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Optimising the implementation of the 2nd RBMP in the Malta River Basin District

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Action C.14 Anchoring and Mooring Surveys

Spatio-temporal Analysis Report

Activity 1 Final Report

(Ref. GF/Admin/11/2020)

Appendix I

Service Tender for Surveys to Assess the Impacts of Anchoring/Mooring Activity, and the Socio- Economic Assessment of Management Options

Date	Revision	Comments
01-Jul-22	1.0	First Version
19-Sep-22	1.1	Update of first version after ERA and TM feedback
28-Oct-22	1.2	Update of version 1.1 after ERA and TM feedback



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Table 1. List of maps created for the Spatio-temporal Analysis Report. *Maps included in the Interim Report.

MAP TYPE	MAP NUMBER	AREA	DESCRIPTION	DATA SOURCE
Survey Areas	1	Coastal Areas	Location of surveyed coastal areas and ID codes of each area.	Approved Work Plan
	2	Bunkering Areas	Location of bunkering areas within the 12 NM Maltese territorial waters and ID codes of each area.	Transport Malta
	3	Bunkering Areas AUG	Representation of the GPS points of offshore vessels from summer with the superimposition of the benthic habitat distribution.	MarineTraffic.com and EMODnet
Heatmap (Summer 2021)	4A/B	Coastal Areas	Density in n° of vessels/m ² in each surveyed coastal area.	Drone surveys
	5	Offshore	Location of offshore vessels within Maltese territorial waters. The map shows the location of the bunkering areas.	AIS data from MarineTraffic.com
Vessel Type (Summer 2021)	6	Gozo	Representation of the total number of vessels in the coastal areas with classification pie charts showing the 4 types of vessels (pleasure, sailing, fishing, commercial).	Drone surveys
	7	Comino,		
	8	North of Malta		
	9	North-East of Malta		
	10	West of Malta		
	11	East of Malta		
	12	South of Malta		
Vessel Size (Summer 2021)	13	Gozo	Representation of the total number of vessels in the coastal areas with classification pie charts showing the 3 different size categories (0-15m, 15-25, > 25m).	Drone surveys
	14	Comino,		
	15	North of Malta		
	16	North-East of Malta		
	17	West of Malta		
	18	East of Malta		
	19	South of Malta		
	20	Gozo		Drone surveys

MAP TYPE	MAP NUMBER	AREA	DESCRIPTION	DATA SOURCE
Vessel Status (Summer 2021)	21	Comino,	Representation of the total number of vessels in the coastal areas with classification pie charts showing the status of vessels (anchored, moored, rafted up).	
	22	North of Malta		
	23	North-East of Malta		
	24	West of Malta		
	25	East of Malta		
	26	South of Malta		
Vessel Count (Winter 2021)	27	Bunkering Areas	Representation of the total number of vessels inside each bunkering areas between January and March 2021.	Transport Malta
Vessel Count (Spring 2021)	28	Bunkering Areas	Representation of the total number of vessels inside each bunkering areas between April and June 2021.	Transport Malta
Transects*	29	Santa Maria Bay, Comino	Representation of transects for SCUBA surveys for each near-shore targeted area.	
	30	Il-Hofriet (Il-Hofra il-Kbira), Malta		
	31	Salina Bay, Malta		
	32	Xlendi Bay, Gozo		
	33	Bunkering Area 1, offshore	Representation of transects for ROV surveys within the offshore targeted area.	
Benthic Habitat Distribution*	34	Santa Maria Bay, Comino	Representation of benthic habitat distribution with GPS vessels points for each targeted area.	EMOdnet and ERA shapefiles
	35	Il-Hofriet (Il-Hofra il-Kbira), Malta		
	36	Salina Bay, Malta		
	37	Xlendi Bay, Gozo		
	38	Bunkering Area 1, offshore		
	39	Bunkering Area 1, offshore + ROV transects		
Heatmap (Autumn 2021)	40A/B	Coastal Areas	Density in n° of vessels/m2 in each surveyed coastal area.	Drone surveys
	41	Offshore	Location of offshore vessels within Maltese territorial waters. The map shows the location of the bunkering areas.	AIS data from MarineTraffic.com

MAP TYPE	MAP NUMBER	AREA	DESCRIPTION	DATA SOURCE
Heatmap (Winter 2021)	42A/B	Coastal Areas	Density in n° of vessels/m2 in each surveyed coastal area.	Drone surveys
	43	Offshore	Location of offshore vessels within Maltese territorial waters. The map shows the location of the bunkering areas.	AIS data from MarineTraffic.com
Heatmap (Spring 2021)	44A/B	Coastal Areas	Density in n° of vessels/m2 in each surveyed coastal area.	Drone surveys
	45	Offshore	Location of offshore vessels within Maltese territorial waters. The map shows the location of the bunkering areas.	AIS data from MarineTraffic.com
Heatmap (Year)	46A/B	Coastal Areas	Density in n° of vessels/m2 in each surveyed coastal area.	Drone surveys
	47	Offshore	Location of offshore vessels within Maltese territorial waters. The map shows the location of the bunkering areas.	AIS data from MarineTraffic.com
Benthic Habitat Distribution	48	Bunkering Areas Autumn	Representation of the GPS points of offshore vessels from summer with the superimposition of the benthic habitat distribution.	MarineTraffic.com and EMODnet
	49	Bunkering Areas Winter	Representation of the GPS points of offshore vessels from winter with the superimposition of the benthic habitat distribution.	MarineTraffic.com and EMODnet
	50	Bunkering Areas Spring	Representation of the GPS points of offshore vessels from spring with the superimposition of the benthic habitat distribution.	MarineTraffic.com and EMODnet
	51	Bunkering Areas Year	Representation of the GPS points of offshore vessels from 1 year survey with the superimposition of the benthic habitat distribution.	MarineTraffic.com and EMODnet
Vessel Distribution	52	Santa Maria Bay	Representation of the vessels position from 1 year drone surveys.	Drone Surveys

MAP TYPE	MAP NUMBER	AREA	DESCRIPTION	DATA SOURCE
	53	Il-Hofriet (Il-Hofra il-Kbira)	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	54	Salina Bay	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	55	Xlendi Bay	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	56	Blue Lagoon	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	57	Crystal lagoon	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	58	St. Nicholas Bay	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	59	Dwejra	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	60	Marsalforn Bay	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	61	Mgarr ix-Xini	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	62	Qbajjar	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	63	Ramla il-Hamra Bay	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	64	San Blas	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	65	Xatt l- Ahmar	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	66	Armier Bay West	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	67	Armier Bay East	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	68	Ghadira Bay A + B + C	Representation of the vessels position from 1 year drone surveys.	Drone Surveys

MAP TYPE	MAP NUMBER	AREA	DESCRIPTION	DATA SOURCE
	69	Ghajn Tuffieha Bay + Golden Bay	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	70	Ġnejna Bay to il-Qarraba	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	71	Il-Ħofriet (Il-Ħofra ż-Żgħira)	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	72	Marfa West	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	73	Marfa (Ramla tal-Bir)	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	74	Marfa (Ramla tal-Qortin)	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	75	Paradise Bay	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	76	Selmun Bay	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	77	St. Julian's Bay	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	78	Mistra Bay North	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	79	Mistra Bay South	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	80	St. Paul's Bay West (including Xemxija)	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	81	St. Paul's East	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
	82	St. Thomas Bay	Representation of the vessels position from 1 year drone surveys.	Drone Surveys
Vessel Distribution + Heatmap	83	Santa Maria Bay	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	84	Il-Ħofriet (Il-Ħofra il-Kbira)	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys

MAP TYPE	MAP NUMBER	AREA	DESCRIPTION	DATA SOURCE
	85	Salina Bay	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	86	Xlendi Bay	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	87	Blue Lagoon	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	88	Crystal lagoon	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	89	St. Nicholas Bay	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	90	Dwejra	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	91	Marsalforn Bay	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	92	Mgarr ix-Xini	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	93	Qbajjar	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	94	Ramla il-Ħamra Bay	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	95	San Blas	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	96	Xatt l- Ahmar	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	97	Armier Bay West	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	98	Armier Bay East	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	99	Għadira Bay A + B + C	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	100	Għajn Tuffieħa Bay + Golden Bay	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys

MAP TYPE	MAP NUMBER	AREA	DESCRIPTION	DATA SOURCE
	101	Ġnejna Bay to il-Qarraba	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	102	Il-Hofriet (Il-Hofra ż-Żgħira)	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	103	Marfa West	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	104	Marfa (Ramla tal-Bir)	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	105	Marfa (Ramla tal-Qortin)	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	106	Paradise Bay	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	107	Selmun Bay	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	108	St. Julian's Bay	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	109	Mistra Bay North	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	110	Mistra Bay South	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	111	St. Paul's Bay West (including Xemxija)	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	112	St. Paul's East	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys
	113	St. Thomas Bay	Heatmap of the vessels position from 1 year drone surveys.	Drone Surveys

Table 2. Environmental conditions obtained per each survey day and area, for in-situ drone and AIS surveys, Summer 2021. Weather data source: <https://www.windfinder.com/>

Date	Site Name	Weather	Wind Speed (kts)	Wind Direction (°)	Wave Height (m)	Air Temperature (°C)	Sea Temperature (°C)
15-Aug-21	Xatt l- Ahmar	Sunny	7	310°(NW)	N/A	29	26.1
15-Aug-21	Mgarr ix-Xini	Sunny	7	311°(NW)	N/A	31	26.1
15-Aug-21	Xlendi Bay	Sunny	7	310°(NW)	N/A	33	26.1
15-Aug-21	Dwejra	Sunny	5	310°(NW)	N/A	34	26.1
15-Aug-21	Qbajjar	Sunny	5	278°(NW)	N/A	34	26.1
15-Aug-21	Marsalforn Bay	Sunny	5	278°(NW)	N/A	34	26.1
15-Aug-21	Ramla il-Ħamra Bay	Sunny	5	278°(NW)	N/A	33	26.1
15-Aug-21	San Blas	Sunny	4	279°(NW)	N/A	32	26.1
16-Aug-21	St. Thomas Bay	Sunny	13	262°(E)	N/A	33	26
16-Aug-21	Munxar Area	Sunny	13	262°(E)	N/A	33	26
16-Aug-21	Il-Ħofriet (Il-Ħofra il-Kbira)	Sunny	13	262°(E)	N/A	33	26
16-Aug-21	Il-Ħofriet (Il-Ħofra ż-Żgħira)	Sunny	13	262°(E)	N/A	33	26
19-Aug-21	Offshore	Sunny	9	280°(NW)	N/A	29	25
20-Aug-21	Selmun Bay	Sunny	5	297°(WNW)	N/A	31	25.4
20-Aug-21	Mistra Bay South	Sunny	5	289°(WNW)	N/A	31	25.4
20-Aug-21	Mistra Bay North	Sunny	3	353°(N)	N/A	31	25.4
20-Aug-21	St. Paul's East	Sunny	3	351°(N)	N/A	31	25.4
22-Aug-21	Crystal lagoon	Sunny	1	182°(S)	N/A	29	25.1
22-Aug-21	Blue Lagoon	Sunny	1	182°(S)	N/A	29	25.1
22-Aug-21	St. Nicholas Bay	Sunny	1	159°(SSE)	N/A	29	25.1
22-Aug-21	Santa Marija Bay	Sunny	2	158°(SSE)	N/A	29	25.1
23-Aug-21	St. Julian's Bay	Sunny	8	260°(W)	N/A	33	26
23-Aug-21	Salina Bay (Qawra)	Sunny	9	264°(W)	N/A	33	26
23-Aug-21	Offshore	Sunny	6	250°(WSW)	N/A	32	25.8
24-Aug-21	Għadira Bay A, B, C	Sunny	11	260°(W)	N/A	32	26
24-Aug-21	Offshore	Sunny	11	260°(SW)	N/A	31	25
25-Aug-21	Marfa (Ramla tal-Bir)	Sunny	11	231°(SW)	N/A	32	26

Date	Site Name	Weather	Wind Speed (kts)	Wind Direction (°)	Wave Height (m)	Air Temperature (°C)	Sea Temperature (°C)
25-Aug-21	Marfa (Ramla tal-Qortin)	Sunny	11	231°(SW)	N/A	32	26
25-Aug-21	Marfa West	Sunny	12	231°(SW)	N/A	32	26
25-Aug-21	Armier Bay West	Sunny	11	231°(SW)	N/A	32	26
25-Aug-21	Armier Bay East	Sunny	11	231°(SW)	N/A	31	26.1
26-Aug-21	Offshore	Sun + Clouds	9	240°(WSW)	N/A	32	26
27-Aug-21	St. Paul's Bay West (including Xemxija)	Cloudy	8	316°(NW)	N/A	29	26.1
27-Aug-21	Offshore	Sun + Clouds	9	310°(NW)	N/A	32	26
28-Aug-21	Offshore	Sun + Clouds	13	300°(NW)	N/A	31	26
29-Aug-21	Offshore	Sun + Clouds	16	310°(NW)	N/A	32	25.2
30-Aug-21	Offshore	Sunny	10	80°(NE)	N/A	29	26.1
31-Aug-21	Għajn Tuffieħa Bay + Golden Bay	Sunny	3	232°(SW)	N/A	29	26.1
31-Aug-21	Ġnejna Bay to il-Qarraba	Sunny	3	231°(SW)	N/A	29	26.1
31-Aug-21	Fomm ir-Rih	Sunny	3	231°(SW)	N/A	29	26.1
31-Aug-21	Paradise Bay	Sunny	2	230°(SW)	N/A	29	26.1

Table 3. Environmental conditions obtained per each survey day and area, for in-situ drone and AIS surveys, Autumn 2021. Weather data source: <https://www.windfinder.com/>

Date	Site Name	Weather	Wind Speed (kts)	Wind Direction (°)	Wave Height (m)	Air Temperature (°C)	Sea Temperature (°C)
12-Nov-21	Salina Bay	Sunny	2	295°(NW)	1.2	19	19
12-Nov-21	St.Paul's East	Sunny	2	289°(WNW)	1.1	19	19
12-Nov-21	Mistra Bay South	Sunny	2	289°(WNW)	1.1	19	19
12-Nov-21	Offshore	Sunny	4	260°(SW)	1.3	19	19
14-Nov-21	St.Nicholas Bay	Sun + Clouds	9	109°(E)	0.4	19	20
14-Nov-21	Santa Marija Bay	Sun + Clouds	9	109°(E)	0.4	19	20
14-Nov-21	Crystal lagoon	Sun + Clouds	9	109°(E)	0.4	19	20
14-Nov-21	Blue lagoon	Cloudy	9	109°(E)	0.4	19	20
16-Nov-21	Għajn Tuffieħa Bay + Golden Bay	Sunny	15	203°(SSW)	0.9	20	21
16-Nov-21	Gnejna Bay	Cloudy	17	203°(SSW)	0.5	20	21
18-Nov_21	Offshore	Cloudy	8	290°(NWW)	0.7	20	20
19-Nov-21	Marfa (Ramla tal-Bir)	Sunny	7	7°(N)	0.7	21	19
19-Nov-21	Marfa (Ramla tal-Qortin)	Sunny	7	7°(N)	0.7	21	19
19-Nov-21	Marfa West	Sunny	7	317°(NW)	0.5	21	19
19-Nov-21	Paradise Bay	Sunny	7	317°(NW)	0.5	20	19
19-Nov-21	Armier Bay East	Sunny	7	7°(N)	0.6	19	19
19-Nov-21	Offshore	Sunny	8	40°(NE)	0.7	19	19
19-Nov-21	Armier Bay West	Sunny	7	7°(N)	0.6	19	19
20-Nov-21	Ramla Bay	Sunny	5	330°(NNW)	0.7	19	19
20-Nov-21	San Blas	Sunny	5	330°(NNW)	0.7	19	19
20-Nov-21	Qbajjar	Sunny	5	329°(NNW)	0.7	19	19
20-Nov-21	Marsalforn Bay	Sunny	5	329°(NNW)	0.7	19	18
20-Nov-21	Xlendi Bay	Sunny	5	337°(NNW)	0.5	19	18
20-Nov-21	Dwejra	Sunny	5	337°(NNW)	0.5	19	18
20-Nov-21	Xatt l- Ahmar	Sunny	6	337°(NNW)	0.5	19	18
20-Nov-21	Mgarr ix-Xini	Sunny	6	337°(NNW)	0.5	18	18
22-Nov-21	Offshore	Sunny	8	240°(SW)	0.7	18	20

Date	Site Name	Weather	Wind Speed (kts)	Wind Direction (°)	Wave Height (m)	Air Temperature (°C)	Sea Temperature (°C)
23-Nov-21	Offshore	Sunny	11	260°(SW)	1	18	21
24-Nov-21	St.Paul's Bay West (including Xemxija)	Sunny	2	293°(WNW)	0.5	18	19
24-Nov-21	Mistra Bay North	Sun + Clouds	2	293°(WNW)	0.5	18	19
24-Nov-21	Selmun Bay	Sunny	2	293°(WNW)	0.5	20	19
25-Nov-21	Offshore	Cloudy	4	110°(SEE)	0.5	20	15
26-Nov-21	Offshore	Cloudy	15	260°(SEE)	0.5	20	15
07-Dec-21	Offshore	Cloudy	20	310°(NW)	0.7	21	15
15-Dec-21	Fomm ir-Rih	Cloudy	7	0°(N)	0.7	21	15
15-Dec-21	Ghadira Bay A, B, C	Cloudy	7	0°(N)	0.7	19	15
16-Dec-21	St. Julian's Bay	Cloudy	5	160°(SSE)	0.1	19	14
17-Dec-21	Il-Hofriet (Il-Hofra il-Kbira)	Sunny	7	339°(NNW)	0.5	19	15
17-Dec-21	Il-Hofriet (Il-Hofra ż-Żgħira)	Sunny	7	339°(NNW)	0.5	15	15
17-Dec-21	St. Thomas Bay	Sunny	7	338°(NNW)	0.5	15	14
17-Dec-21	Munxar Area	Sunny	5	338°(NNW)	0.5	15	14
17-Dec-21	Offshore	Sunny	6	10°(SE)	0.4	15	15
17-Dec-21	Offshore	Sunny	6	10°(SE)	0.4	15	15

Table 4. Environmental conditions obtained per each survey day and area, for in-situ drone and AIS surveys, Winter 2022. Weather data source: <https://www.windfinder.com/>

Date	Site Name	Weather	Wind Speed (kts)	Wind Direction (°)	Wave Height (m)	Air Temperature (°C)	Sea Temperature (°C)
14-Feb-22	Offshore	Cloudy	7	177° (S)	0.4	14	14
15-Feb-22	Offshore	Sunny	6	177° (S)	0.2	14	14
15-Feb-22	Offshore	Sunny	7	177° (S)	0.4	14	14
16-Feb-22	Offshore	Sunny	7	315° (NW)	0.4	15	15
16-Feb-22	Offshore	Sunny	7	315° (NW)	0.4	15	15
17-Feb-22	Offshore	Cloudy	8	293° (WNW)	0.6	15	15
18-Feb-22	Offshore	Sunny	7	293° (WNW)	0.8	15	15
18-Feb-22	Selmun Bay	Sunny	7	293° (WNW)	0.8	15	15
18-Feb-22	Ghadira Bay A, B, C	Sunny	7	293° (WNW)	0.8	15	15
19-Feb-22	Xatt I- Ahmar	Sunny	10	228° (SW)	0.5	15	15
19-Feb-22	Mgarr ix-Xini	Sunny	10	228° (SW)	0.5	15	15
19-Feb-22	Xlendi Bay	Sunny	10	228° (SW)	0.5	15	15
19-Feb-22	Dwejra	Sunny	10	228° (SW)	0.5	15	15
19-Feb-22	Qbajjar	Sunny	9	225° (SW)	0.5	15	15
19-Feb-22	Marsalforn Bay	Sunny	9	225° (SW)	0.5	15	15
19-Feb-22	Ramla il-Ħamra Bay	Sunny	9	225° (SW)	0.5	15	15
19-Feb-22	San Blas	Sunny	9	225° (SW)	0.5	15	15
22-Feb-22	Offshore	Cloudy	27	292° (WNW)	1.9	13	13
24-Feb-22	Offshore	Sunny	10	342° (NNW)	1.3	14	14
24-Feb-22	Offshore	Sunny	10	342° (NNW)	1.3	14	14
25-Feb-22	Offshore	Sunny	9	238 (WSW)	1.1	13	13
25-Feb-22	Offshore (in front of Xghajra)	Sunny	9	238 (WSW)	1.1	13	13
28-Feb-22	Offshore	Cloudy	25	323°(NW)	0.7	14	14
28-Feb-22	Offshore	Cloudy	25	323°(NW)	0.7	14	14
28-Feb-22	Offshore	Cloudy	25	323°(NW)	0.7	14	14
11-Mar-22	St. Thomas Bay	Sunny	2	180°(S)	0.5	13	13
11-Mar-22	Munxar Area	Sunny	2	180°(S)	0.5	13	13

Date	Site Name	Weather	Wind Speed (kts)	Wind Direction (°)	Wave Height (m)	Air Temperature (°C)	Sea Temperature (°C)
11-Mar-22	Il-Hofriet (Il-Hofra ż-Żgħira)	Sunny	2	180°(S)	0.4	13	13
11-Mar-22	Il-Hofriet (Il-Hofra il-Kbira)	Sunny	2	180°(S)	0.5	13	13
11-Mar-22	Għajn Tuffieħa Bay + Golden Bay	Sunny	2	350°(N)	0.3	13	13
11-Mar-22	Fomm ir-Rih	Sunny	2	350°(N)	0.3	13	13
24-Mar-22	Crystal Lagoon	Sunny	5	340°(NNW)	0.4	14	14
24-Mar-22	Blue Lagoon	Sunny	5	340°(NNW)	0.4	14	14
24-Mar-22	St. Nicholas	Sunny	5	340°(NNW)	0.4	14	14
24-Mar-22	Santa Marija Bay	Sunny	5	340°(NNW)	0.4	14	14

