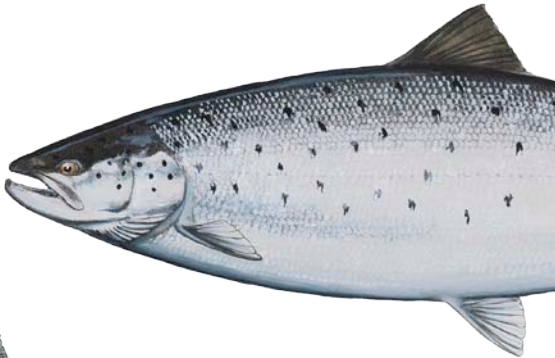
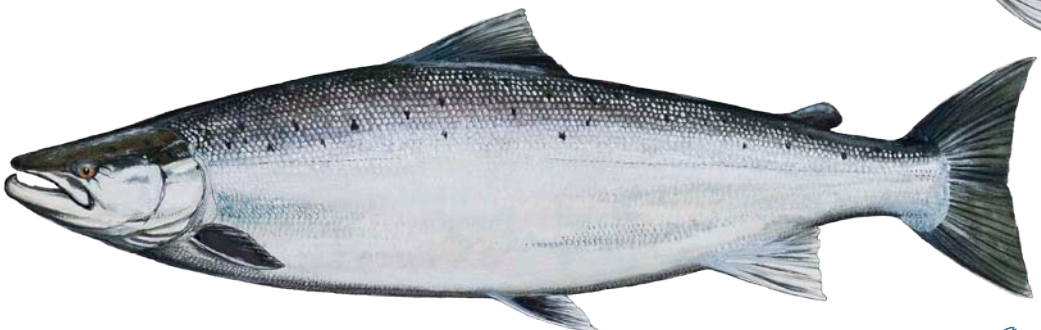
DANISH SALMON AND SEA TROUT





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Danmarks Sportsfiskerforbund

Frilufts Rådet

STØTTET MED TIPS- OG LOTTOMIDLER TIL FRILUFTSLIVET

DANSK LAKSEFOND

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Preface

The Danish salmon and sea trout stocks are unique. We must protect them, and that is why Danmarks Sportsfiskerforbund publishes this booklet. Here you can get a greater knowledge about and better understanding of our salmon and sea trout. How do they look and how do they differ from each other? Why do we need to take care of them – and how? You will find the answers and much more in this booklet. Read it, and use it as a work of reference, so you're equipped for fishing for salmon and sea trout in Denmark. For economical support we would like to thank Friluftsrådet and Dansk Laksefond and also expert advice from Søren Larsen, at Dansk Center for Vildlaks, Stig Pedersen and Finn Sivebæk both at DTU Aqua

Danmarks Sportsfiskerforbund

The Danish salmon stocks

Both Atlantic and Baltic Sea salmon roam the Danish waters, but only Atlantic salmon are caught in the Danish streams. The Atlantic salmon travels thousands of kilometres from the spawning grounds upstream to the feeding grounds in the northern Atlantic, and is completely dependent on free passage. This is why hydroelectric dams and excavations of the rivers throughout the twentieth century almost killed off the salmon stocks in Denmark. Only a very small population managed to survive in a few rivers in western Jutland. Anglers and biologists managed to save the salmon through dedicated work in the hatcheries and a colossal effort to reshape natural habitats, which means that we today have excellent salmon fishing in the largest rivers in western Jutland south of the Limfjord and in the River Gudenåen. Populations are still more or less based on stockings of juvenile salmon, however.

Danish salmon grow to huge proportions. Every year, salmon in the 20-kilos weight class are caught. The biggest ever weighed 26,5 kg and was caught in the River Skjern in 1954. The salmon run starts as early as February or March and continues well into September. The larger salmon from 9 to 25 kg and the medium-sized salmon from 5 to 9 kg are the first ones to arrive in the streams. The smaller salmon from 1 to 4 kg appear later from July to September. The spawning itself takes place in November to January in the bigger rivers.

