



RV Aranda

CRUISE PLAN

COMBINE 2/2021

31.5. - 11.6.2021

Description of the cruise

The COMBINE 2 cruise contributes to the HELCOM Baltic Sea integrated physical, chemical and biological monitoring programme, focusing especially on long-term macrozoobenthos monitoring and near-bottom water oxygen levels in the open sea area. It also contributes to the long-term monitoring of zooplankton communities. During the cruise mussel cages for monitoring biological effects of hazardous substances will be deployed. Water and sediment samples are taken for the monitoring of radioactive substances (HELCOM MORS programme). In addition a wave buoy and drifting floats will be deployed. Samples for eDNA analyses are also collected. The monitoring activities are part of the Finnish marine management plan.

Scientific staff:

Chief scientist:	Henrik Nygård	SYKE	
		SYKE	31.05.2021 - 11.06.2021
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		FMI	31.05.2021 - 11.06.2021
		FMI	31.05.2021 - 11.06.2021
		SYKE	31.05.2021 - 03.06.2021

Altogether 14 persons in scientific staff.

Departure from: HELSINKI
Departure time: Monday 31.05.2021 at 12.00

Cruising speed: 10,0 knots
Average station time: 1 h 30 min.

Arrival to: HELSINKI
Arrival time: Friday 11.06.2021 at 12.40

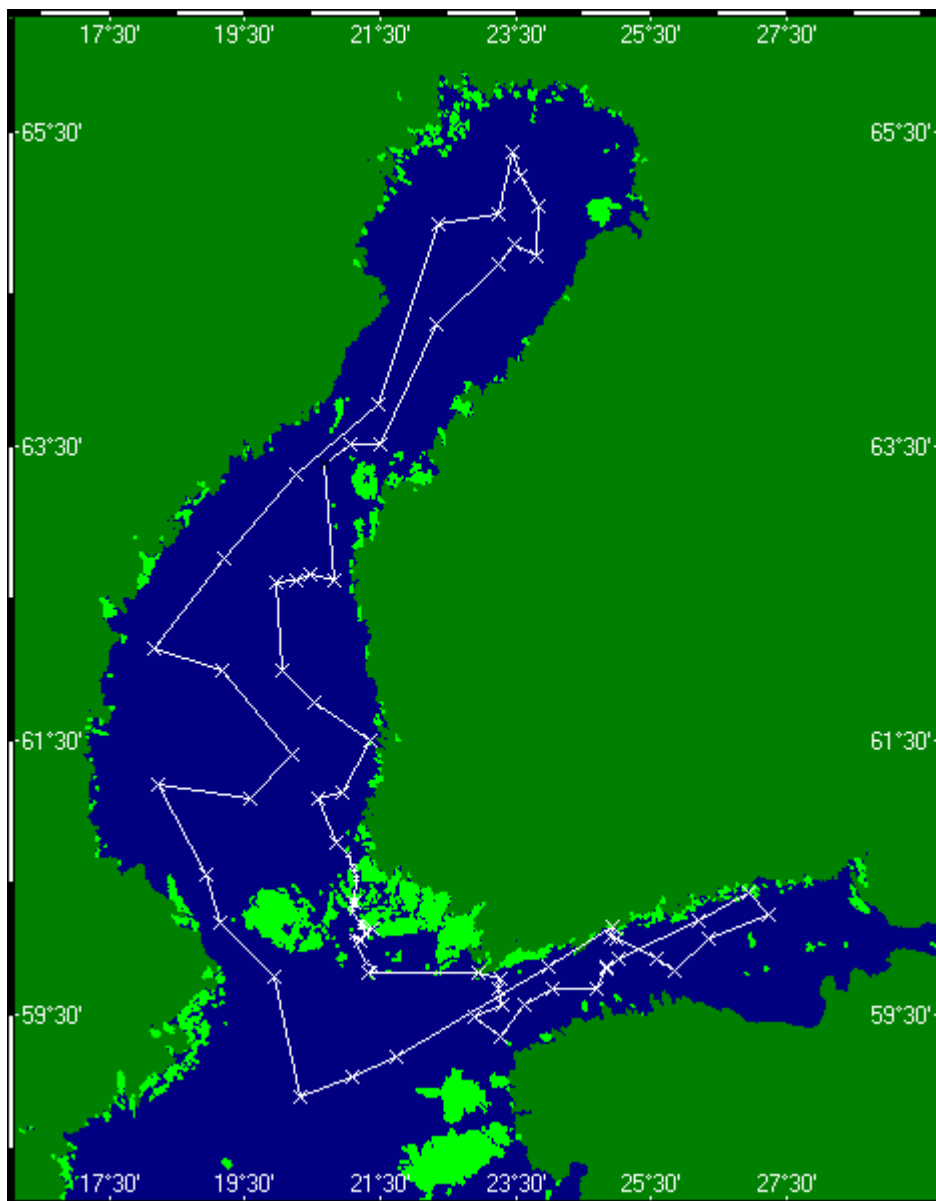
Duration of the cruise: 11 days 0 h 40 min
Length of the cruise: 1500,69 nautical miles
Number of stations 60.

