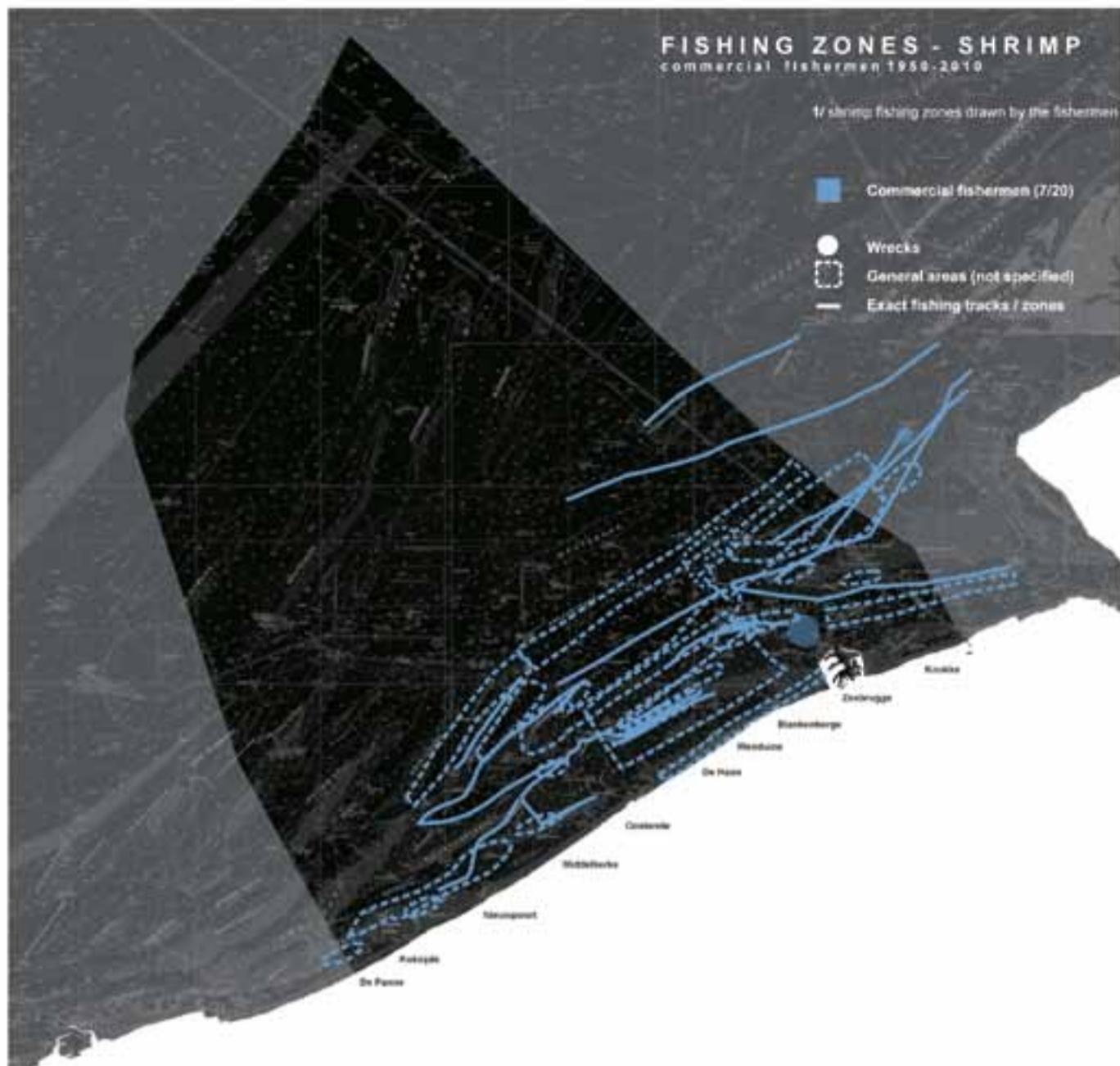


MAPS SERIES VII

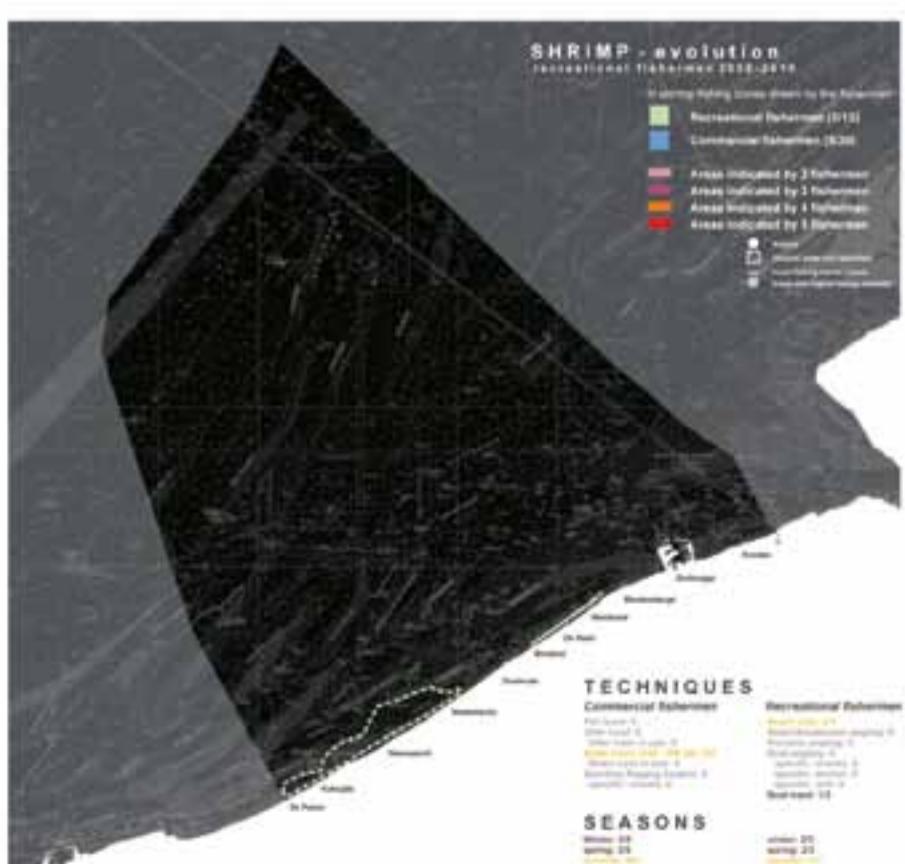
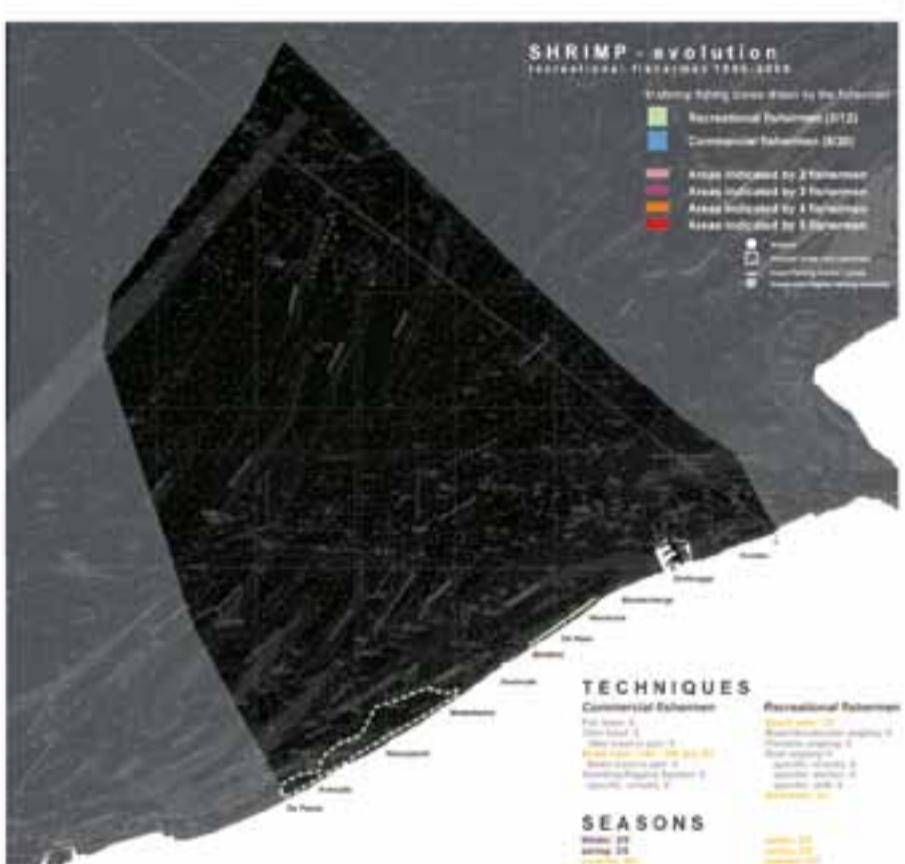
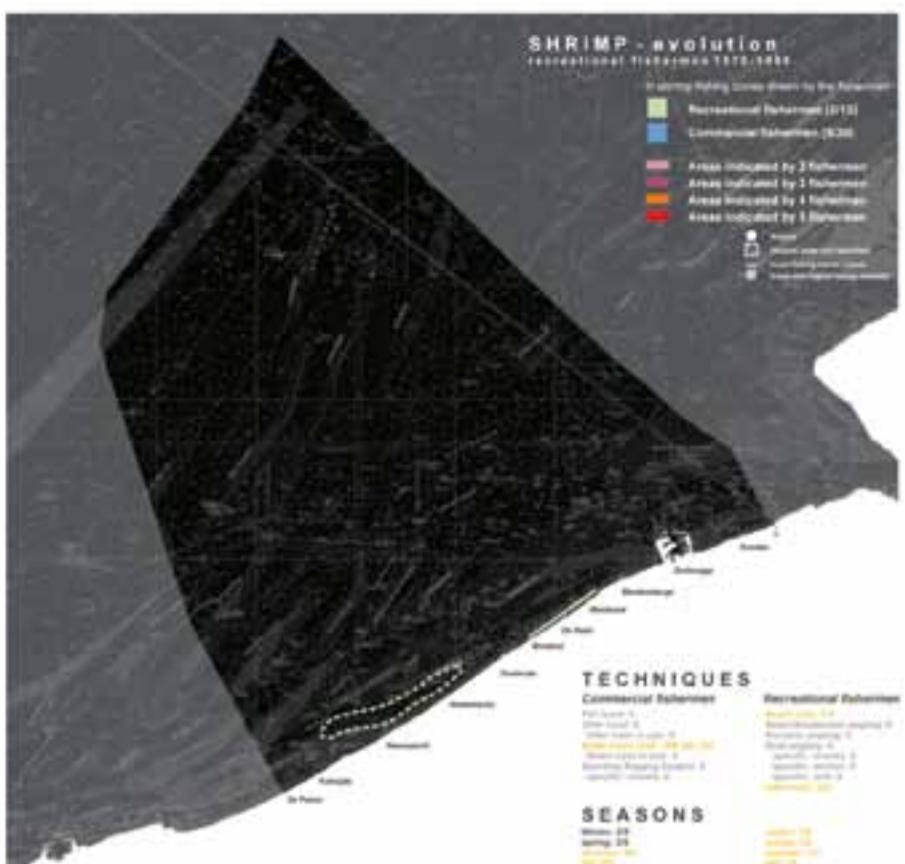
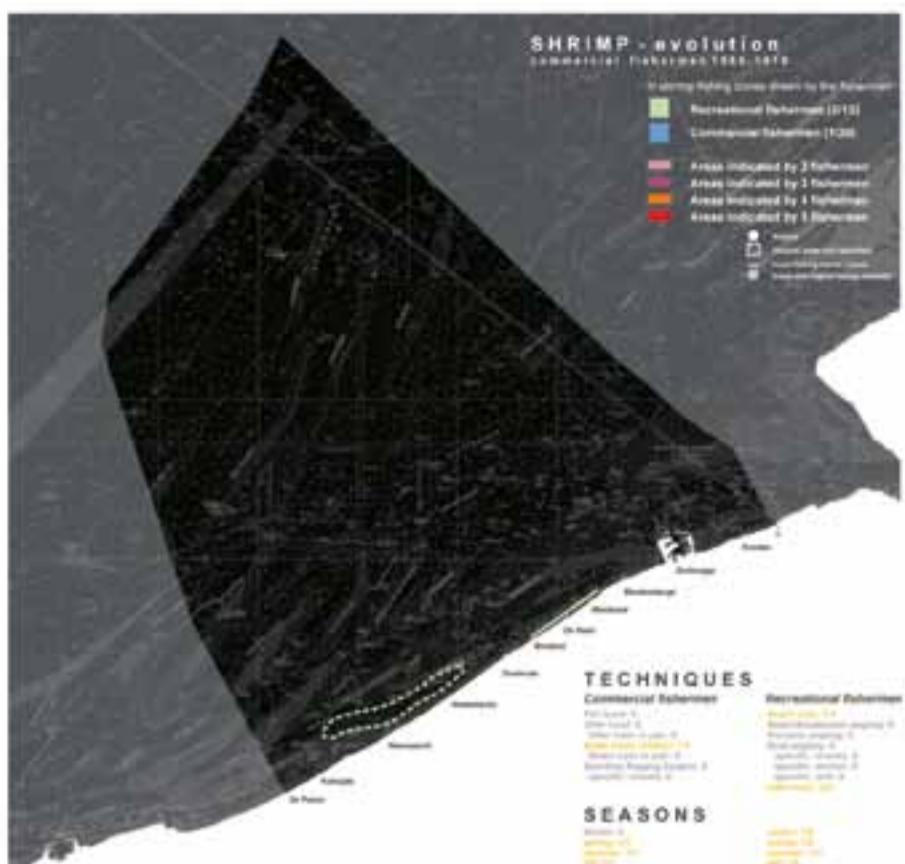
SHRIMP



SHRIMP - fishing zones
commercial & recreational fishermen 1950 - 2010

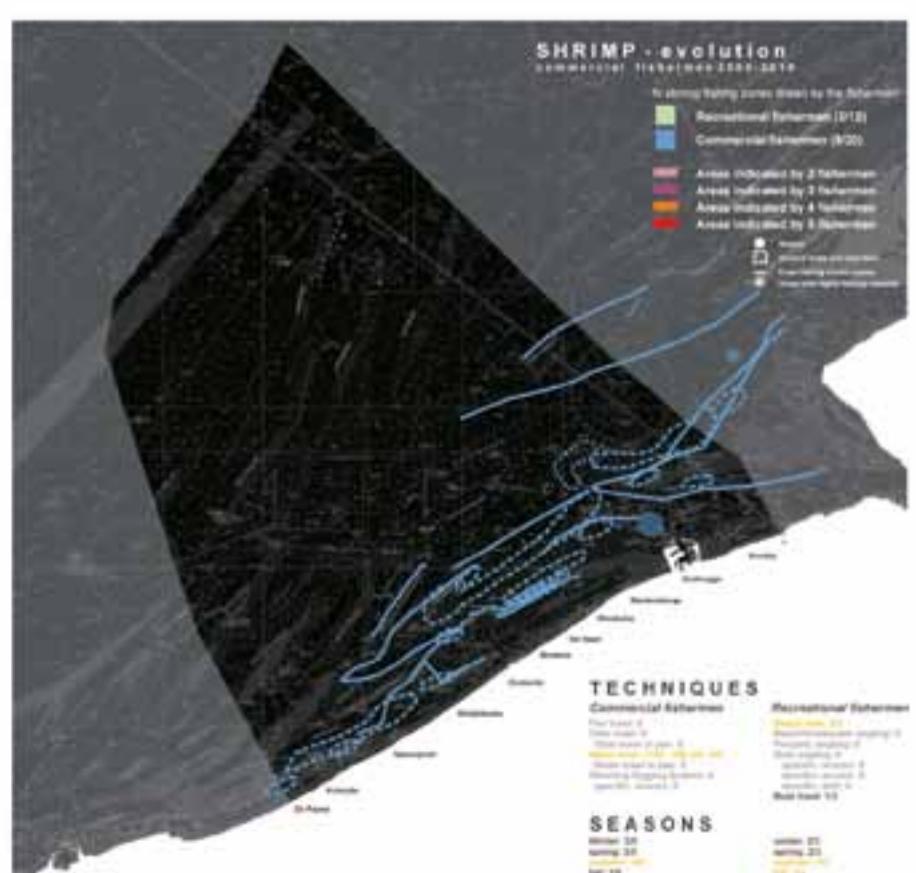
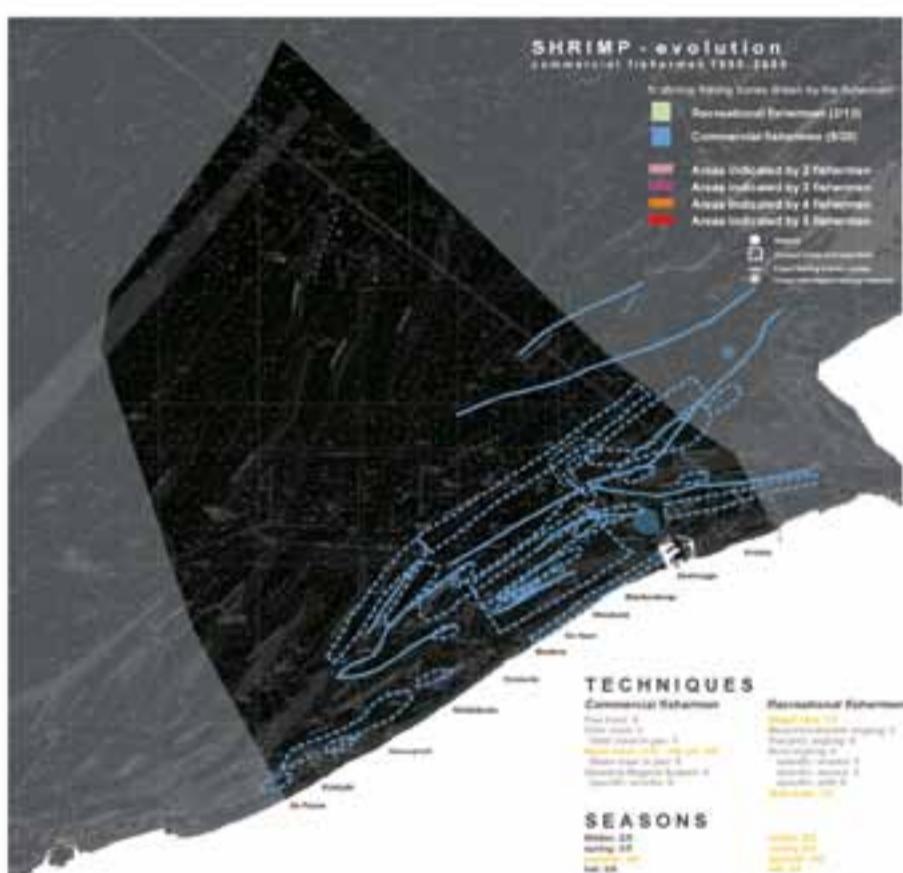
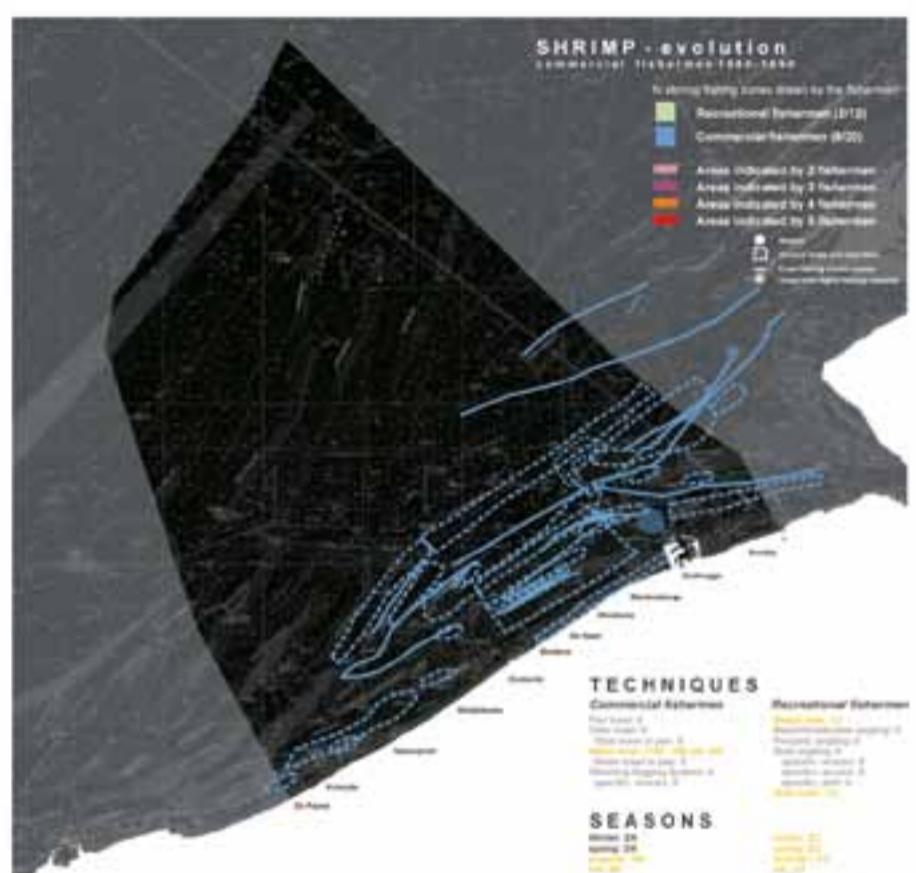
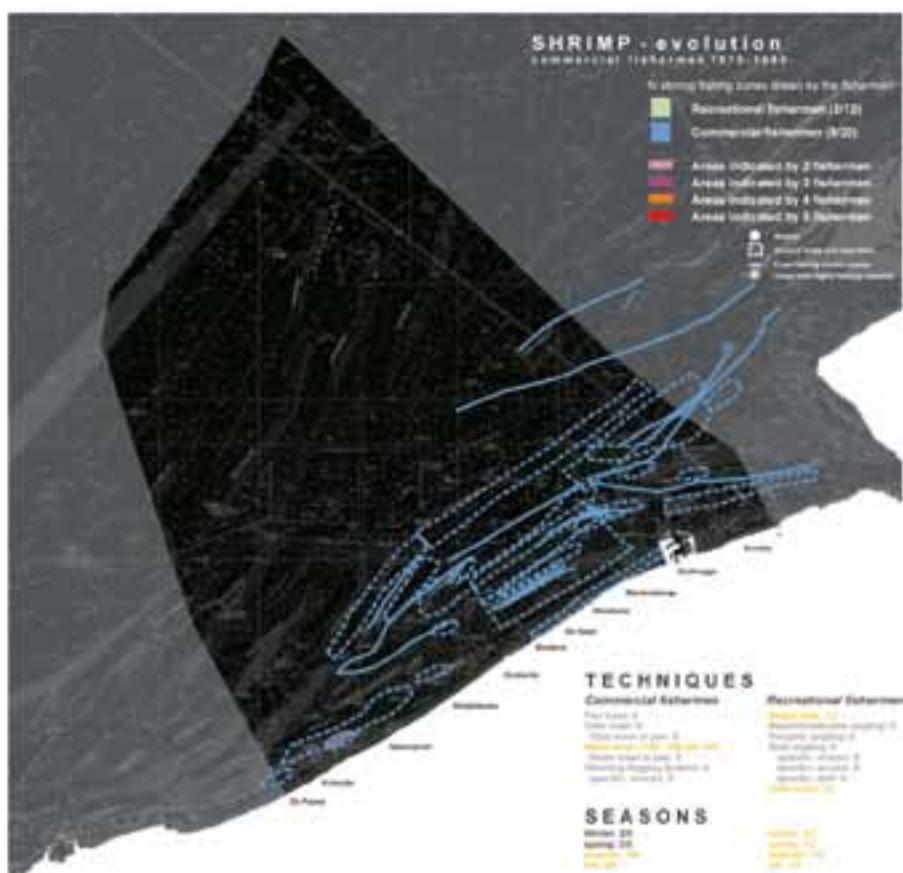