The Danish sea trout stocks

Sea trout in Denmark are amongst the largest in the world. This is due to productive watersheds and large marine habitats rich in food items. The stocks are now in progress after a massive decrease throughout the twentieth century. Fishing is carried out in the rivers, where approximately 15 % of the Danish sea trout are caught and also along the coasts. With an average weight of over 2 kg in the rivers, the stocks of sea trout have a high average weight compared to stocks in other countries. The Danish record of 14,4 kg was thus a world record for many years, and several fish over 10 kg are caught every year. The biggest ones run in May to July, while the smaller ones swim upstream from July, and until spawning time at the end of the year. The sea trout grow big in the sheltered Danish waters and the Baltic Sea. The menu consists of everything from worms and shrimps to herring and sandeel. West Jutland trout roam the fjords of the region or the North Sea, while trout from East Jutland and Funen generally run towards southeast, where they join Zealand fish.

Unique conservation effort

It is quite a fairy tale that fishing in Denmark is as good as it is. 95% of the Danish Rivers have been dug deeper and wider at some point and meandering streams have been replaced by straight canal-like profiles throughout the previous century.
The effect was that big rocks, that provide perfect hiding places for juvenile salmon and sea trout disappeared along with the gravel that trout and salmon need to spawn successfully. Thousands of dams appeared in conjunction with water mills, fish farms and irrigation systems and this made it impossible for all fish species to roam freely between the spawning areas and feeding grounds.
This affected all species negatively, but especially salmon and sea trout. Salmon stocks were almost extinct, and by the 1990s the wild trout stocks were reduced with 90% compared to the optimal stock population.
When the compulsory state fishing licence was introduced in 1993, it instantly gave an increased focus on recreating good conditions for fish in the rivers. This was the beginning of a long row of restoration projects in the rivers, mostly carried out by the angling clubs,

but also projects carried out in municipalities throughout the country.
In the period 2006-2012 alone, for example, angling clubs carried out more than 250 unique projects financed through public means. The effort has paid off. Salmon stocks are clearly getting stronger and wild juvenile trout production has tripled since the lowest point. But there is room for improvement. Not only should we strive to create excellent conditions in the rivers and streams. It is also important to ensure that all migratory fish can survive in the salt waters, where intense net fishing is a massive problem in certain areas.

10 tips for catch and release

There are catch limits and preservation regulations on salmon and sea trout in many of the Danish rivers. Some anglers even choose to release whatever they catch voluntarily. All anglers should know these ten tips for catch and release, so that you're ready when it's your turn to release a fine catch. If you follow these guidelines almost 100% of all released salmon and sea trout will survive.

1 If you hook a fish that has to be released, fight it as quickly as possible, and handle it as gently as possible.

2 Do not use a gaff to land a fish you have to release. If you use a landing net, use one with fine and knotless mesh or rubber mesh. Net and frame should be large enough to handle the fish of your dreams. Once it's netted, don't lift the fish out of the water.

3 Unhooking should, whenever possible, be done while the fish is in the water, and without touching it. If you cannot unhook the fish without damaging it, cut the line as closely to the hook as possible.

4 Do not weigh a fish you have to release. Remember that the mesh of a net will damage both fins, scales and mucous on the fish.

5 If the fish is too exhausted to swim off right away, keep it steady by holding its tail and supporting its belly while you keep it headfirst towards the current. Do not pull the fish back and forth. Once the fish is able swim on its own, let is swim off.

6 Bright and silvery salmon and sea trout with loose scales are more vulnerable than slightly coloured fish or fish ready for spawning. Be extra careful, when you unhook and release these fish fresh from the ocean.

7 Do not hold a fish by lifting its tail, you will injure its spine. There is a risk that the inner organs of the fish will be pressed together causing injury if the fish is held vertically in the air.

