



RV Aranda

CRUISE PLAN

COMBINE 2/2021, 2/2022

30.5. - 12.6.2022

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 as well as monitoring of microlitter in sediment and water. Water and sediment samples are taken for the monitoring of radioactive substances (HELCOM MORS programme). Hydrophones will be installed monitoring the underwater soundscape, including noise. In addition a wave buoy and drifting ARGO floats will be deployed, as well as ADCP recovered. The monitoring activities are part of the Finnish marine management plan.

Scientific staff:

Chief scientist:	Juha Flinkman	SYKE	30.05.2022 – 12.06.2022
CTD chief:		SYKE	30.05.2022 – 12.06.2022
Chief chemist:		SYKE	30.05.2022 – 12.06.2022
		SYKE	30.05.2022 – 12.06.2022
		FMI	30.05.2022 – 12.06.2022
		SYKE	30.05.2022 – 12.06.2022
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		SYKE	30.05.2022 – 12.06.2022
		SYKE	30.05.2022 – 02.06.2022
		SYKE	30.05.2022 – 12.06.2022
		FMI	30.05.2022 – 12.06.2022

Outi Setälä
Katharina Heinrich

SYKE
ULAPLAND

30.05.2022 – 12.06.2022
02.06.2022 – 12.06.2022

Altogether 18 persons in scientific staff.

Departure from: HELSINKI

Departure time: Monday 30.05.2022 at 12.00

Cruising speed: 9,0 knots

Average station time: 1 h 30 min.

Arrival to: HELSINKI

Arrival time: Sunday 12.06.2022 at 00.52

Duration of the cruise: 12 days 12 h 52 min

Length of the cruise: 1546,89 nautical miles

Number of stations 57. Points with name "P" are just route points without observations.

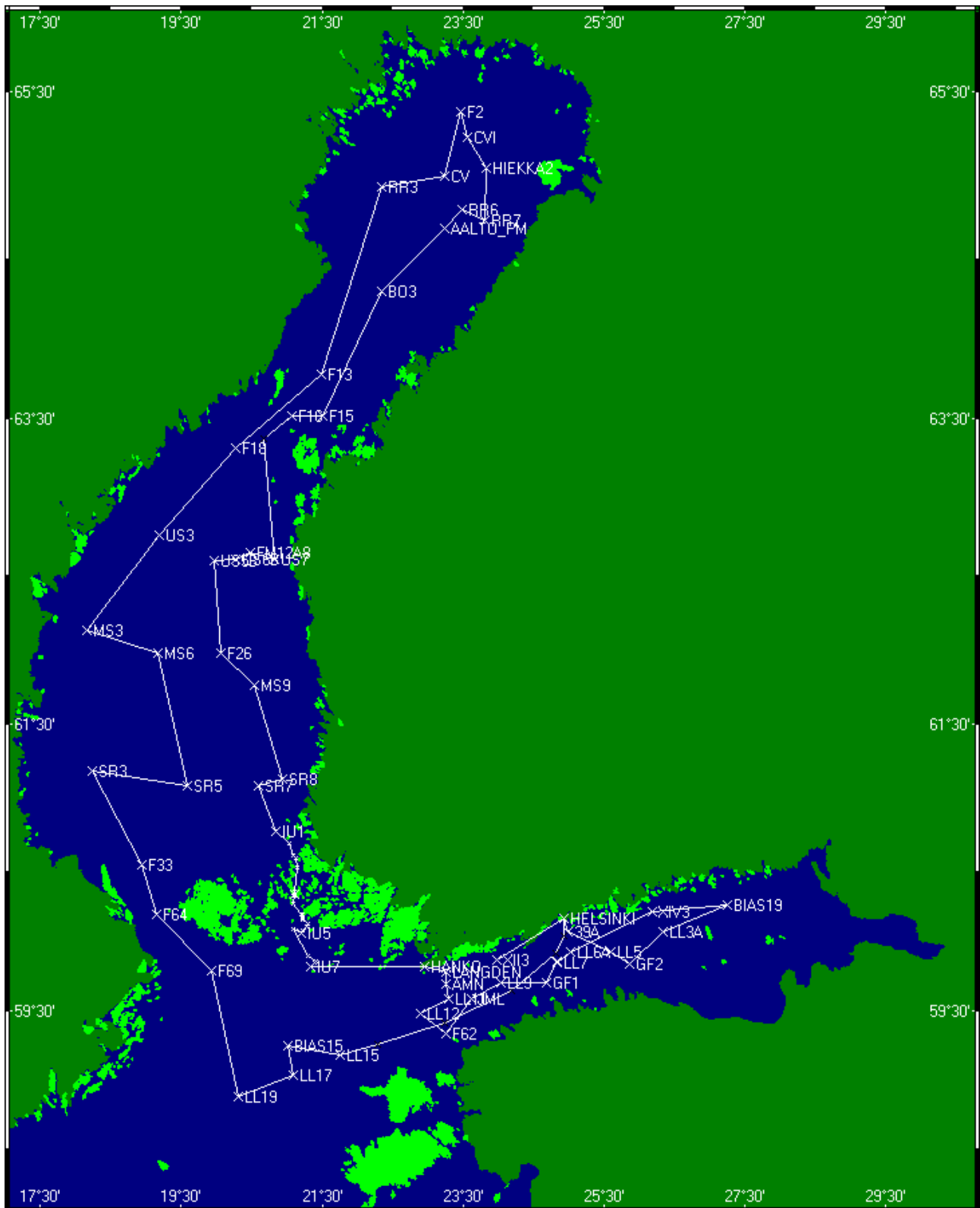
Route:

Nro	Station	Lat.	Long.	Depth		Arrival		Durat.	Speed
				[m]	hh:mm	dy	dd.mm.yyyy		
0	HELSINKI	60°09.55'	24°55.37'	0	12.00	Mo	30.05.2022	0:00	S 9,0
1	39A	60°04.01'	24°58.81'	41	12.38	Mo	30.05.2022	1:00	S 9,0
2	LL5	59°55.01'	25°35.82'	70	15.55	Mo	30.05.2022	2:30	S 9,0
3	GF2	59°50.31'	25°51.41'	84	19.26	Mo	30.05.2022	1:30	S 9,0
4	LL3A	60°04.03'	26°20.80'	68	23.10	Mo	30.05.2022	4:30	S 9,0
5	BIAS19	60°14.26'	27°14.88'	55	06.54	Tu	31.05.2022	8:00	S 9,0
6	XV1	60°15.00'	27°14.82'	64	14.54	Tu	31.05.2022	2:30	S 9,0
7	XIV3	60°12.19'	26°11.57'	77	20.55	Tu	31.05.2022	1:00	S 9,0
8	LL6A	59°55.01'	25°01.81'	75	02.13	We	01.06.2022	1:30	S 9,0
9	LL7	59°50.79'	24°50.27'	100	04.31	We	01.06.2022	1:00	S 9,0
10	LL7S	59°51.51'	24°50.30'	78	05.36	We	01.06.2022	3:30	S 9,0
11	GF1	59°42.30'	24°40.93'	84	10.15	We	01.06.2022	2:00	S 9,0
12	LL9	59°42.01'	24°01.81'	69	14.26	We	01.06.2022	2:00	S 9,0
13	JML	59°34.91'	23°37.61'	80	18.01	We	01.06.2022	2:30	S 9,0
14	F62	59°20.01'	23°15.81'	95	22.35	We	01.06.2022	1:00	S 9,0
15	LL12	59°29.01'	22°53.81'	82	01.10	Th	02.06.2022	2:30	S 9,0
16	LL11	59°35.01'	23°17.81'	68	05.11	Th	02.06.2022	1:30	S 9,0
17	AMN	59°41.43'	23°15.43'	56	07.24	Th	02.06.2022	1:30	S 9,0
18	LANGDEN	59°46.61'	23°15.77'	57	09.29	Th	02.06.2022	2:30	S 9,0
19	HANKO	59°49.01'	22°56.81'	0	13.04	Th	02.06.2022	0:30	S 9,0
20	IU7	59°48.91'	21°20.20'	92	18.58	Th	02.06.2022	1:30	S 9,0

