



*RV Aranda*

# ***Cruise plan 1/2023***

## ***Combine 1 Leg 1 GOF***

### **16. - 20.1.2023**

#### **Description of the cruise:**

Monitoring of underwater sound pressure, harmful substances, hydrography (pH, oxygen, total sulfide, ammonia, nutrients), and physics (temperature and salinity) in compliance with HELCOM COMBINE and EU MSFD monitoring programs.

Additionally

- \*servicing a FMI wave buoys
- \*sediment trap retrieval
- \*large (1 cubic metre) volume water sampling
- \*further tests with hydrogen sulfide sensor

**Chief scientist:** Harri Kankaanpää, SYKE

Chief chemist: Pia Varmanen, SYKE, 20.01. - 20.01.

CTD-chief: Tuomo Roine, FMI, 20.01. - 20.01.

IT-chief: Ilkka Lastumäki, SYKE, 20.01. - 20.01.

Staff: Maiju Lehtiniemi, SYKE, 20.01. - 20.01.

Jere Riikonen, SYKE, 20.01. - 20.01.  
 Heini Jalli, -, 20.01. - 20.01.  
 Noora Haavisto, -, 20.01. - 20.01.  
 Pia Varmanen, -, 20.01. - 20.01.  
 Mira Granlund, -, 20.01. - 20.01.  
 Outi Setälä, -, 20.01. - 20.01.  
 Okko Outinen, -, 20.01. - 20.01.  
 Tuomo Roine, -, 20.01. - 20.01.  
 Sami Rantapusa, -, 20.01. - 20.01.

Altogether 14 scientists.

**Departure: HELSINKI Monday 16.01.2023 at 19.00**

**Arrival: HANKO Friday 20.01.2023 at 07.53**

Cruising speed: 9.0 knots.

Duration of the cruise: 3 days 12 h 53 min

Length of the cruise: 300,54 nautical miles.

Number of observation stations 18 . Route points named as "P" are transit points only.

**Route:**

Nro	Name	Lat. Long.		Depth [m]	Arrival			Duration			Speed knots
		[WGS-84]			hh:mm	pv	pp.kk.vvvv	hh	mm		
0	HELSINKI	60°09.55'	24°55.37'	0	19.00	ma	16.01.2023	0	0	S	9.00
1	39A	60°04.01'	24°58.81'	41	19.38	ma	16.01.2023	2	0	S	9.00
2	XIV3	60°12.19'	26°11.57'	77	01.46	ti	17.01.2023	2	0	S	9.00
3	LL3A	60°04.03'	26°20.80'	68	04.48	ti	17.01.2023	3	30	S	9.00
4	XV1_TRAP	60°15.09'	27°14.92'	60	11.32	ti	17.01.2023	3	0	S	9.00
5	BIAS19B	60°14.91'	27°14.86'	60	14.34	ti	17.01.2023	8	0	S	9.00
6	XV1	60°15.00'	27°14.82'	64	22.34	ti	17.01.2023	4	0	S	9.00
7	GF2	59°50.31'	25°51.41'	84	07.57	ke	18.01.2023	2	0	S	9.00
8	LL5	59°55.01'	25°35.82'	70	10.58	ke	18.01.2023	2	0	S	9.00
9	AALTO_HKI	59°57.90'	25°14.10'	62	14.13	ke	18.01.2023	1	30	S	9.00
10	LL6A	59°55.01'	25°01.81'	75	16.28	ke	18.01.2023	2	0	S	9.00
11	LL7	59°50.79'	24°50.27'	100	19.16	ke	18.01.2023	2	30	S	9.00
12	GF1	59°42.30'	24°40.93'	84	22.51	ke	18.01.2023	2	0	S	9.00
13	LL9	59°42.01'	24°01.81'	69	03.02	to	19.01.2023	2	0	S	9.00
14	JML	59°34.91'	23°37.61'	80	06.36	to	19.01.2023	5	0	S	9.00
15	F62	59°20.01'	23°15.81'	95	13.40	to	19.01.2023	4	0	S	9.00
16	LL11	59°35.01'	23°17.81'	68	19.20	to	19.01.2023	2	0	S	9.00
17	XII3	59°52.01'	23°58.81'	38	00.19	pe	20.01.2023	2	0	S	9.00
18	LANGDEN	59°46.61'	23°15.77'	57	04.48	pe	20.01.2023	2	0	S	9.00
19	HANKO	59°49.01'	22°56.81'	0	07.53	pe	20.01.2023	0	0	S	9.00