8 Always carry unhooking forceps. You can also use it for pressing down hook barbs.

9 If you indicate measurements on your rod with tape or thread, you can easily measure your fish from head to tail, while keeping it in the water.

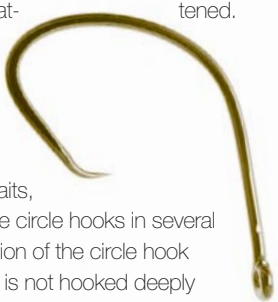
10 If you want a photo of your catch, do it quickly, but make sure the fish is in contact with water at all times.

Equipment for catch and release

Your fishing equipment should be up to the task at hand and strong enough to fight the kind of fish you dream of catching. If your fishing equipment is too light, there is a risk that you have to fight the fish longer than necessary, which will cause a high level of lactic acids in the fish. The result is that the fish might die after the fight.

Use barbless hooks

Many rivers have regulations dictating the use of barbless hooks. Several scientific reports have shown that by using barbless hooks, the survival rate for released salmon and sea trout will increase. If your hooks have barbs, it's easy to flatten them down with a pair of forceps. Squeeze the forceps down on the barb and twist the hook slightly from side, to side to make sure that the barb is completely flattened.



Circle hooks for bait fishing

If you want to fish natural or scented baits, it is mandatory to use circle hooks in several rivers. The construction of the circle hook ensures that the fish is not hooked deeply

but in the scissors, making it easy to unhook the fish. The definition of a circle hook is that the point of the hook should point towards the shaft of the hook, making it circular in shape.

Unhooking forceps

A pair of unhooking forceps is a must when you need to release the fish. It is an advantage that the forceps are relatively long. This will ensure that you can reach any hook, no matter how deeply the fish is hooked.

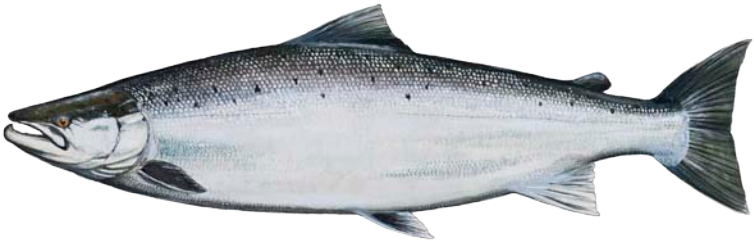
Knotless mesh landing nets

You should avoid netting any fish you need to release, but on some waters a net can be an advantage. If the net is a large mesh knotted version, there is a distinct risk that the mesh will damage both scales and fins. It is recommendable to use a fine knotless mesh net or a rubber mesh net, both of which will cause less injury on the fish if used correctly; do not lift the fish out of the water, but unhook it in the net and in the water.

Measurement indications on your fishing rod

It is a good idea to make measurement indications on your fishing rod. This will enable you to establish the length of the fish. It is important to know this, when you register the data of the fish later on. In the back of this folder you can see how to estimate the weight of salmon and sea trout from length measurements.

Salmon in different stages



Fresh male salmon
Fresh from the ocean. Bulky fish with silvery, loose scales and silver gill plates. Small kype.

Fresh female salmon
Fresh from the ocean. Bulky fish with silvery, loose scales and silver gill plates. No kype.

Lightly coloured male salmon

Spawning colours are beginning to appear. Still silvery, but with an olive or yellowish shade. Golden gill plates. The kype is beginning to appear.

Lightly coloured female salmon

Spawning colours are beginning to appear. Still silvery, but with an olive or yellowish shade. Golden gill plates. No kype.

Coloured male salmon
Spawning colours with red and white marbling over the sides.
High back but flattened body shape with a long snout and pronounced kype.

Coloured female salmon
Spawning colours with red and white marbling over the sides but less pronounced than with the male salmon. Round belly and protruding vent. No kype.