SHRIMP - fishing zones
commercial & recreational fishermen 1950 - 2010



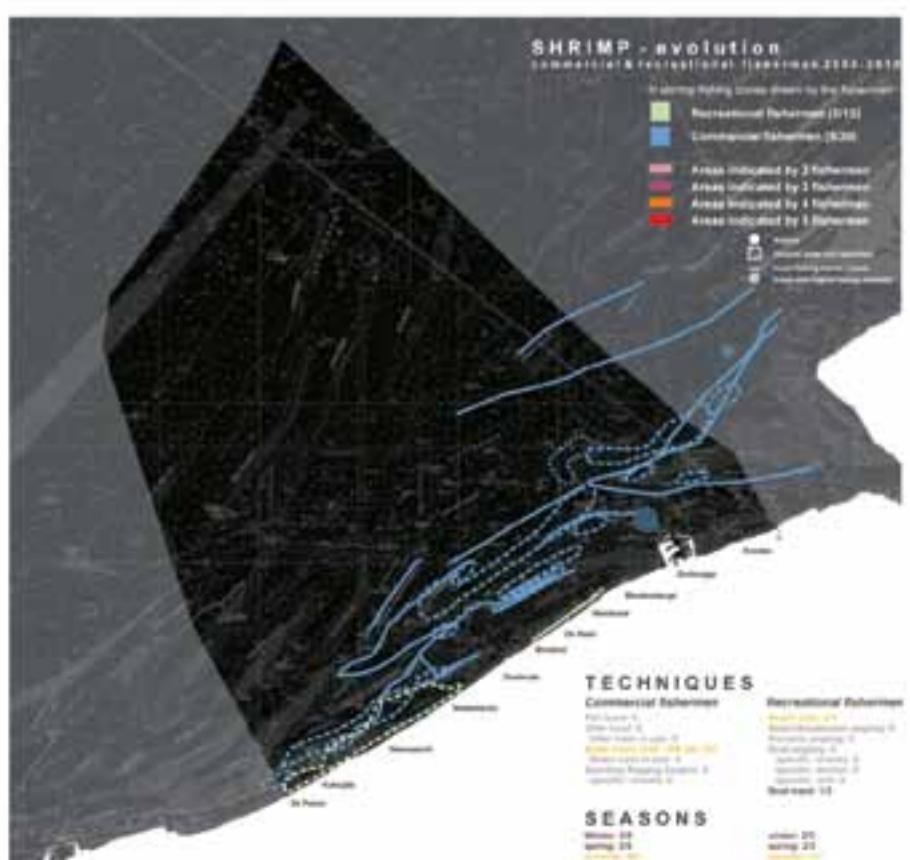
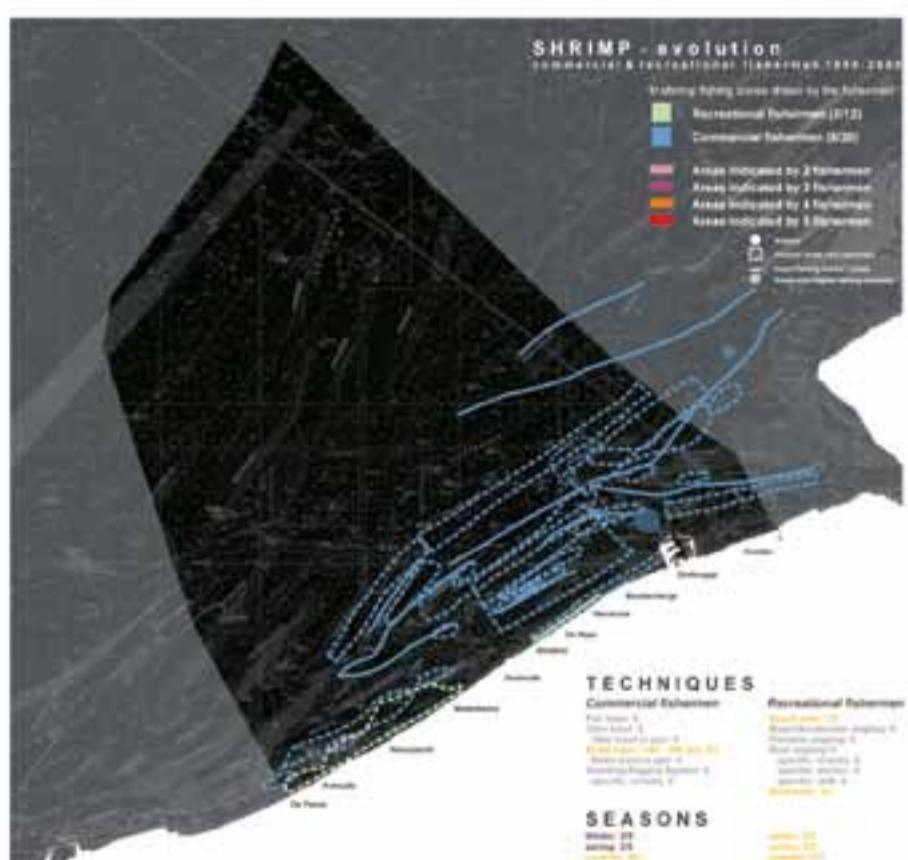
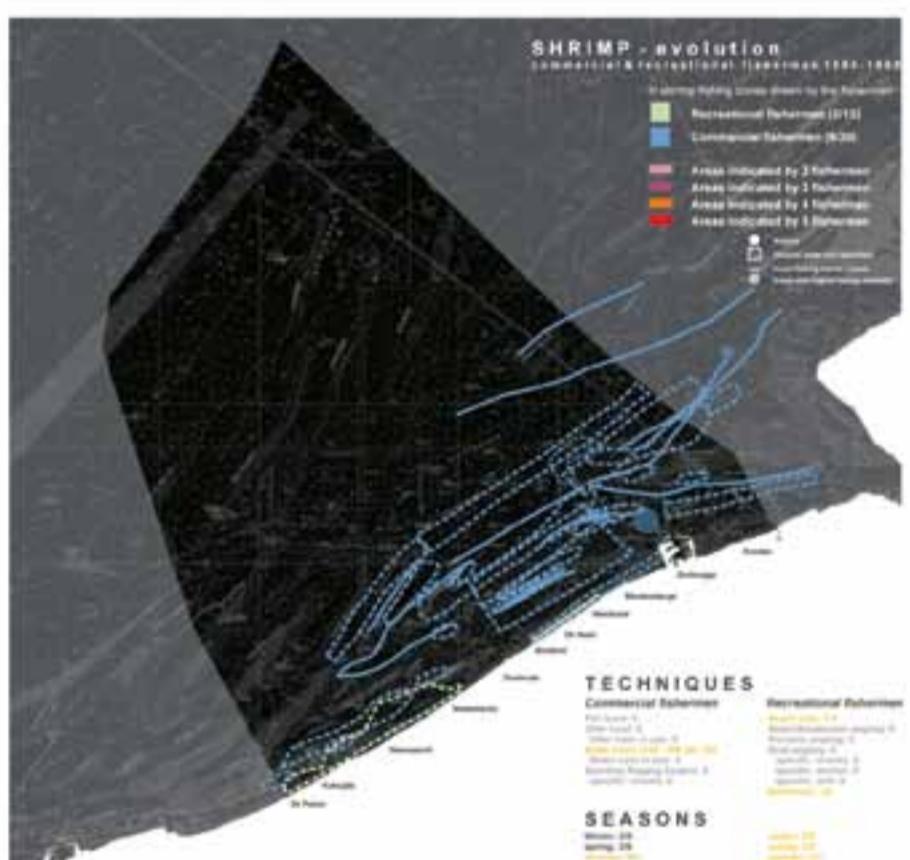
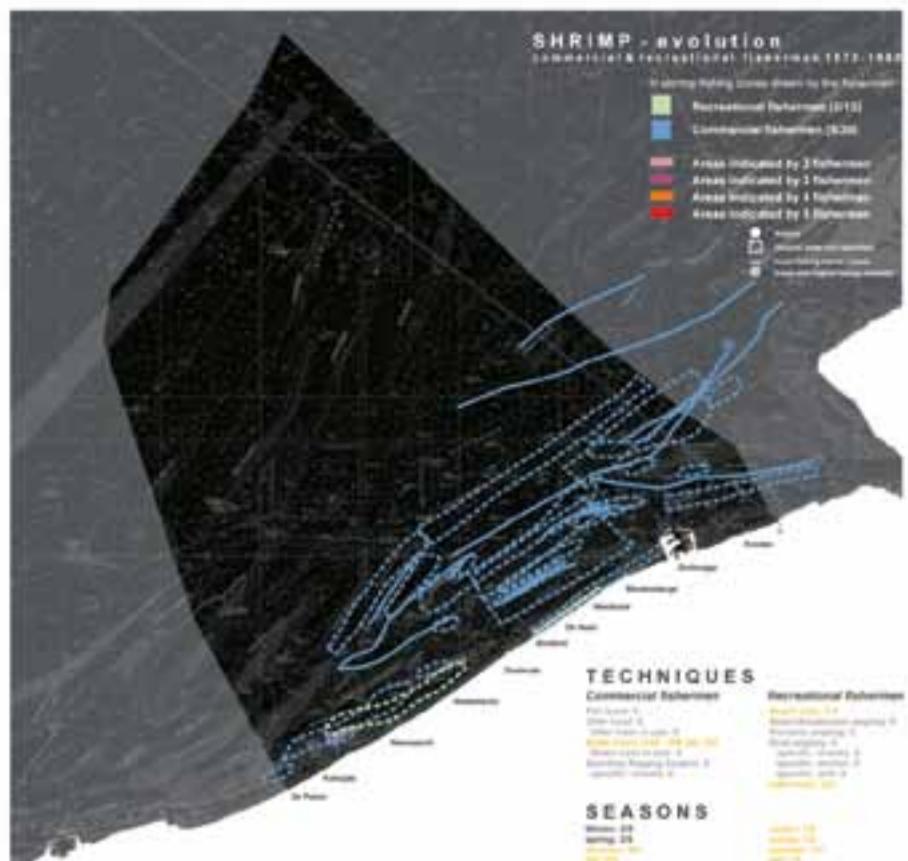
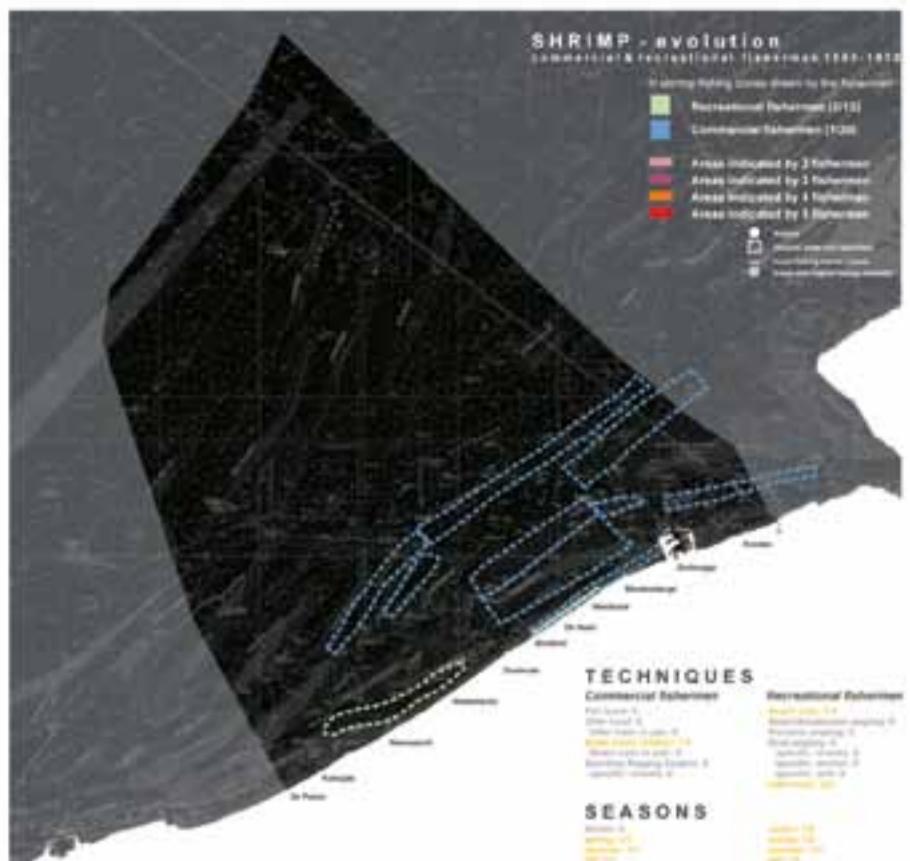
S H R I M P - evolution

recreational fishermen 1960 - 2010



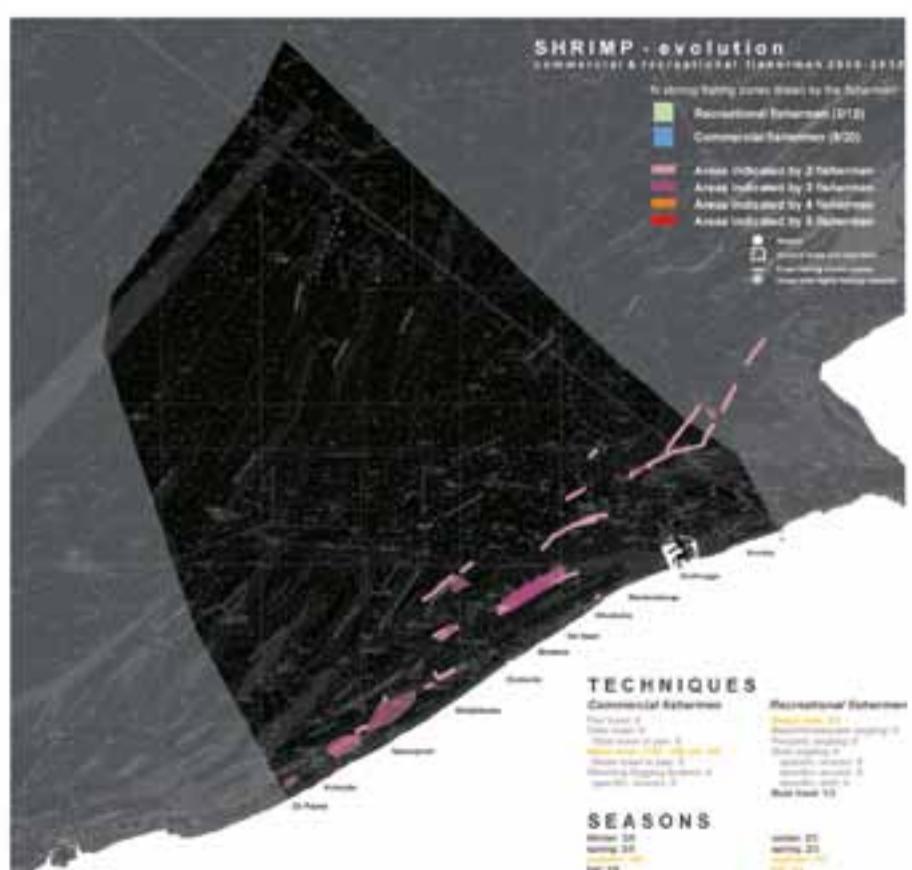
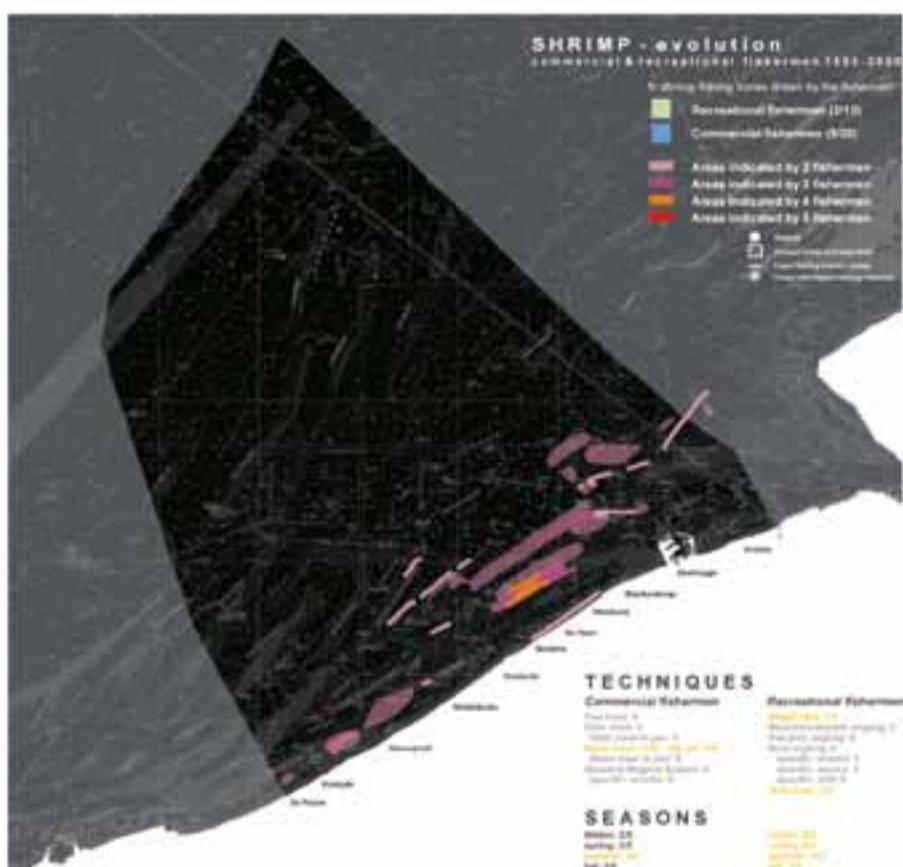
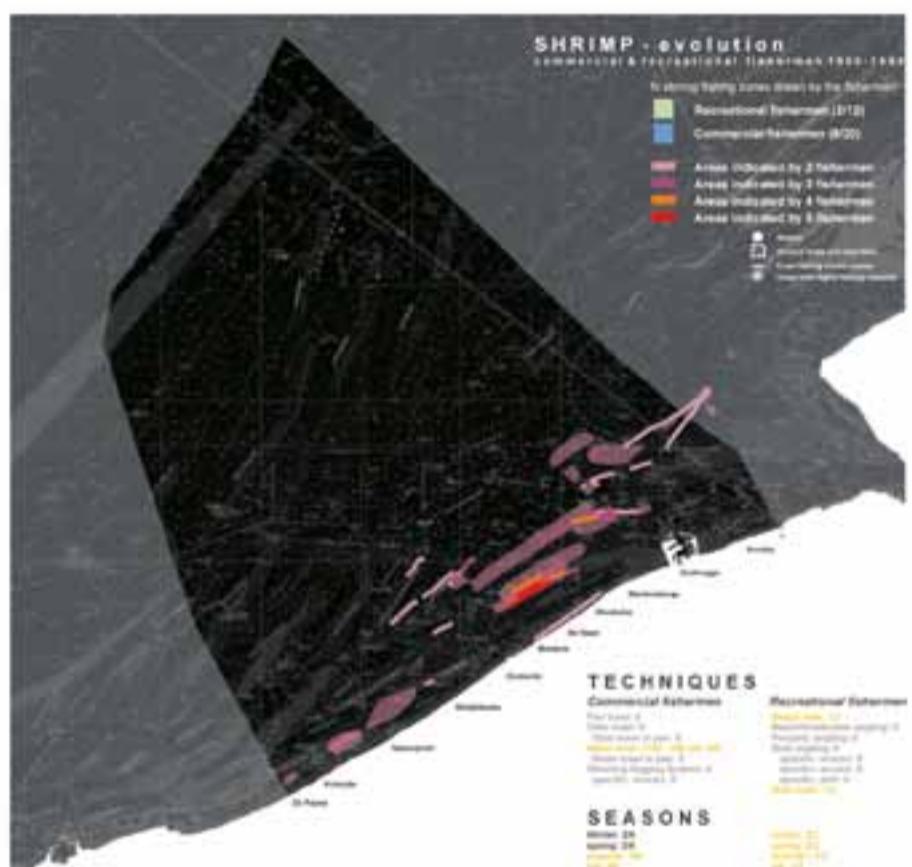
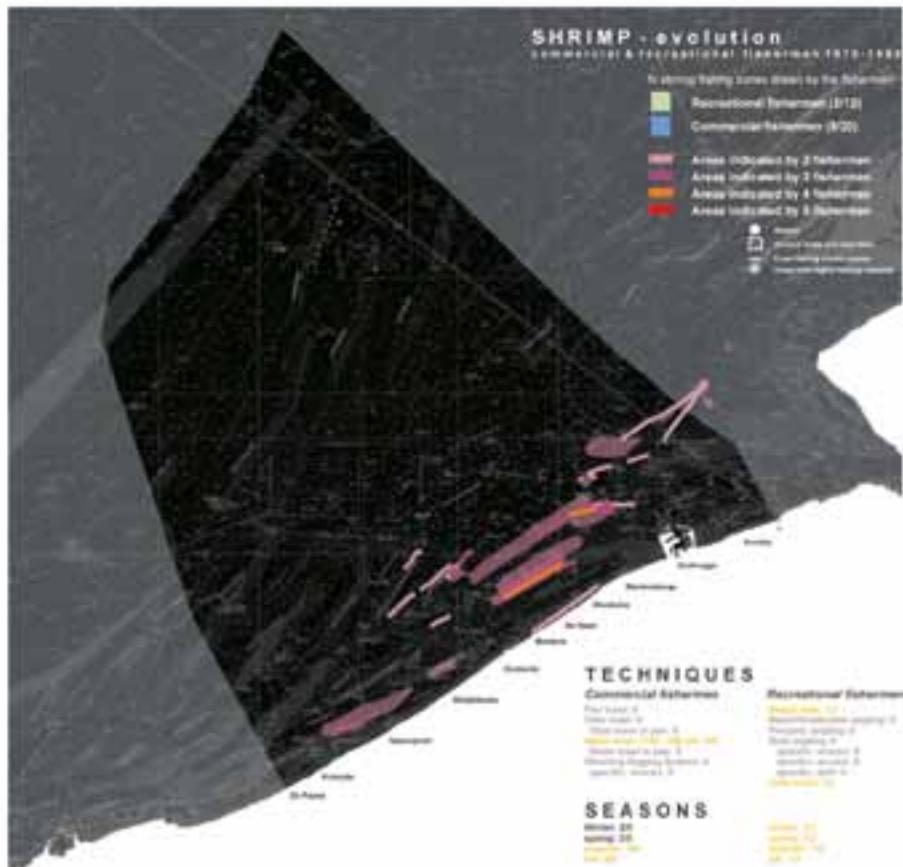
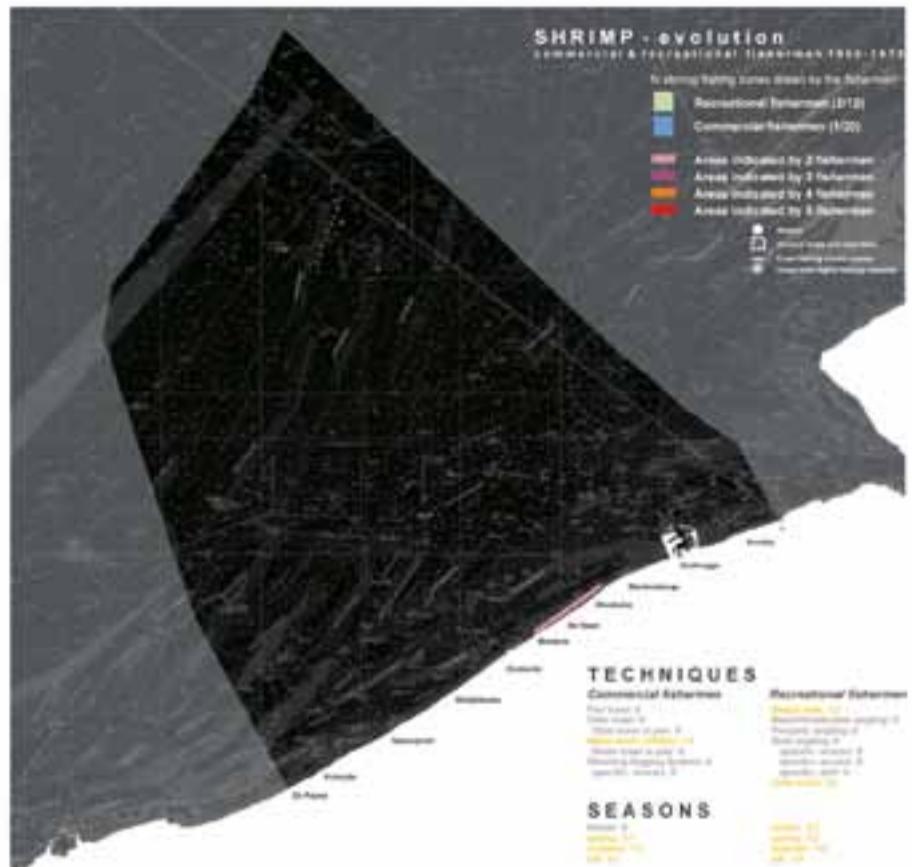
SHRIMP - evolution

commercial fishermen 1960 - 2010



SHRIMP - evolution

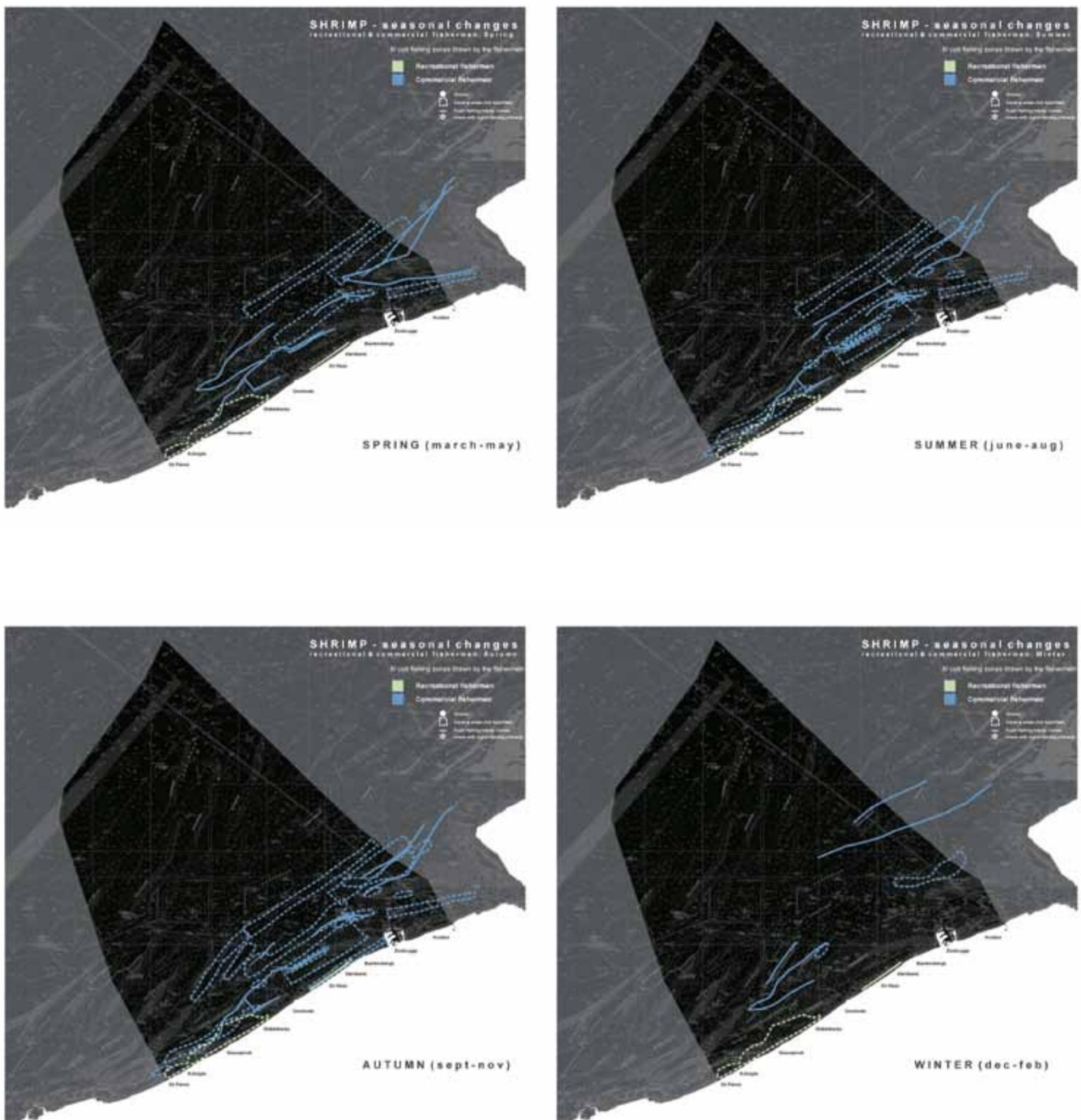
recreational & commercial fishermen 1960 - 2010