21	P	59°50.50'	21°24.00'	-	20.45	Th	02.06.2022	0:00	S	9,0
22	P	59°51.00'	21°24.20'	-	20.48	Th	02.06.2022	0:00	S	9,0
23	P	59°53.50'	21°18.00'	-	21.15	Th	02.06.2022	0:00	S	9,0
24	P	60°05.00'	21°05.10'	-	22.43	Th	02.06.2022	0:00	S	9,0
25	IU5	60°03.49'	21°11.90'	89	23.07	Th	02.06.2022	1:30	S	9,0
26	P	60°04.55'	21°12.80'	-	00.45	Fr	03.06.2022	0:00	S	9,0
27	P	60°06.25'	21°17.20'	-	01.04	Fr	03.06.2022	0:00	S	9,0
28	P	60°07.00'	21°18.00'	-	01.09	Fr	03.06.2022	0:00	S	9,0
29	P	60°09.40'	21°13.75'	-	01.31	Fr	03.06.2022	0:00	S	9,0
30	P	60°09.20'	21°12.75'	-	01.34	Fr	03.06.2022	0:00	S	9,0
31	P	60°11.10'	21°13.80'	-	01.47	Fr	03.06.2022	0:00	S	9,0
32	P	60°11.30'	21°12.40'	-	01.52	Fr	03.06.2022	0:00	S	9,0
33	P	60°15.60'	21°05.50'	-	02.29	Fr	03.06.2022	0:00	S	9,0
34	P	60°19.20'	21°06.25'	-	02.53	Fr	03.06.2022	0:00	S	9,0
35	P	60°19.40'	21°05.50'	-	02.56	Fr	03.06.2022	0:00	S	9,0
36	IU3	60°20.00'	21°06.80'	48	03.02	Fr	03.06.2022	2:30	S	9,0
37	P	60°20.80'	21°06.50'	-	05.37	Fr	03.06.2022	0:00	S	9,0
38	P	60°30.80'	21°08.60'	-	06.44	Fr	03.06.2022	0:00	S	9,0
39	P	60°35.01'	21°07.80'	-	07.12	Fr	03.06.2022	0:00	S	9,0
40	P	60°35.90'	21°05.60'	-	07.22	Fr	03.06.2022	0:00	S	9,0
41	P	60°41.00'	21°02.25'	-	07.57	Fr	03.06.2022	0:00	S	9,0
42	IU1	60°46.01'	20°50.80'	33	08.47	Fr	03.06.2022	1:00	S	9,0
43	SR7	61°05.01'	20°35.79'	78	12.03	Fr	03.06.2022	1:30	S	9,0
44	SR8	61°07.59'	20°55.80'	46	14.40	Fr	03.06.2022	1:00	S	9,0
45	MS9	61°46.01'	20°31.83'	101	20.07	Fr	03.06.2022	1:30	S	9,0
46	F26	61°59.01'	20°03.78'	140	23.41	Fr	03.06.2022	1:30	S	9,0
47	US5B	62°35.17'	19°58.13'	214	05.12	Sa	04.06.2022	4:30	S	9,0
48	US6B	62°36.01'	20°15.78'	83	10.37	Sa	04.06.2022	2:00	S	9,0
49	FM12A8	62°38.59'	20°28.35'	40	13.19	Sa	04.06.2022	1:30	S	9,0
50	US7	62°36.01'	20°49.78'	23	15.57	Sa	04.06.2022	1:00	S	9,0
51	P	63°22.77'	20°39.81'	-	22.10	Sa	04.06.2022	0:00	S	9,0
52	F16	63°31.01'	21°03.77'	45	23.40	Sa	04.06.2022	1:30	S	9,0
53	F15	63°31.01'	21°30.78'	49	02.31	Su	05.06.2022	1:30	S	9,0
54	BO3	64°18.12'	22°20.59'	109	09.47	Su	05.06.2022	3:30	S	9,0
55	AALTO_PM	64°41.00'	23°14.00'	80	16.53	Su	05.06.2022	1:00	S	9,0
56	BIAS11	64°41.11'	23°14.34'	81	17.54	Su	05.06.2022	8:00	S	9,0
57	RR6	64°48.02'	23°28.77'	86	02.56	Mo	06.06.2022	1:30	S	9,0
58	RR7	64°44.02'	23°48.77'	39	05.29	Mo	06.06.2022	1:00	S	9,0
59	HIEKKA2	65°03.00'	23°50.00'	20	08.35	Mo	06.06.2022	1:30	S	9,0
60	CVI	65°14.02'	23°33.77'	71	11.32	Mo	06.06.2022	3:00	S	9,0
61	F2	65°23.02'	23°27.76'	91	15.34	Mo	06.06.2022	1:30	S	9,0
62	CV	65°00.02'	23°14.77'	89	19.42	Mo	06.06.2022	1:30	S	9,0
63	RR3	64°56.02'	22°20.76'	96	23.46	Mo	06.06.2022	1:30	S	9,0
64	F13	63°47.01'	21°28.77'	65	09.20	Tu	07.06.2022	1:00	S	9,0