Route:

Nro	Station	Lat.	Long.	Depth [m]	Arrival		Durat. hh:mm	Speed knots	
					hh:mm	dy dd.mm.yyy			
0	HELSINKI	60°09.55'	24°55.37'	0	12.00	Mo	31.05.2021	0:00	S 10,0
1	CAGEHELSINKI	60°05.22'	24°54.80'	21	12.26	Mo	31.05.2021	2:00	S 9,0
2	39A	60°04.01'	24°58.81'	41	14.41	Mo	31.05.2021	1:00	S 9,0
3	LL5	59°55.01'	25°35.82'	70	17.58	Mo	31.05.2021	2:00	S 9,0
4	GF2	59°50.31'	25°51.41'	84	20.59	Mo	31.05.2021	1:30	S 9,0
5	LL3A	60°04.03'	26°20.80'	68	00.43	Tu	01.06.2021	3:30	S 9,0
6	XV1	60°15.00'	27°14.82'	64	07.27	Tu	01.06.2021	2:00	S 9,0
7	CAGEKOTKA	60°24.06'	26°57.29'	21	10.50	Tu	01.06.2021	2:00	S 9,0
8	XIV3	60°12.19'	26°11.57'	77	15.41	Tu	01.06.2021	1:30	S 9,0
9	LL6A	59°55.01'	25°01.81'	75	21.30	Tu	01.06.2021	2:15	S 9,0
10	LL7	59°50.79'	24°50.27'	100	00.33	We	02.06.2021	0:45	S 9,0
11	LL7S	59°51.51'	24°50.30'	78	01.22	We	02.06.2021	2:45	S 9,0
12	GF1	59°42.30'	24°40.93'	84	05.16	We	02.06.2021	2:00	S 9,0
13	LL9	59°42.01'	24°01.81'	69	09.28	We	02.06.2021	2:15	S 9,0
14	JML	59°34.91'	23°37.61'	80	13.17	We	02.06.2021	2:00	S 9,0
15	F62	59°20.01'	23°15.81'	95	17.21	We	02.06.2021	1:30	S 9,0
16	LL12	59°29.01'	22°53.81'	82	20.27	We	02.06.2021	1:30	S 9,0
17	LL11	59°35.01'	23°17.81'	68	23.27	We	02.06.2021	1:45	S 9,0
18	AMN	59°41.43'	23°15.43'	56	01.56	Th	03.06.2021	1:45	S 9,0
19	LANGDEN	59°46.61'	23°15.77'	57	04.15	Th	03.06.2021	2:00	S 9,0
20	HANKO	59°49.01'	22°56.81'	0	07.21	Th	03.06.2021	1:30	S 10,0
21	IU7	59°48.91'	21°20.20'	92	13.42	Th	03.06.2021	1:30	S 10,0
22	IU5	60°03.49'	21°11.90'	89	17.50	Th	03.06.2021	1:30	S 10,0
23	CAGESM	60°08.67'	21°22.77'	22	20.10	Th	03.06.2021	1:30	S 10,0
24	IU3	60°20.00'	21°06.80'	48	23.39	Th	03.06.2021	1:30	S 10,0
25	IU1	60°46.01'	20°50.80'	33	04.24	Fr	04.06.2021	1:00	S 10,0
26	SR7	61°05.01'	20°35.79'	78	07.26	Fr	04.06.2021	1:30	S 10,0
27	SR8	61°07.59'	20°55.80'	46	09.56	Fr	04.06.2021	1:00	S 10,0
28	CAGEPORI	61°29.87'	21°20.65'	23	13.28	Fr	04.06.2021	1:30	S 10,0
29	MS9	61°46.01'	20°31.83'	101	17.47	Fr	04.06.2021	2:00	S 10,0
30	F26	61°59.01'	20°03.78'	140	21.38	Fr	04.06.2021	2:00	S 10,0
31	US5B	62°35.17'	19°58.13'	214	03.16	Sa	05.06.2021	4:15	S 10,0