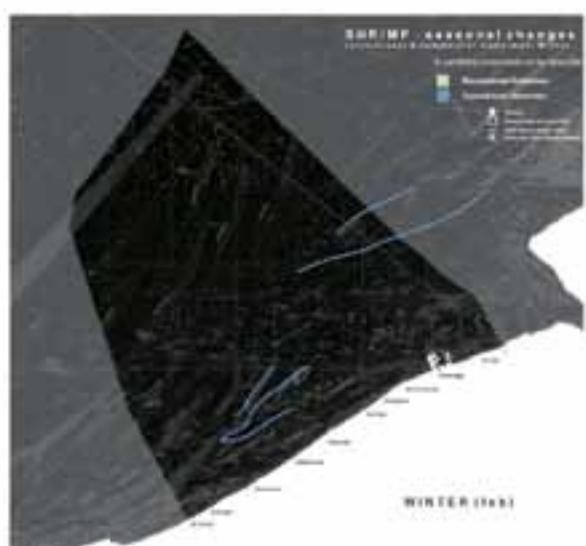
SHRIMP - evolution

commercial & recreational fishermen 1960 - 2010

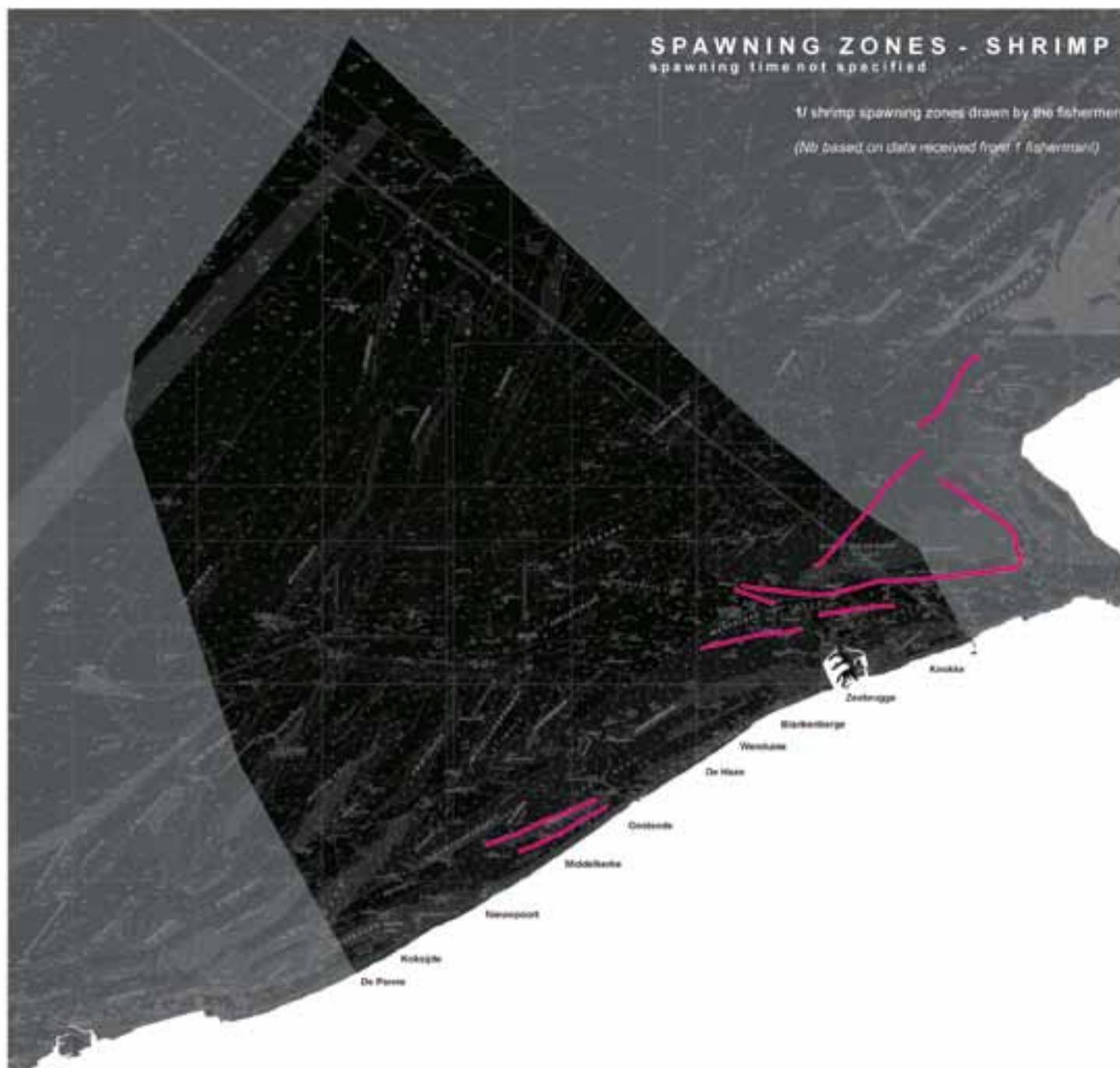
areas fished by 2 or more fishermen



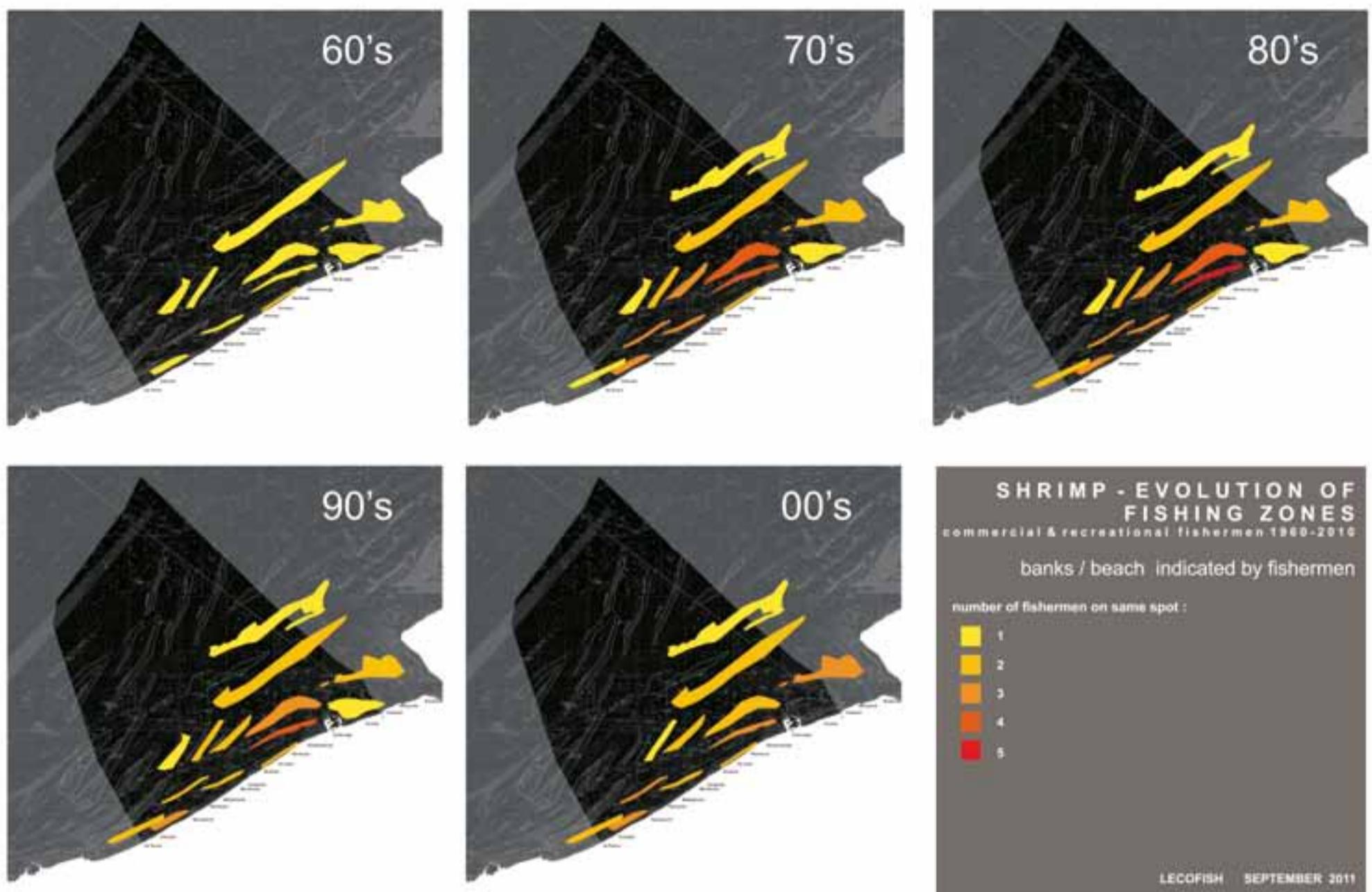
SHRIMP - seasonal changes
commercial & recreational fishermen 1950 - 2010



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



SHRIMP - spawning zones
commercial & recreational fishermen 1950 - 2010

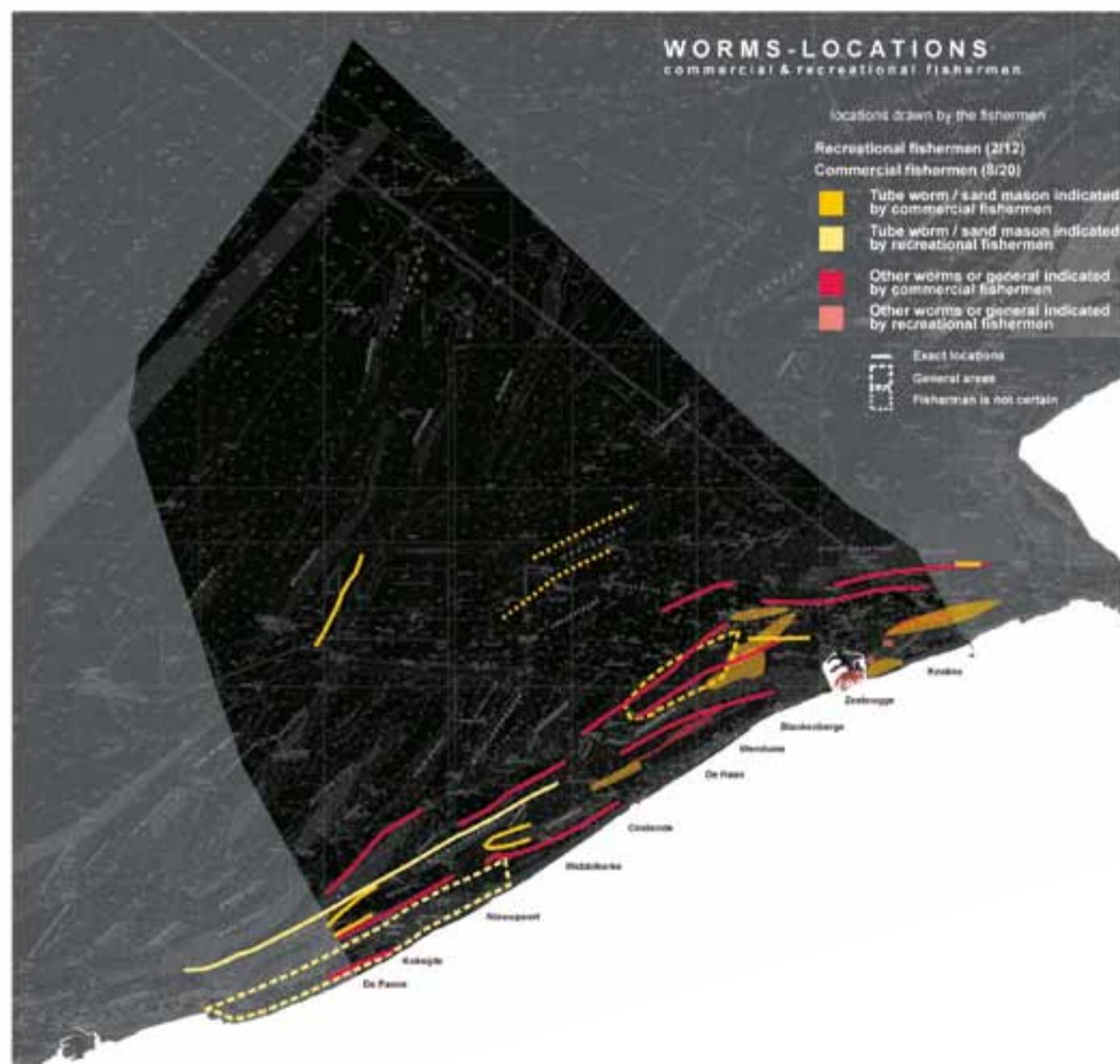
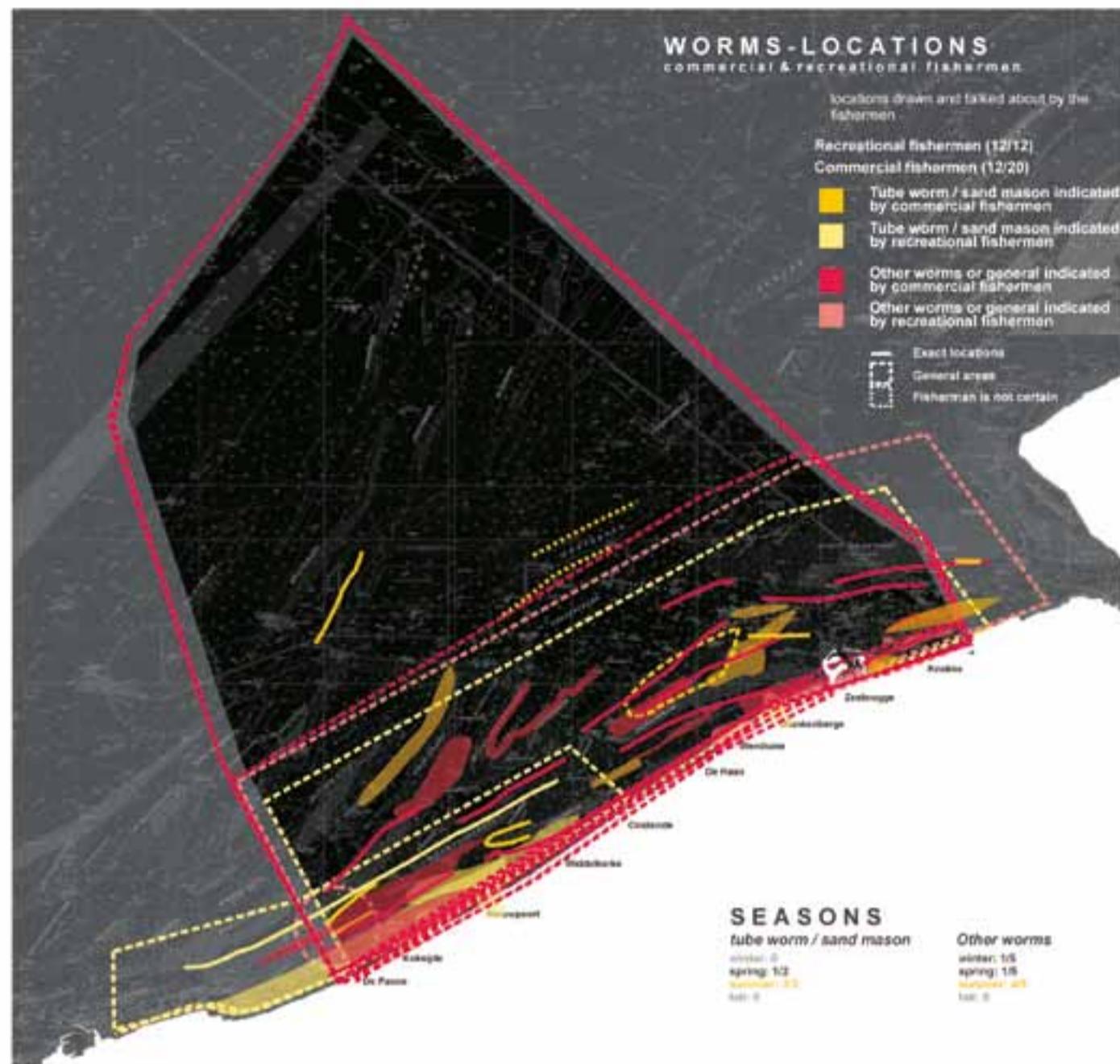


SHRIMP - structure maps
commercial & recreational fishermen 1950 - 2010

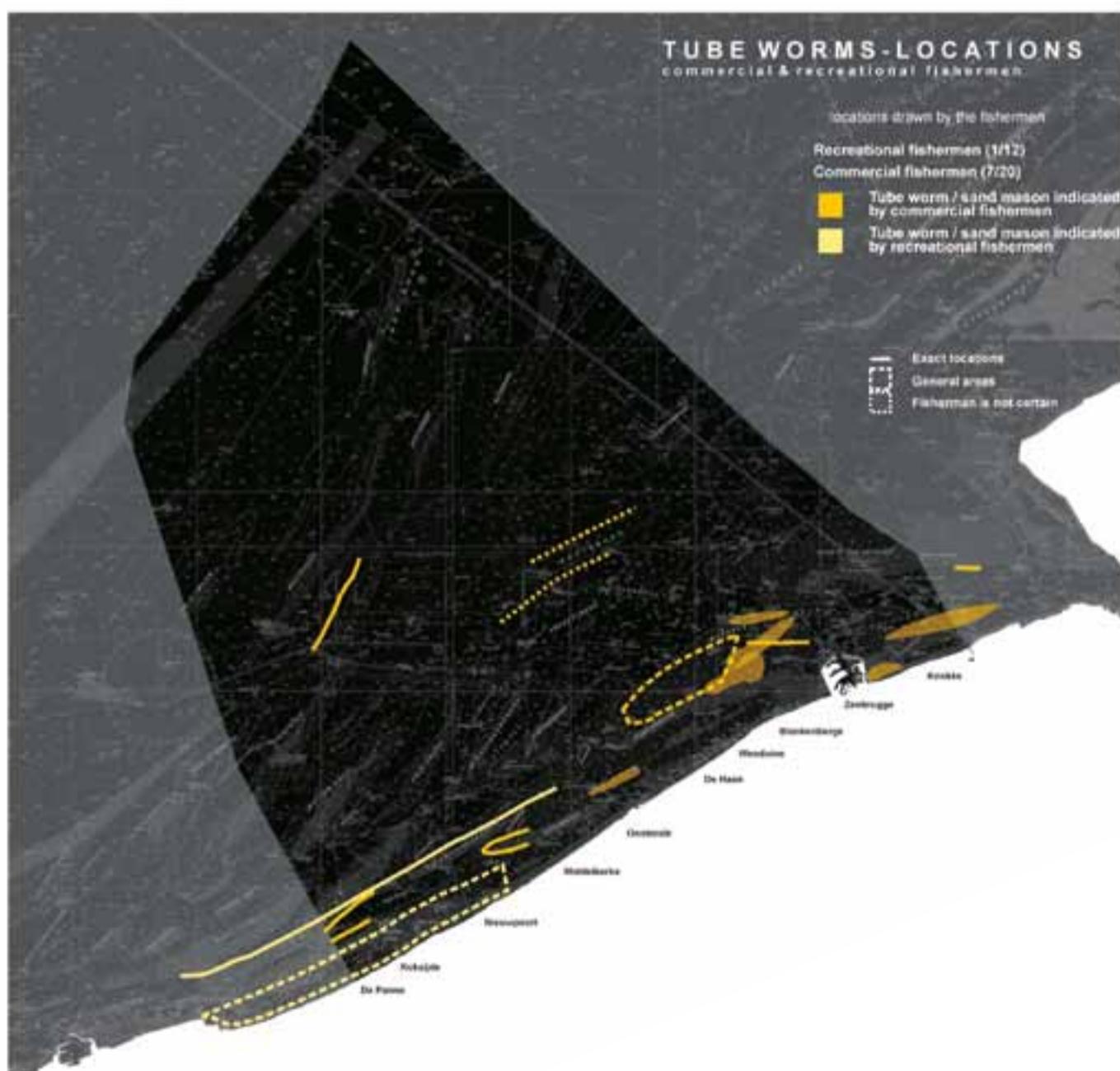
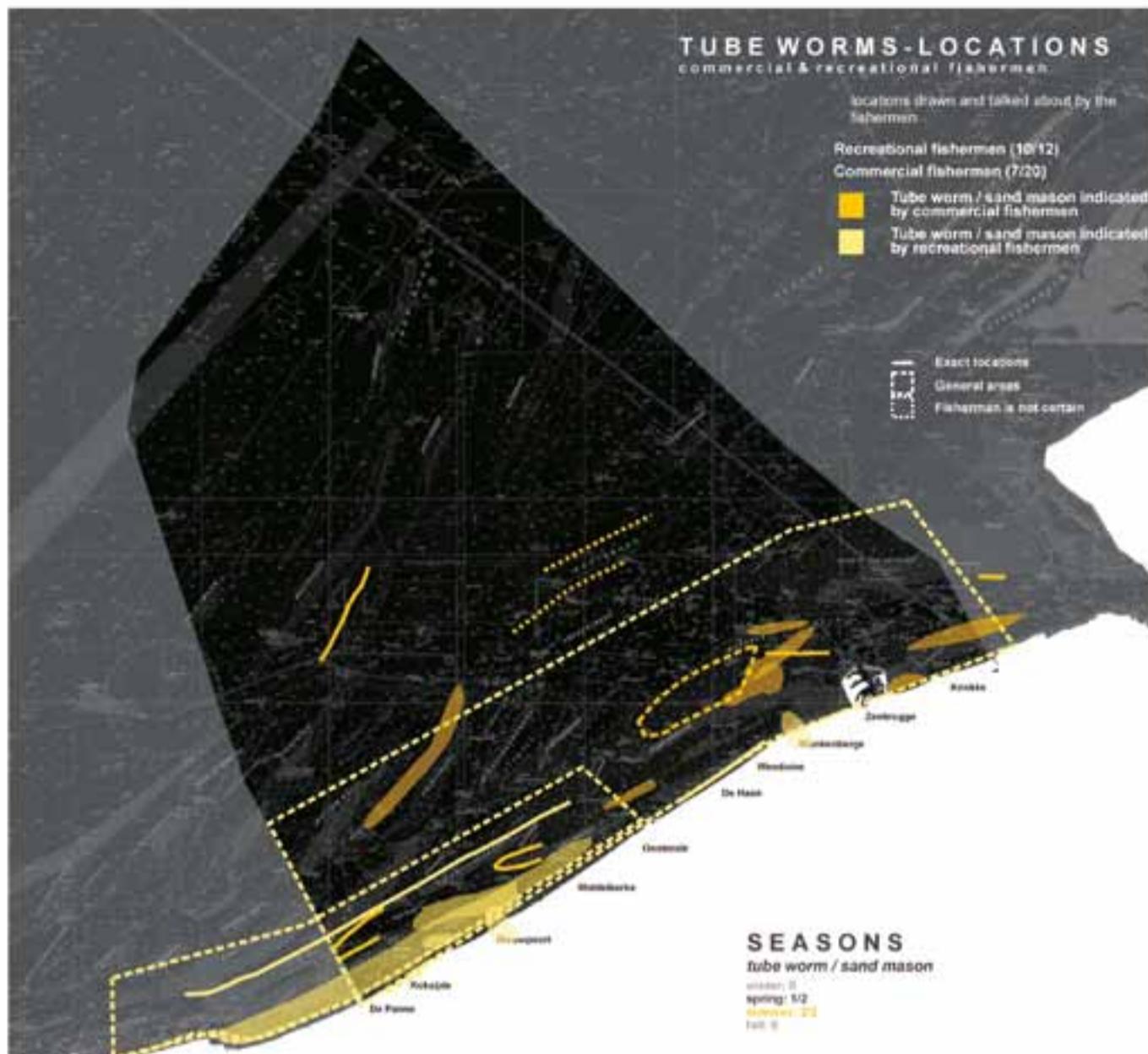