Table 5. Environmental conditions obtained per each survey day and area, for in-situ drone and AIS surveys, Spring 2022. Weather data source: <https://www.windfinder.com/>

Date	Site Name	Weather	Wind Speed (kts)	Wind Direction(°)	Wave Height (m)	Air Temperature (°C)	Sea Temperature (°C)
03-May-22	Armier Bay West	Sunny	8	263° (W)	0.6	18	16.9
03-May-22	Armier Bay East	Sunny	8	263° (W)	0.6	18	16.9
03-May-22	Marfa (Ramla tal-Qortin)	Sunny	8	263° (W)	0.6	18	16.9
03-May-22	Marfa (Ramla tal-Bir)	Sunny	8	263° (W)	0.6	18	16.9
03-May-22	Marfa West	Sunny	8	263° (W)	0.6	18	16.9
03-May-22	Paradise Bay	Sunny	8	263° (W)	0.6	18	16.9
03-May-22	Offshore	Sunny	9	236° (SW)	0.8	17	16.9
04-May-22	Ġnejna Bay to il-Qarraba	Sunny	6	130° (SE)	0.2	18	17
04-May-22	Għajn Tuffieħa + Golden Bay	Sunny	6	130° (SE)	0.2	18	17
04-May-22	Fomm ir-Rih	Sunny	6	130° (SE)	0.2	18	17
04-May-22	Offshore	Sunny	4	135° (SE)	0.4	17	17
09-May-22	Ghadira Bay A, B, C	Sunny + Cloudy	9	306° (WNW)	0.4	17	17
09-May-22	Selmun Bay	Sunny + Cloudy	9	304° (WNW)	0.4	17	17
09-May-22	Mistra North	Sunny + Cloudy	9	302° (WNW)	0.7	17	17
09-May-22	Mistra South	Sunny + Cloudy	9	302° (WNW)	0.7	17	17
09-May-22	St. Paul's Bay West (including Xemxija)	Sunny + Cloudy	9	302° (WNW)	0.7	17	17
09-May-22	St Paul's Bay East	Sunny	12	294° (WNW)	0.7	17	17
10-May-22	Offshore	Sunny	10	69° (ENE)	0.6	17	17.2
11-May-22	Offshore	Sunny	7	65°(ENE)	0.3	19	17.2
11-May-22	St Thomas Bay	Sunny	4	27° (NNE)	0.4	18	17.2
11-May-22	Munxar Area	Sunny	4	27° (NNE)	0.4	18	17.2
11-May-22	Il-Hofriet (Il-Hofra il-Kbira)	Sunny	4	27° (NNE)	0.4	18	17.2
11-May-22	Il-Hofriet (Il-Hofra ż-Żgħira)	Sunny	4	27° (NNE)	0.4	18	17.2
11-May-22	St Julian's Bay	Sunny	7	54° (NE)	0.4	18	17.2
11-May-22	Sailna Bay (Qawra)	Sunny	7	50° (NE)	0.4	18	17.2
14-May-22	Xatt l- Ahmar	Sunny	10	282° (WNW)	0.3	19	18.6
14-May-22	Mgarr ix-Xini	Sunny	10	282° (WNW)	0.3	19	18.6
14-May-22	Xlendi Bay	Sunny	10	282° (WNW)	0.3	19	18.6

14-May-22	Dwejra	Sunny	10	282° (WNW)	0.3	19	18.6
14-May-22	Qbajjar	Sunny	10	273° (W)	0.3	19	18.6
14-May-22	Marsalforn Bay	Sunny	10	273° (W)	0.3	20	18.6
14-May-22	Ramla il-Hamra Bay	Sunny	10	273° (W)	0.3	20	18.6
14-May-22	San Blas	Sunny	10	273° (W)	0.3	20	18.6
15-May-22	Blue Lagoon	Sunny	5	259° (W)	0.2	23	18.8
15-May-22	Crystal Lagoon	Sunny	5	259° (W)	0.2	23	18.8
15-May-22	St. Nicholas Bay	Sunny	5	259° (W)	0.2	23	18.8
15-May-22	Santa Marija Bay	Sunny	5	259° (W)	0.2	23	18.8
16-May-22	Offshore	Sunny	8	111° (ESE)	0.2	21	18.4
17-May-22	Offshore	Sunny	6	95° (E)	0.2	21	19.6
18-May-22	Offshore	Sunny	2	289 (WNW)	0.2	22	19.7
20-May-22	Offshore	Sunny	3	116° (ESE)	1.5	20	19.7
25-May-22	Offshore	Sunny	9	161° (SSE)	0.5	22	21.2

Table 6. Summary of number of vessels per category in each survey area during *in-situ* drone surveys (4 seasons).

ID	Surface area (m ²)	Season	Status (n)			Type of vessel (n)				Size (length) of vessel (n)			Vessels per season (n)	Vessels per bay (n)	Density (n vessels/m ²)
			Moor.	Anch.	Raft.	Pleas.	Sail.	Fish.	Com.	0 - 15 m	15 - 25 m	> 25 m			
C1	81,496.65	Summer	2	175	17	177	6	0	11	180	10	4	194	249	0.003055
		Autumn	2	13	0	10	4	0	1	10	5	0	15		
		Winter	2	4	0	2	1	0	3	1	2	3	6		
		Spring	7	20	7	31	3	0	0	30	4	0	34		
C2	108,994.79	Summer	0	78	4	69	10	0	3	75	6	1	82	87	0.000798
		Autumn	0	1	0	1	0	0	0	1	0	0	1		
		Winter	0	1	0	0	1	0	0	0	1	0	1		
		Spring	0	3	0	2	1	0	0	2	1	0	3		
C3	48,844.64	Summer	13	77	35	117	4	2	2	119	6	0	125	174	0.003562
		Autumn	1	6	3	9	1	0	0	6	4	0	10		
		Winter	0	0	0	0	0	0	0	0	0	0	0		
		Spring	15	19	5	34	4	0	1	36	3	0	39		
C4	40,969.63	Summer	0	38	13	47	4	0	0	44	7	0	51	78	0.001904
		Autumn	0	0	0	0	0	0	0	0	0	0	0		
		Winter	0	0	0	0	0	0	0	0	0	0	0		
		Spring	1	21	5	27	0	0	0	21	6	0	27		
G1	107,406.61	Summer	0	64	4	54	14	0	0	58	10	0	68	70	0.000652
		Autumn	0	1	0	0	1	0	0	0	1	0	1		
		Winter	0	0	0	0	0	0	0	0	0	0	0		
		Spring	0	1	0	0	1	0	0	0	1	0	1		
G2	34,574.55	Summer	16	45	1	55	6	1	0	54	8	0	62	65	0.00188
		Autumn	1	0	0	1	0	0	0	1	0	0	1		
		Winter	0	0	0	0	0	0	0	0	0	0	0		
		Spring	1	1	0	1	1	0	0	1	1	0	2		

ID	Surface area (m ²)	Season	Status (n)			Type of vessel (n)				Size (length) of vessel (n)			Vessels per season (n)	Vessels per bay (n)	Density (n vessels/m ²)
			Moor.	Anch.	Raft.	Pleas.	Sail.	Fish.	Com.	0 - 15 m	15 - 25 m	> 25 m			
G3	28,385.85	Summer	5	67	11	81	2	0	0	45	36	2	83	84	0.002959
		Autumn	1	0	0	1	0	0	0	1	0	0	1		
		Winter	0	0	0	0	0	0	0	0	0	0	0		
		Spring	0	0	0	0	0	0	0	0	0	0	0		
G4	33,959.06	Summer	14	20	1	35	0	0	0	30	5	0	35	35	0.001031
		Autumn	0	0	0	0	0	0	0	0	0	0	0		
		Winter	0	0	0	0	0	0	0	0	0	0	0		
		Spring	0	0	0	0	0	0	0	0	0	0	0		
G5	123,896.52	Summer	0	110	0	105	5	0	0	95	15	0	110	111	0.000896
		Autumn	0	0	0	0	0	0	0	0	0	0	0		
		Winter	0	0	0	0	0	0	0	0	0	0	0		
		Spring	1	0	0	1	0	0	0	1	0	0	1		
G6	74,574.67	Summer	0	39	0	37	2	0	0	34	5	0	39	40	0.000536
		Autumn	0	0	0	0	0	0	0	0	0	0	0		
		Winter	0	0	0	0	0	0	0	0	0	0	0		
		Spring	0	1	0	1	0	0	0	1	0	0	1		
G7	25,001.41	Summer	30	14	3	43	4	0	0	42	5	0	47	50	0.002
		Autumn	0	1	0	0	1	0	0	0	1	0	1		
		Winter	0	0	0	0	0	0	0	0	0	0	0		
		Spring	2	0	0	2	0	0	0	2	0	0	2		
G8	27,775.40	Summer	8	50	0	53	2	3	0	52	6	0	58	83	0.002988
		Autumn	6	0	0	6	0	0	0	6	0	0	6		
		Winter	0	0	0	0	0	0	0	0	0	0	0		
		Spring	5	14	0	14	0	5	0	19	0	0	19		
M1	22,353.72	Summer	35	11	0	44	1	0	1	44	2	0	46	47	0.002103
		Autumn	0	0	0	0	0	0	0	0	0	0	0		

ID	Surface area (m ²)	Season	Status (n)			Type of vessel (n)				Size (length) of vessel (n)			Vessels per season (n)	Vessels per bay (n)	Density (n vessels/m ²)
			Moor.	Anch.	Raft.	Pleas.	Sail.	Fish.	Com.	0 - 15 m	15 - 25 m	> 25 m			
		Winter	0	0	0	0	0	0	0	0	0	0	0		
		Spring	0	1	0	1	0	0	0	0	1	0	1		
		Summer	124	2	0	126	0	0	0	126	0	0	126		
		Autumn	1	0	0	1	0	0	0	1	0	0	1		
M2	48,966.21	Winter	1	0	0	1	0	0	0	1	0	0	1	126	0.002614
		Spring	0	0	0	0	0	0	0	0	0	0	0		
		Summer	0	0	0	0	0	0	0	0	0	0	0		
		Autumn	0	0	0	0	0	0	0	0	0	0	0		
M3	36,698.29	Winter	0	0	0	0	0	0	0	0	0	0	0	0	0
		Spring	0	0	0	0	0	0	0	0	0	0	0		
		Summer	0	0	0	0	0	0	0	0	0	0	0		
		Autumn	0	0	0	0	0	0	0	0	0	0	0		
M4A	330,694.30	Winter	0	0	0	0	0	0	0	0	0	0	0	39	0.000118
		Spring	0	2	0	1	1	0	0	1	1	0	2		
		Summer	28	5	4	33	0	0	4	35	2	0	37		
		Autumn	0	0	0	0	0	0	0	0	0	0	0		
M4B	231,172.44	Winter	0	0	0	0	0	0	0	0	0	0	0	164	0.000709
		Spring	6	0	0	4	0	1	1	6	0	0	6		
		Summer	143	6	0	134	5	6	4	145	4	0	149		
		Autumn	5	2	2	7	0	1	1	8	1	0	9		
M4C	143,492.52	Winter	0	0	0	0	0	0	0	0	0	0	0	375	0.002613
		Spring	0	0	0	0	0	0	0	0	0	0	0		
		Summer	365	10	0	363	6	6	0	370	4	1	375		
		Autumn	0	0	0	0	0	0	0	0	0	0	0		
M5	138,788.47	Winter	0	0	0	0	0	0	0	0	0	0	0	23	0.000166
		Spring	3	2	4	8	1	0	0	8	1	0	9		
		Summer	13	1	0	10	0	0	4	14	0	0	14		
		Autumn	0	0	0	0	0	0	0	0	0	0	0		

ID	Surface area (m ²)	Season	Status (n)			Type of vessel (n)				Size (length) of vessel (n)			Vessels per season (n)	Vessels per bay (n)	Density (n vessels/m ²)
			Moor.	Anch.	Raft.	Pleas.	Sail.	Fish.	Com.	0 - 15 m	15 - 25 m	> 25 m			
M6	214,099.13	Summer	43	32	0	58	5	9	3	70	5	0	75	89	0.000416
		Autumn	0	6	0	0	0	6	0	6	0	0	6		
		Winter	0	0	0	0	0	0	0	0	0	0	0		
		Spring	8	0	0	8	0	0	0	8	0	0	8		
M7	158,028.43	Summer	0	104	31	129	6	0	0	127	8	0	135	137	0.000867
		Autumn	0	1	0	0	1	0	0	1	0	0	1		
		Winter	0	0	0	0	0	0	0	0	0	0	0		
		Spring	0	1	0	0	1	0	0	1	0	0	1		
M8	121,190.21	Summer	0	32	8	33	7	0	0	35	5	0	40	41	0.000338
		Autumn	0	0	0	0	0	0	0	0	0	0	0		
		Winter	0	0	0	0	0	0	0	0	0	0	0		
		Spring	0	1	0	0	1	0	0	1	0	0	1		
M9	26,894.09	Summer	6	0	0	6	0	0	0	6	0	0	6	7	0.00026
		Autumn	1	0	0	1	0	0	0	1	0	0	1		
		Winter	0	0	0	0	0	0	0	0	0	0	0		
		Spring	0	0	0	0	0	0	0	0	0	0	0		
M10	30,882.11	Summer	11	17	0	21	0	5	2	26	2	0	28	37	0.001198
		Autumn	0	0	0	0	0	0	0	0	0	0	0		
		Winter	0	0	0	0	0	0	0	0	0	0	0		
		Spring	9	0	0	3	1	0	5	8	1	0	9		
M11	77,118.45	Summer	13	8	0	14	0	7	0	21	0	0	21	21	0.000272
		Autumn	0	0	0	0	0	0	0	0	0	0	0		
		Winter	0	0	0	0	0	0	0	0	0	0	0		
		Spring	0	0	0	0	0	0	0	0	0	0	0		
M12	233,756.87	Summer	0	0	0	0	0	0	0	0	0	0	0	0	0
		Autumn	0	0	0	0	0	0	0	0	0	0	0		

ID	Surface area (m ²)	Season	Status (n)			Type of vessel (n)				Size (length) of vessel (n)			Vessels per season (n)	Vessels per bay (n)	Density (n vessels/m ²)
			Moor.	Anch.	Raft.	Pleas.	Sail.	Fish.	Com.	0 - 15 m	15 - 25 m	> 25 m			
M13	71,088.69	Winter	0	0	0	0	0	0	0	0	0	0	0	9	0.000127
		Spring	0	0	0	0	0	0	0	0	0	0	0		
		Summer	0	7	1	7	1	0	0	6	2	0	8		
		Autumn	0	0	0	0	0	0	0	0	0	0	0		
		Winter	0	0	0	0	0	0	0	0	0	0	0		
M14	426,522.76	Spring	0	1	0	0	0	0	1	1	0	0	1	481	0.001128
		Summer	456	6	0	441	7	9	5	458	4	0	462		
		Autumn	3	0	0	2	0	1	0	3	0	0	3		
		Winter	7	0	0	6	0	1	0	7	0	0	7		
		Spring	9	0	0	9	0	0	0	9	0	0	9		
M15	62,322.06	Summer	0	11	0	5	5	0	1	8	3	0	11	11	0.000177
		Autumn	0	0	0	0	0	0	0	0	0	0	0		
		Winter	0	0	0	0	0	0	0	0	0	0	0		
		Spring	0	0	0	0	0	0	0	0	0	0	0		
		Summer	244	6	2	199	8	39	6	244	7	1	252	388	0.00241
M16	161,015.93	Autumn	38	0	0	25	1	12	0	36	2	0	38		
		Winter	46	2	0	30	2	15	1	46	2	0	48		
		Spring	50	0	0	34	1	14	1	50	0	0	50		
		Summer	0	31	0	25	6	0	0	21	8	2	31	35	0.000852
M17	41,088.95	Autumn	0	1	0	1	0	0	0	1	0	0	1		
		Winter	0	2	0	2	0	0	0	2	0	0	2		
		Spring	0	1	0	0	1	0	0	0	1	0	1		
		Summer	139	14	1	146	2	6	0	140	14	0	154	167	0.001808
M18	92,375.11	Autumn	4	0	0	1	0	3	0	4	0	0	4		
		Winter	5	0	0	0	0	5	0	4	1	0	5		
		Spring	4	0	0	0	0	4	0	4	0	0	4		
		Summer	4	0	0	0	0	4	0	4	0	0	4		

ID	Surface area (m ²)	Season	Status (n)			Type of vessel (n)				Size (length) of vessel (n)			Vessels per season (n)	Vessels per bay (n)	Density (n vessels/m ²)
			Moor.	Anch.	Raft.	Pleas.	Sail.	Fish.	Com.	0 - 15 m	15 - 25 m	> 25 m			
M19	471,910.04	Summer	693	45	1	672	12	55	0	735	4	0	739	899	0.001905
		Autumn	69	0	0	51	0	18	0	69	0	0	69		
		Winter	36	0	0	21	0	14	1	31	4	1	36		
		Spring	54	0	1	32	1	20	2	55	0	0	55		
M20	152,896.21	Summer	444	28	0	422	2	47	1	470	2	0	472	519	0.003394
		Autumn	13	0	0	5	0	8	0	13	0	0	13		
		Winter	7	0	0	5	0	2	0	7	0	0	7		
		Spring	27	0	0	21	0	6	0	27	0	0	27		
M21	139,423.30	Summer	279	62	0	311	5	21	4	320	21	0	341	347	0.002489
		Autumn	1	0	0	1	0	0	0	1	0	0	1		
		Winter	1	0	0	0	0	1	0	1	0	0	1		
		Spring	4	0	0	1	1	2	0	4	0	0	4		

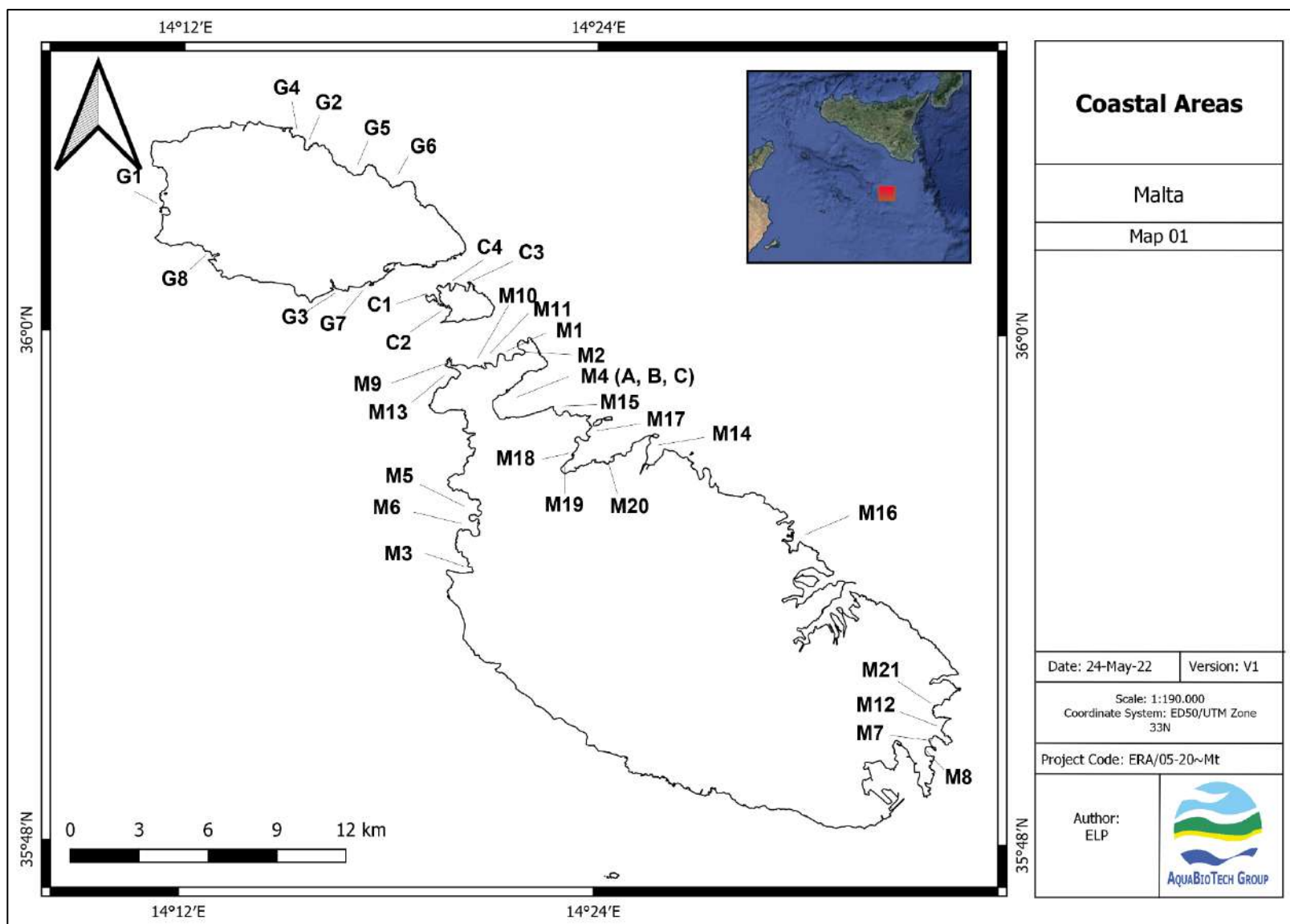


Figure 1. Map of surveyed coastal areas using an aerial drone, including Malta, Comino and Gozo.

