



RV Aranda

CRUISE PLAN

COMBINE2 2016, 10/2016

28.5. - 10.6.2016

Description of the cruise

The COMBINE2 expedition heads first to the Gulf of Bothnia and then to the southern part of the Gotland Basin. The main purpose of the expedition is to take samples for the monitoring of macrozoobenthos, bottom water oxygen levels and general hydrography in Baltic Sea open-sea areas. The sampling carried out onboard contributes to the HELCOM Baltic Sea monitoring programme as well as to the long-term monitoring study on macrozoobenthic communities of SYKE Marine Research Centre. Sediment and water samples are collected for the monitoring of radioactive substances in the Baltic Sea (HELCOM-MORS and Finnish Radiation and Nuclear Safety Authority). Mussel cages will be deployed for monitoring of contaminants along the coastline. Also other studies are carried out during the cruise, including observations on the progress and effects of the major saltwater inflow that occurred in the Baltic Sea in winter 2015.

Scientific staff:

Chief scientist:	Kari Lehtonen	SYKE	28.05.2016 - 10.06.2016
		SYKE	28.05.2016 - 10.06.2016
		SYKE	28.05.2016 - 10.06.2016
		SYKE	28.05.2016 - 10.06.2016
		SYKE	28.05.2016 - 10.06.2016
		FMI	06.06.2016 - 10.06.2016
		SYKE	28.05.2016 - 03.06.2016
		SYKE	06.06.2016 - 10.06.2016
		SYKE	06.06.2016 - 10.06.2016
		SYKE	28.05.2016 - 03.06.2016
		FMI	28.05.2016 - 10.06.2016
		SYKE	06.06.2016 - 10.06.2016
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		FMI	06.06.2016 - 10.06.2016
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		SYKE	28.05.2016 - 10.06.2016
		SYKE	28.05.2016 - 10.06.2016
		SYKE	28.05.2016 - 10.06.2016

Altogether 21 persons in scientific staff.

Departure from: HELSINKI

Departure time: Saturday 28.05.2016 at 10:00

Arrival to: HELSINKI

Arrival time: Saturday 11.06.2016 at 04:52

Duration of the cruise: 13 days 18 h 52 min

Length of the cruise: 1673,74 nautical miles

Number of stations 42. Points with name "P" are just route points without observations.

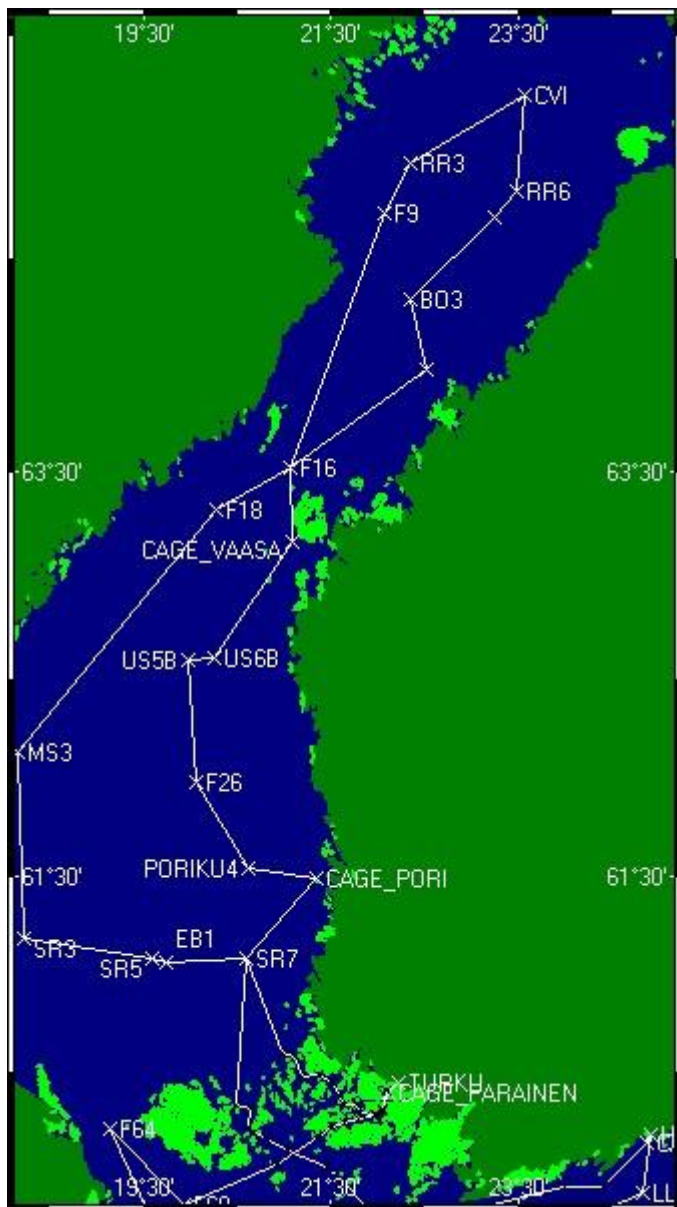
Route:

Nro	Station	Lat.	Long.	Depth [m]	hh:mm	Arrival		Durat. hh:mm	Speed knots
						dy	dd.mm.yyyy		
0	HELSINKI	60°09.55'	24°55.37'	0	10:00	Sa	28.05.2016	0:00	S 10,0
1	CAGE_HELSINKI	60°06.89'	24°51.90'	22	10:19	Sa	28.05.2016	2:00	S 10,0
2	P	59°52.77'	24°23.89'	-	14:18	Sa	28.05.2016	0:00	S 10,0
3	P	59°53.19'	23°59.21'	-	15:32	Sa	28.05.2016	0:00	S 10,0
4	P	59°44.29'	22°52.98'	-	18:59	Sa	28.05.2016	0:00	S 10,0
5	P	59°45.54'	21°53.34'	-	21:59	Sa	28.05.2016	0:00	S 10,0
6	P	59°55.45'	21°35.65'	-	23:19	Sa	28.05.2016	0:00	S 10,0
7	P	59°59.57'	21°27.43'	-	23:54	Sa	28.05.2016	0:00	S 10,0
8	P	60°04.30'	21°03.16'	-	01:12	Su	29.05.2016	0:00	S 10,0
9	P	60°08.60'	20°47.94'	-	02:05	Su	29.05.2016	0:00	S 10,0
10	P	60°10.45'	20°41.36'	-	02:27	Su	29.05.2016	0:00	S 10,0
11	P	60°11.88'	20°37.24'	-	02:42	Su	29.05.2016	0:00	S 10,0
12	P	60°17.80'	20°38.48'	-	03:18	Su	29.05.2016	0:00	S 10,0
13	P	60°19.43'	20°29.43'	-	03:47	Su	29.05.2016	0:00	S 10,0
14	SR7	61°05.01'	20°35.79'	78	08:21	Su	29.05.2016	2:00	S 10,0
15	EB1	61°04.00'	19°43.79'	128	12:52	Su	29.05.2016	2:00	S 10,0
16	SR5	61°05.00'	19°34.78'	126	15:19	Su	29.05.2016	2:00	S 10,0
17	SR3	61°11.00'	18°13.80'	72	21:16	Su	29.05.2016	2:00	S 10,0
18	MS3	62°08.07'	18°09.78'	84	04:58	Mo	30.05.2016	2:00	S 10,0
19	F18	63°18.86'	20°16.36'	105	16:08	Mo	30.05.2016	2:00	S 10,0
20	F16	63°31.01'	21°03.77'	45	20:34	Mo	30.05.2016	6:00	S 10,0
21	F9	64°42.02'	22°03.77'	120	10:08	Tu	31.05.2016	2:00	S 10,0
22	RR3	64°56.02'	22°20.76'	96	13:43	Tu	31.05.2016	2:00	S 10,0
23	CVI	65°14.02'	23°33.77'	71	19:17	Tu	31.05.2016	2:00	S 10,0
24	RR6	64°48.02'	23°28.77'	86	23:53	Tu	31.05.2016	2:00	S 10,0
25	AALTO_P	64°40.94'	23°14.53'	50	02:49	We	01.06.2016	1:00	S 10,0
26	BO3	64°18.12'	22°20.59'	109	07:05	We	01.06.2016	2:00	S 10,0
27	IPS_ADCP	63°58.61'	22°31.48'	80	11:05	We	01.06.2016	2:00	S 10,0
28	F16	63°31.01'	21°03.77'	45	17:51	We	01.06.2016	0:00	S 10,0
29	CAGE_VAASA	63°09.97'	21°05.46'	20	19:57	We	01.06.2016	2:00	S 10,0
30	US6B	62°36.01'	20°15.78'	83	02:02	Th	02.06.2016	4:00	S 10,0
31	US5B	62°35.17'	19°58.13'	214	06:51	Th	02.06.2016	4:00	S 10,0
32	F26	61°59.01'	20°03.78'	140	14:28	Th	02.06.2016	2:00	S 10,0
33	PORIKU4	61°32.41'	20°37.19'	106	19:34	Th	02.06.2016	2:00	S 10,0
34	CAGE_PORI	61°29.84'	21°20.64'	23	23:39	Th	02.06.2016	2:00	S 10,0
35	SR7	61°05.01'	20°35.79'	78	04:57	Fr	03.06.2016	2:00	S 10,0
36	P	60°35.37'	20°59.24'	-	10:07	Fr	03.06.2016	0:00	S 10,0
37	P	60°34.30'	21°06.32'	-	10:29	Fr	03.06.2016	0:00	S 10,0
38	P	60°28.00'	21°11.22'	-	11:10	Fr	03.06.2016	0:00	S 10,0
39	P	60°28.54'	21°22.39'	-	11:43	Fr	03.06.2016	0:00	S 10,0
40	P	60°25.85'	21°30.29'	-	12:11	Fr	03.06.2016	0:00	S 10,0
41	P	60°21.55'	21°36.55'	-	12:43	Fr	03.06.2016	0:00	S 10,0
42	P	60°18.99'	21°38.19'	-	12:59	Fr	03.06.2016	0:00	S 10,0
43	P	60°18.85'	21°46.09'	-	13:23	Fr	03.06.2016	0:00	S 10,0
44	P	60°16.56'	21°48.81'	-	13:38	Fr	03.06.2016	0:00	S 10,0
45	P	60°15.88'	21°57.52'	-	14:05	Fr	03.06.2016	0:00	S 10,0
46	P	60°17.77'	22°03.52'	-	14:26	Fr	03.06.2016	0:00	S 10,0
47	CAGE_PARAINEN	60°22.99'	22°06.78'	35	14:59	Fr	03.06.2016	2:00	S 10,0
48	TURKU	60°26.25'	22°13.30'	0	17:26	Fr	03.06.2016	66:00	S 10,0
49	P	60°23.30'	22°04.88'	-	11:57	Mo	06.06.2016	0:00	S 10,0
50	P	60°17.50'	22°03.52'	-	12:32	Mo	06.06.2016	0:00	S 10,0
51	P	60°15.88'	21°58.89'	-	12:49	Mo	06.06.2016	0:00	S 10,0
52	P	60°14.94'	21°47.72'	-	13:22	Mo	06.06.2016	0:00	S 10,0
53	P	60°13.32'	21°37.92'	-	13:53	Mo	06.06.2016	0:00	S 10,0
54	P	60°12.10'	21°30.29'	-	14:17	Mo	06.06.2016	0:00	S 10,0
55	P	60°08.71'	21°21.30'	-	14:51	Mo	06.06.2016	0:00	S 10,0
56	P	59°59.88'	20°54.61'	-	16:26	Mo	06.06.2016	0:00	S 10,0
57	F69	59°47.00'	19°55.80'	189	19:40	Mo	06.06.2016	3:00	S 10,0
58	F64	60°11.34'	19°08.55'	285	02:03	Tu	07.06.2016	3:00	S 10,0
59	BY29	58°53.00'	20°19.00'	170	13:40	Tu	07.06.2016	3:00	S 10,0
60	F79	58°27.00'	20°10.00'	100	19:18	Tu	07.06.2016	2:00	S 10,0
61	F80	58°00.00'	19°53.81'	191	00:08	We	08.06.2016	2:00	S 10,0
62	BY15	57°19.20'	20°03.00'	238	06:15	We	08.06.2016	3:00	S 10,0
63	HA2	56°55.90'	18°53.90'	123	13:40	We	08.06.2016	1:30	S 10,0