MAPS SERIES VIII

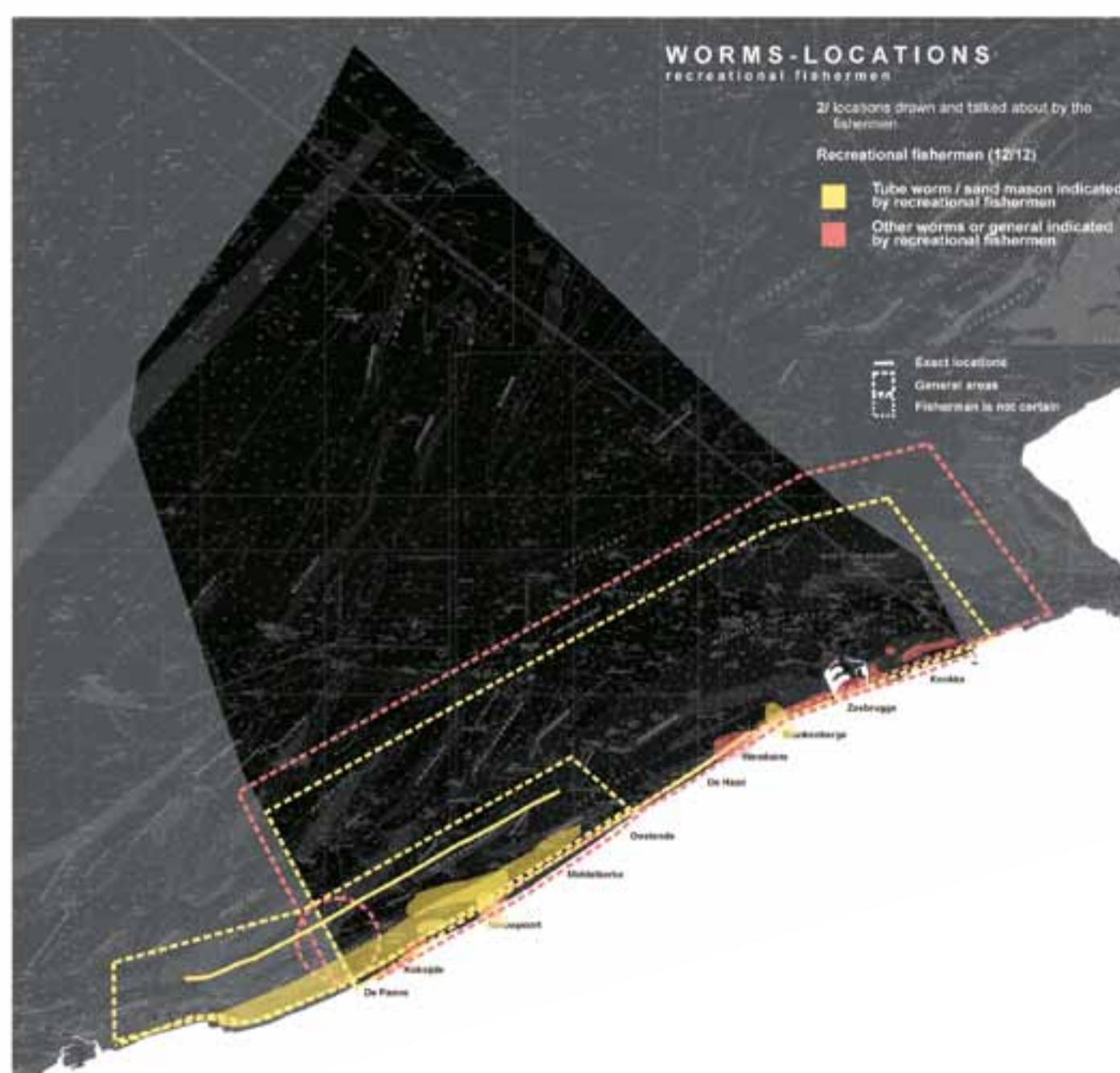
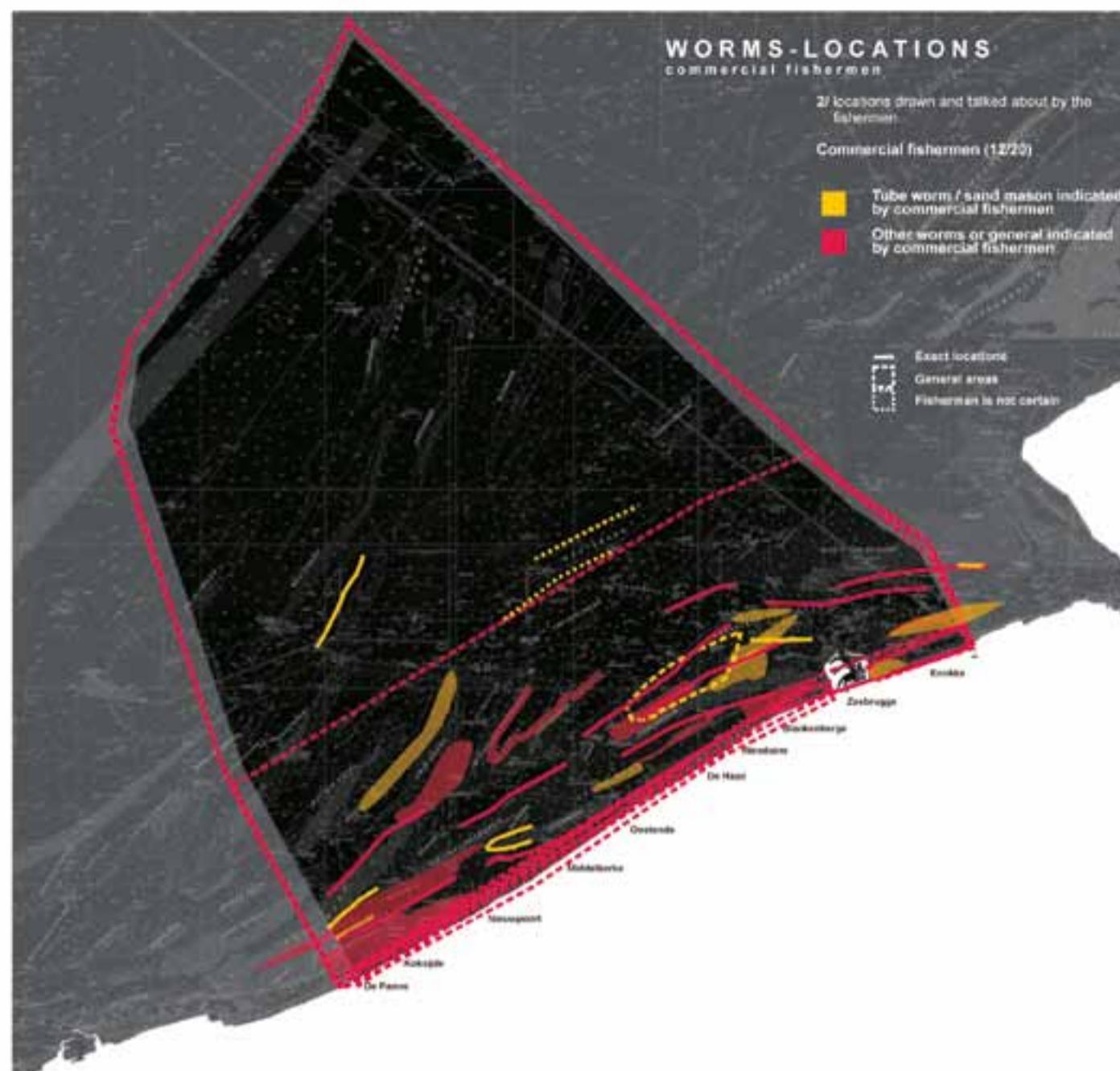
**SANDMASON
AND
OTHER WORMS**



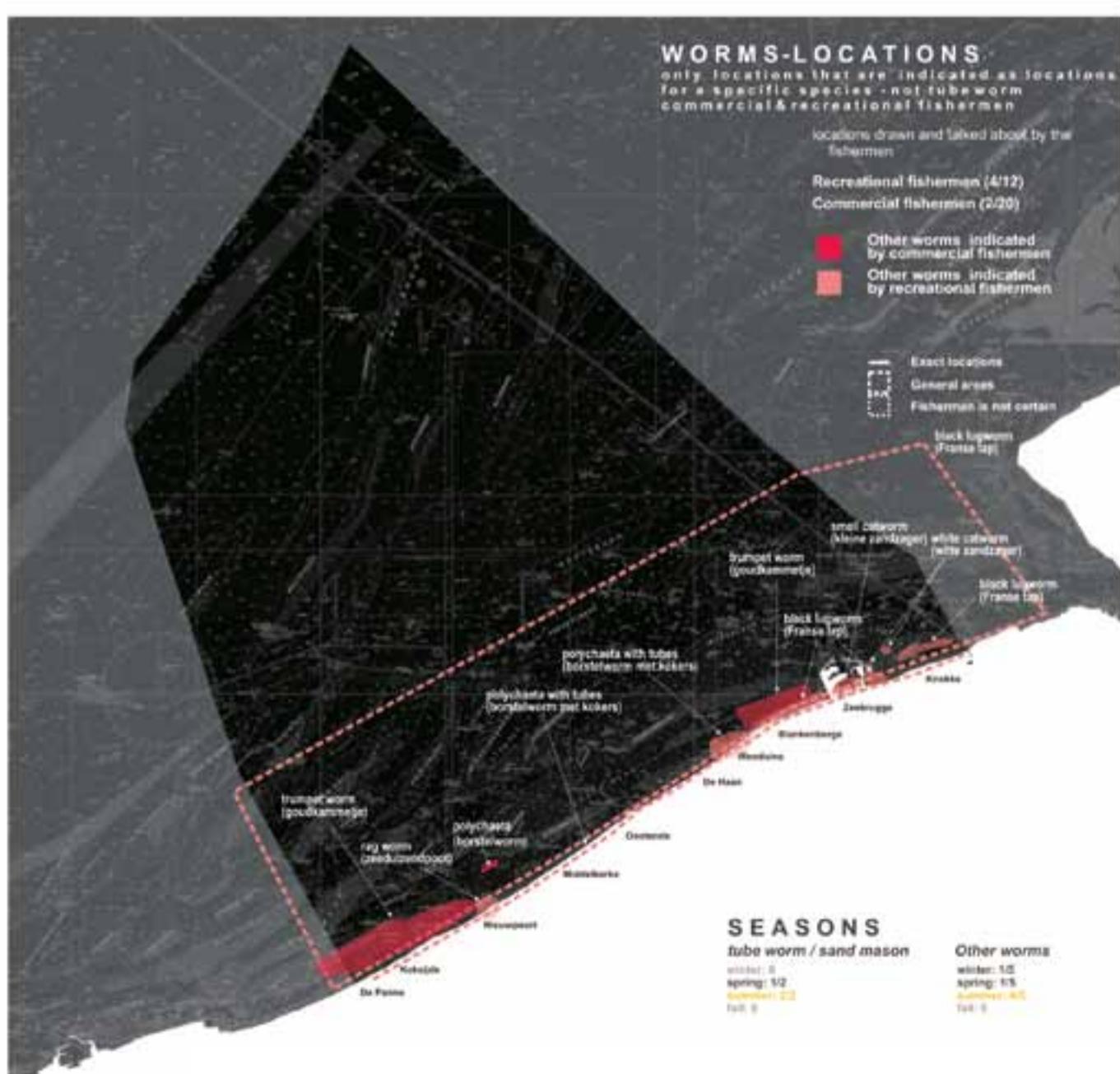
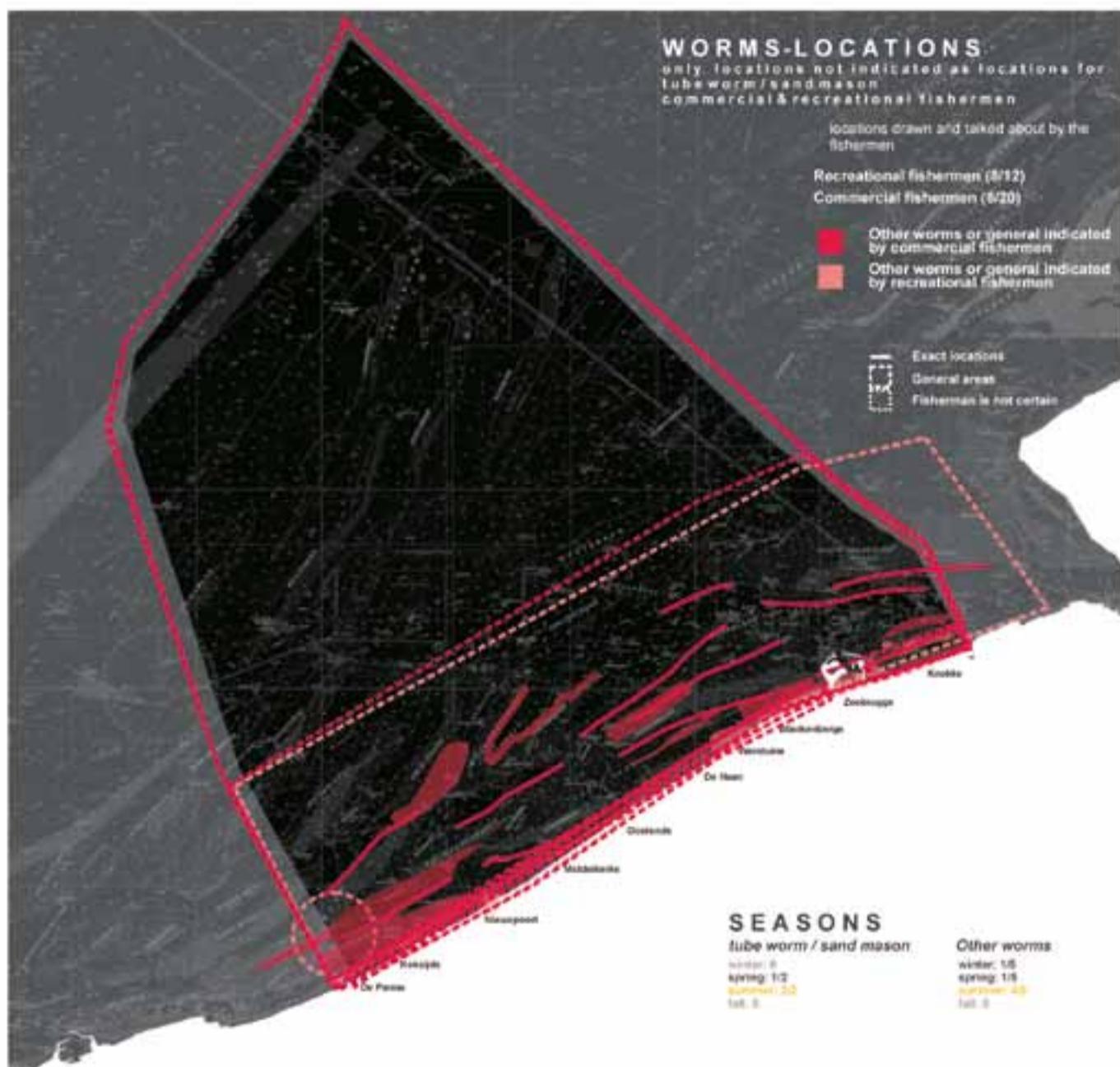
**WORMS - locations
drawn and talked about**
commercial & recreational fishermen 1950 - 2010



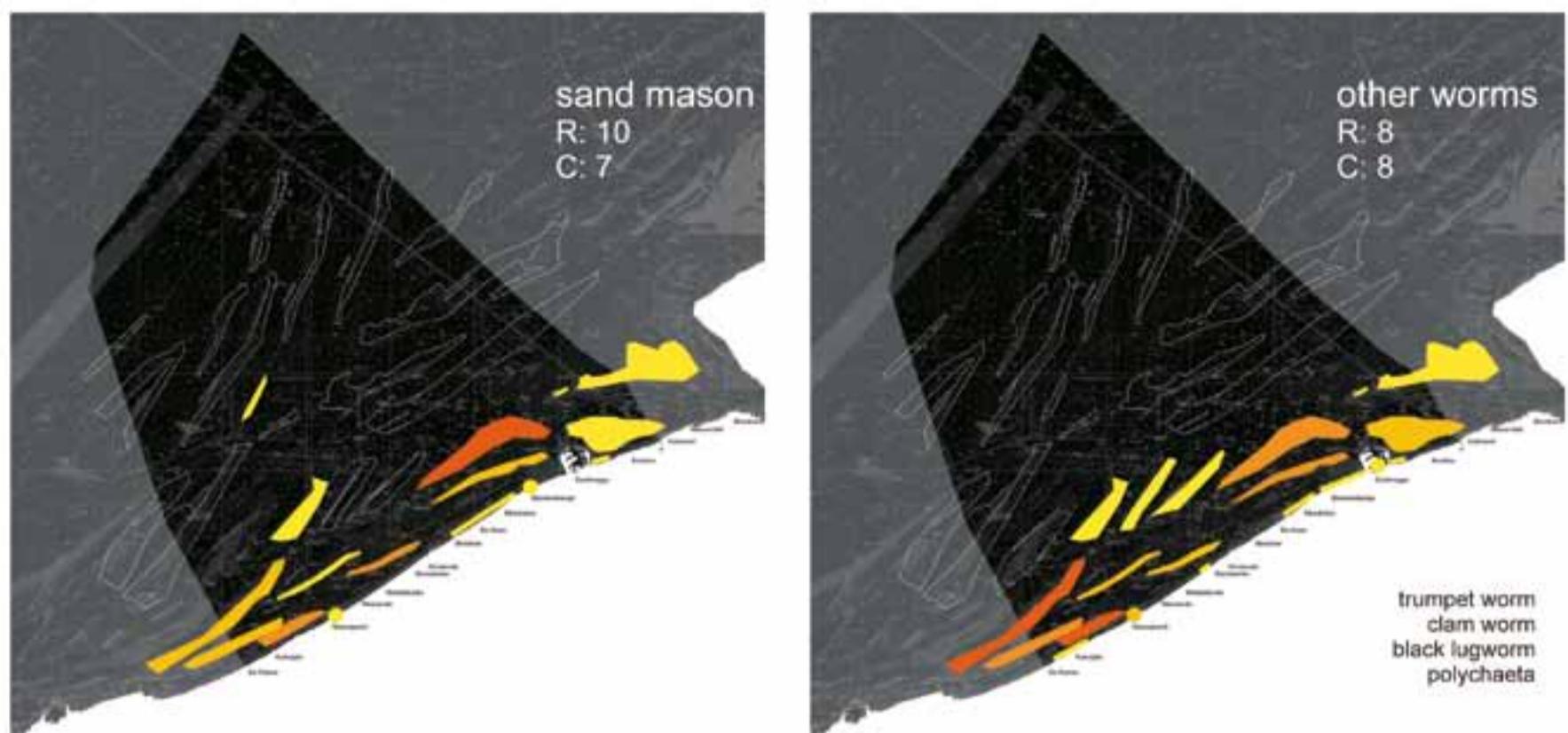
**TUBE WORMS - locations
drawn and talked about
commercial & recreational fishermen 1950 - 2010**



WORMS - locations
commercial & recreational fishermen 1950 - 2010



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

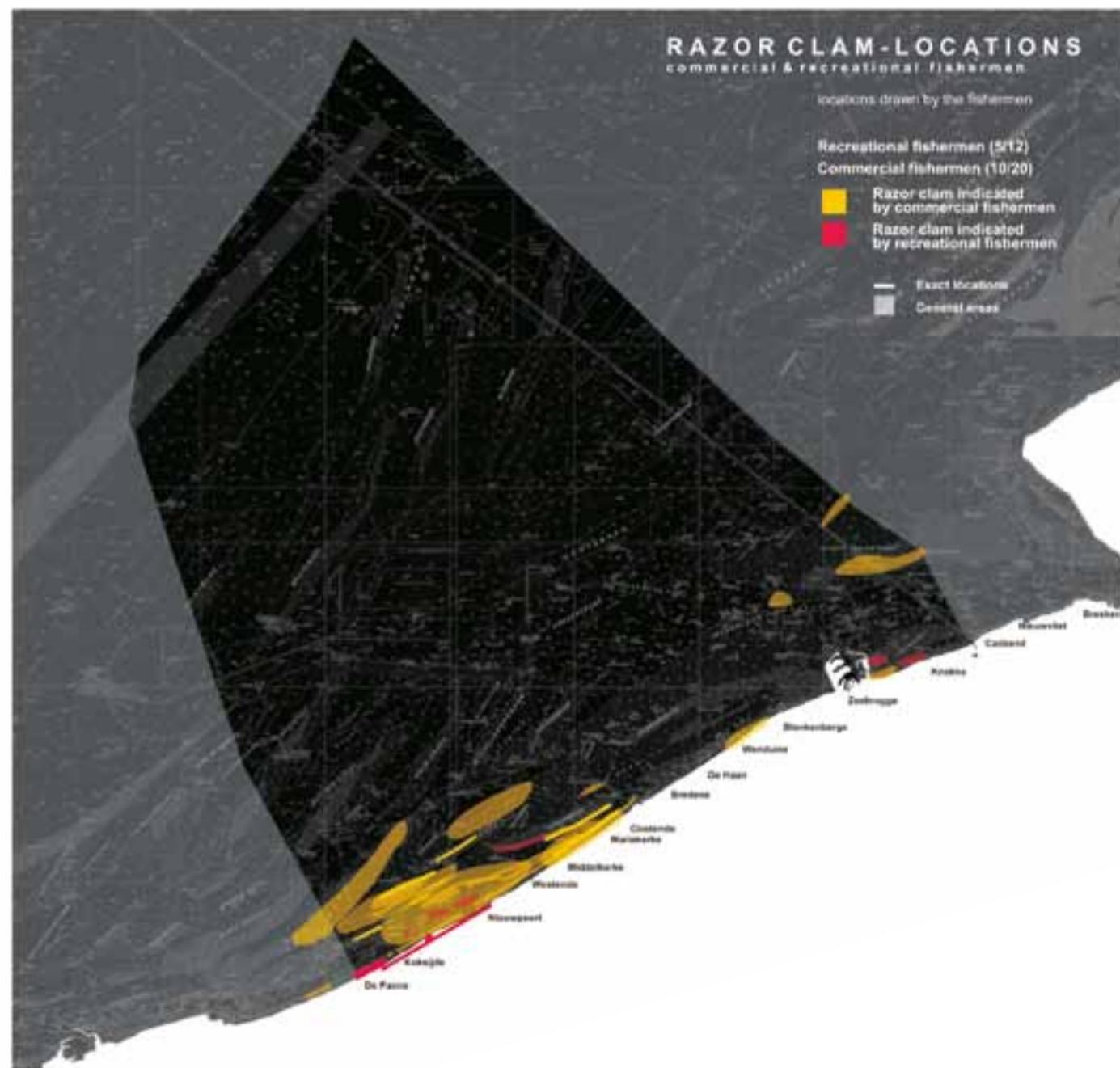
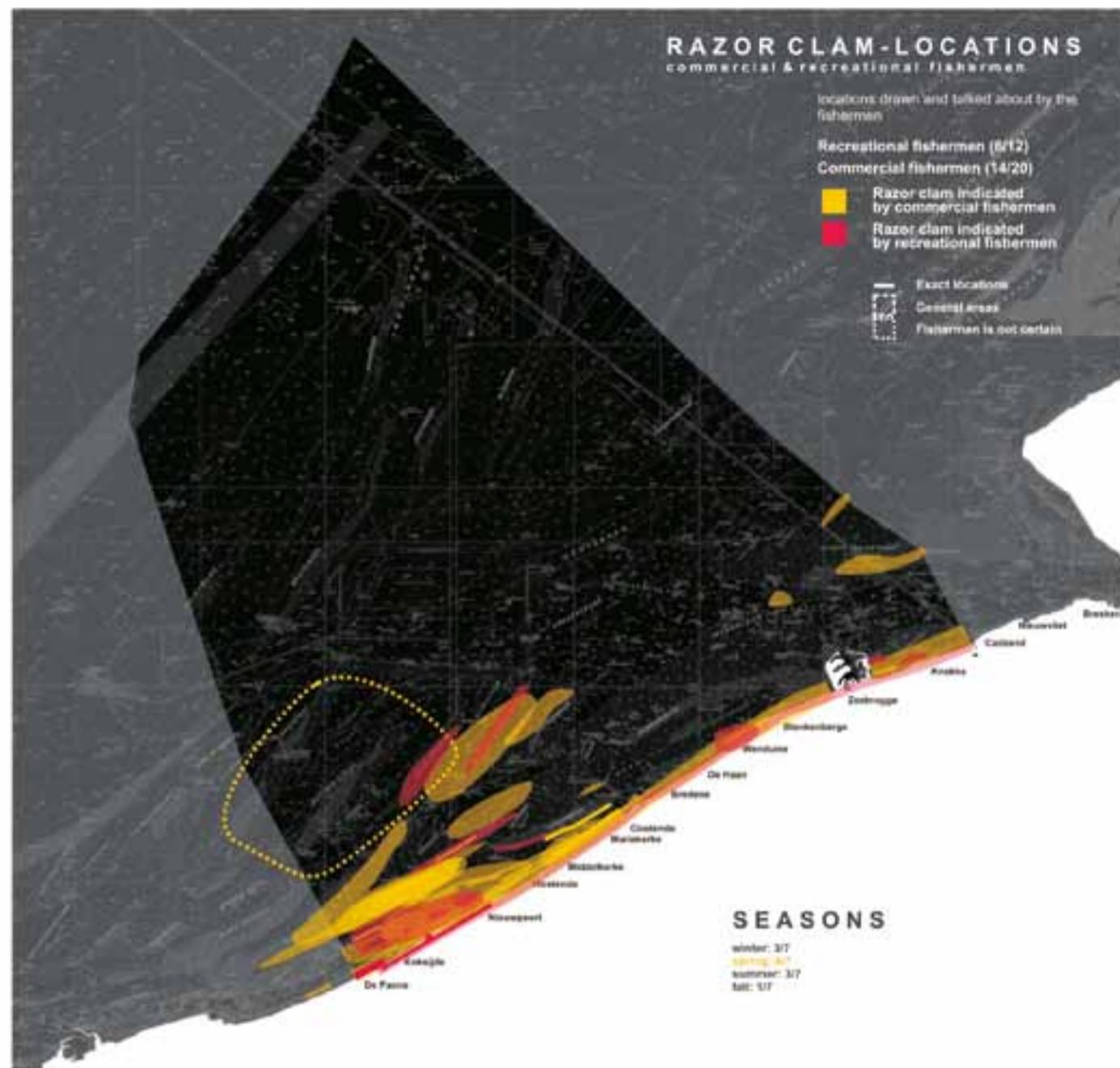