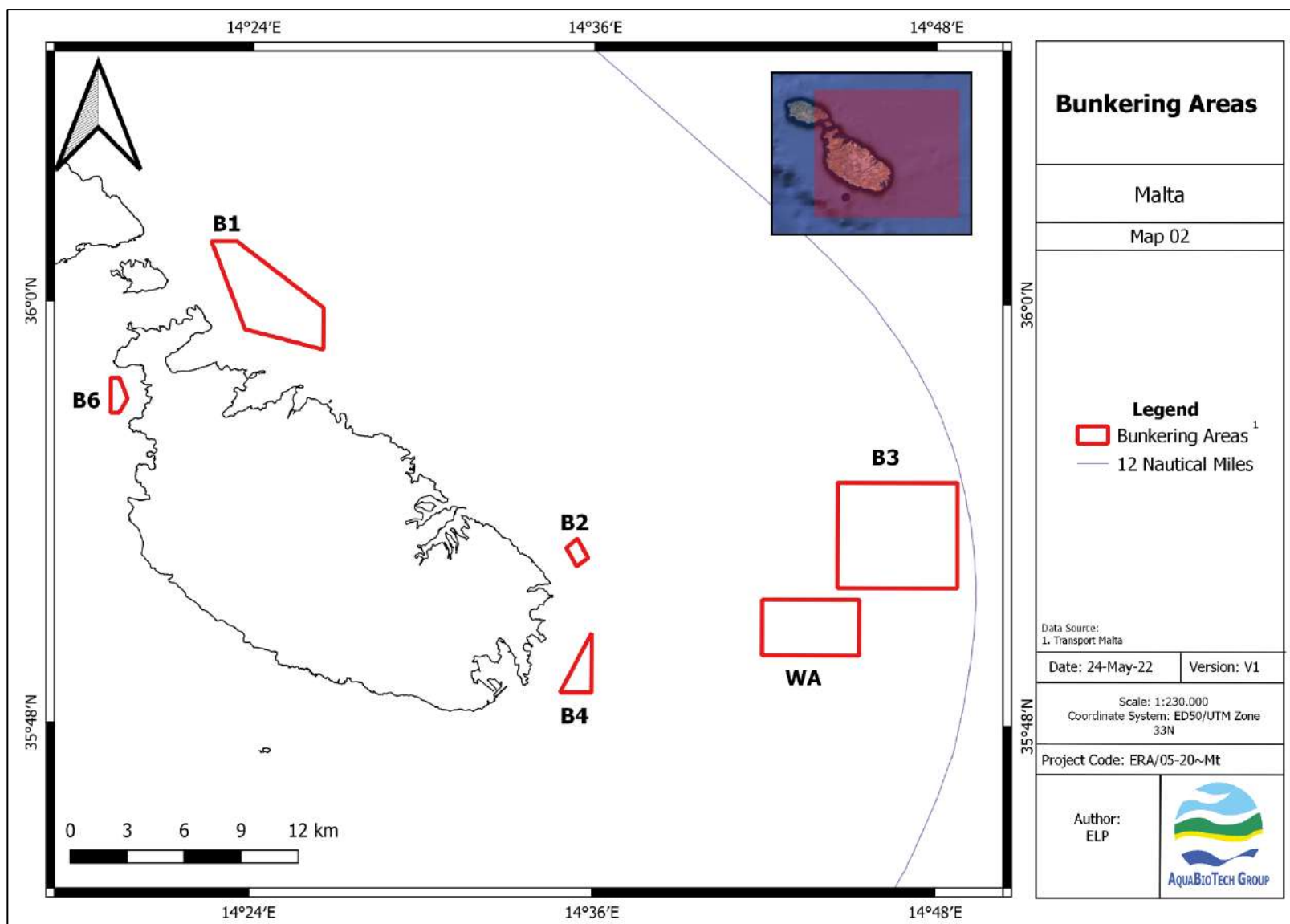


Figure 2. Map of bunkering and waiting areas in offshore Maltese territorial waters (12NM).

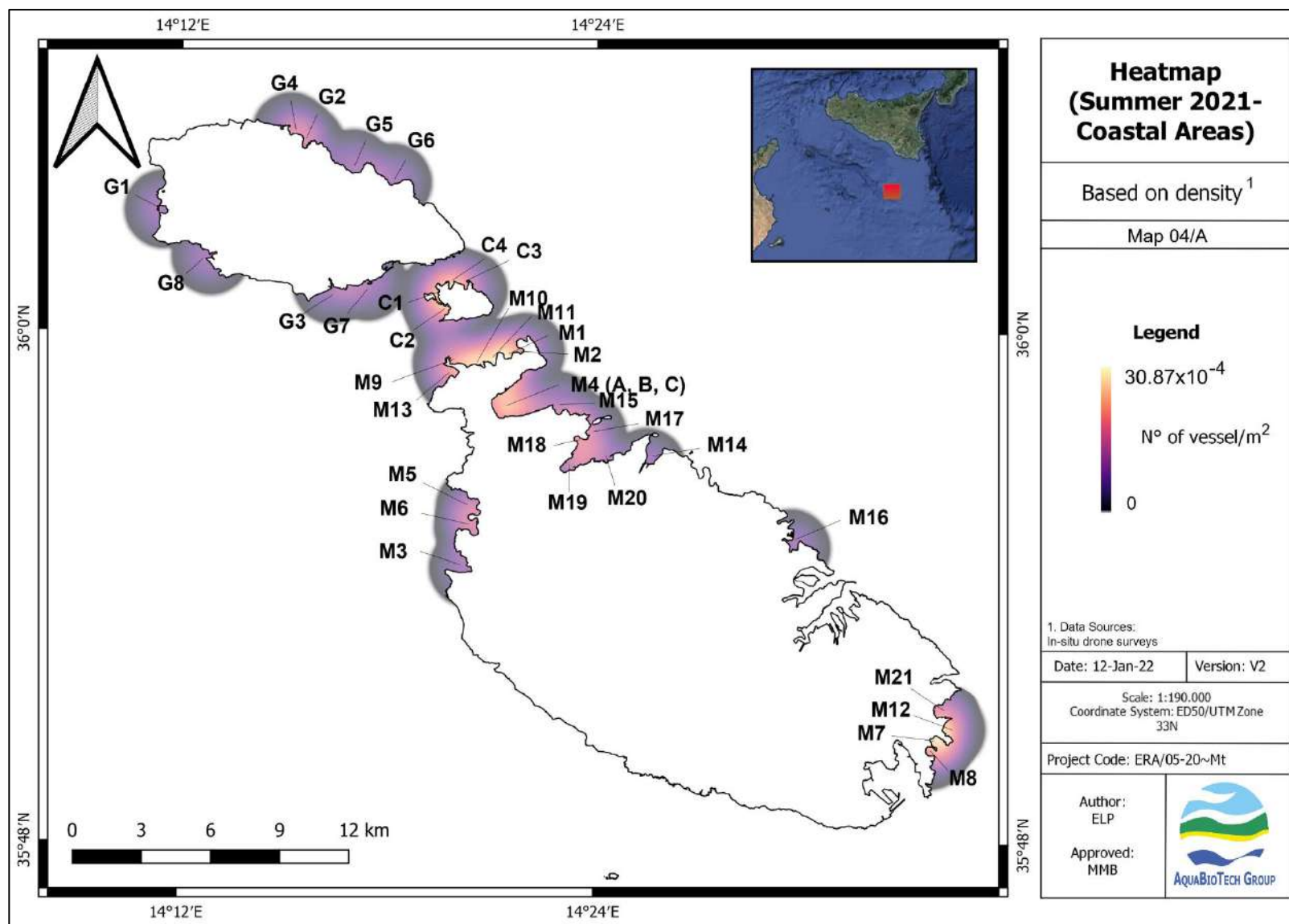


Figure 3. Heatmap of coastal areas based on vessel density (number of vessels/m²) in summer 2021, Maltese Islands.

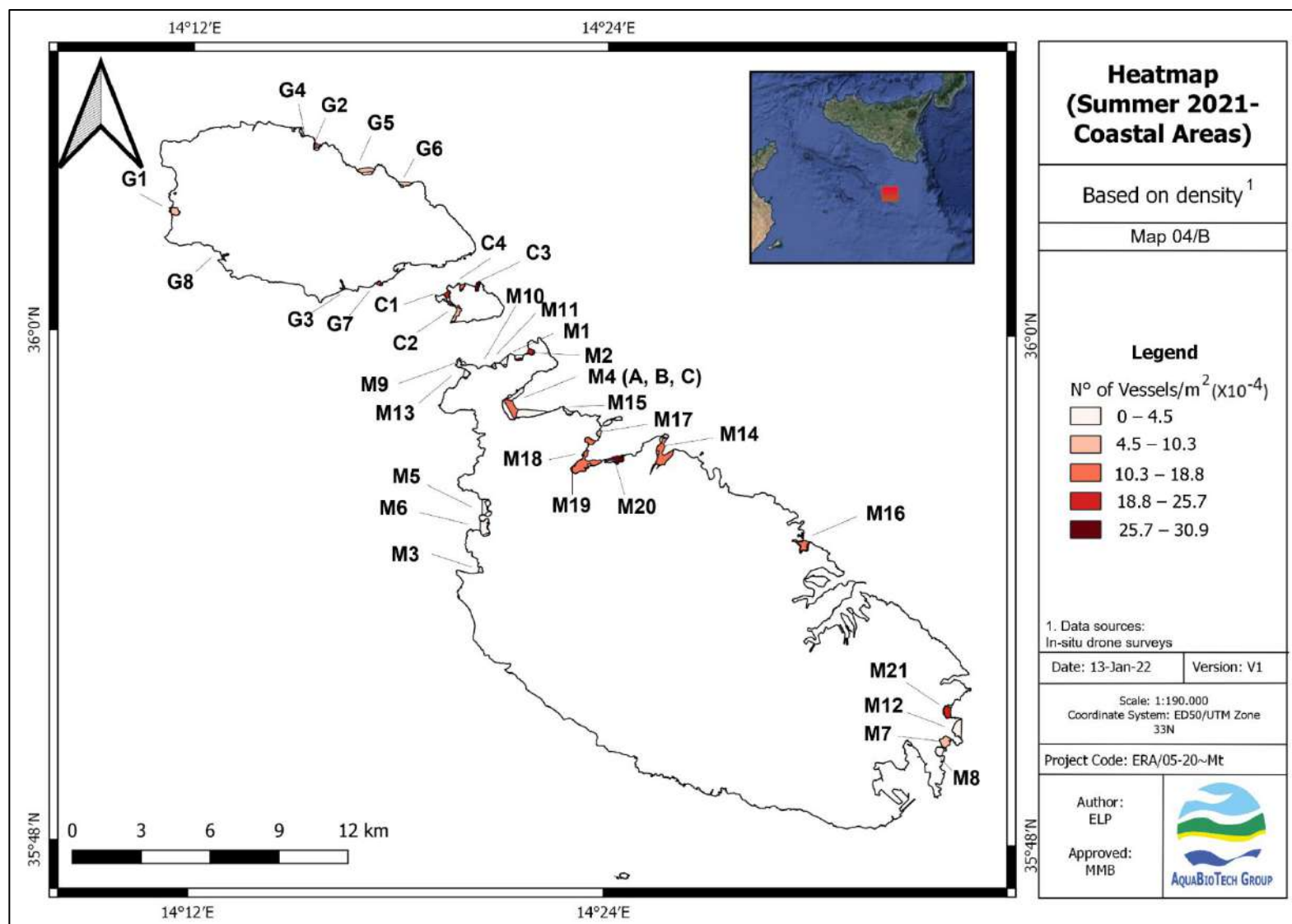


Figure 4. Heatmap of coastal areas based on vessel density (number of vessels/m²) in summer 2021, Maltese Islands.

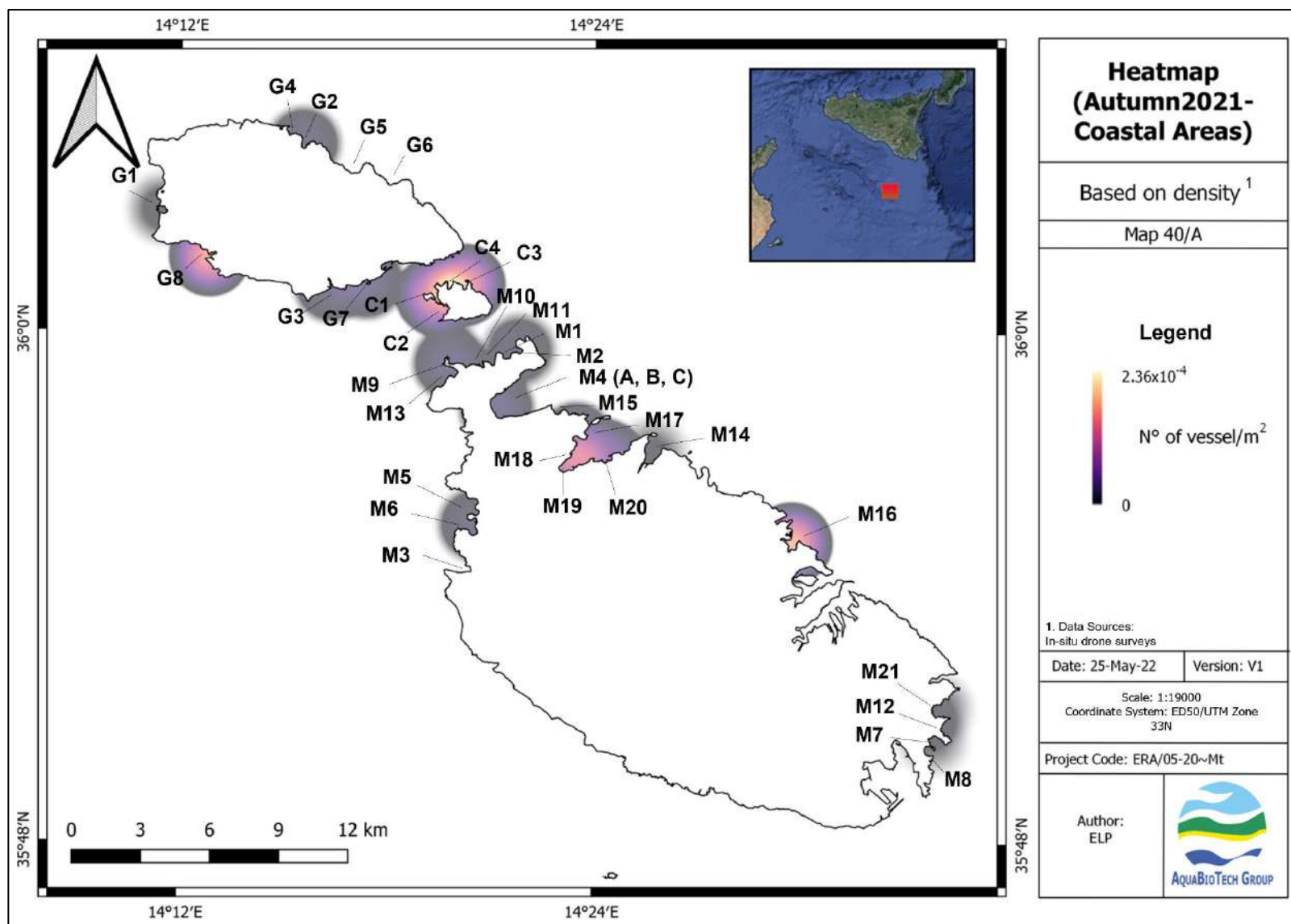


Figure 5. Heatmap of coastal areas based on vessel density (number of vessels/m²) in autumn 2021, Maltese Islands.

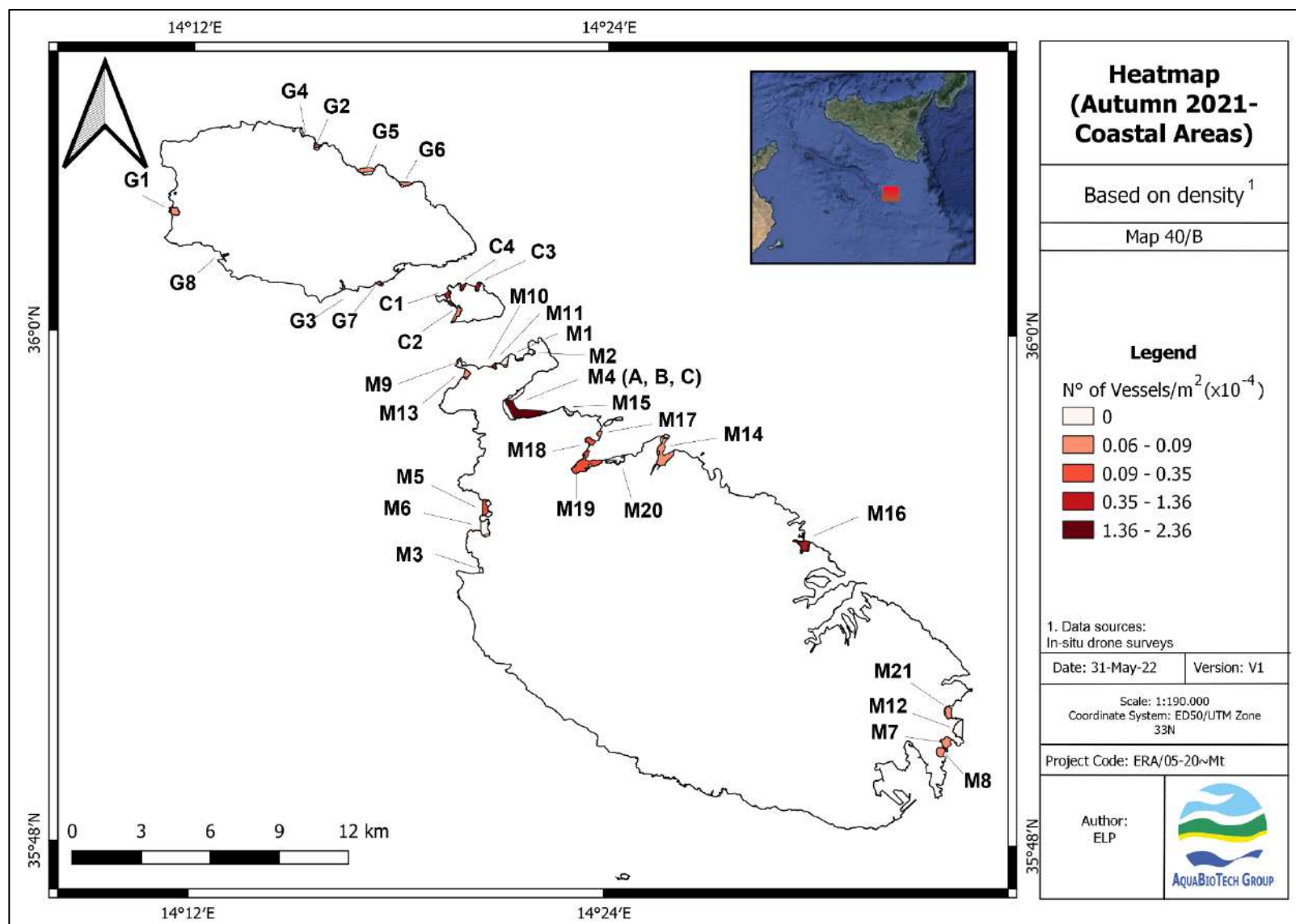


Figure 6. Heatmap of coastal areas based on vessel density (number of vessels/m²) in autumn 2021, Maltese Islands.

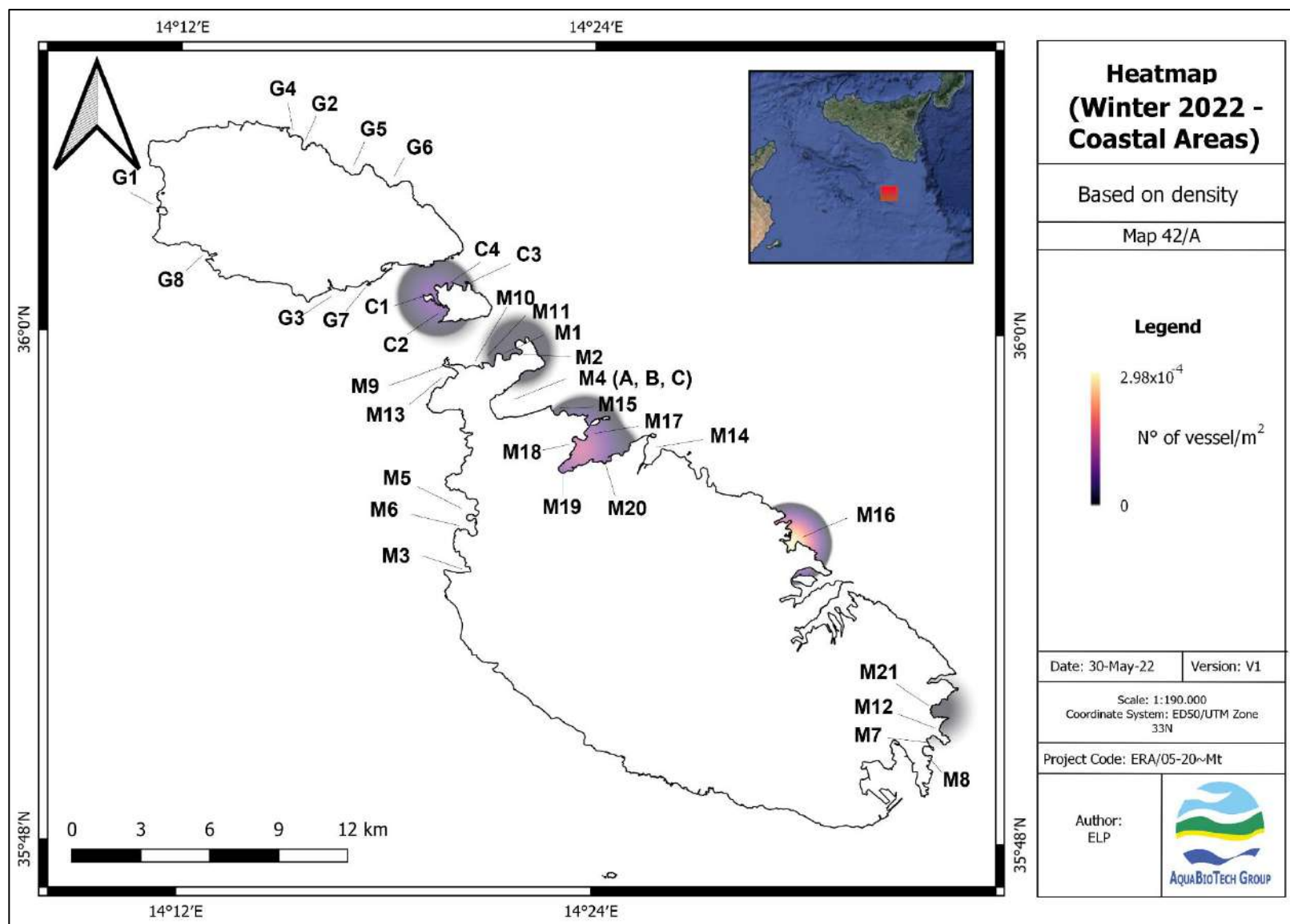


Figure 7. Heatmap of coastal areas based on vessel density (number of vessels/m²) in winter 2022, Maltese Islands.