64	BY10	56°38.00'	19°35.00'	145	18:02	We	08.06.2016	3:00	S	10,0
65	HA9	56°57.50'	20°24.60'	92	00:23	Th	09.06.2016	1:00	S	10,0
66	LF1	57°58.95'	21°16.84'	67	08:08	Th	09.06.2016	2:00	S	10,0
67	IBSV10	58°21.00'	21°14.81'	78	12:21	Th	09.06.2016	2:00	S	10,0
68	LL17	59°02.00'	21°04.77'	171	18:29	Th	09.06.2016	3:00	S	10,0
69	LL15	59°11.00'	21°44.81'	126	23:43	Th	09.06.2016	2:00	S	10,0
70	LL13	59°22.00'	22°27.81'	100	04:11	Fr	10.06.2016	2:00	S	10,0
71	LL12	59°29.01'	22°53.81'	82	07:41	Fr	10.06.2016	2:00	S	10,0
72	F62	59°20.01'	23°15.81'	95	11:07	Fr	10.06.2016	2:00	S	10,0
73	JML_GasL	59°34.89'	23°36.96'	83	14:57	Fr	10.06.2016	6:00	S	10,0
74	LL7	59°50.79'	24°50.27'	100	00:58	Sa	11.06.2016	2:00	S	10,0
75	HELSINKI	60°09.55'	24°55.37'	0	04:52	Sa	11.06.2016	0:00	S	10,0

Route map:

Leg 1 (from Helsinki)



Leg 2 (from Turku)