WORMS - structure maps
commercial & recreational fishermen 1950 - 2010

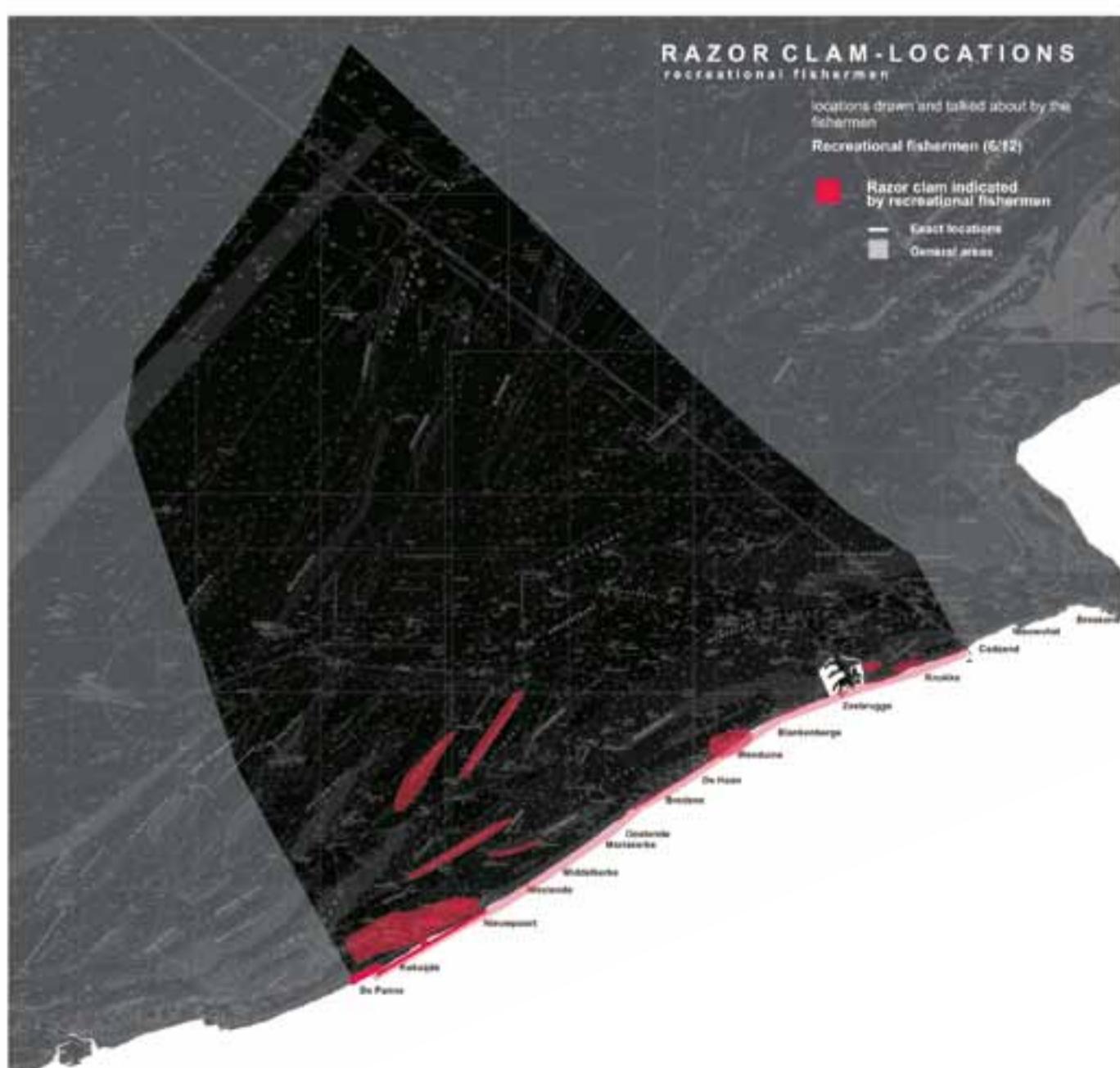
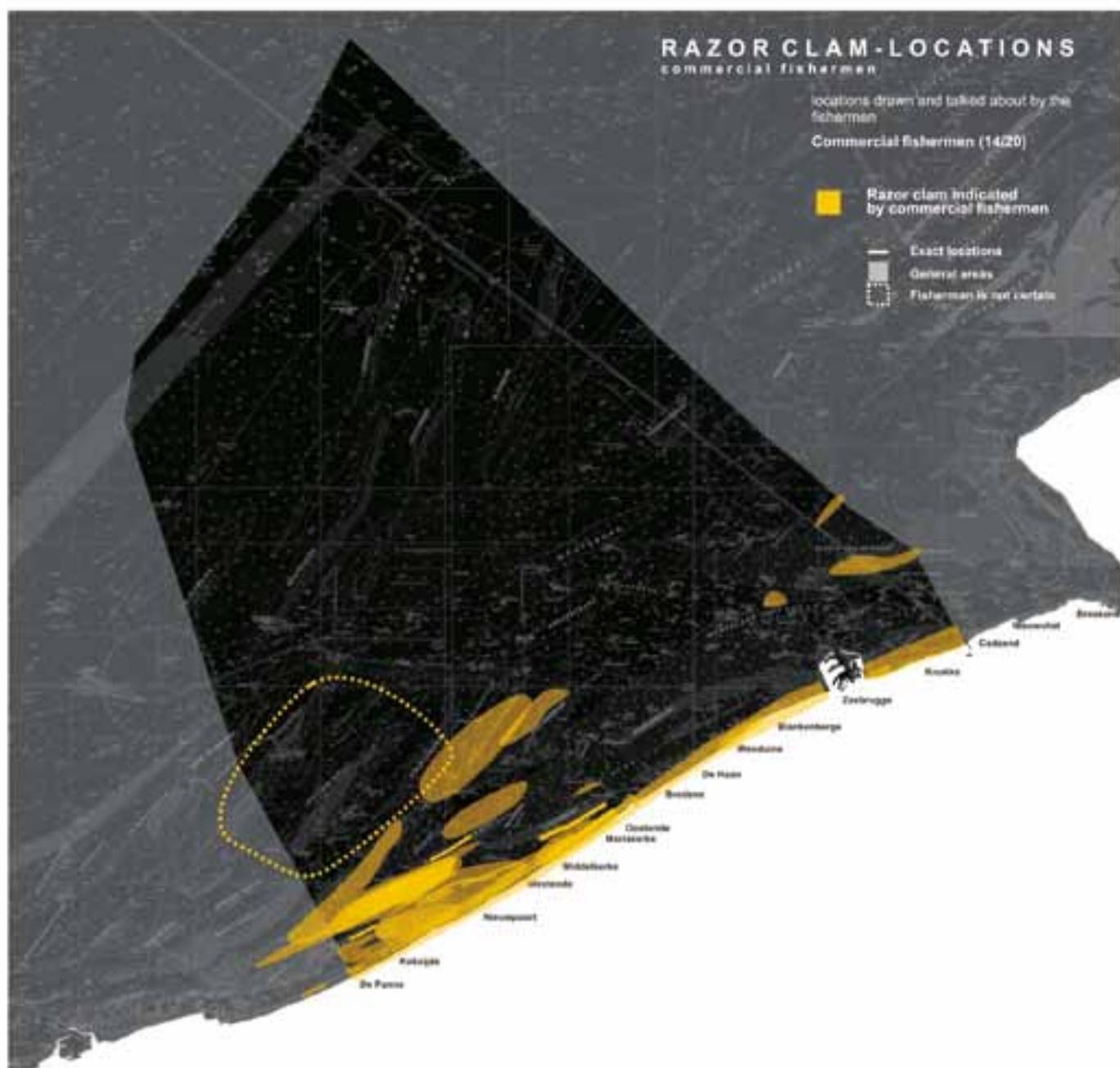


MAPS SERIES IX

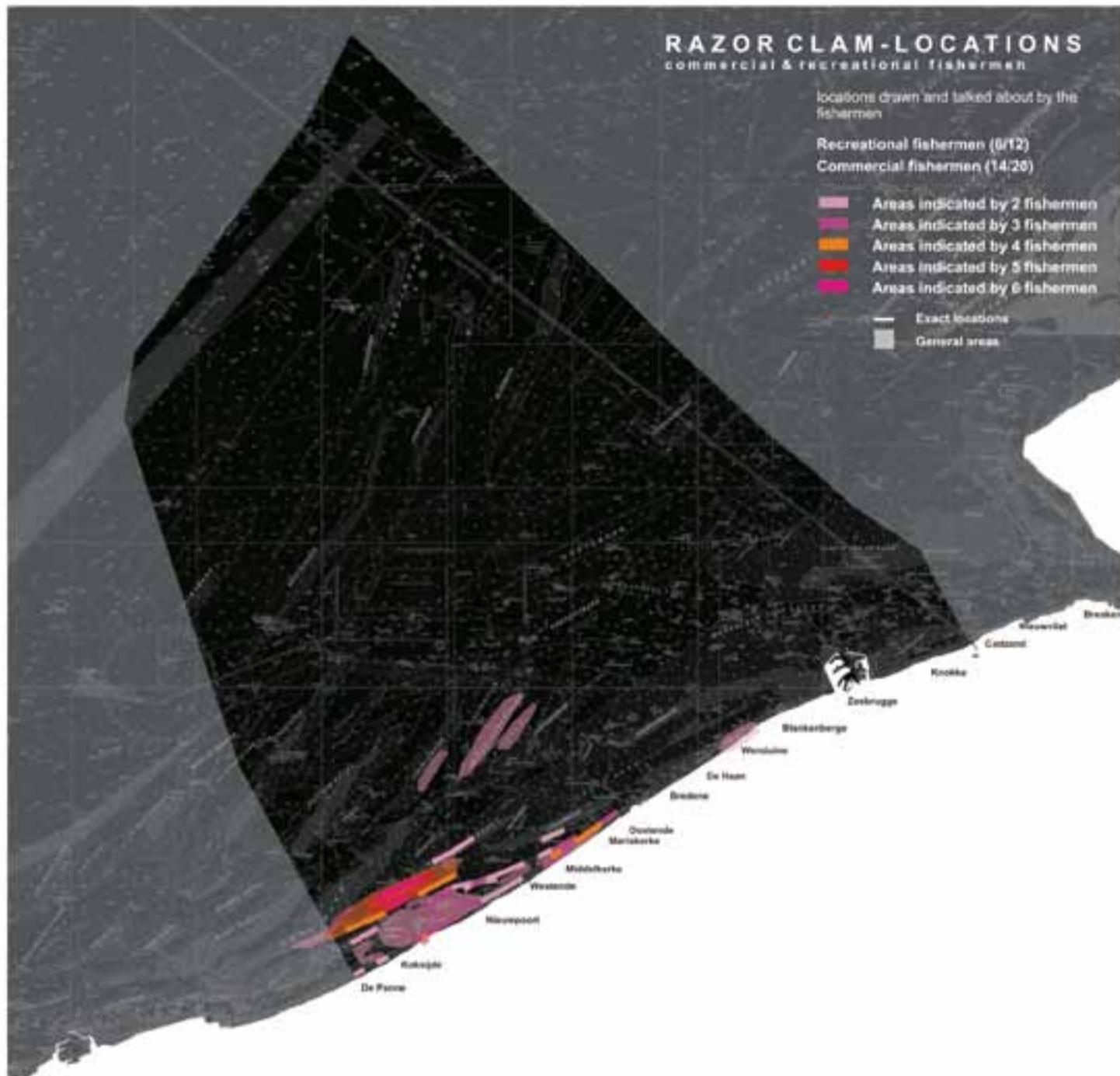
RAZOR CLAM



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



RAZOR CLAM - locations
commercial & recreational fishermen 1950 - 2010

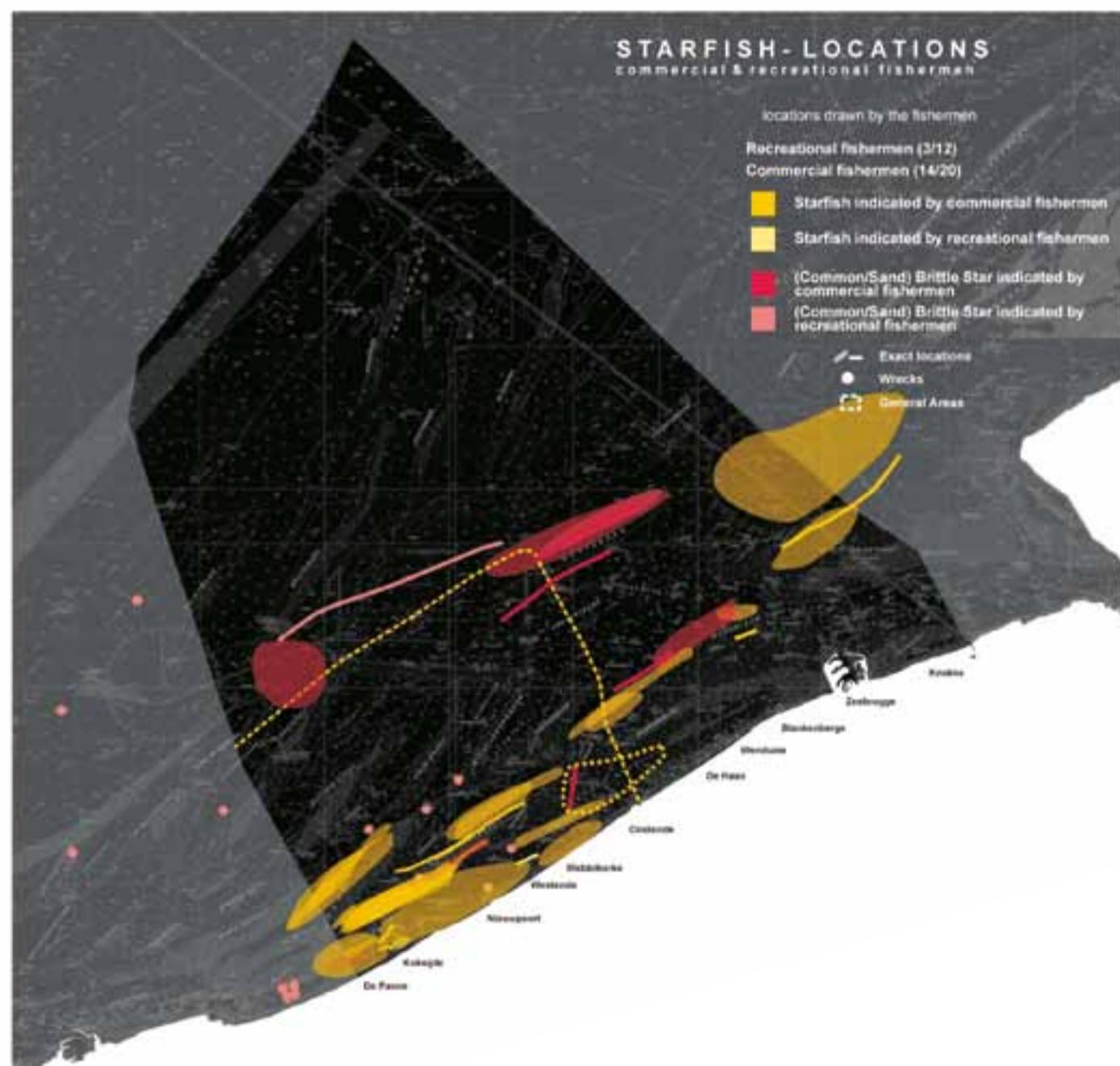
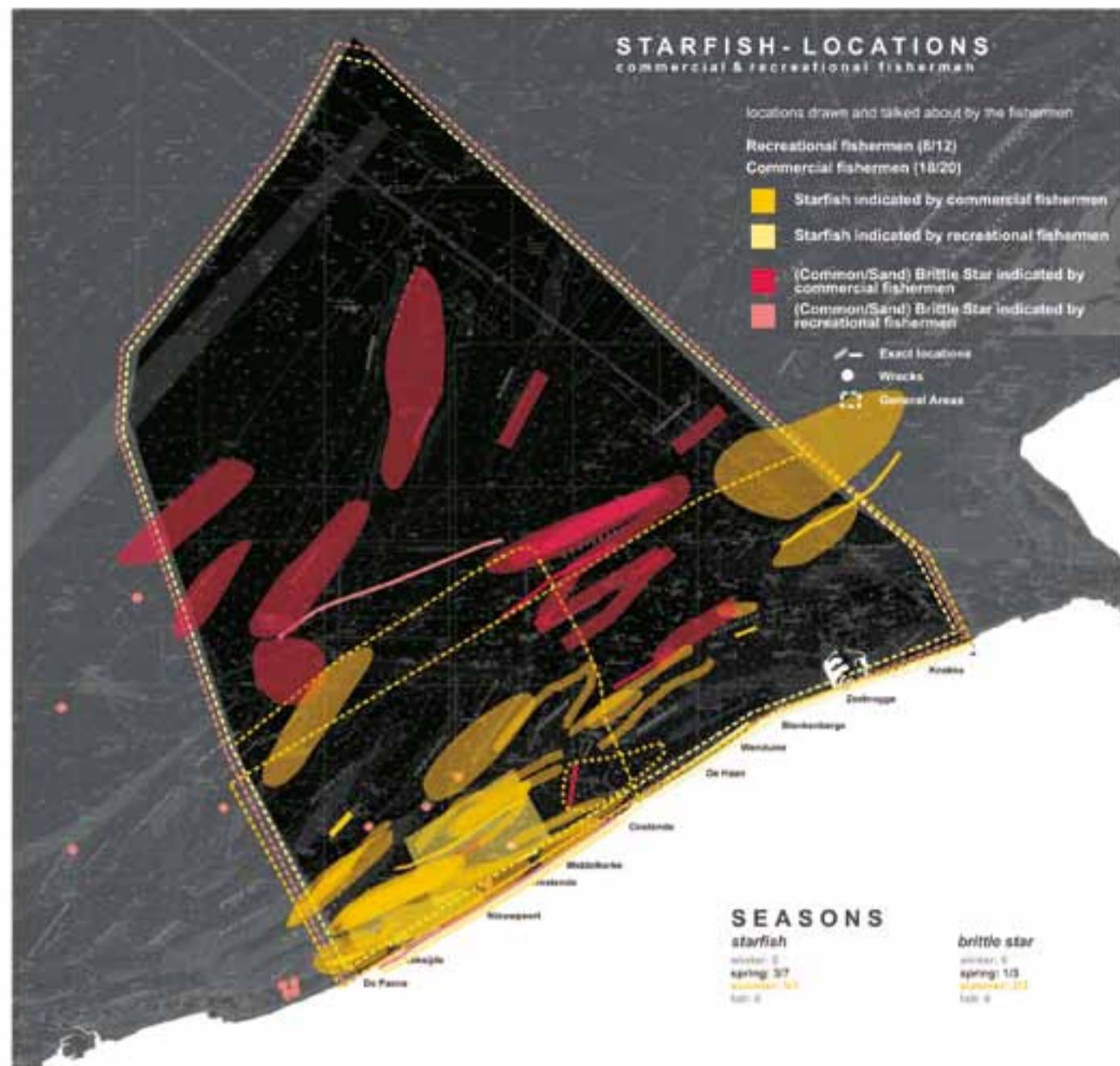


RAZOR CLAM - locations
commercial & recreational fishermen 1950 - 2010
areas indicated by 2 or more fishermen

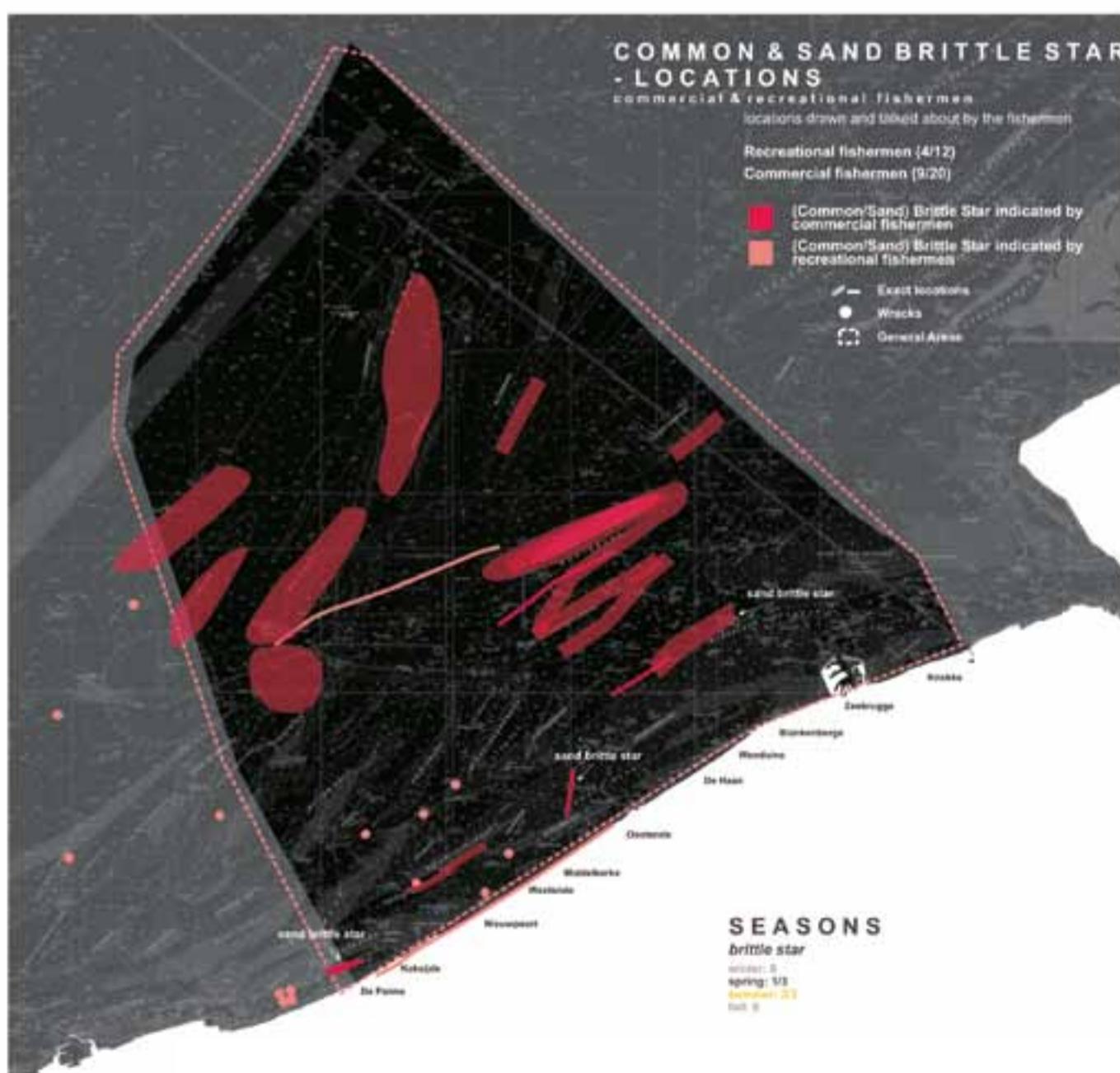
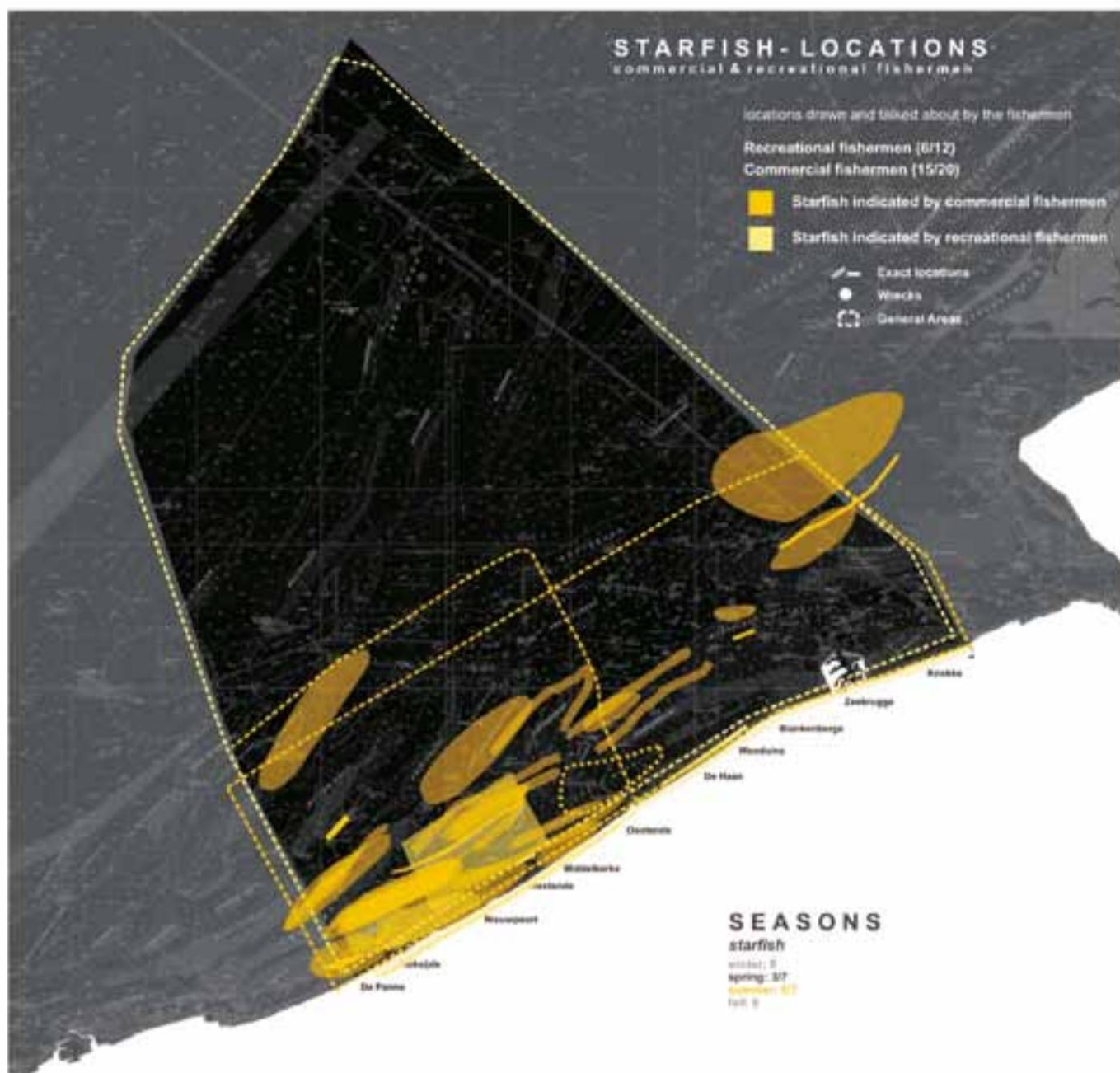