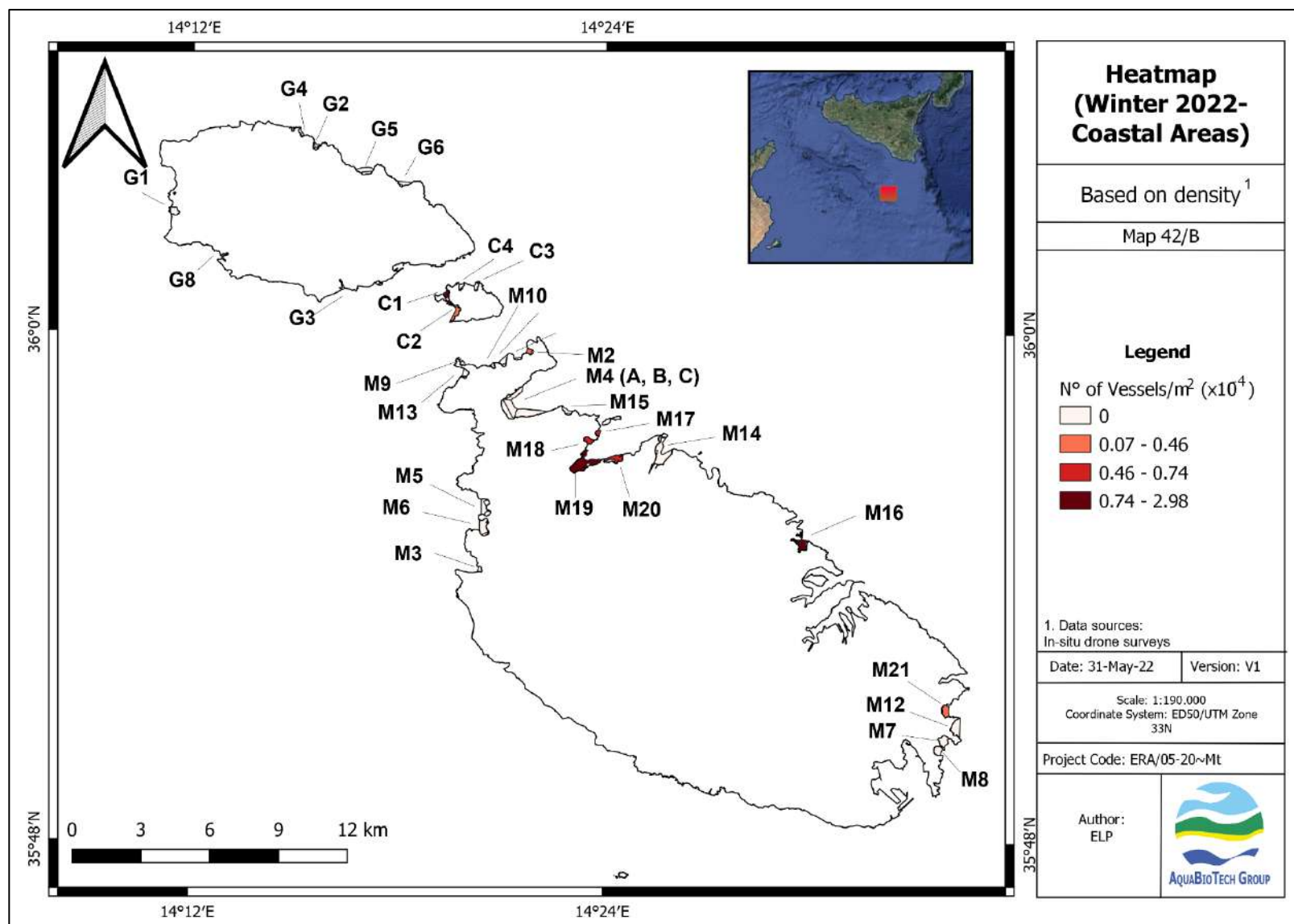


Figure 8. Heatmap of coastal areas based on vessel density (number of vessels/m²) in winter 2022, Maltese Islands.

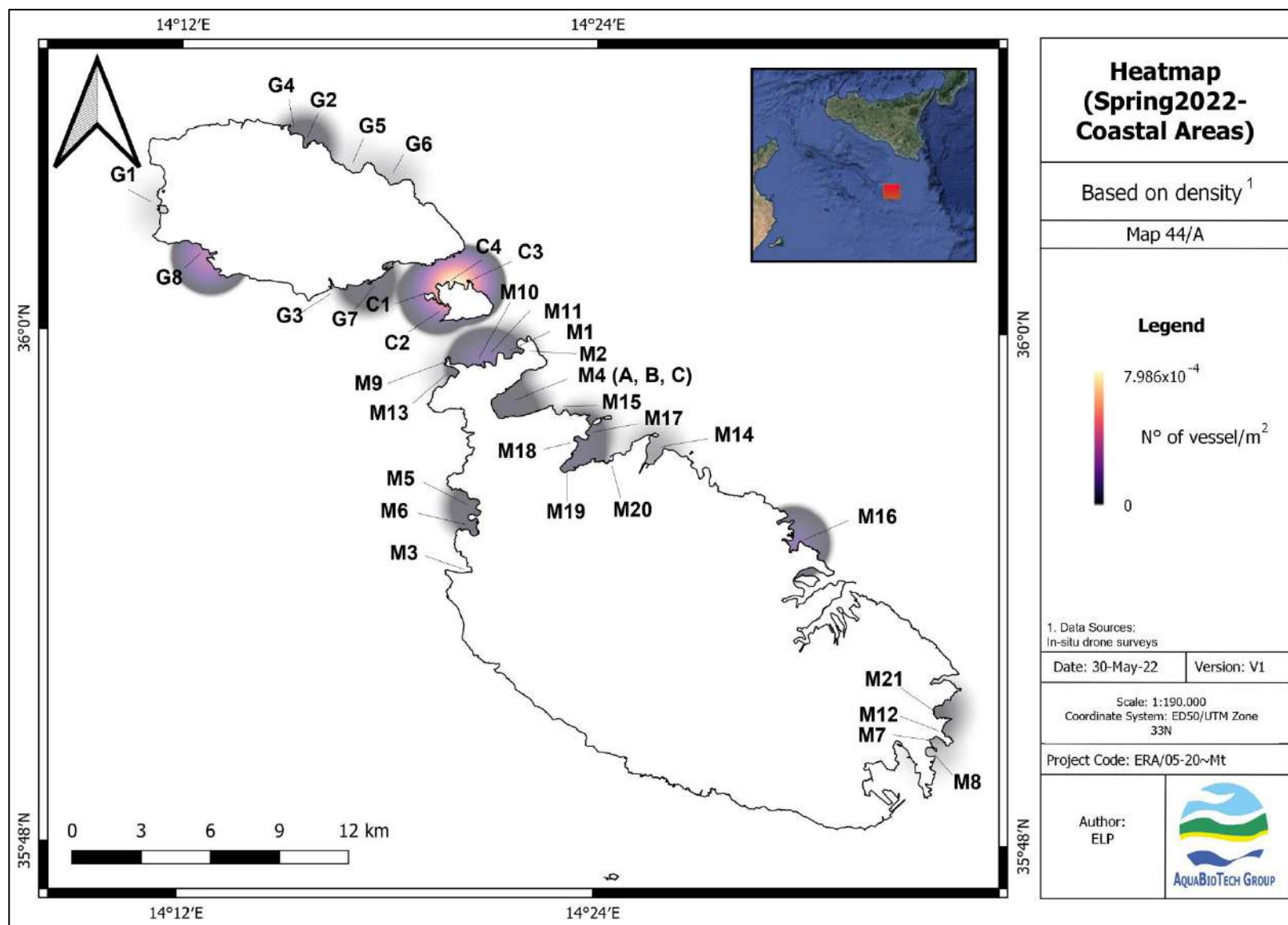


Figure 9. Heatmap of coastal areas based on vessel density (number of vessels/m²) in spring 2022, Maltese Islands.

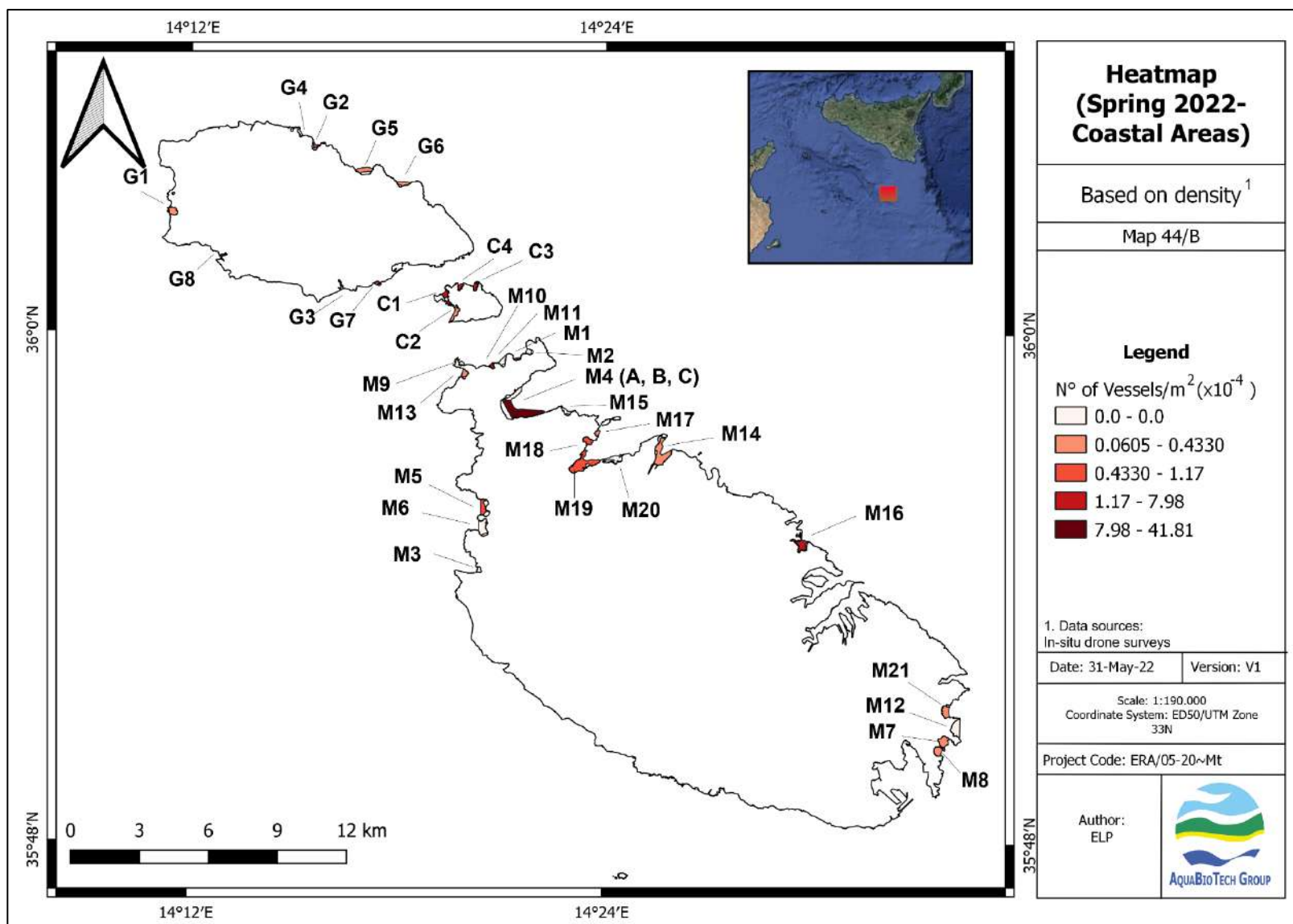


Figure 10. Heatmap of coastal areas based on vessel density (number of vessels/m²) in spring 2022, Maltese Islands.

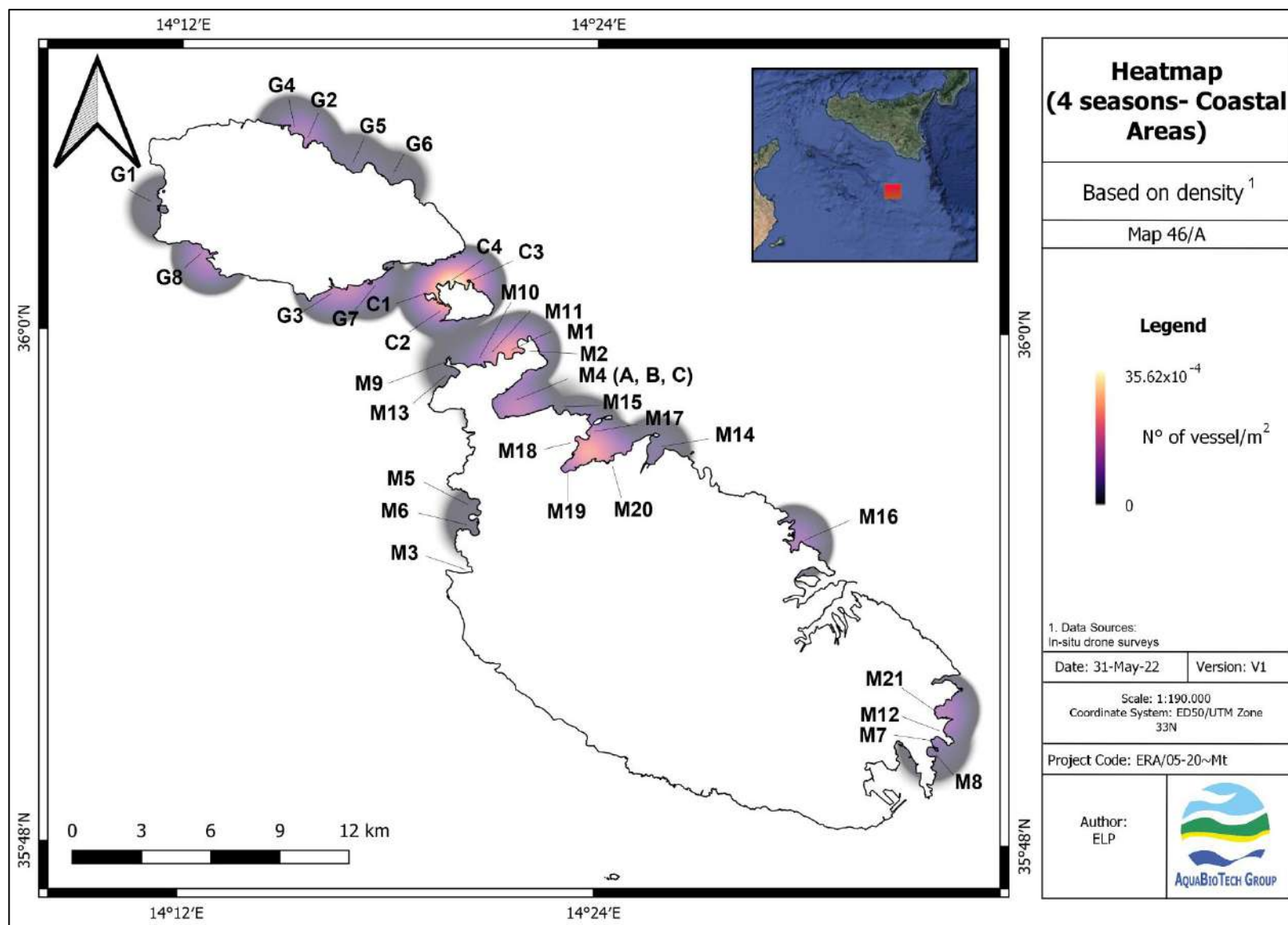


Figure 11. Heatmap of coastal areas based on vessel density (number of vessels/m²) in 1 year of in-situ drone surveys, Maltese Islands.

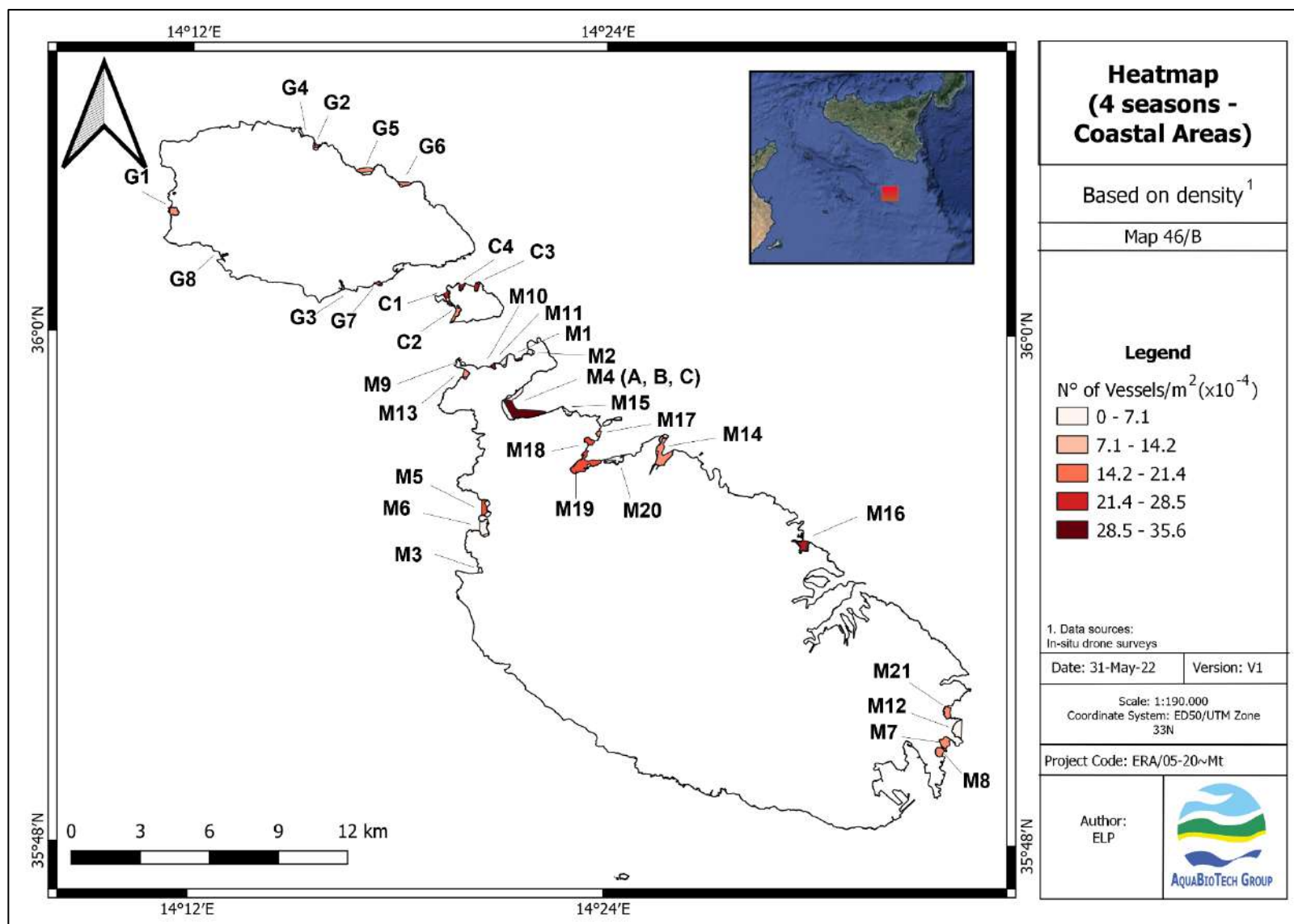


Figure 12. Heatmap of coastal areas based on vessel density (number of vessels/m²) in 1 year of in-situ drone surveys, Maltese Islands.