32	US6B	62°36.01'	20°15.78'	83	08.20	Sa	05.06.2021	2:00	S 10,0
33	FM12A8	62°38.59'	20°28.35'	40	10.58	Sa	05.06.2021	1:30	S 10,0
34	US7	62°36.01'	20°49.78'	23	13.29	Sa	05.06.2021	1:00	S 10,0
35	F16	63°31.01'	21°03.77'	45	20.32	Sa	05.06.2021	1:30	S 10,0
36	F15	63°31.01'	21°30.78'	49	23.14	Sa	05.06.2021	1:30	S 10,0
37	BO3	64°18.12'	22°20.59'	109	05.56	Su	06.06.2021	2:15	S 10,0
38	AALTO_PM	64°41.00'	23°14.00'	80	11.26	Su	06.06.2021	1:00	S 10,0
39	RR6	64°48.02'	23°28.77'	86	13.22	Su	06.06.2021	2:00	S 10,0
40	ARGO_PM	64°48.02'	23°28.77'	86	15.22	Su	06.06.2021	0:30	S 10,0
41	RR7	64°44.02'	23°48.77'	39	16.49	Su	06.06.2021	1:00	S 10,0
42	HIEKKA2	65°03.00'	23°50.00'	20	19.43	Su	06.06.2021	1:30	S 10,0
43	CVI	65°14.02'	23°33.77'	71	22.30	Su	06.06.2021	2:15	S 10,0
44	F2	65°23.02'	23°27.76'	91	01.42	Mo	07.06.2021	1:30	S 10,0
45	CV	65°00.02'	23°14.77'	89	05.33	Mo	07.06.2021	1:30	S 10,0
46	RR3	64°56.02'	22°20.76'	96	09.23	Mo	07.06.2021	2:00	S 10,0
47	ARGO_UP	64°56.02'	22°20.76'	96	11.23	Mo	07.06.2021	1:30	S 10,0
48	F13	63°47.01'	21°28.77'	65	20.08	Mo	07.06.2021	1:00	S 9,0
49	F18	63°18.86'	20°16.36'	105	01.53	Tu	08.06.2021	1:30	S 10,0
50	US3	62°45.53'	19°11.74'	182	07.50	Tu	08.06.2021	2:00	S 10,0
51	MS3	62°08.07'	18°09.78'	84	14.33	Tu	08.06.2021	1:30	S 10,0
52	MS6	61°59.02'	19°09.81'	72	19.00	Tu	08.06.2021	1:30	S 10,0
53	ARVORC_SM2020	61°24.08'	20°11.33'	0	01.03	We	09.06.2021	2:00	S 10,0
54	SR5	61°05.00'	19°34.78'	126	05.39	We	09.06.2021	3:45	S 10,0
55	SR3	61°11.00'	18°13.80'	72	13.21	We	09.06.2021	1:30	S 10,0
56	F33	60°31.99'	18°56.26'	135	19.16	We	09.06.2021	1:00	S 10,0
57	F64	60°11.34'	19°08.55'	285	22.25	We	09.06.2021	3:30	S 10,0
58	F69	59°47.00'	19°55.80'	189	05.19	Th	10.06.2021	2:00	S 10,0

59	LL19	58°52.84'	20°18.65'	169	12.51	Th	10.06.2021	1:30	S	10,0
60	LL17	59°02.00'	21°04.77'	171	16.54	Th	10.06.2021	2:30	S	10,0
61	LL15	59°11.00'	21°44.81'	126	21.39	Th	10.06.2021	1:30	S	9,0
62	XII3	59°52.01'	23°58.81'	38	07.58	Fr	11.06.2021	1:00	S	9,0
63	HELSINKI	60°09.55'	24°55.37'	0	12.40	Fr	11.06.2021	0:00	S	10,0

Route map:



Cruise plan is printed at 19.05.2021 aa 09.44.