MAPS SERIES X

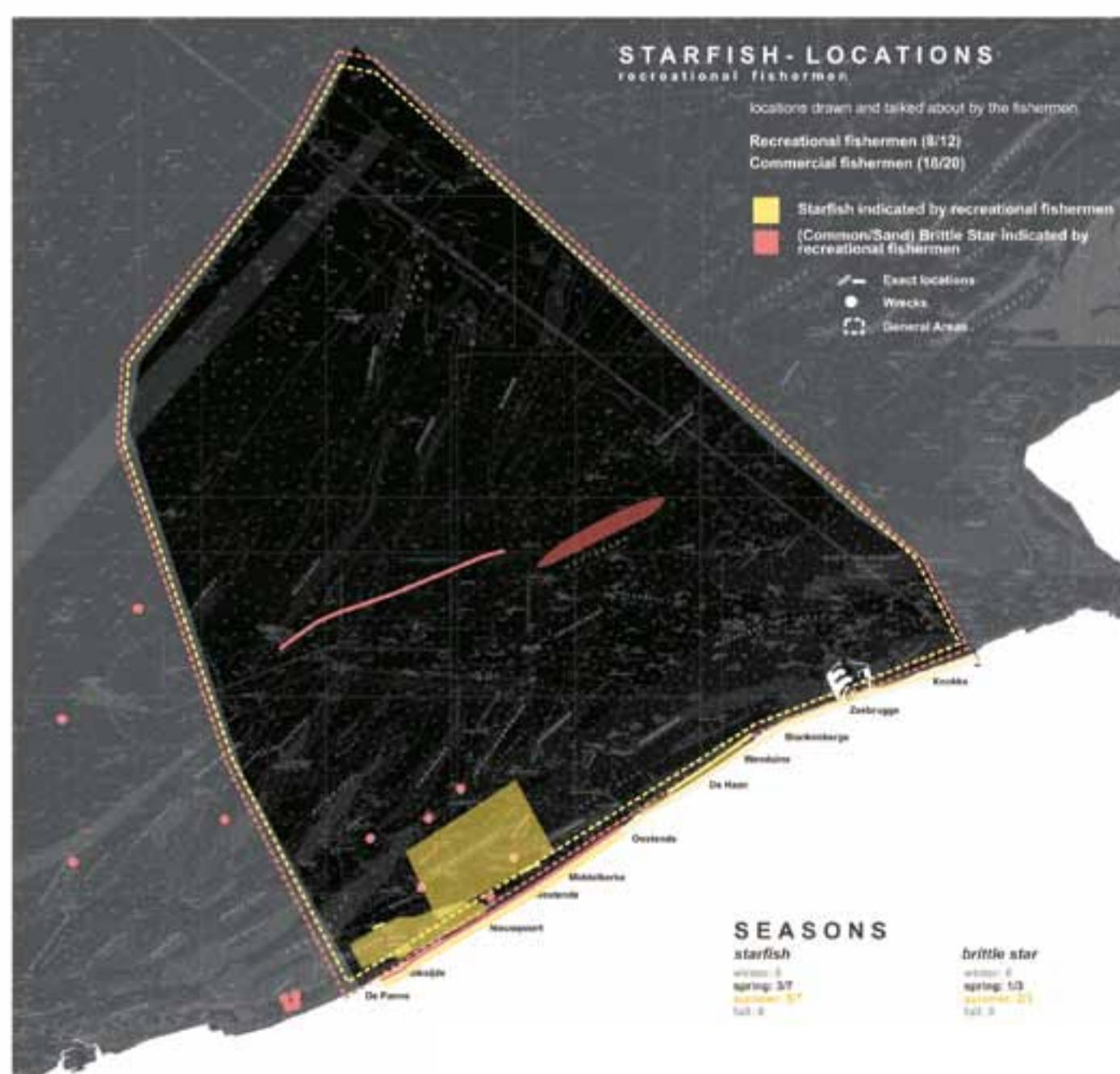
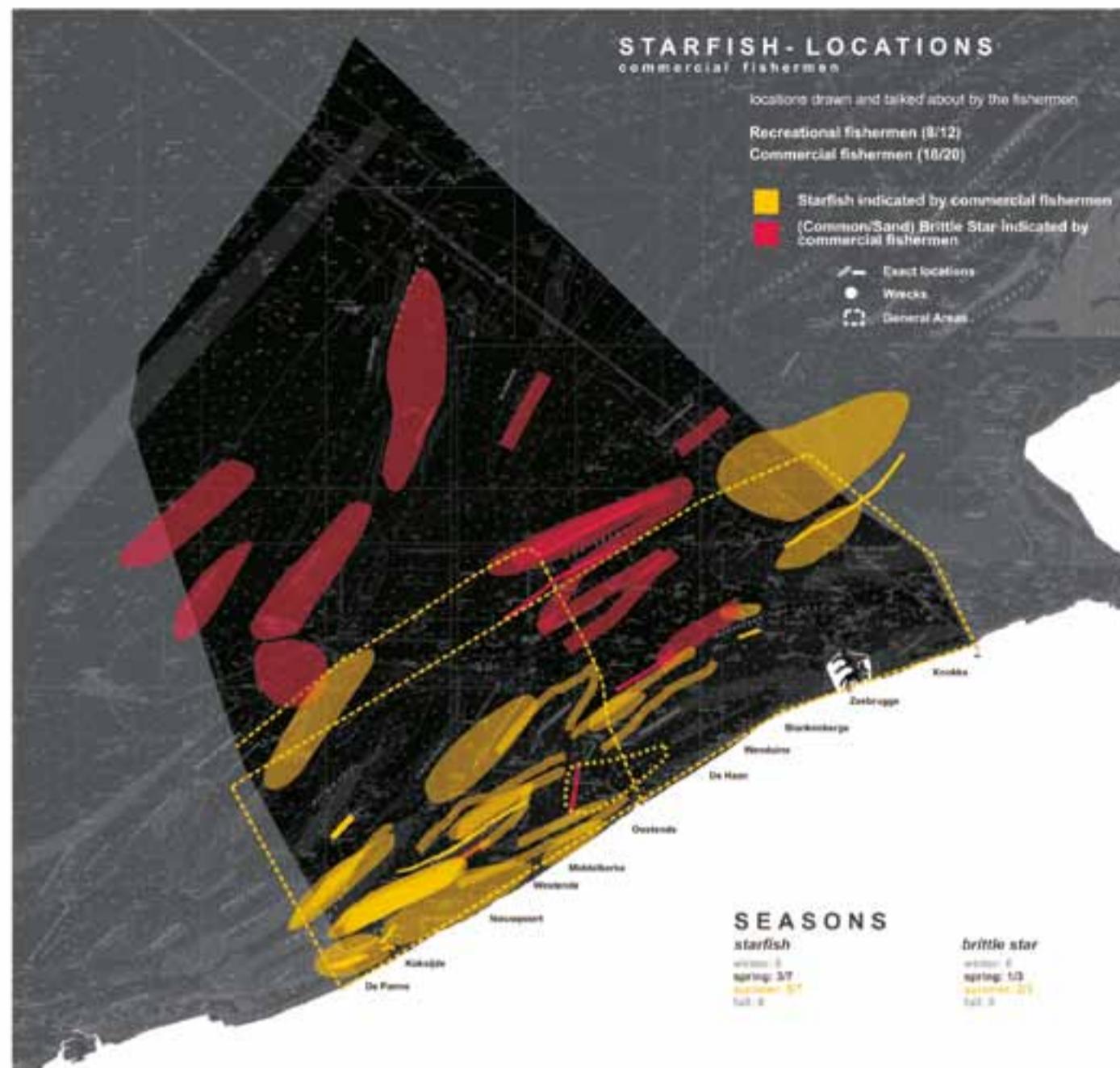
STARFISH



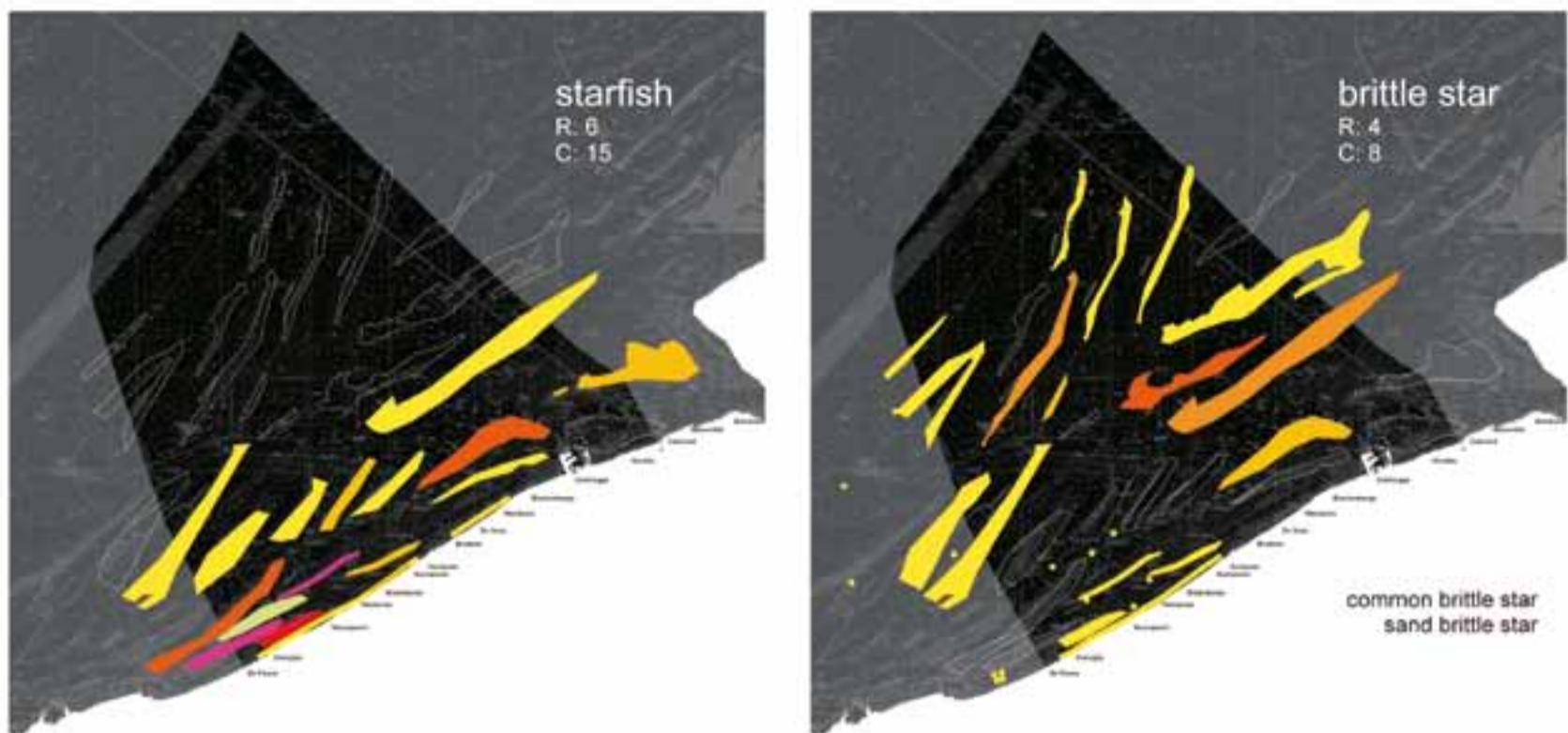
**STARFISH - locations
drawn and talked about
commercial & recreational fishermen 1950 - 2010**



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:

■	1	■	5
■	2	■	6
■	3	■	10
■	4		

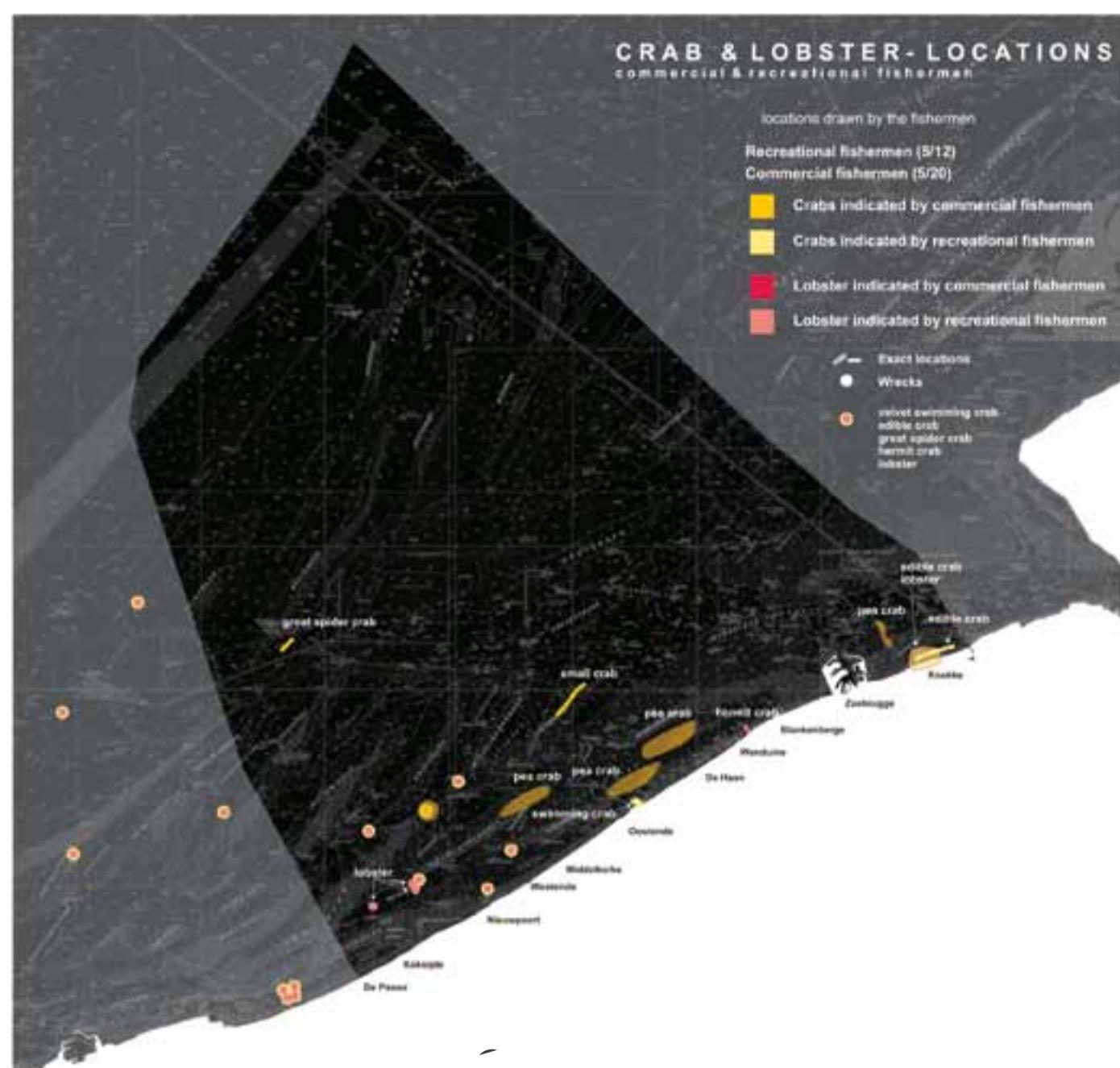
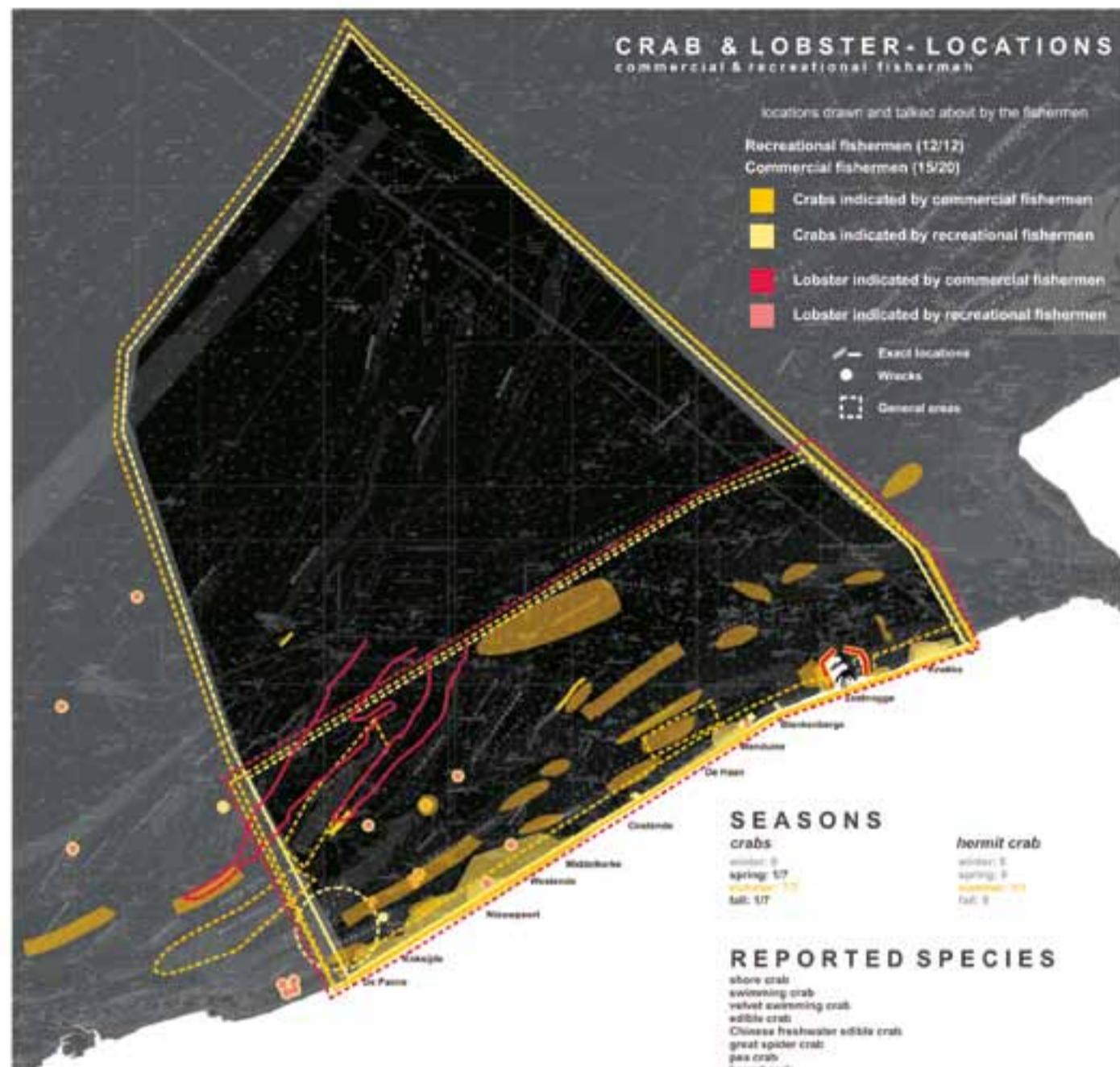
banks / beach ports indicated by fishermen

LECOFISH SEPTEMBER 2011

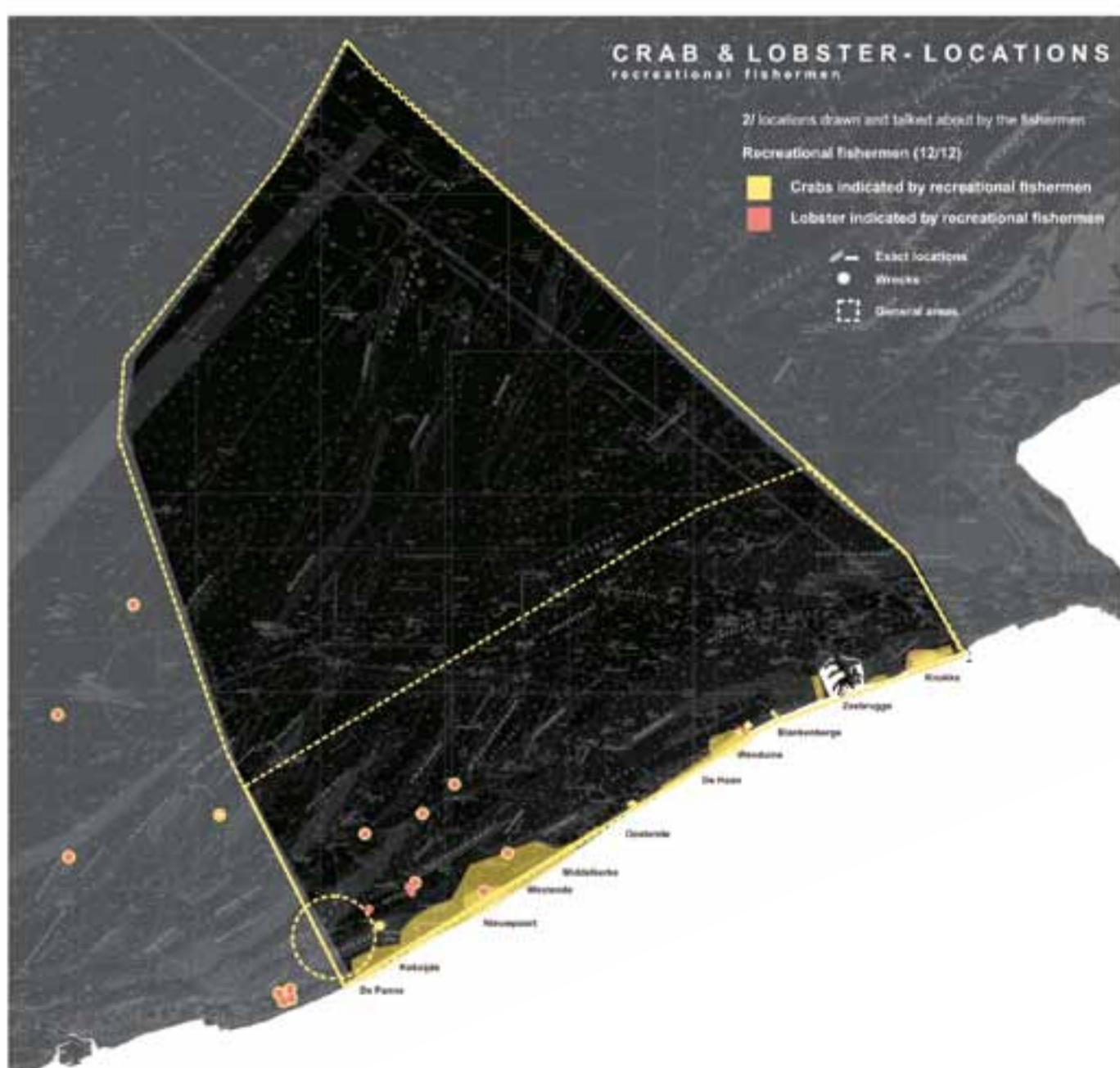
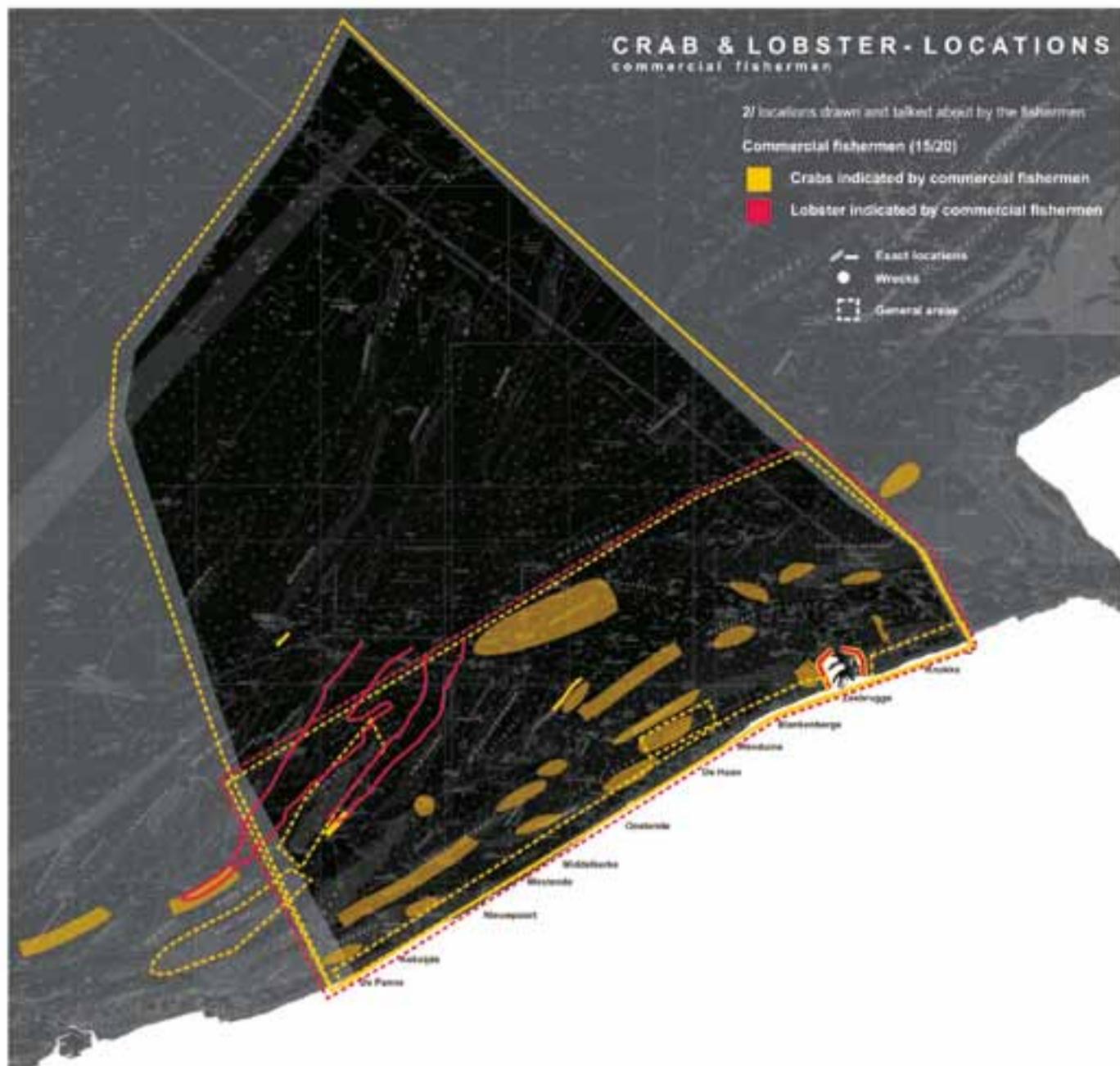