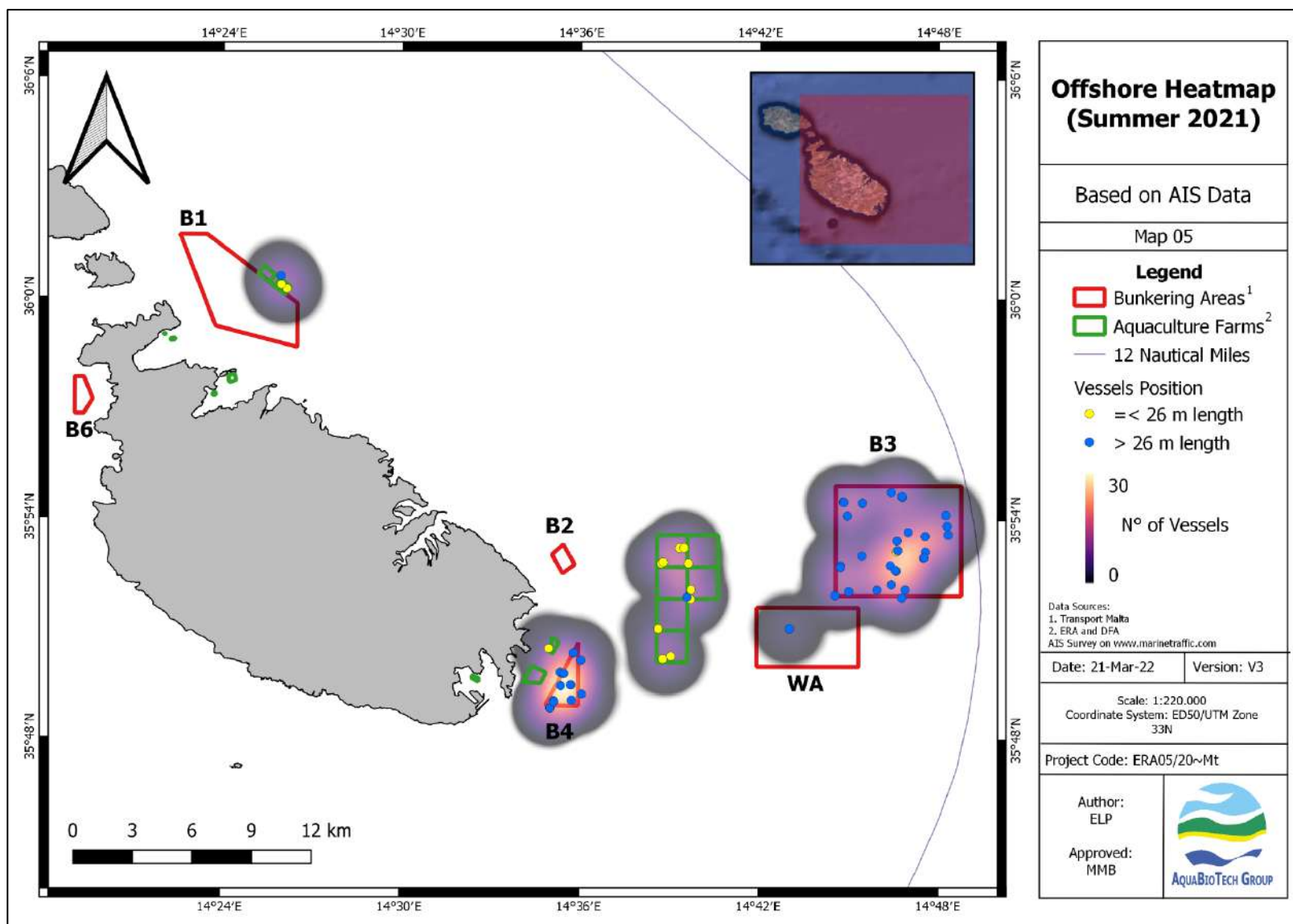


Figure 13. Heatmap of offshore areas based on number of vessels and their position, Malta (Summer 2021).

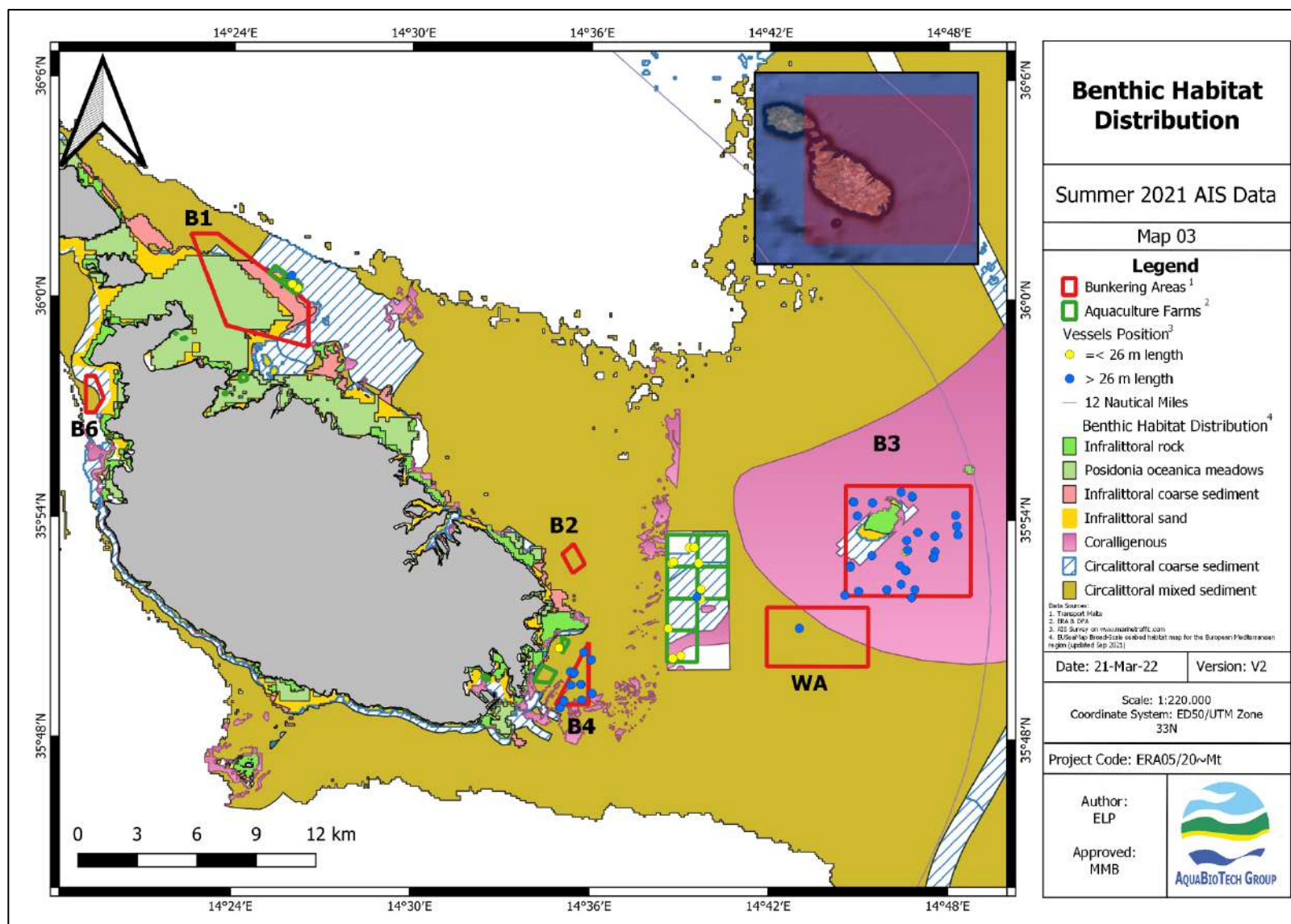


Figure 14. Vessel positions in offshore Maltese territorial waters (12NM) superposed with the benthic habitat distribution, Malta (summer 2021).

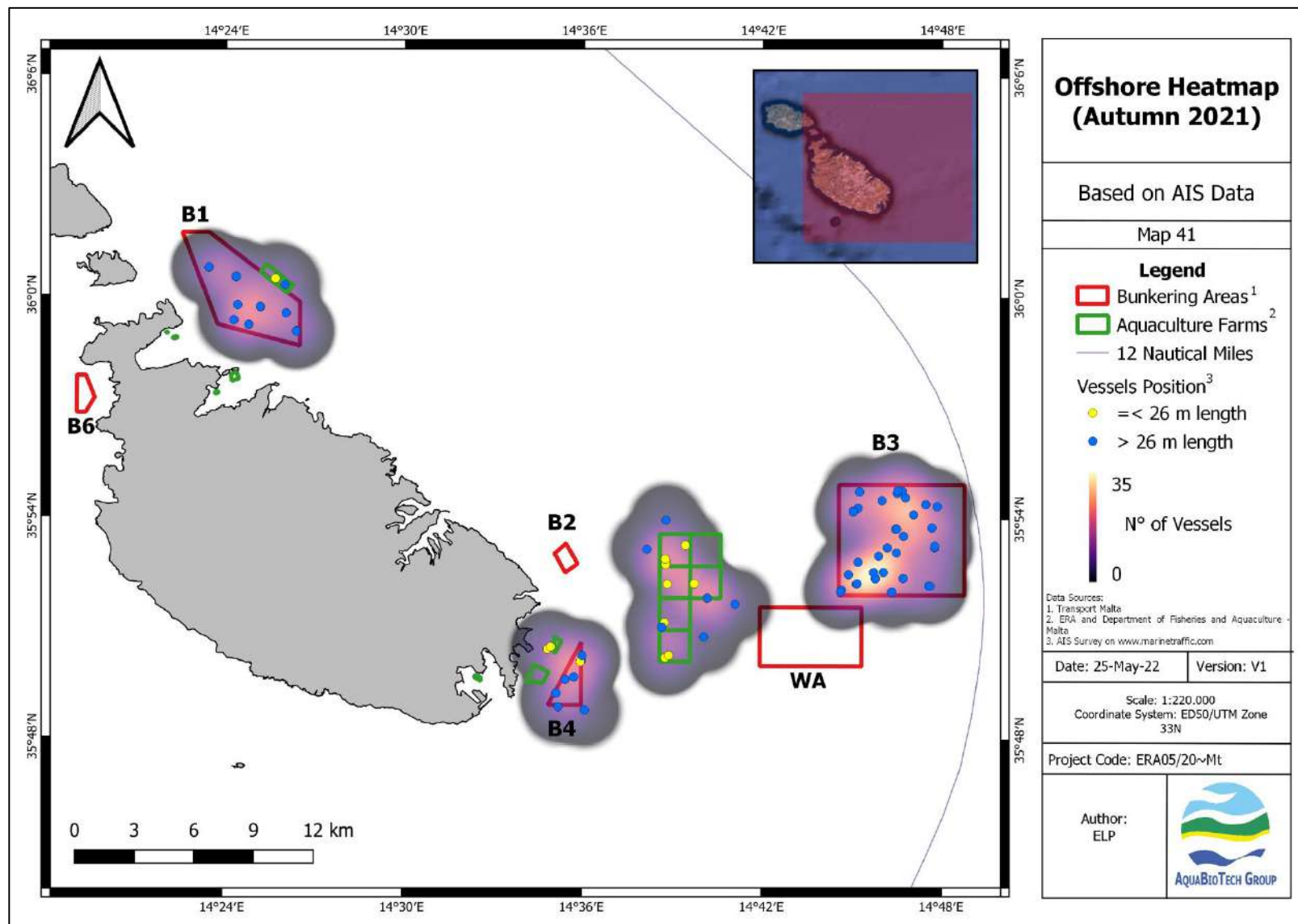


Figure 15. Heatmap of offshore areas based on number of vessels and their position, Malta (Autumn 2021).

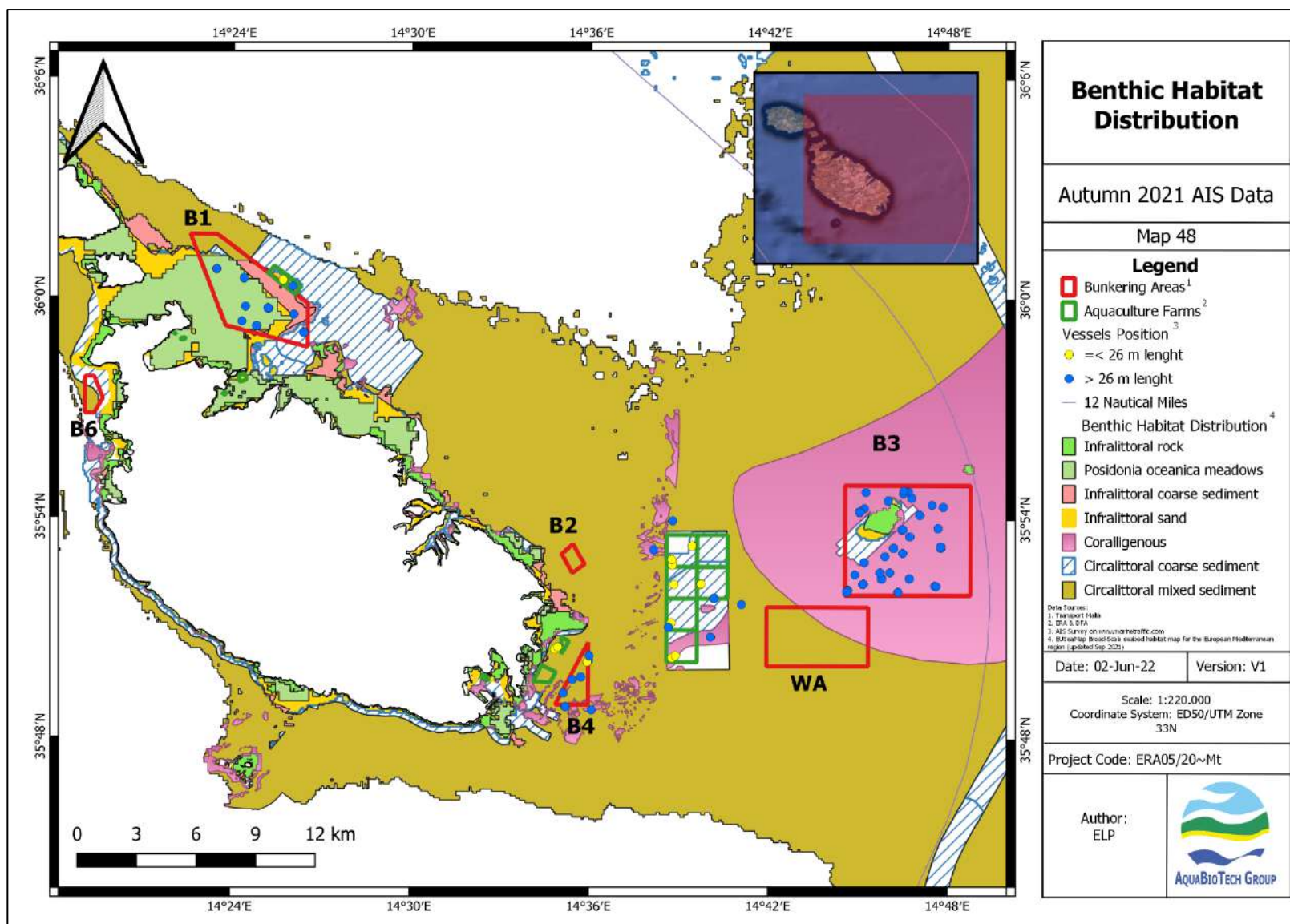


Figure 16. Vessel positions in offshore Maltese territorial waters (12NM) superposed with the benthic habitat distribution, Malta (autumn 2021).

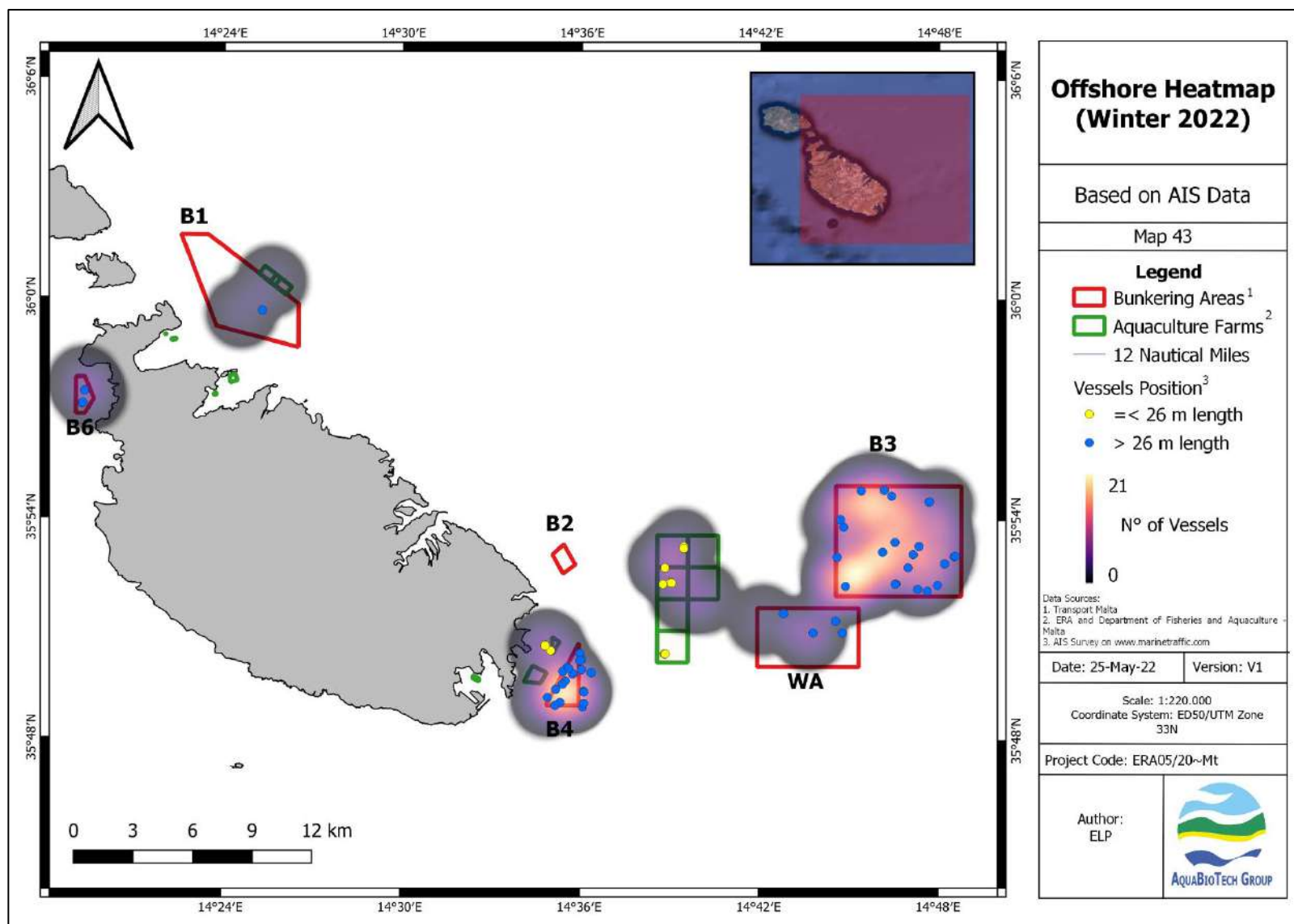


Figure 17. Heatmap of offshores areas based on number of vessels and their position, Malta (Winter 2022).

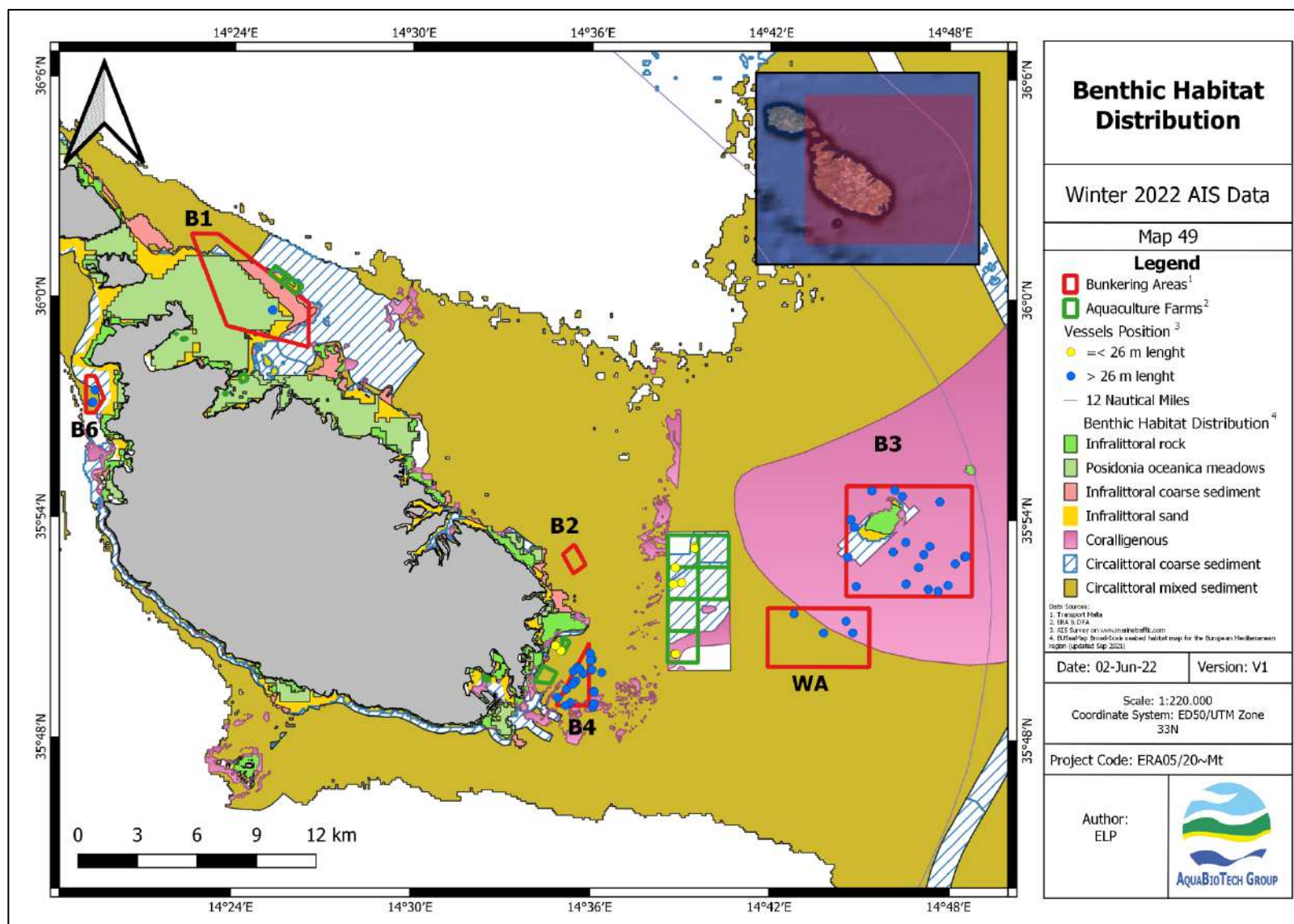


Figure 18. Vessel positions in offshore Maltese territorial waters (12NM) superposed with the benthic habitat distribution, Malta (Winter 2022).