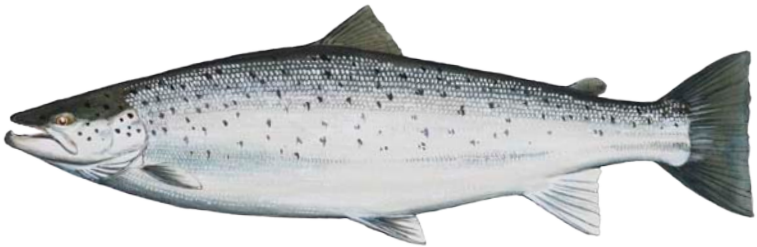
Post-spawn salmon (kelt)

Often very silvery.
Large head and skinny body.
Resembles a fresh salmon slightly.

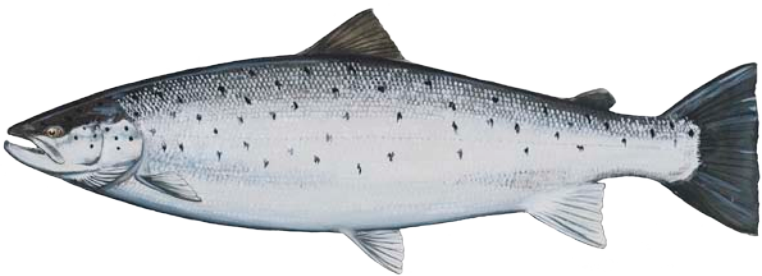
Cut-off adipose fin

If you catch a salmon with a missing adipose fin, there's nothing wrong with it. You have caught a salmon part of a fish tagging project. The adipose fin is cut off all juvenile salmon reared in a hatchery and released in certain rivers, in order to establish how many of the returning fish are salmon coming from natural reproduction.

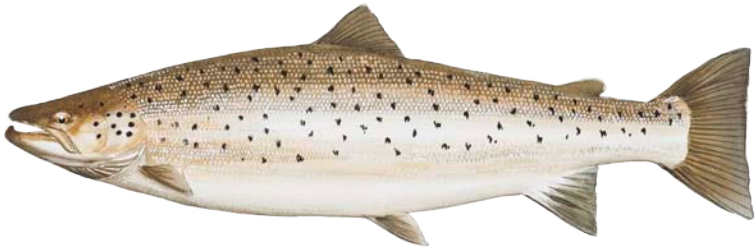
Sea trout in different stages



Fresh male sea trout
Fresh from the ocean with silvery, loose scales and silver gill plates. Small kype.



Fresh female sea trout
Fresh from the ocean with silvery, loose scales and silver gill plates. No kype.



Lightly coloured male sea trout
Beginning spawning colours. Steel gray with brown nuances and firm scales.
Small kype.

Lightly coloured female sea trout
Beginning spawning colours. Steel gray with brown nuances and firm scales.
No kype.

Coloured male sea trout

Spawning colours with brown and golden nuances.
Dark, almost black belly.
Pronounced kype

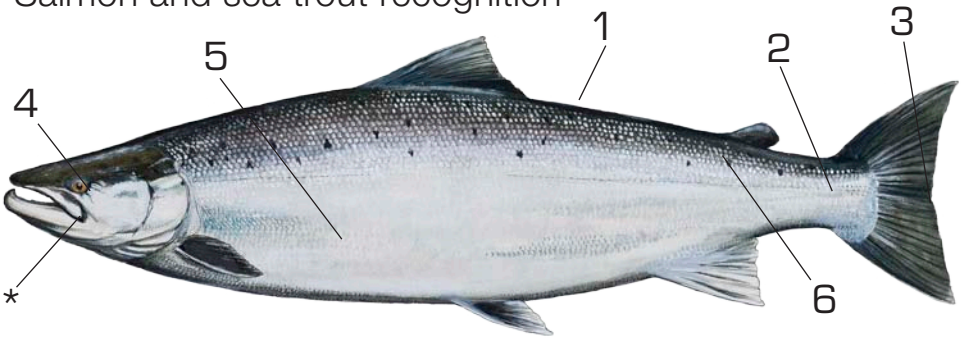
Coloured female sea trout

Spawning colours with grey and golden nuances
Round belly and protruding vent. No kype.