MAPS SERIES XI

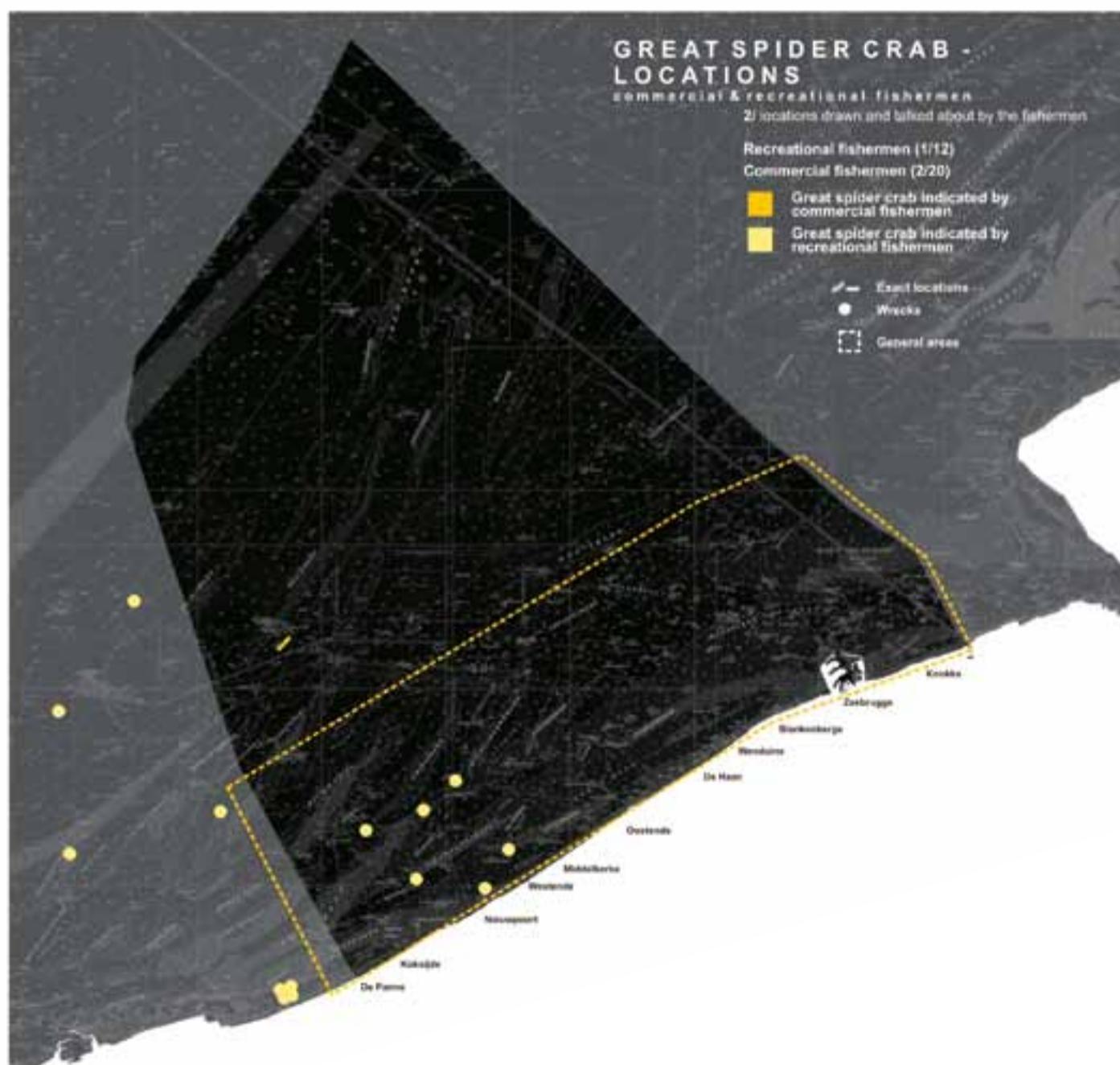
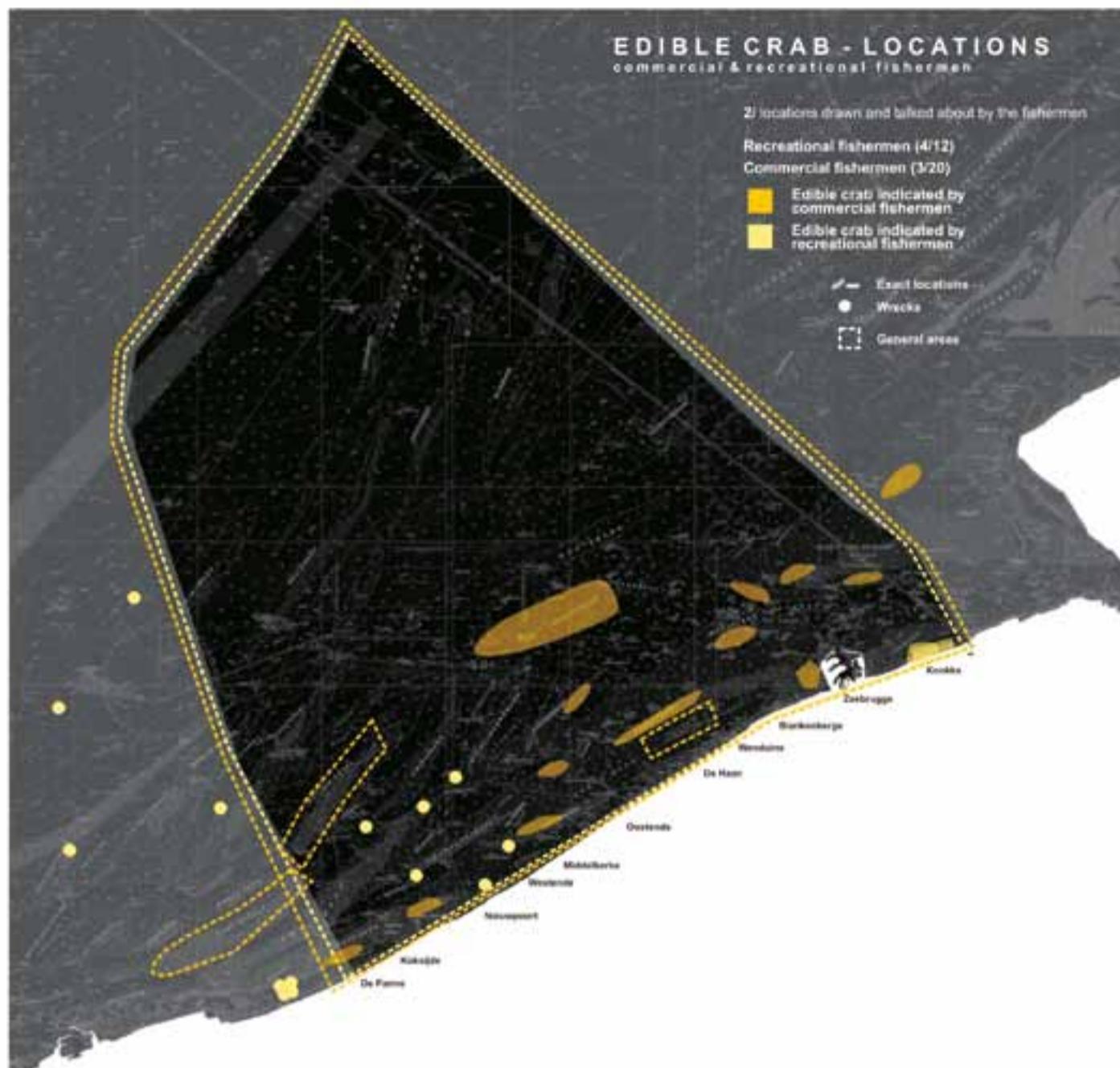
**CRABS AND
LOBSTERS**



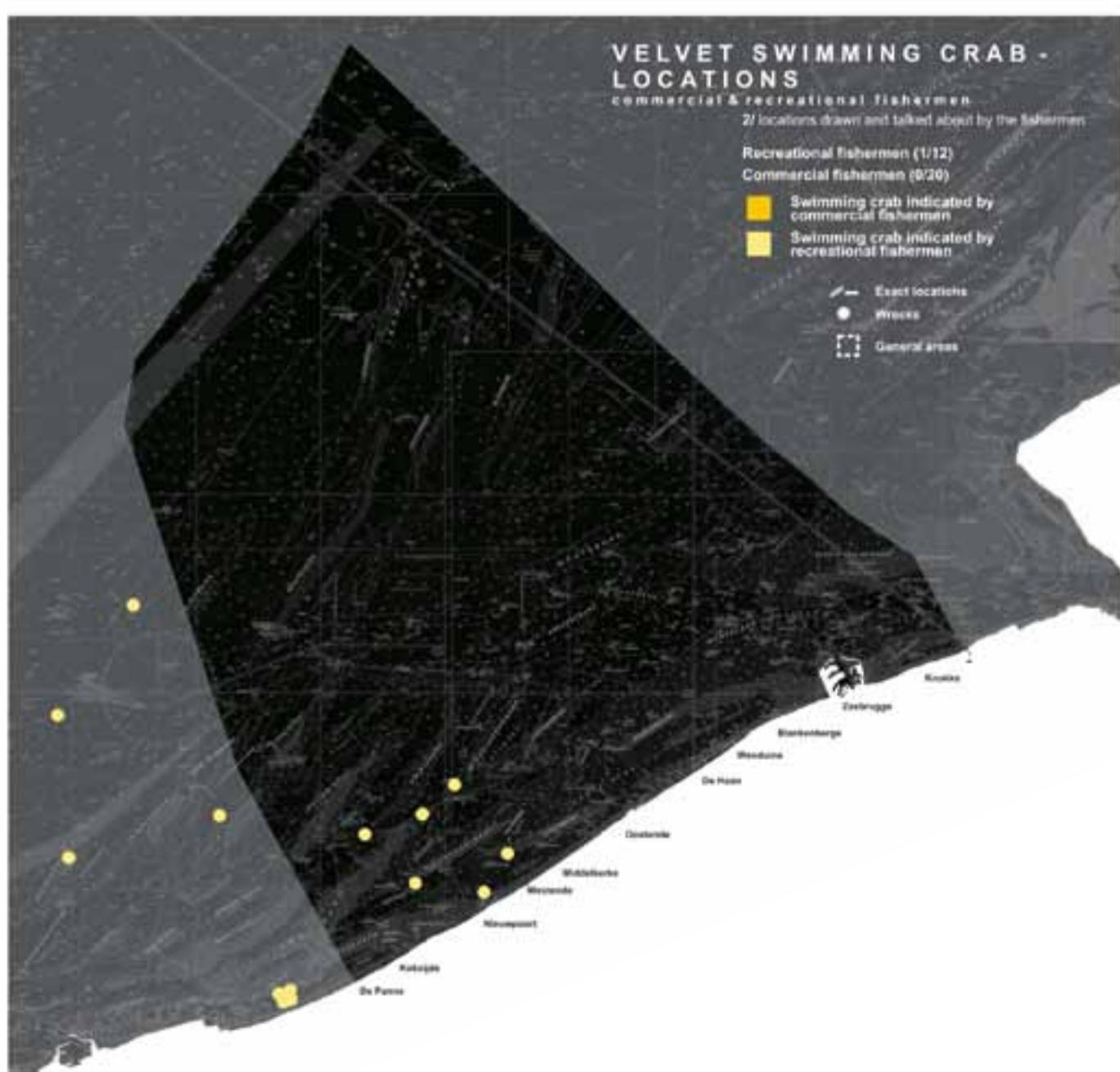
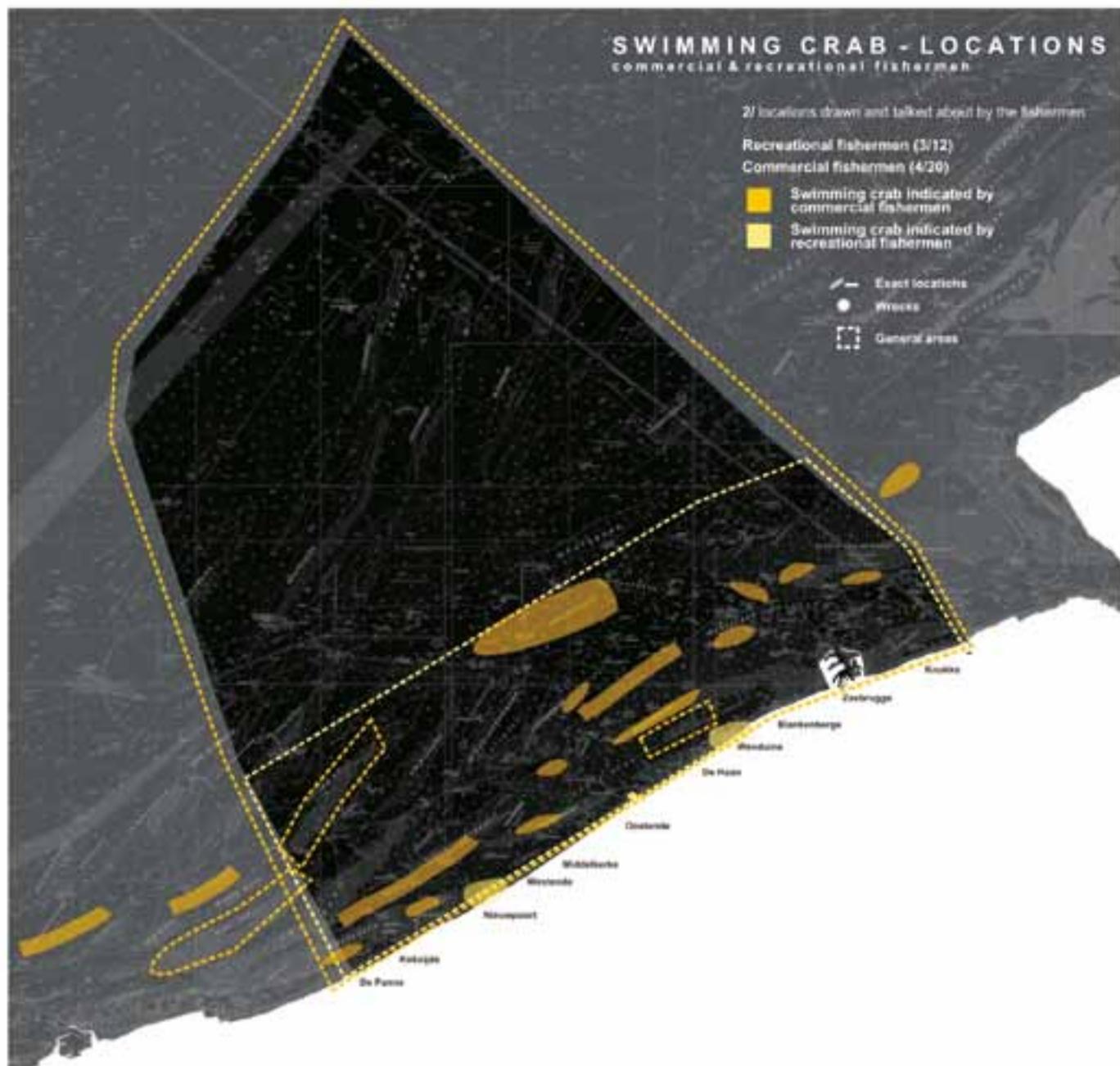
**CRAB & LOBSTER - locations
drawn and talked about**
commercial & recreational fishermen 1950 - 2010



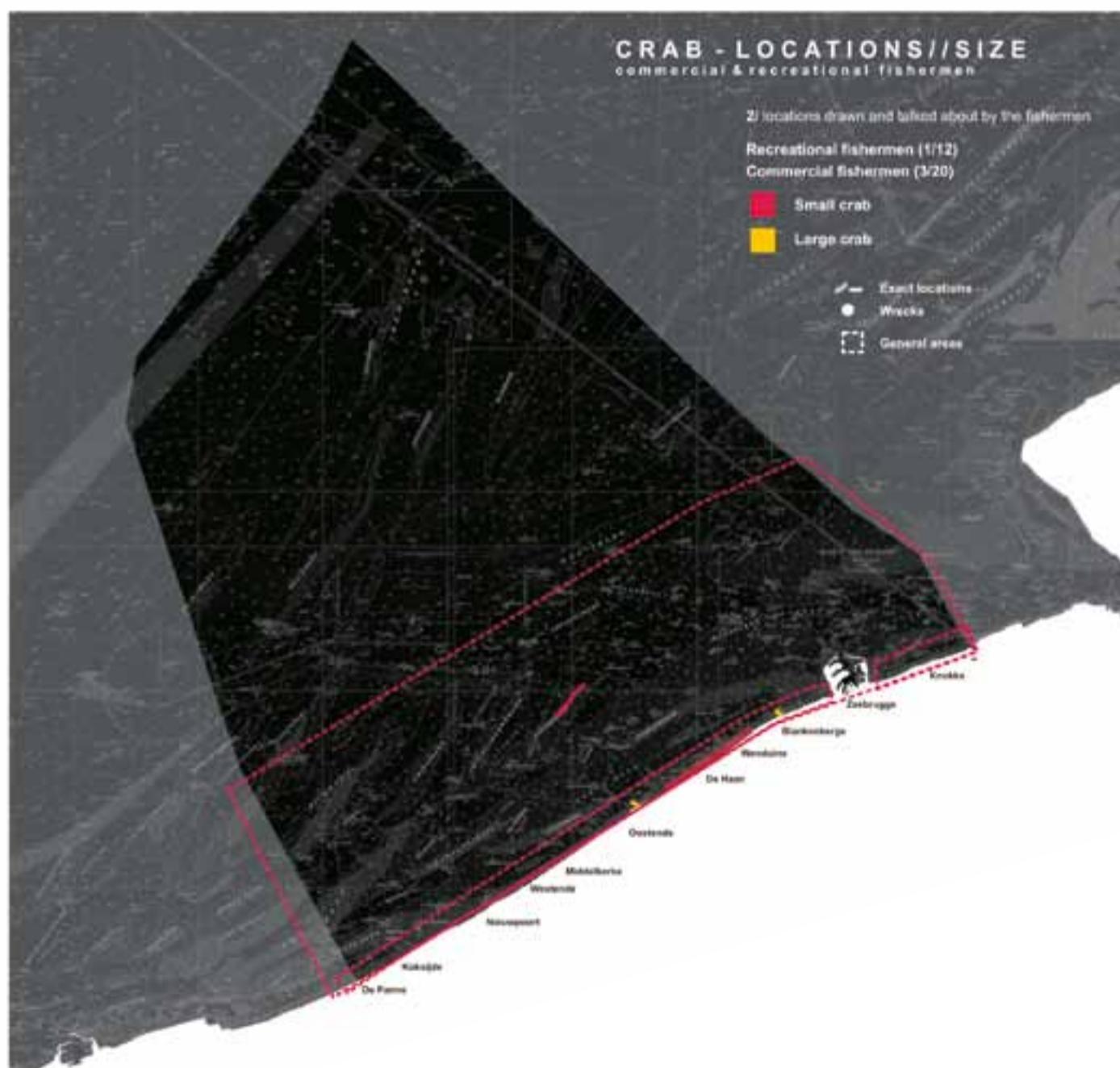
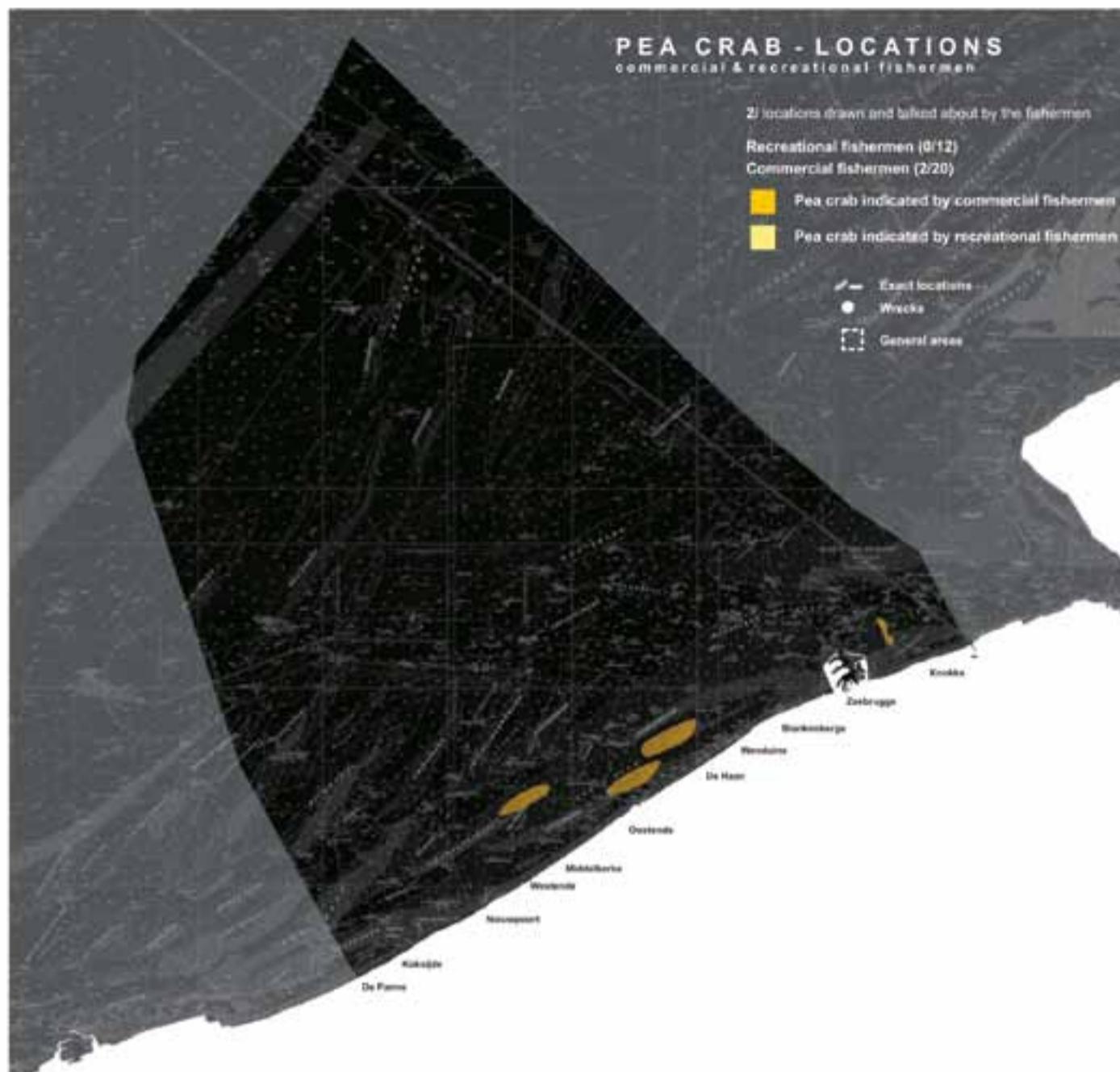
CRAB & LOBSTER - locations
commercial & recreational fishermen 1950 - 2010



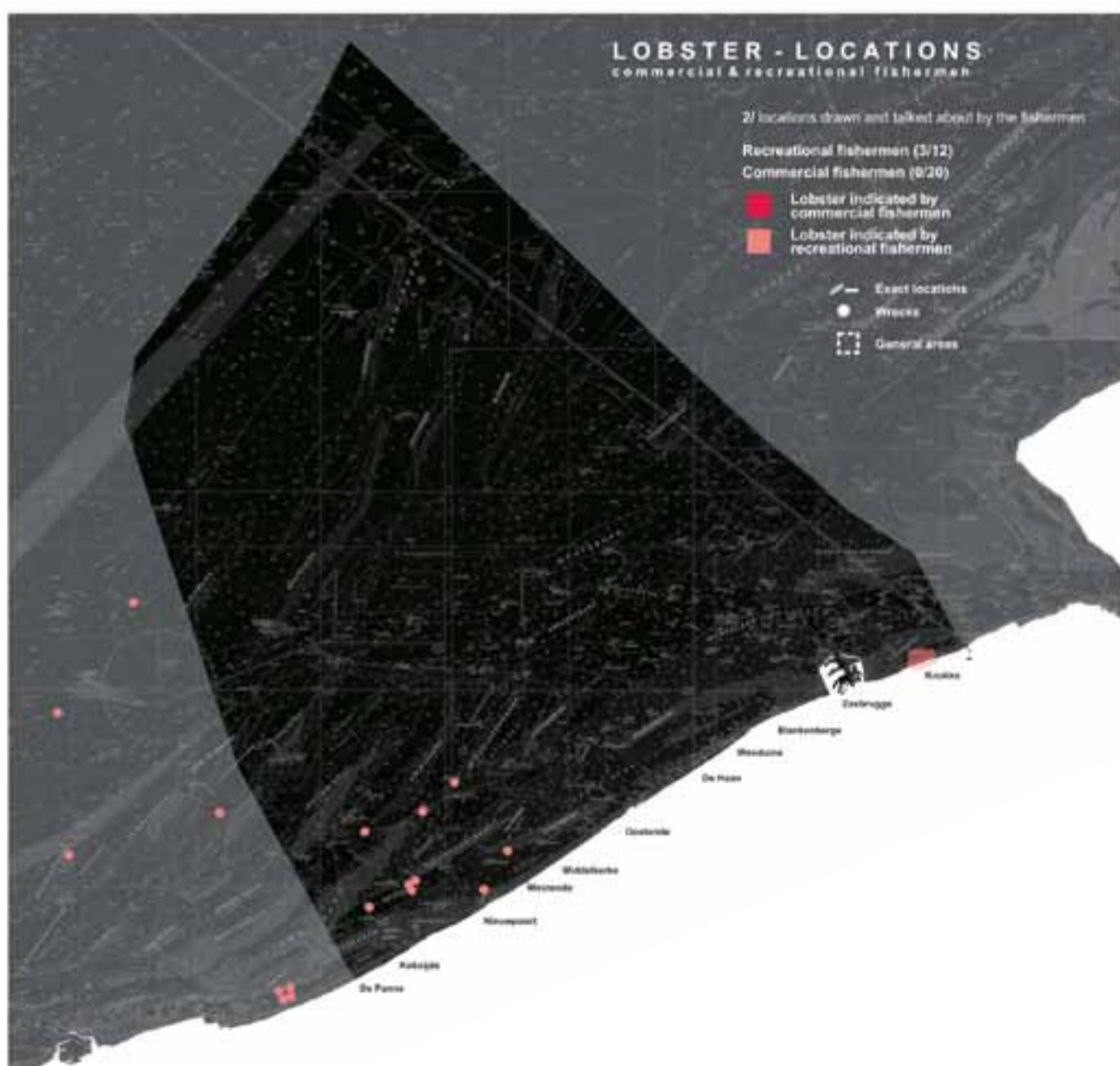
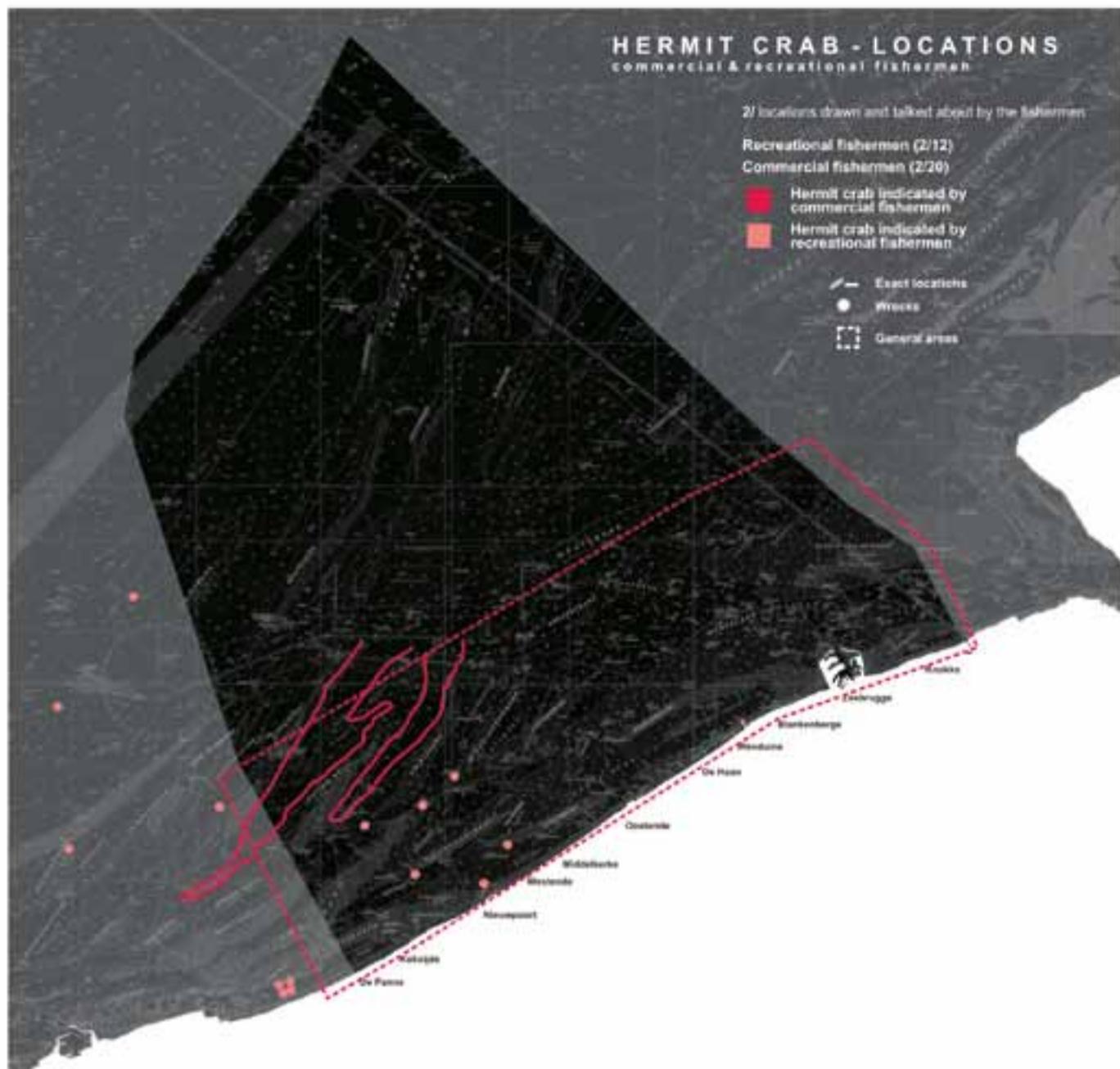
**CRAB & LOBSTER - locations
specific species**
commercial & recreational fishermen 1950 - 2010