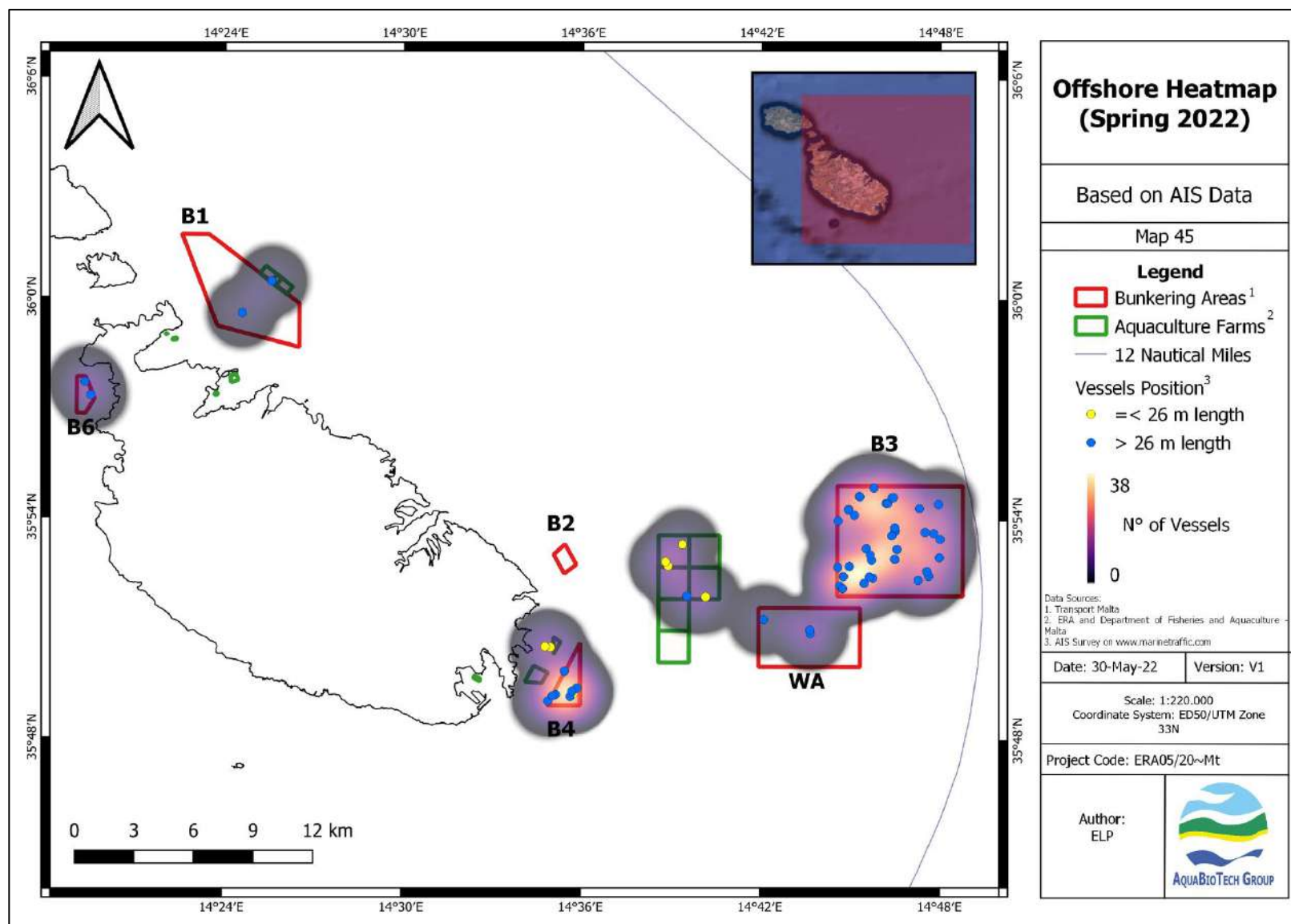


Figure 19. Heatmap of offshore areas based on number of vessels and their position, Malta (Spring 2022).

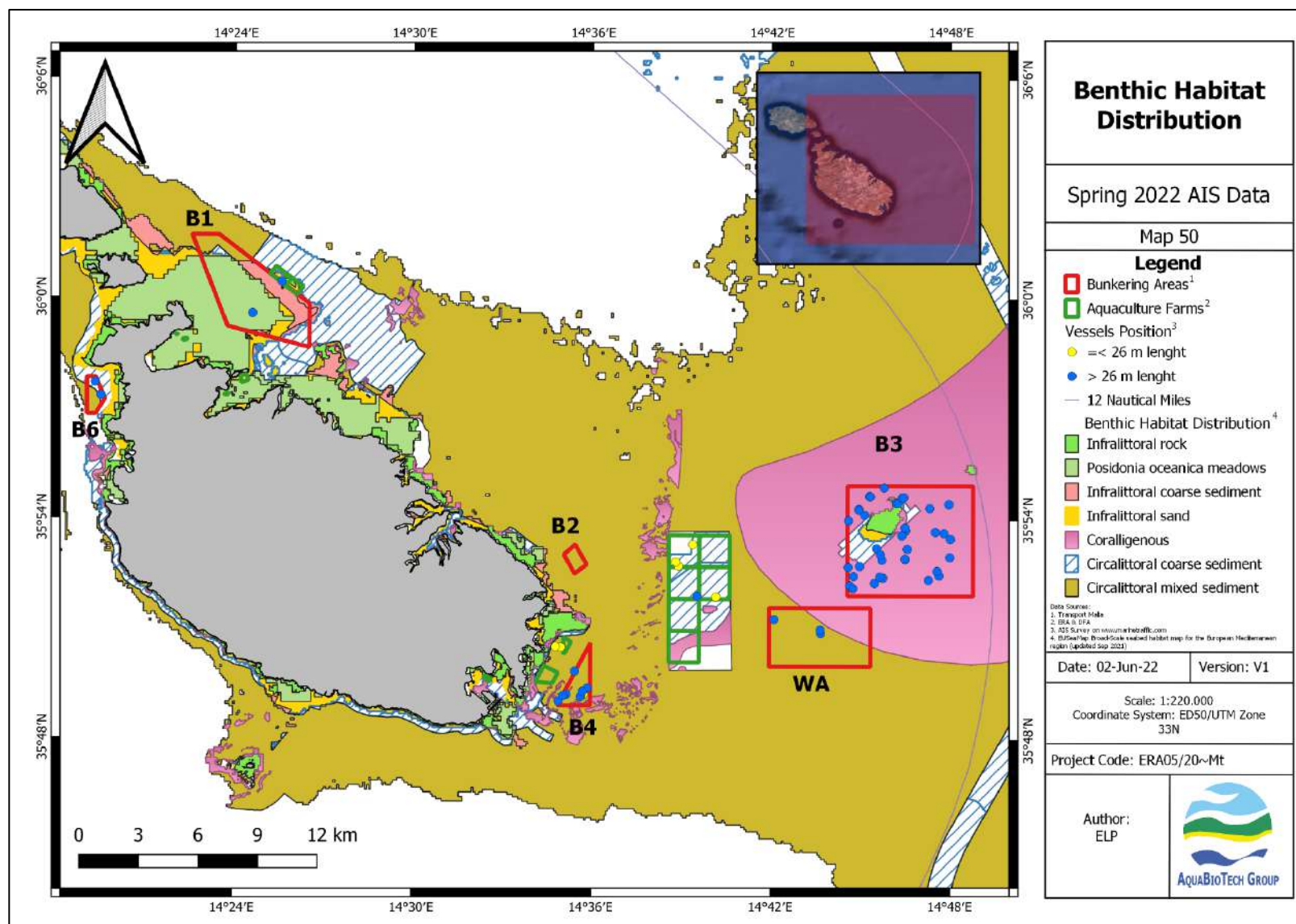


Figure 20. Vessel positions in offshore Maltese territorial waters (12NM) superposed with the benthic habitat distribution, Malta (Spring 2022).

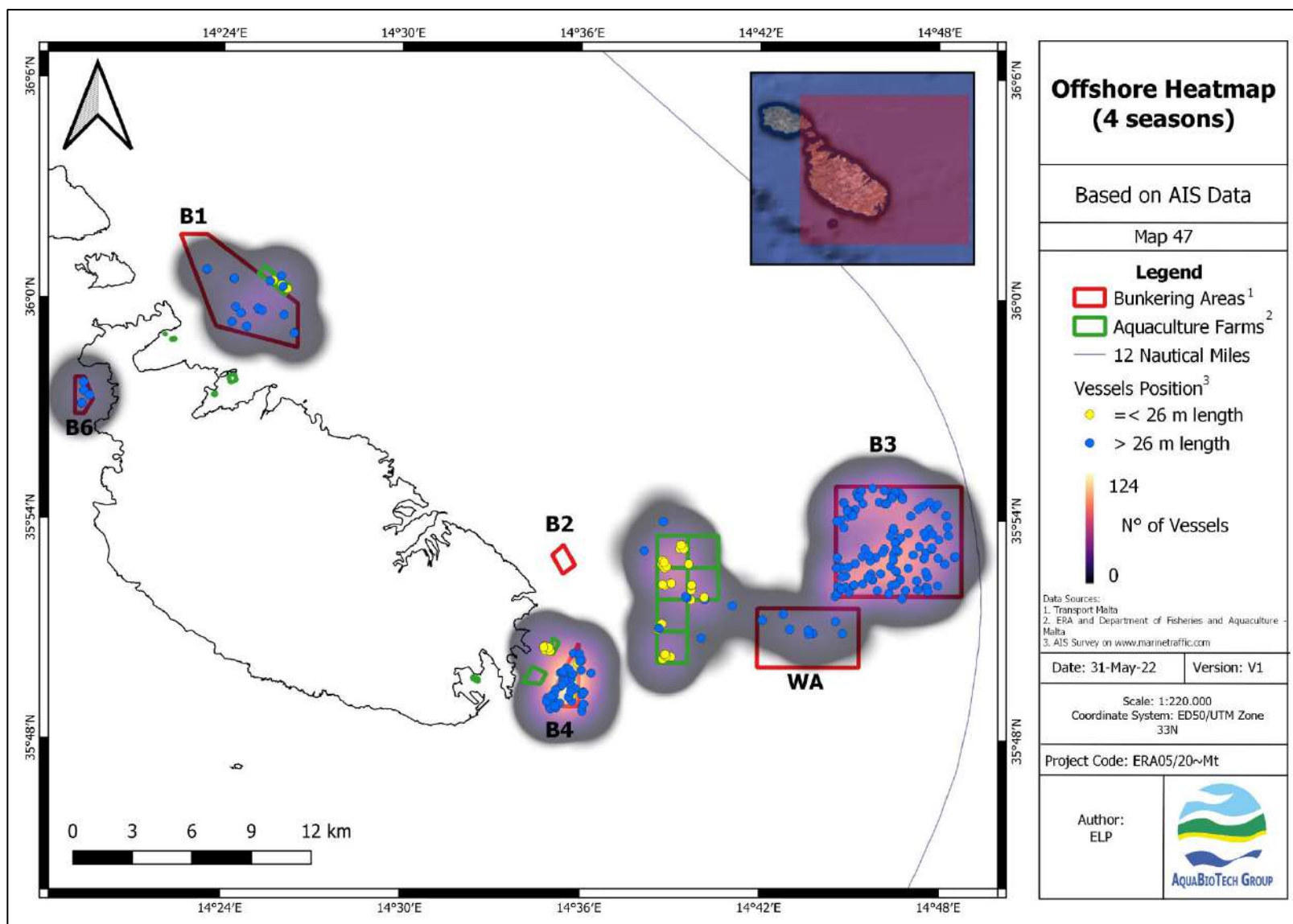


Figure 21. Heatmap of offshore areas based on number of vessels and their position, Malta (from Summer 2021 to Spring 2022).

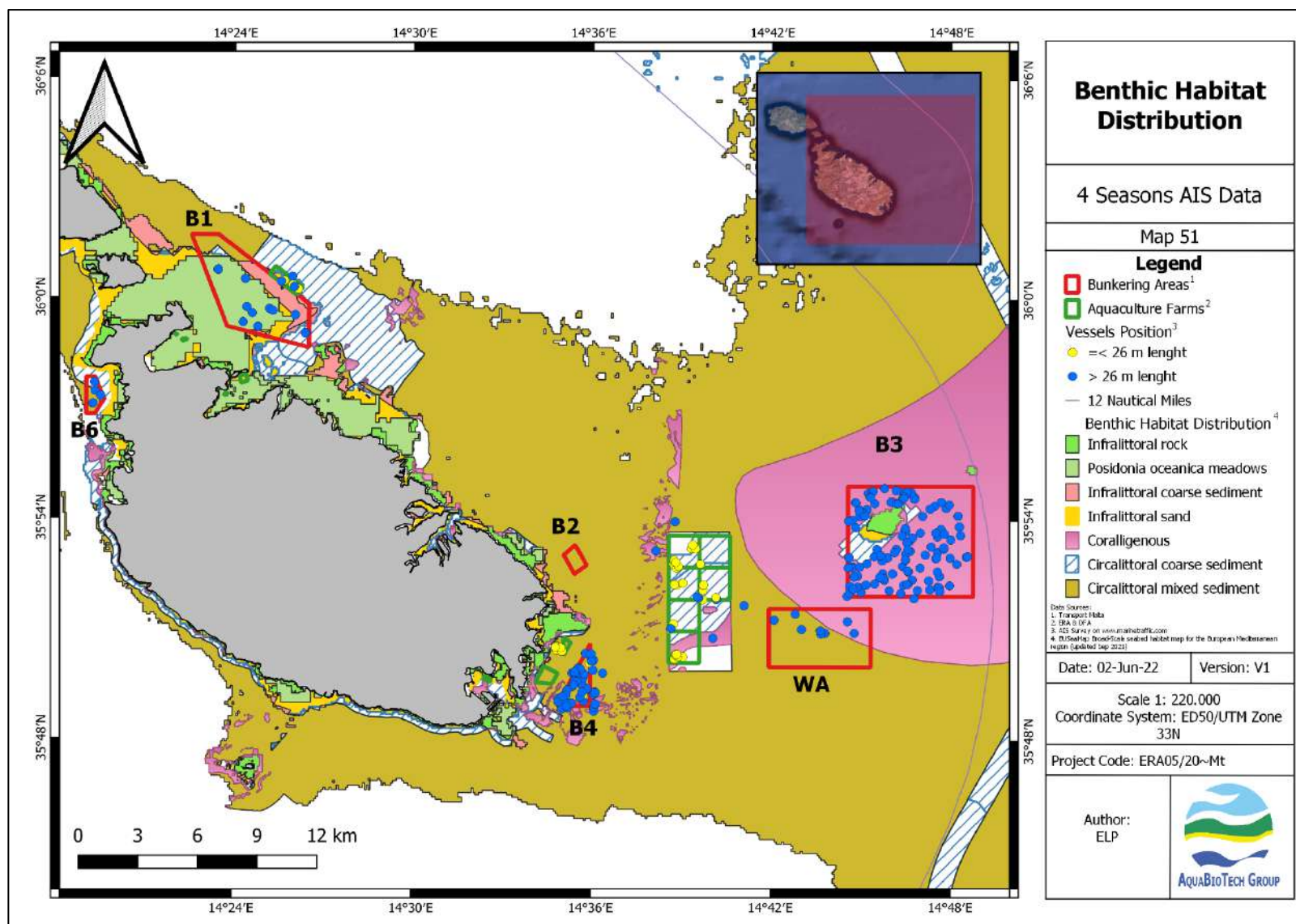


Figure 22. Vessel positions in offshore Maltese territorial waters (12NM) superposed with the benthic habitat distribution, Malta (from summer 2021 to spring 2022).

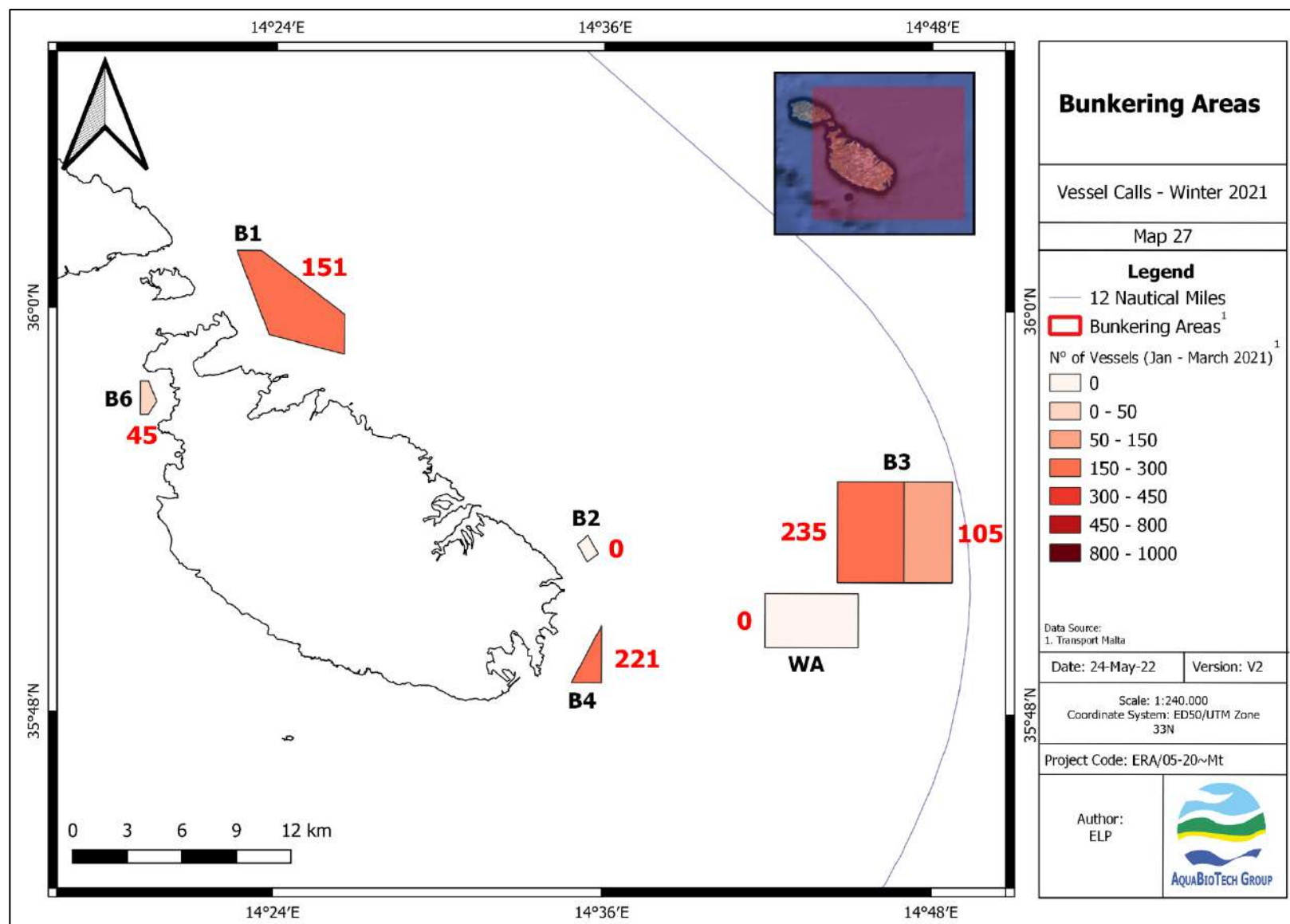


Figure 23. Total number of vessels per bunkering area from Apr – Jun 2021.

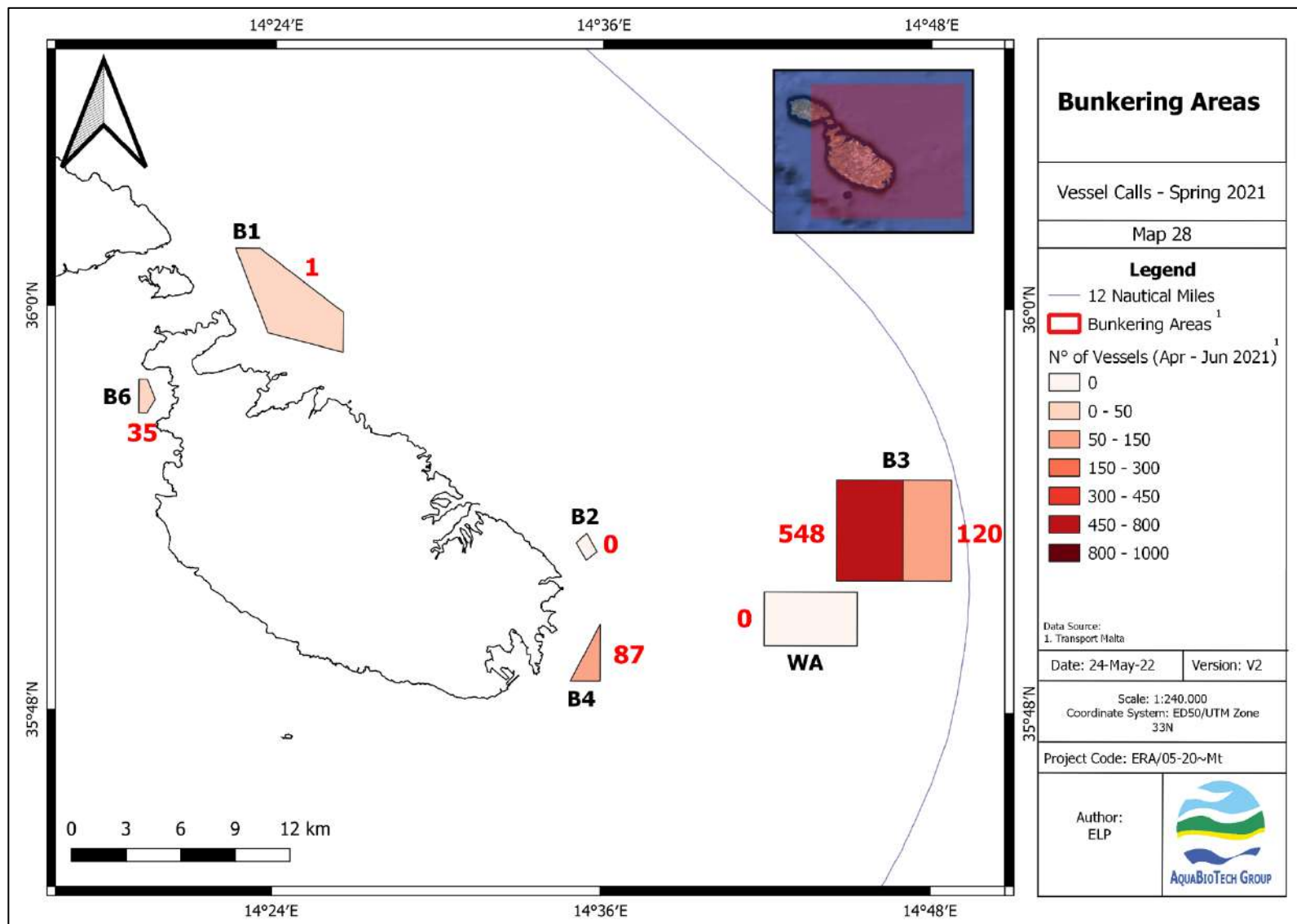


Figure 24. Total number of vessels per bunkering area from Apr – Jun 2021.