Post spawn sea trout

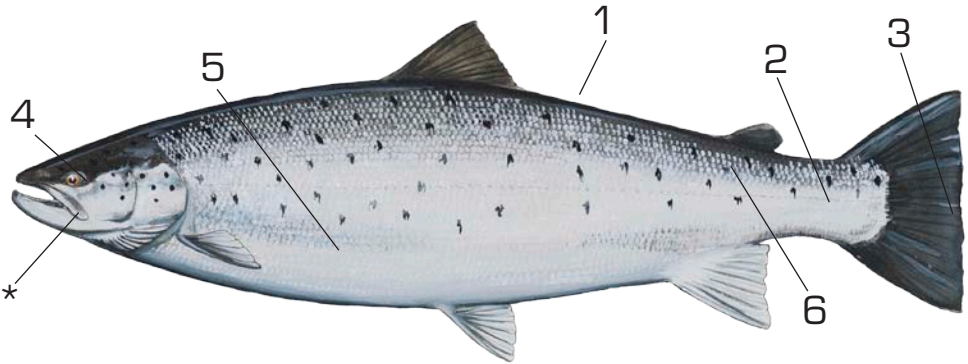
From brown nuances to completely silvery.
The tail can be worn and damaged with fungal infections.
Large head and skinny body.

Salmon and sea trout recognition



Salmon characteristics

1 Slightly less bulky body shape than sea trout
2 Slim tail wrist (which will enable a firm hold)
3 Concave tail
4 Maxilla (the bony plate alongside mouth*) is on a line with the rear of the eye.
5 Relatively few spots; usually none or only a few below the sideline.
6 10-15 scales from the front end of the adipose fin to the sideline (usually 10-13)



Sea trout characteristics

1 More bulky body shape than salmon
2 Broader tail wrist (which will make a firm hold of the tail difficult)
3 The end of the tail forms a straight line (young sea trout can have a concave tail like salmon, however)
4 Maxilla (the bony plate alongside mouth*) extends well beyond the rear end of the eye.
5 Many spots below the sideline
6 14–19 scales from the front end of the adipose fin to the sideline (usually 16)

Length/weight table for salmon

Salmon weights in relation to length.
If you know the length and body shape of a salmon, you can find its weight in the table below.

Length is measured from the snout to the tip of the tail. In the table you see three types:
Slim, normal and fat

LENGTH	WEIGHT (KG)			LENGTH	WEIGHT (KG)		
CM	SLIM	NORMAL	FAT	CM	SLIM	NORMAL	FAT
60	1,9	2,1	2,2	74	3,6	3,9	4,2
61	2	2,2	2,3	75	3,7	4,1	4,3
62	2,1	2,3	2,4	76	3,9	4,3	4,5
63	2,2	2,4	2,6	77	4	4,4	4,7
64	2,3	2,5	2,7	78	4,2	4,6	4,9
65	2,4	2,6	2,8	79	4,4	4,8	5,1
66	2,5	2,8	3	80	4,5	5	5,3
67	2,7	2,9	3,1	81	4,7	5,2	5,5
68	2,8	3	3,2	82	4,9	5,4	5,7
69	2,9	3,2	3,4	83	5,1	5,6	5,9
70	3	3,3	3,5	84	5,2	5,8	6,1
71	3,2	3,5	3,7	85	5,4	6	6,3
72	3,3	3,6	3,8	86	5,6	6,2	6,6
73	3,4	3,8	4	87	5,8	6,4	6,8
74	3,6	3,9	4,2	88	6	6,7	7