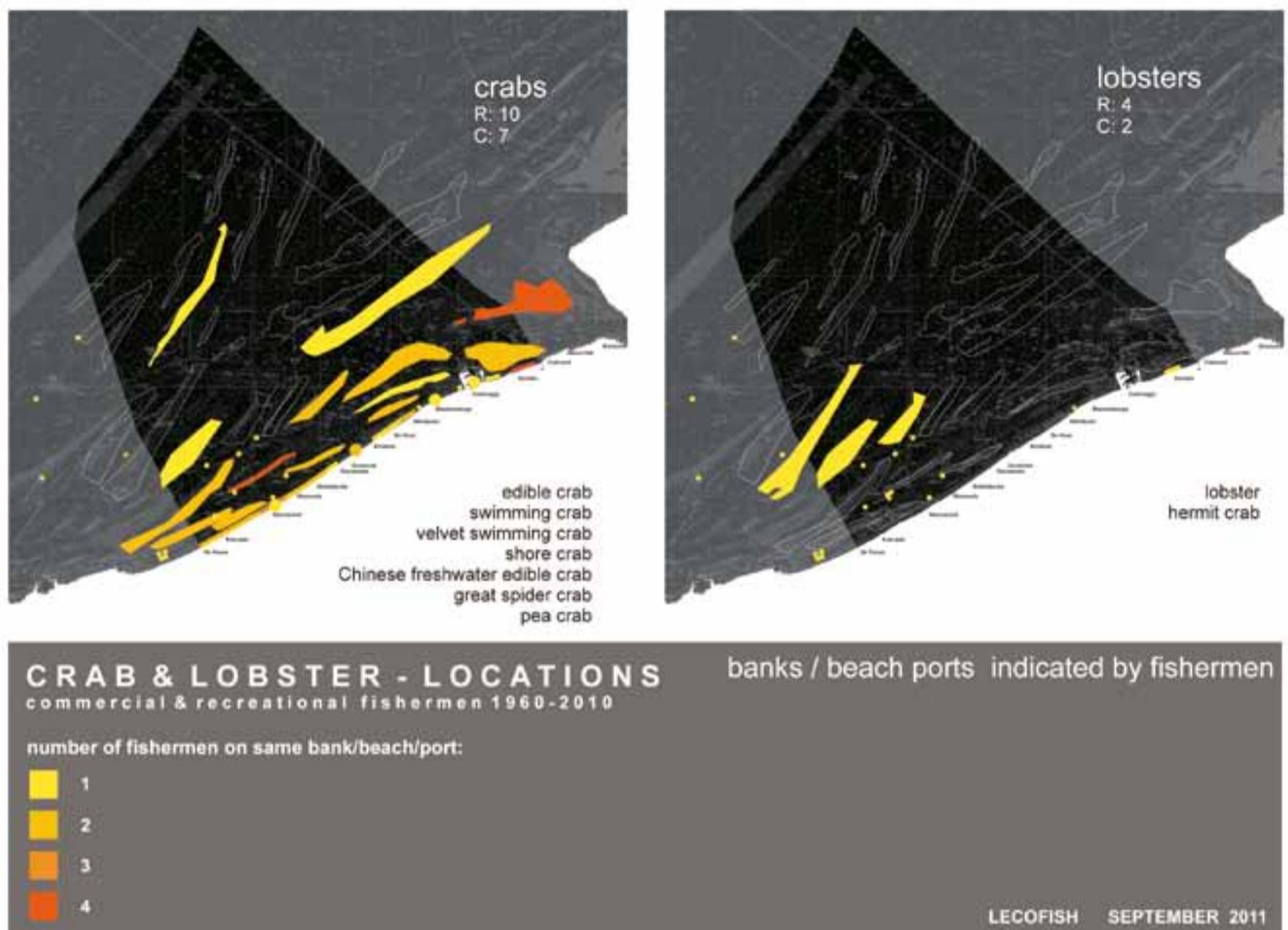
**CRAB & LOBSTER - locations
specific species**
commercial & recreational fishermen 1950 - 2010



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



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

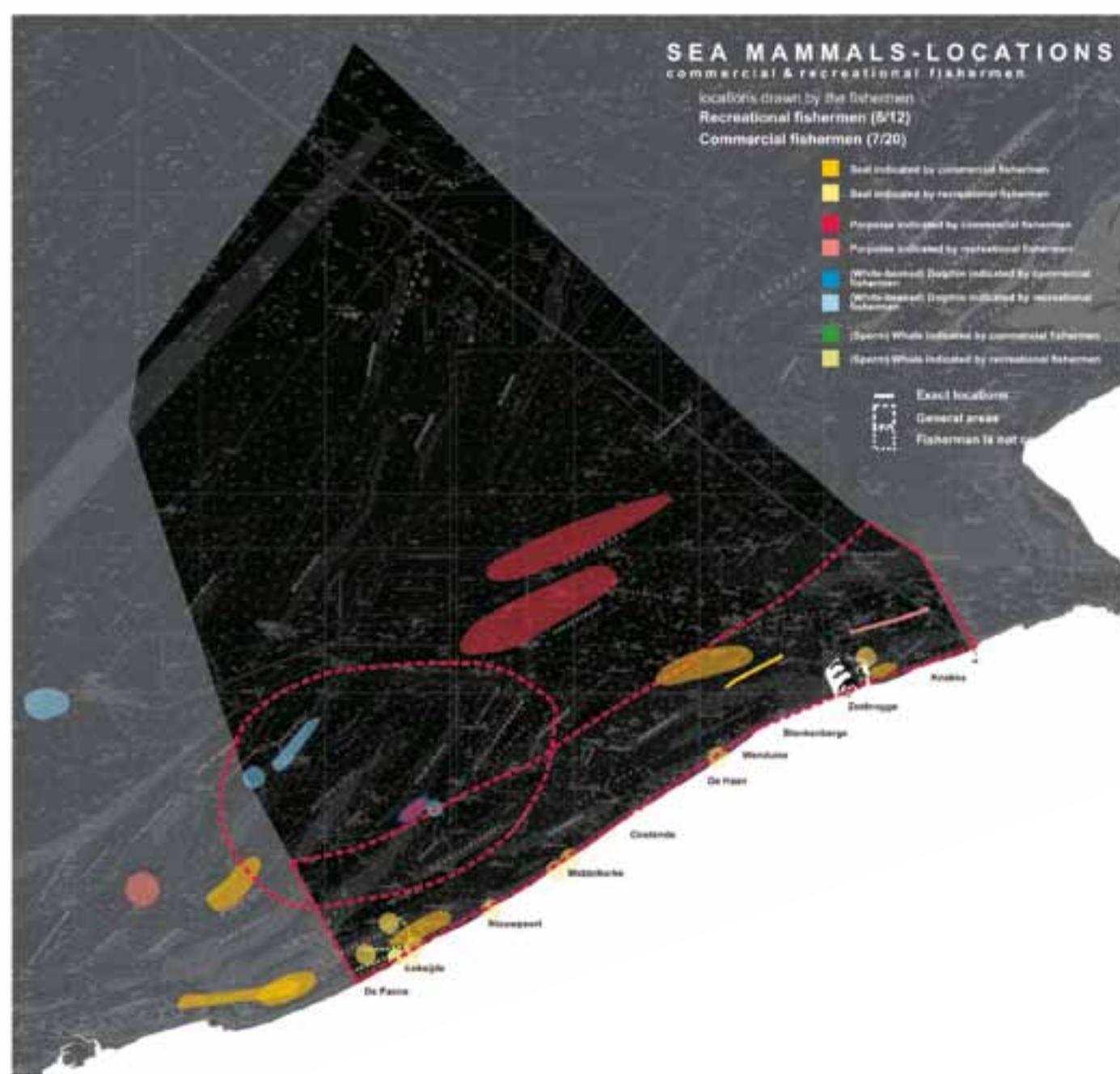
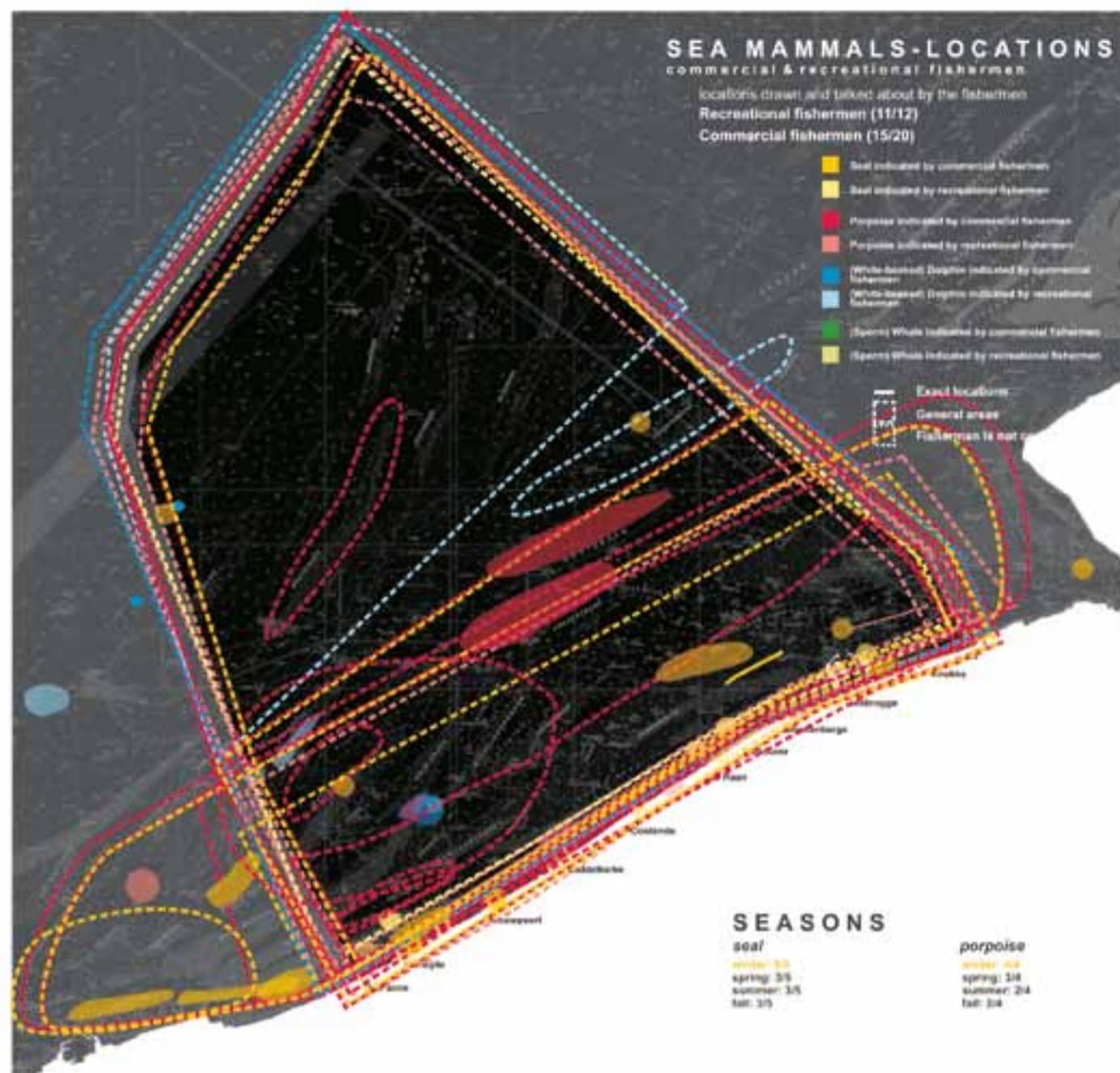


CRAB & LOBSTER - structure maps
commercial & recreational fishermen 1950 - 2010

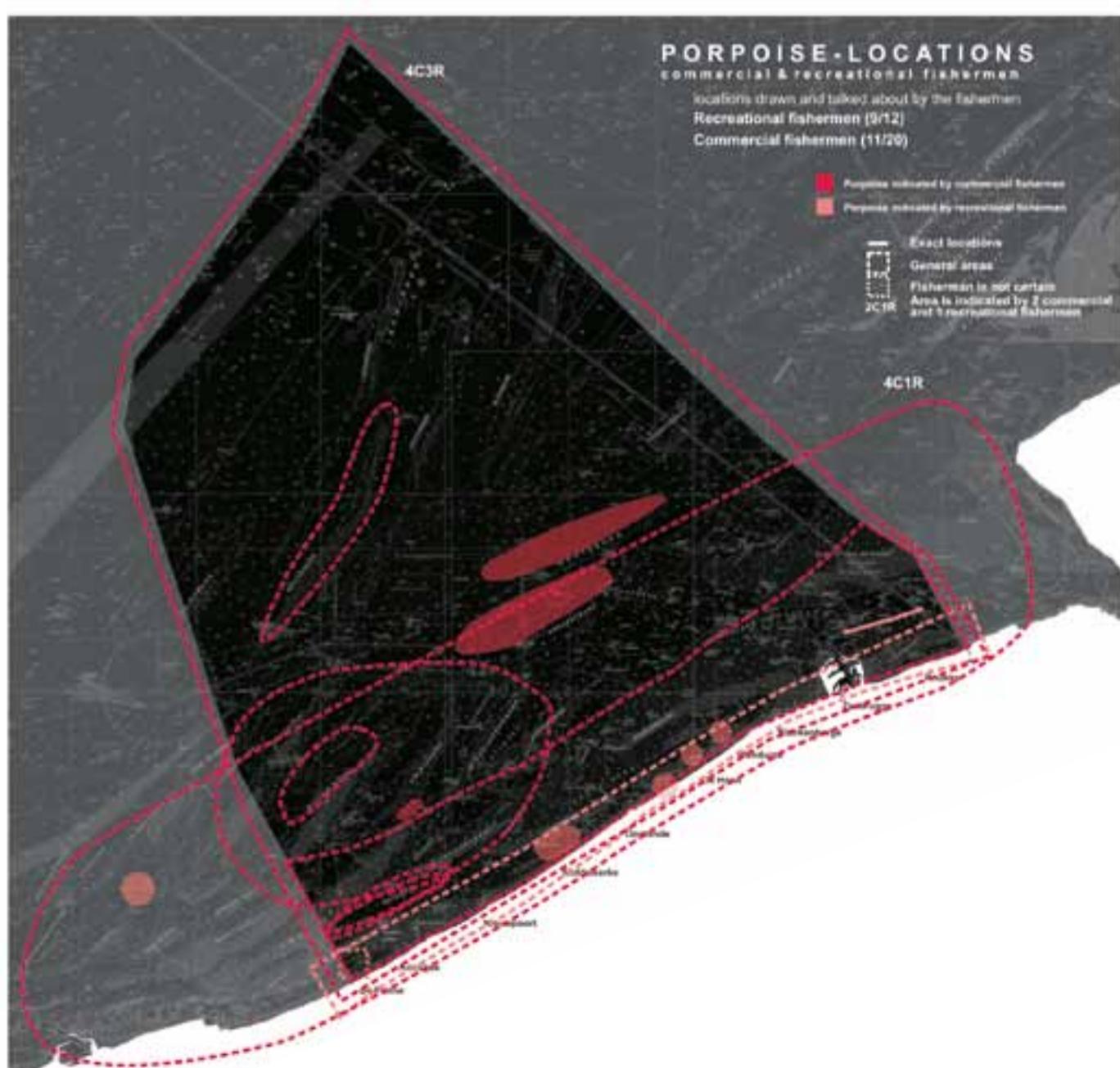
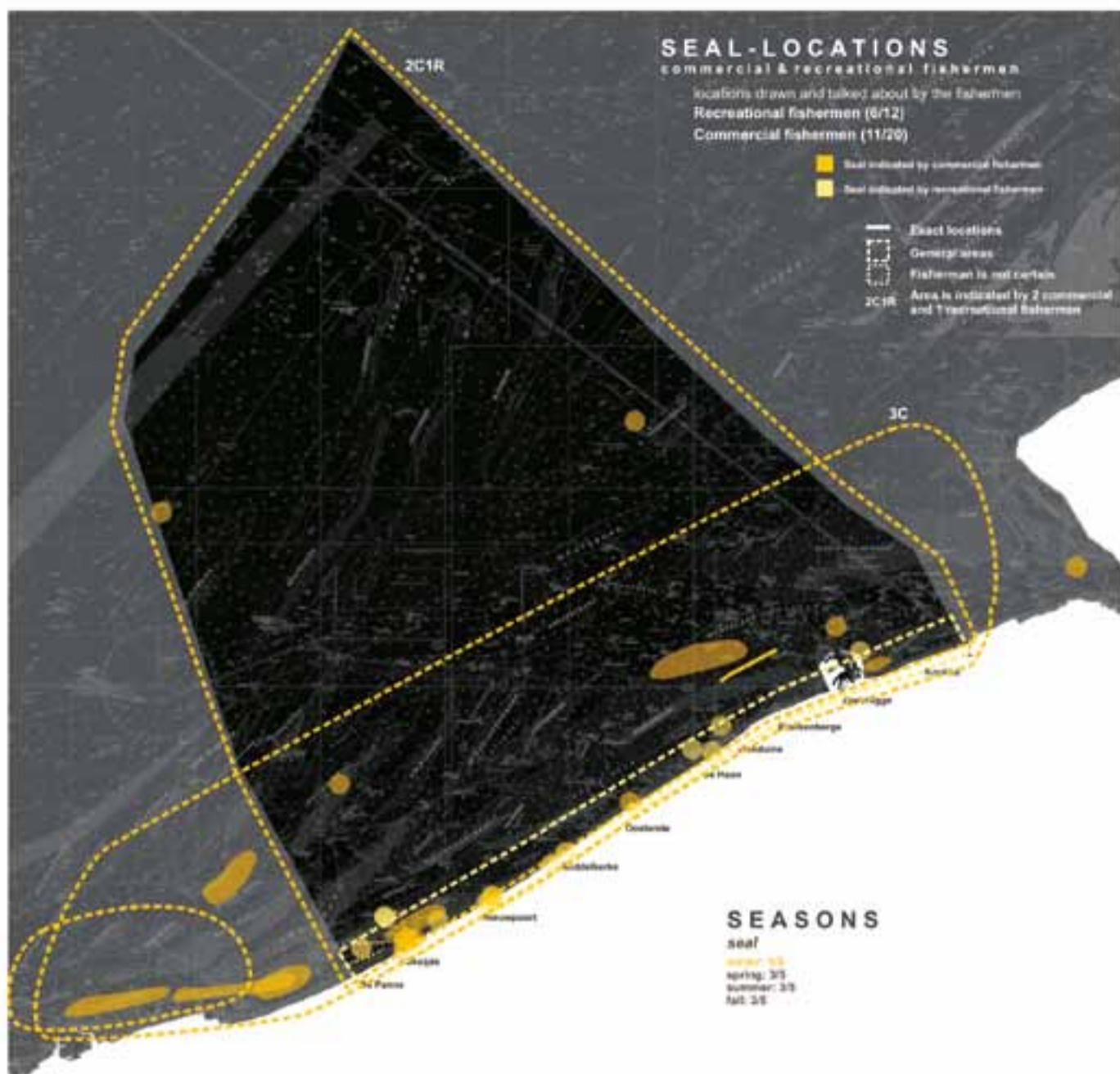


MAPS SERIES XII

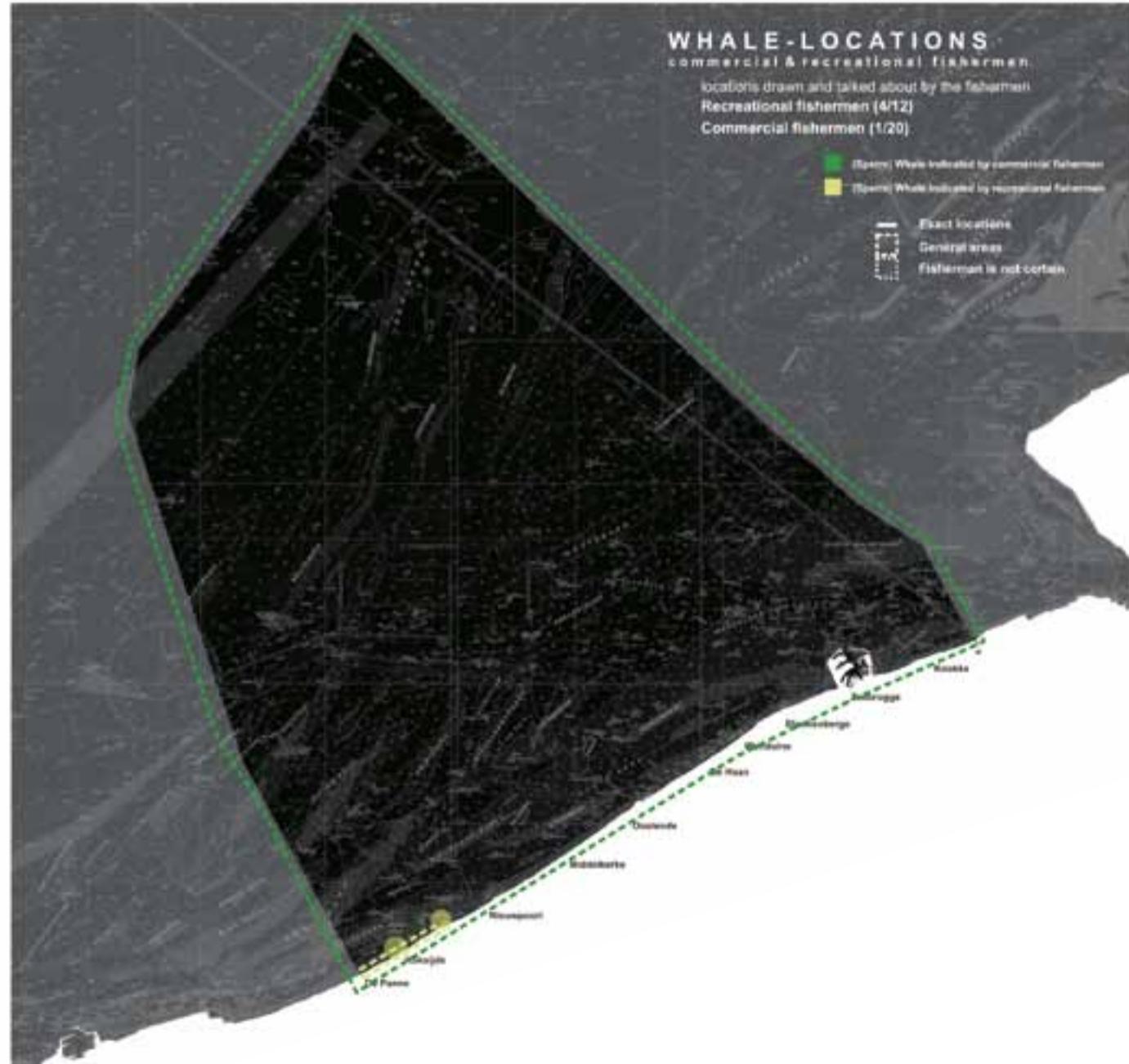
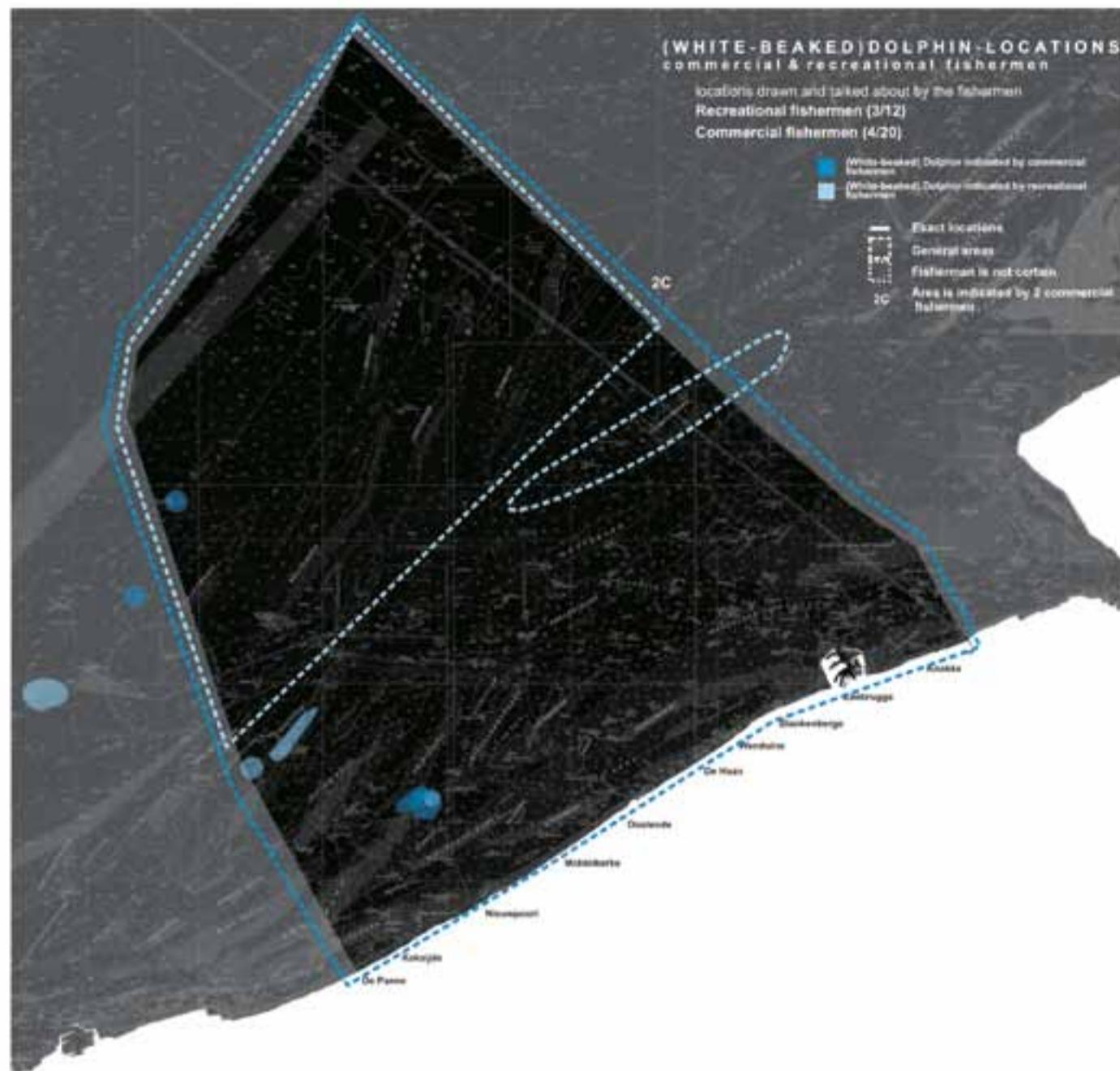
**MARINE
MAMMALS**



**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