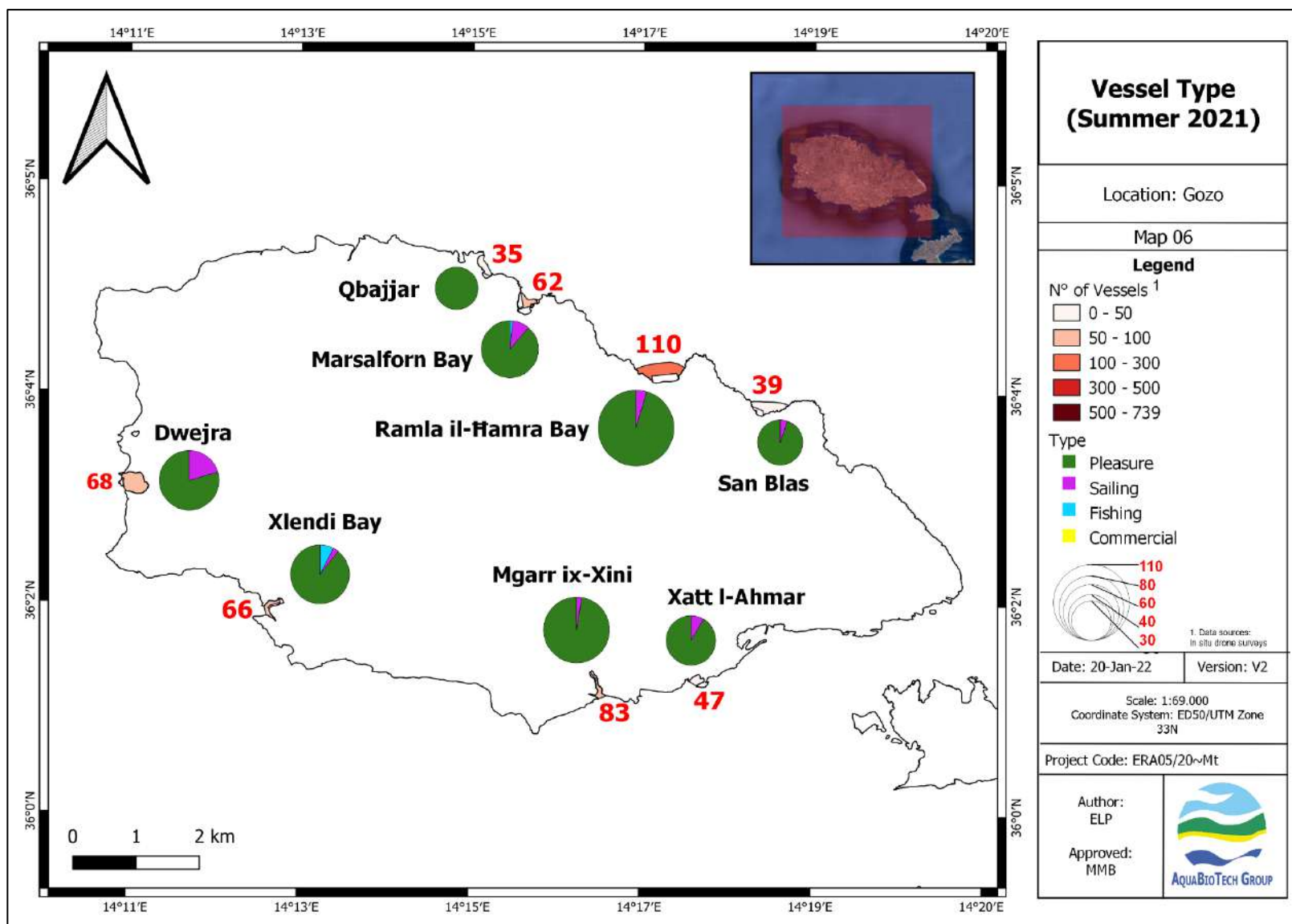


Figure 25. Map of Gozo with pie charts representing the proportion of vessels per type class. The size of the pie charts is based on the total number of vessels in each site.

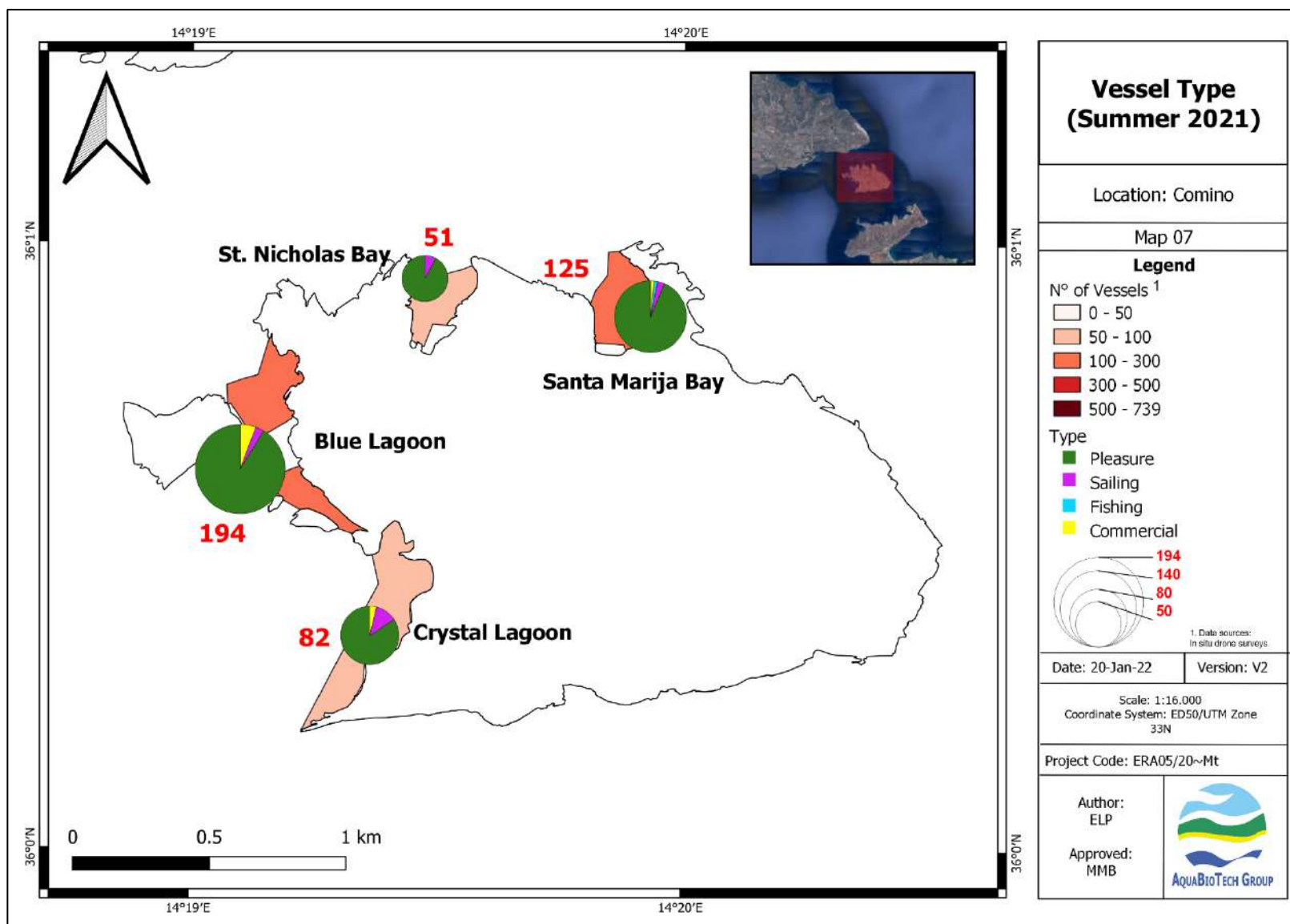


Figure 26. Map of Comino with pie charts representing the proportion of vessels per type class. The size of the pie charts is based on the total number of vessels in each site.

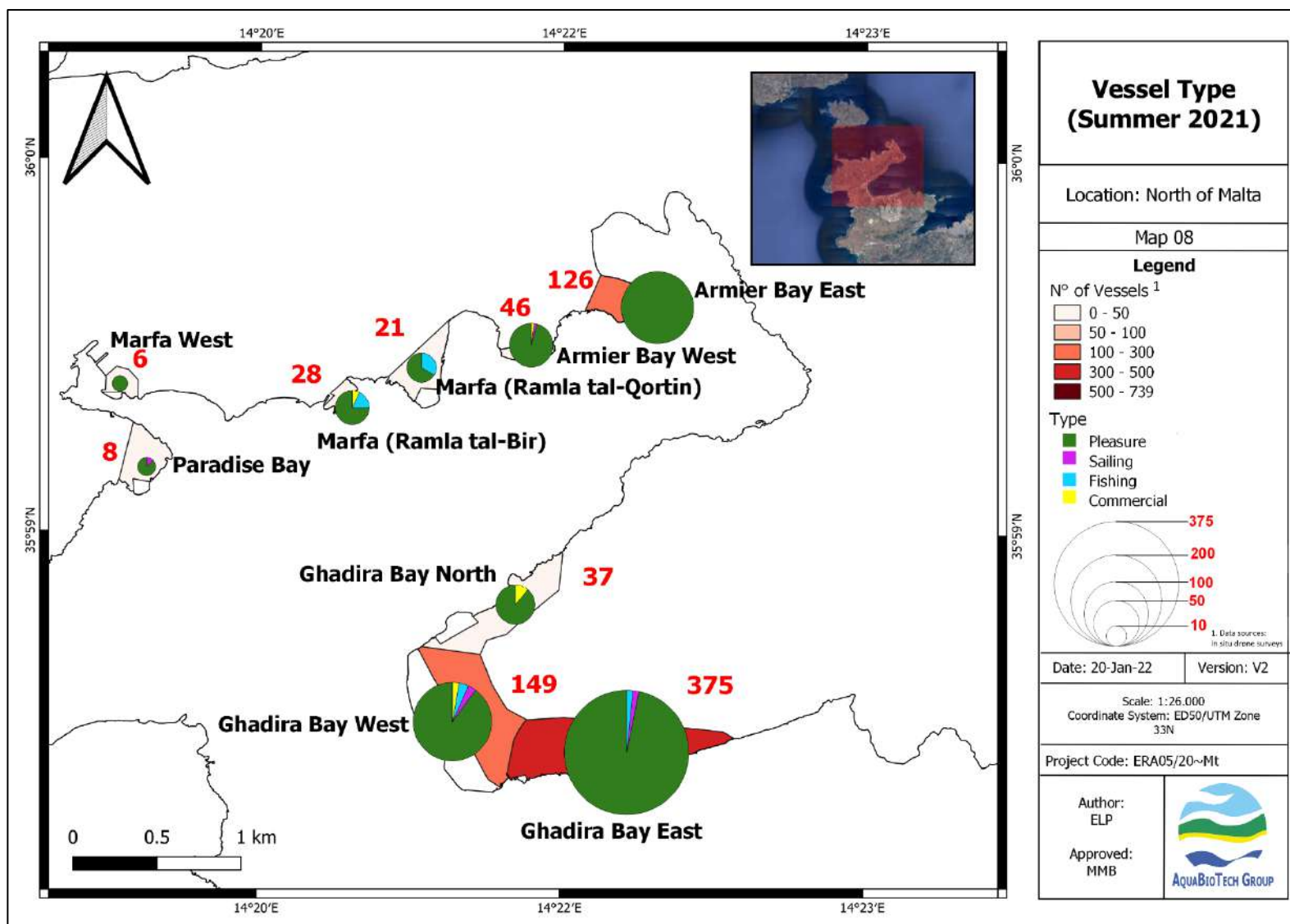


Figure 27. Map of North of Malta with pie charts representing the proportion of vessels per type class. The size of the pie charts is based on the total number of vessels in each site.

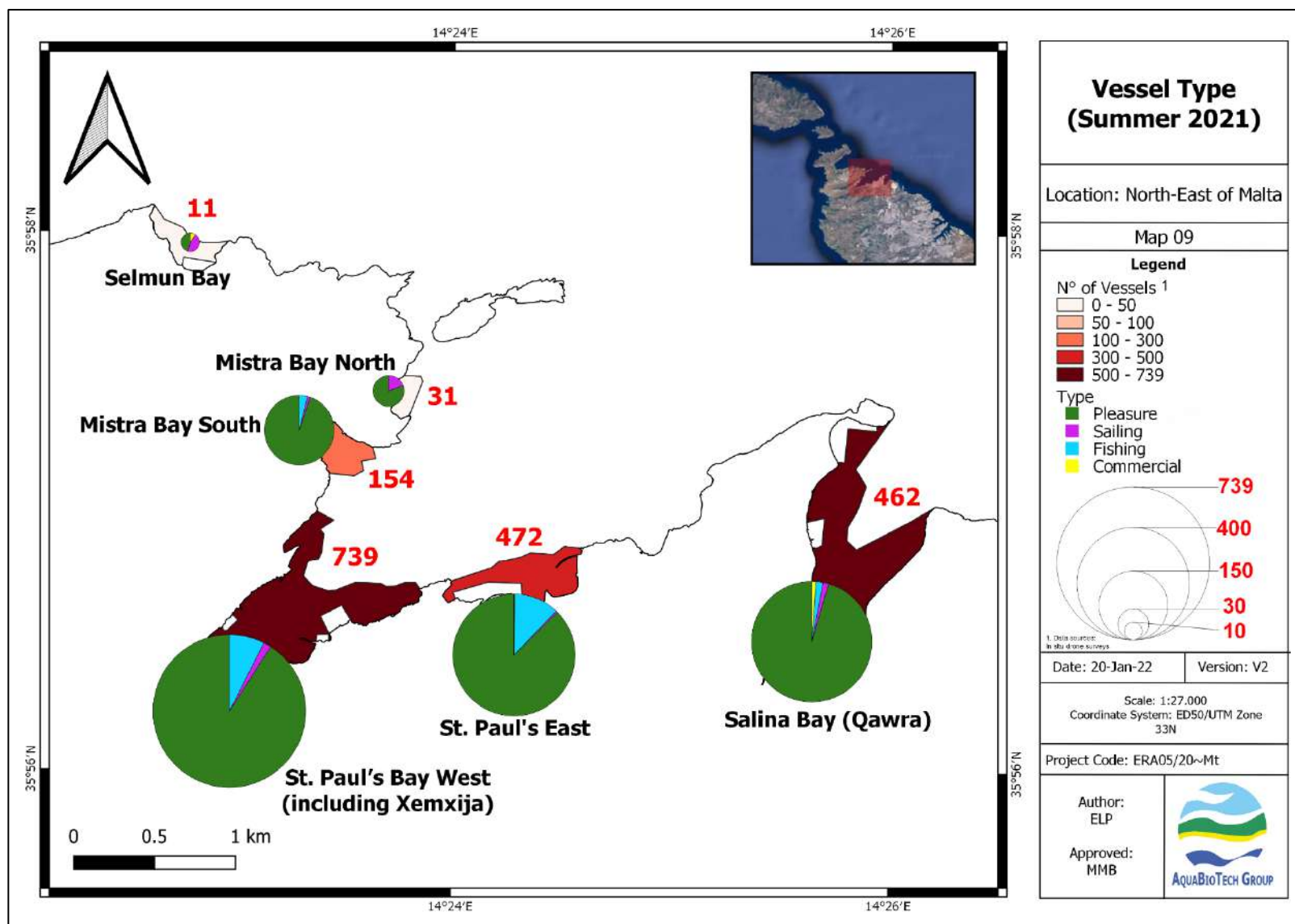


Figure 28. Map of North-East of Malta with pie charts representing the proportion of vessels per type class. The size of the pie charts is based on the total number of vessels in each site.

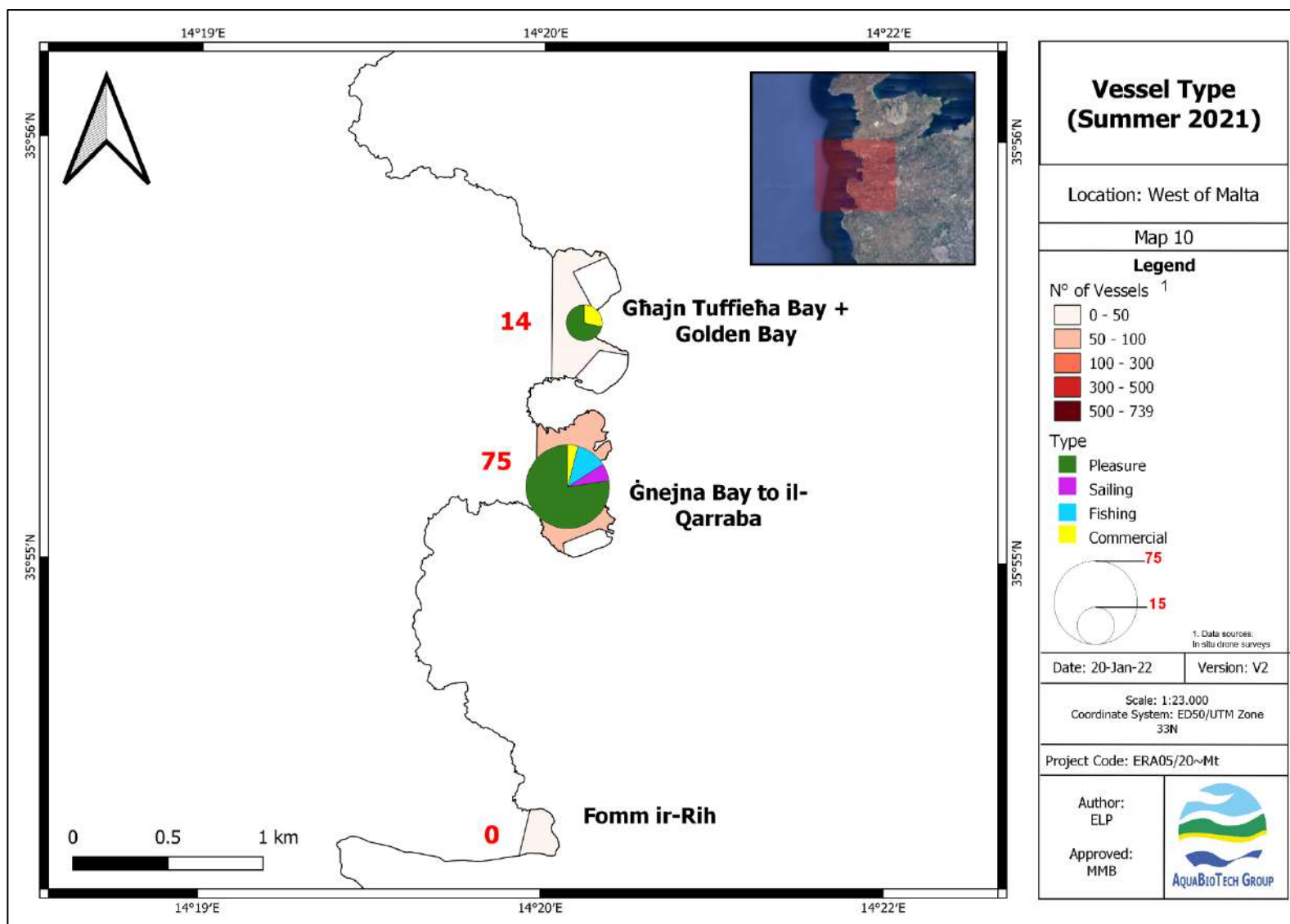


Figure 29. Map of West of Malta with pie charts representing the proportion of vessels per type class. The size of the pie charts is based on the total number of vessels in each site.