LENGTH	WEIGHT (KG)			LENGTH	WEIGHT (KG)		
CM	SLIM	NORMAL	FAT	CM	SLIM	NORMAL	FAT
89	6,2	6,9	7,3	110	11,8	13,2	13,8
90	6,5	7,1	7,5	111	12,1	13,5	14,1
91	6,7	7,4	7,8	112	12,5	13,9	14,5
92	6,9	7,6	8	113	12,8	14,3	14,9
93	7,1	7,9	8,3	114	13,1	14,7	15,3
94	7,4	8,1	8,6	115	13,5	15,1	15,7
95	7,6	8,4	8,8	116	13,9	15,5	16,2
96	7,8	8,7	9,1	117	14,2	15,9	16,6
97	8,1	9	9,4	118	14,6	16,3	17
98	8,3	9,3	9,7	119	15	16,7	17,4
99	8,6	9,5	10	120	15,3	17,2	17,9
100	8,9	9,8	10,3	121	15,7	17,6	18,3
101	9,1	10,1	10,6	122	16,1	18	18,8
102	9,4	10,5	11	123	16,5	18,5	19,3
103	9,7	10,8	11,3	124	16,9	19	19,8
104	10	11,1	11,6	125	17,3	19,4	20,2
105	10,3	11,4	12	126	17,8	19,9	20,7
106	10,6	11,8	12,3	127	18,2	20,4	21,2
107	10,9	12,1	12,7	128	18,6	20,9	21,7
108	11,2	12,4	13	129	19,1	21,4	22,2
109	11,5	11,5	13,4	130	21,9	19,5	22,8

Length/weight table for sea trout

Sea trout weights in relation to length.
If you know the length and body shape of a salmon, you can find its weight in the table below.

Length is measured from the snout to the tip of the tail. In the table you see three types: **Slim, normal and fat**

LENGTH	WEIGHT (KG)			LENGTH	WEIGHT (KG)		
CM	SLIM	NORMAL	FAT	CM	SLIM	NORMAL	FAT
40	0,58	0,70	0,83	55	1,50	1,81	2,16
41	0,62	0,75	0,9	56	1,58	1,91	2,28
42	0,67	0,81	0,96	57	1,67	2,02	2,41
43	0,72	0,87	1,03	58	1,76	2,13	2,54
44	0,77	0,93	1,11	59	1,85	2,24	2,67
45	0,82	0,99	1,18	60	1,94	2,35	2,81
46	0,88	1,06	1,27	61	2,04	2,47	2,95
47	0,93	1,13	1,35	62	2,14	2,60	3,10
48	1,00	1,21	1,44	63	2,25	2,73	3,25
49	1,06	1,28	1,53	64	2,36	2,86	3,41
50	1,13	1,36	1,63	65	2,47	2,99	3,57
51	1,19	1,45	1,72	66	2,59	3,13	3,74
52	1,27	1,53	1,83	67	2,71	3,28	3,91
53	1,34	1,62	1,94	68	2,83	3,43	4,09
54	1,42	1,72	2,05	69	2,96	3,58	4,27

LENGTH	WEIGHT (KG)			LENGTH	WEIGHT (KG)		
CM	SLIM	NORMAL	FAT	CM	SLIM	NORMAL	FAT
70	3,09	3,74	4,46	91	6,78	8,21	9,80
71	3,22	3,90	4,65	92	7,01	8,49	10,12
72	3,36	4,07	4,85	93	7,24	8,77	10,46
73	3,50	4,24	5,06	94	7,48	9,05	10,80
74	3,65	4,42	5,27	95	7,72	9,35	11,15
75	3,80	4,60	5,48	96	7,96	9,64	11,50
76	3,95	4,78	5,71	97	8,21	9,95	11,86
77	4,11	4,98	5,93	98	8,47	10,26	12,24
78	4,27	5,17	6,17	99	8,73	10,58	12,61
79	4,44	5,37	6,41	100	9,00	10,90	13,00
80	4,61	5,58	6,66	101	9,27	11,23	13,39
81	4,78	5,79	6,91	102	9,55	11,57	13,80
82	4,96	6,01	7,17	103	9,83	11,91	14,21
83	5,15	6,23	7,43	104	10,12	12,26	14,62
84	5,33	6,46	7,71	105	10,42	12,62	15,05
85	5,53	6,69	7,98				
86	5,72	6,93	8,27				
87	5,93	7,18	8,56				
88	6,13	7,43	8,86				
89	6,34	7,68	9,16				
90	6,56	6,56	9,48				