65	F18	63°18.86'	20°16.36'	105	15.06	Tu	07.06.2022	2:00	S	9,0
66	US3	62°45.53'	19°11.74'	182	22.02	Tu	07.06.2022	2:00	S	9,0
67	MS3	62°08.07'	18°09.78'	84	05.16	We	08.06.2022	1:30	S	9,0
68	MS6	61°59.02'	19°09.81'	72	10.03	We	08.06.2022	1:30	S	9,0
69	SR5	61°05.00'	19°34.78'	126	17.42	We	08.06.2022	6:00	S	9,0
70	SR3	61°11.00'	18°13.80'	72	04.05	Th	09.06.2022	1:30	S	9,0
71	F33	60°31.99'	18°56.26'	135	10.30	Th	09.06.2022	1:30	S	9,0
72	F64	60°11.34'	19°08.55'	285	14.23	Th	09.06.2022	4:30	S	9,0
73	F69	59°47.00'	19°55.80'	189	22.39	Th	09.06.2022	2:00	S	9,0
74	LL19	58°52.84'	20°18.65'	169	06.49	Fr	10.06.2022	1:30	S	9,0
75	LL17	59°02.00'	21°04.77'	171	11.09	Fr	10.06.2022	2:30	S	9,0
76	BIAS15	59°15.00'	21°00.98'	90	15.06	Fr	10.06.2022	8:00	S	9,0
77	LL15	59°11.00'	21°44.81'	126	01.38	Sa	11.06.2022	1:30	S	9,0
78	P	59°15.57'	22°17.59'	-	05.04	Sa	11.06.2022	0:00	S	9,0
79	P	59°25.00'	23°14.71'	-	08.28	Sa	11.06.2022	0:00	S	9,0
80	P	59°38.80'	24°11.84'	-	12.02	Sa	11.06.2022	0:00	S	9,0
81	P	59°54.68'	24°49.38'	-	14.47	Sa	11.06.2022	0:00	S	9,0
82	P	60°02.03'	24°55.91'	-	15.40	Sa	11.06.2022	0:00	S	9,0
83	P	60°09.36'	24°55.36'	-	16.29	Sa	11.06.2022	0:00	S	9,0
84	XII3	59°52.01'	23°58.81'	38	20.10	Sa	11.06.2022	1:00	S	9,0
85	HELSINKI	60°09.55'	24°55.37'	0	00.52	Su	12.06.2022	0:00	S	9,0

Route map:



Cruise plan is printed at 12.05.2022 ai 05.35.