Links

More info about Salmon and seatrout

www.sportsfiskeren.dk // Danmarks Sportsfiskerforbund
www.fiskepleje.dk // DTU Aqua
www.vildlaks.dk // Danmarks Center for Vildlaks
www.dansklaksefond.dk // Dansk Laksefond
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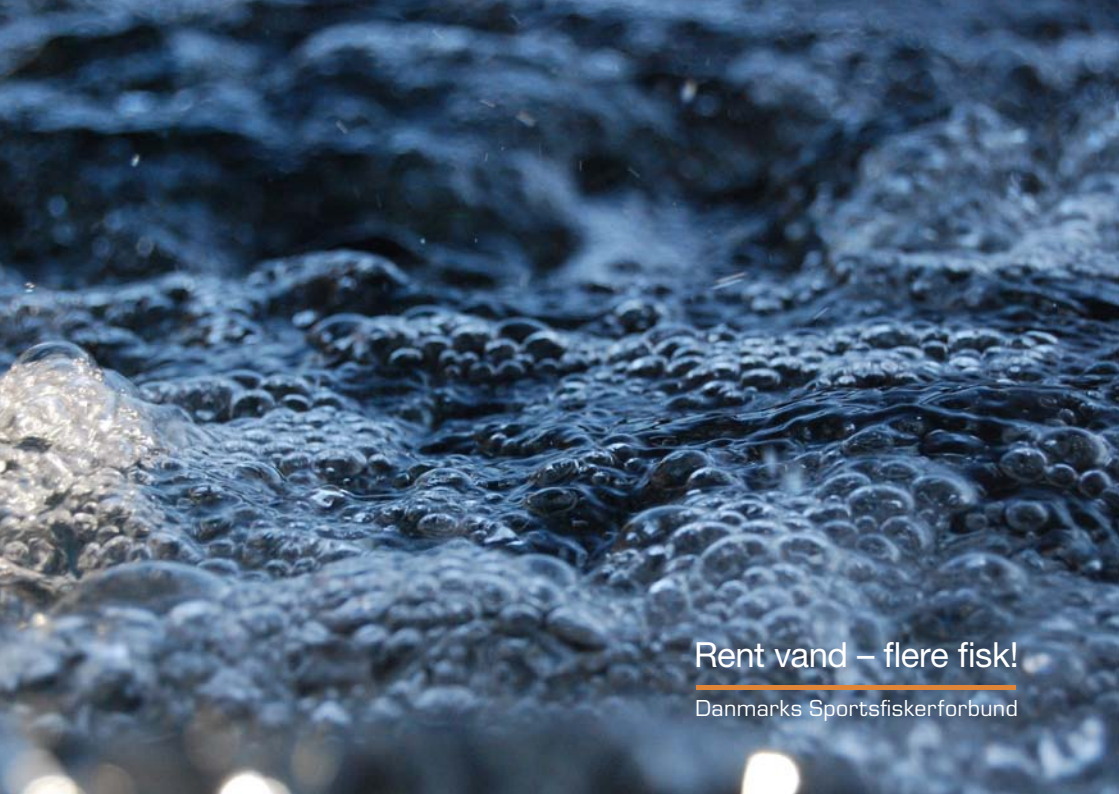
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