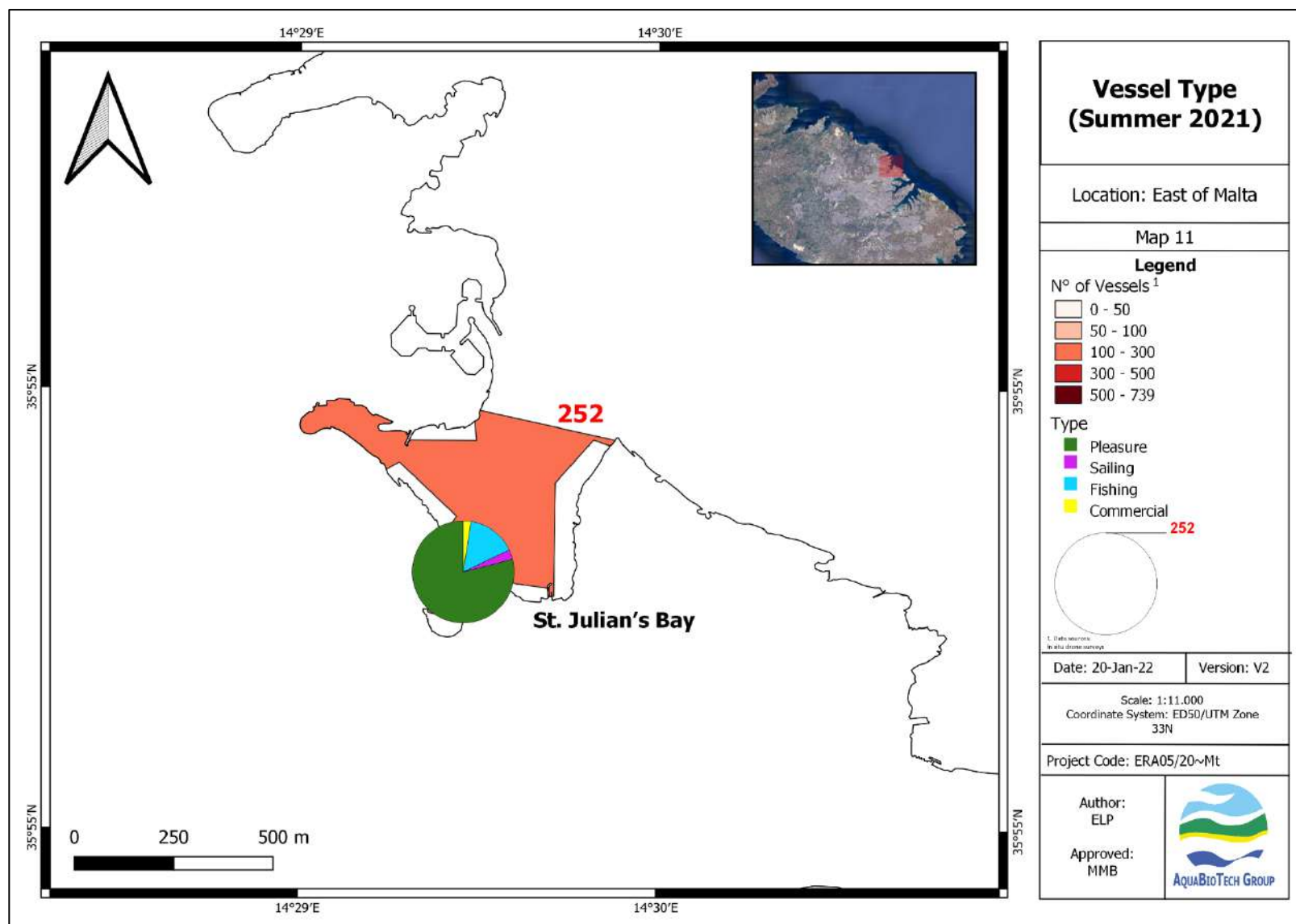


Figure 30. Map of East of Malta with pie charts representing the proportion of vessels per type class. The size of the pie charts is based on the total number of vessels in each site.

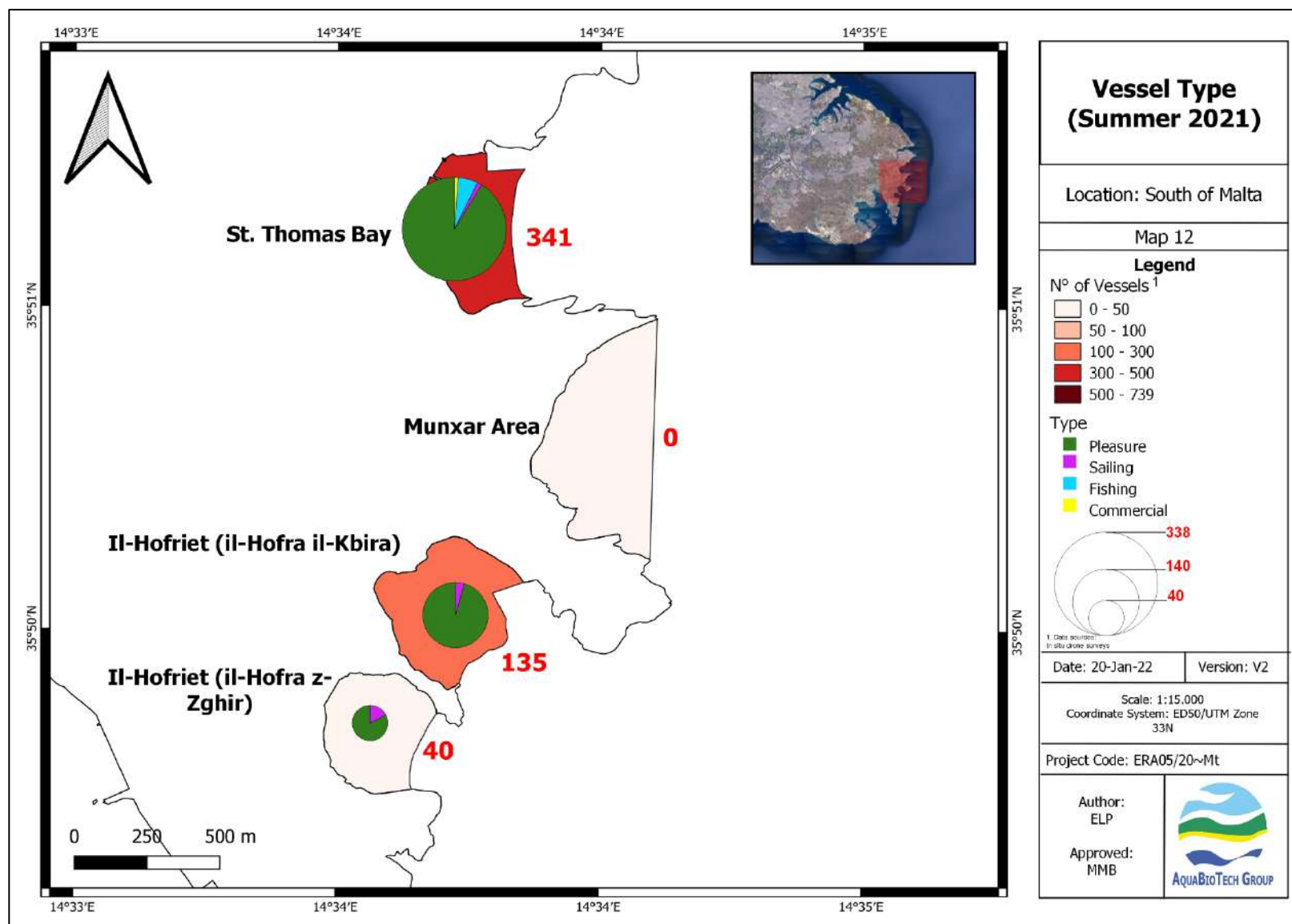


Figure 31. Map of South of Malta with pie charts representing the proportion of vessels per type class. The size of the pie charts is based on the total number of vessels in each site.

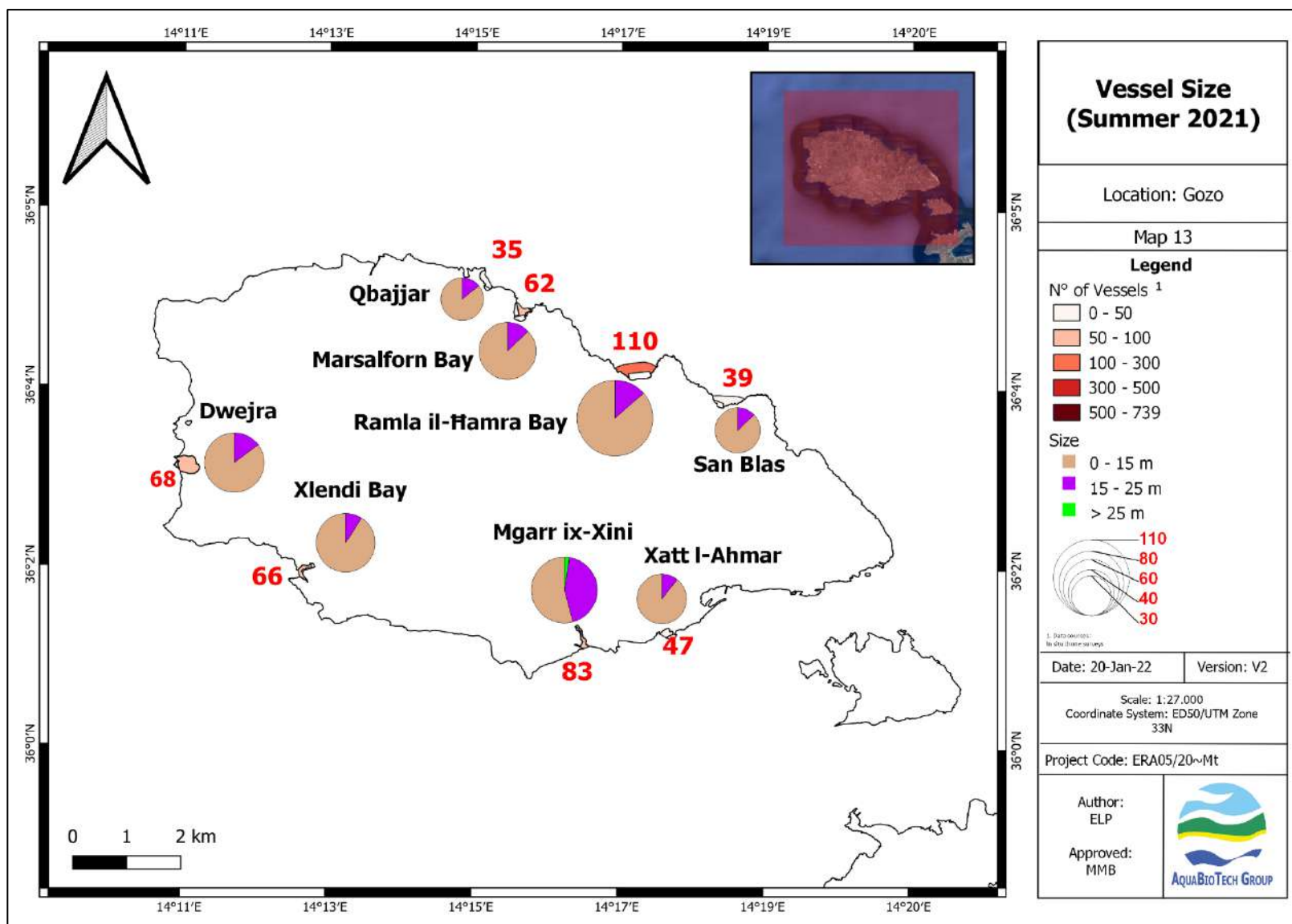


Figure 32. Map of Gozo with pie charts representing the proportion of vessels per size class. The size of the pie charts is based on the total number of vessels in each site.

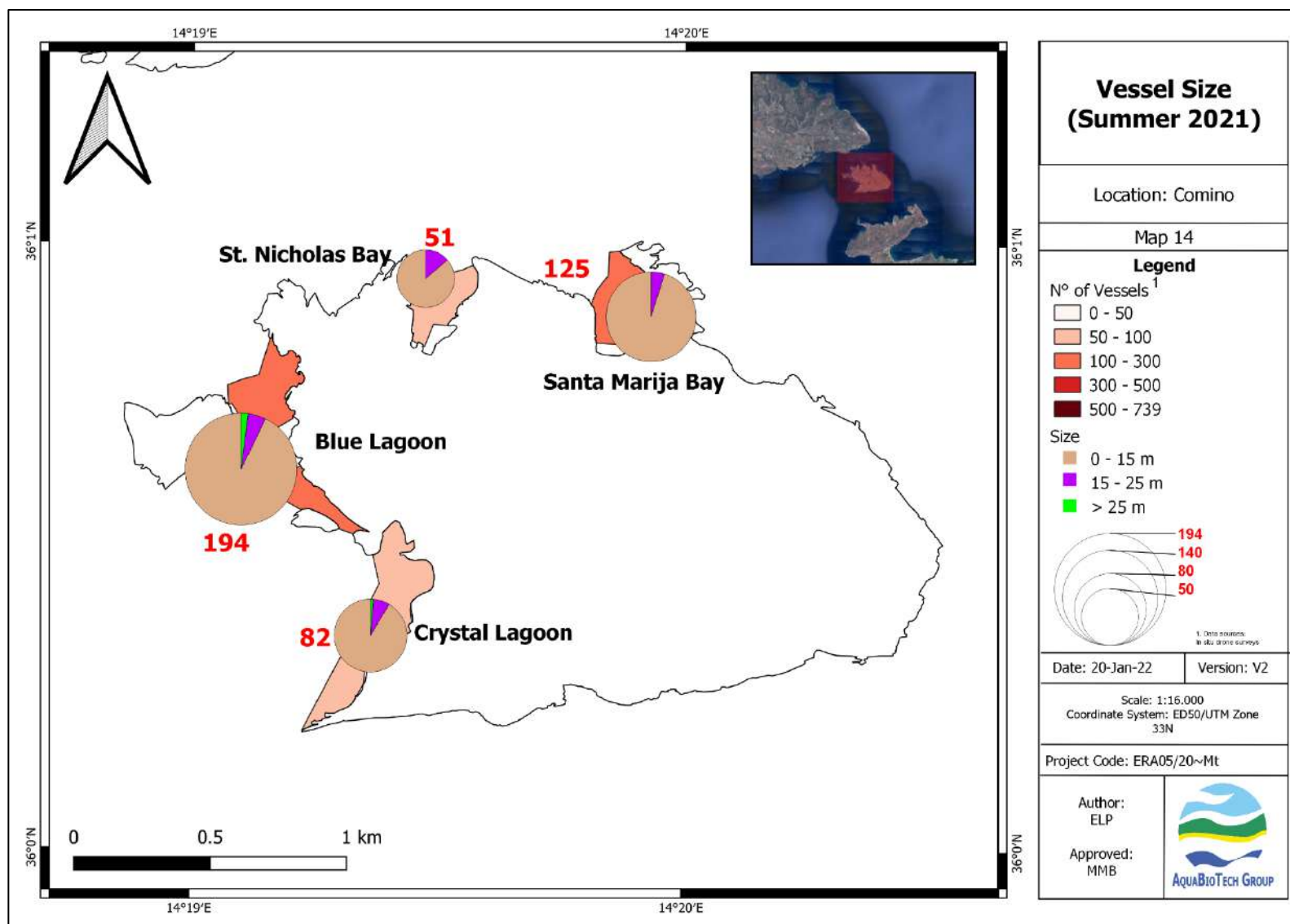


Figure 33. Map of Comino with pie charts representing the proportion of vessels per size class. The size of the pie charts is based on the total number of vessels in each site.

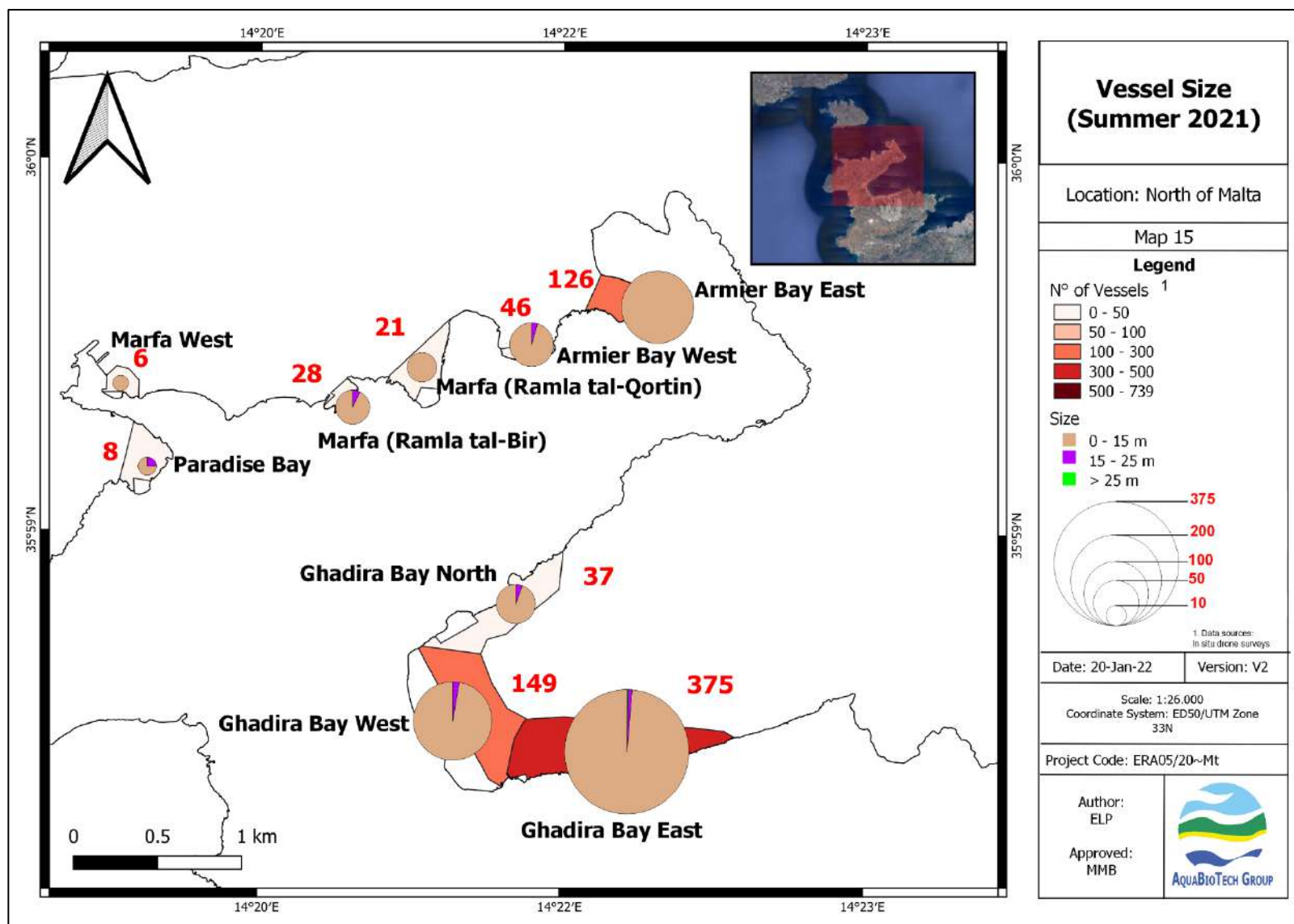


Figure 34. Map of North of Malta with pie charts representing the proportion of vessels per size class. The size of the pie charts is based on the total number of vessels in each site.

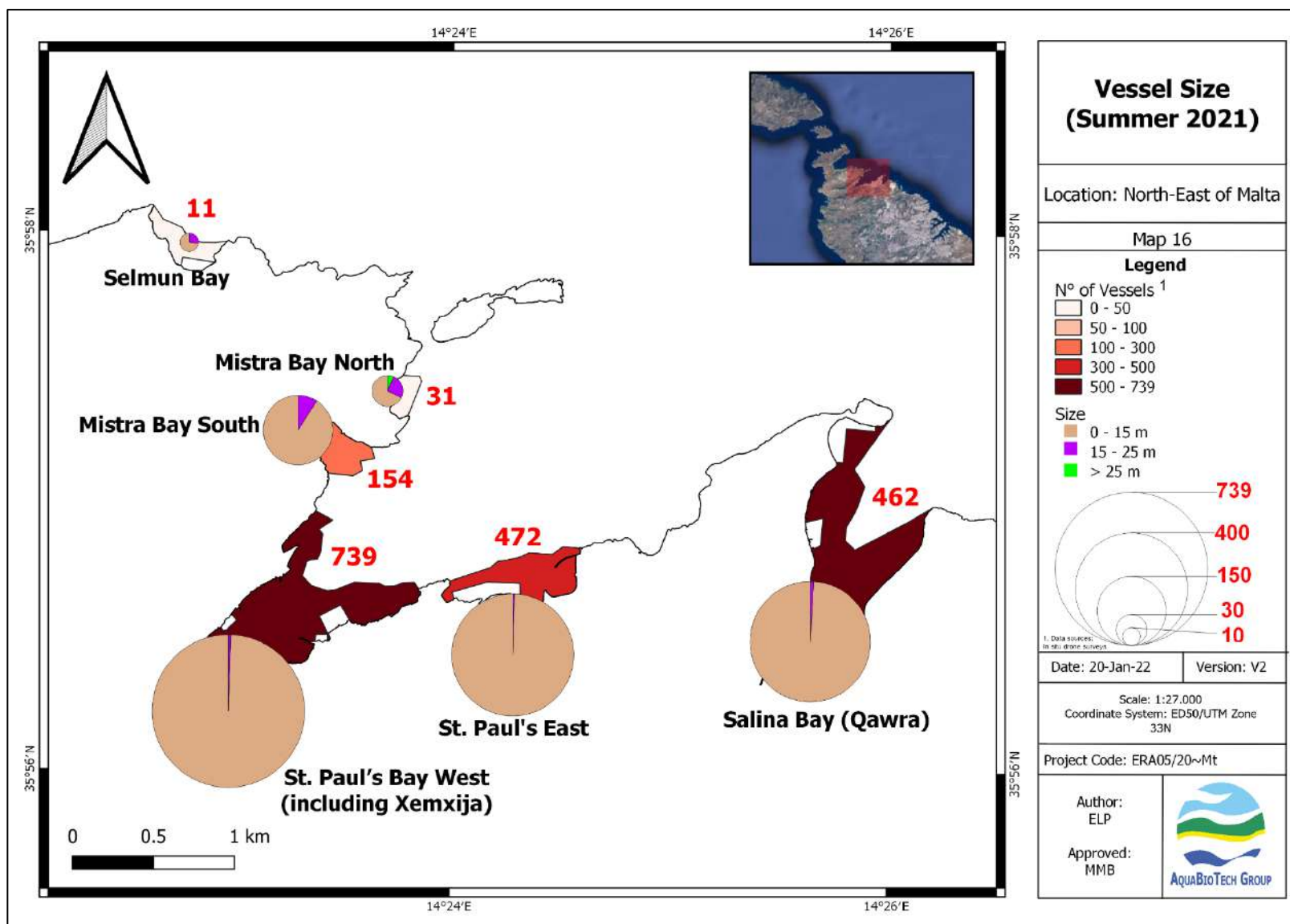


Figure 35. Map of North-East of Malta with pie charts representing the proportion of vessels per size class. The size of the pie charts is based on the total number of vessels in each site. White areas within survey sites indicate swimming zones.

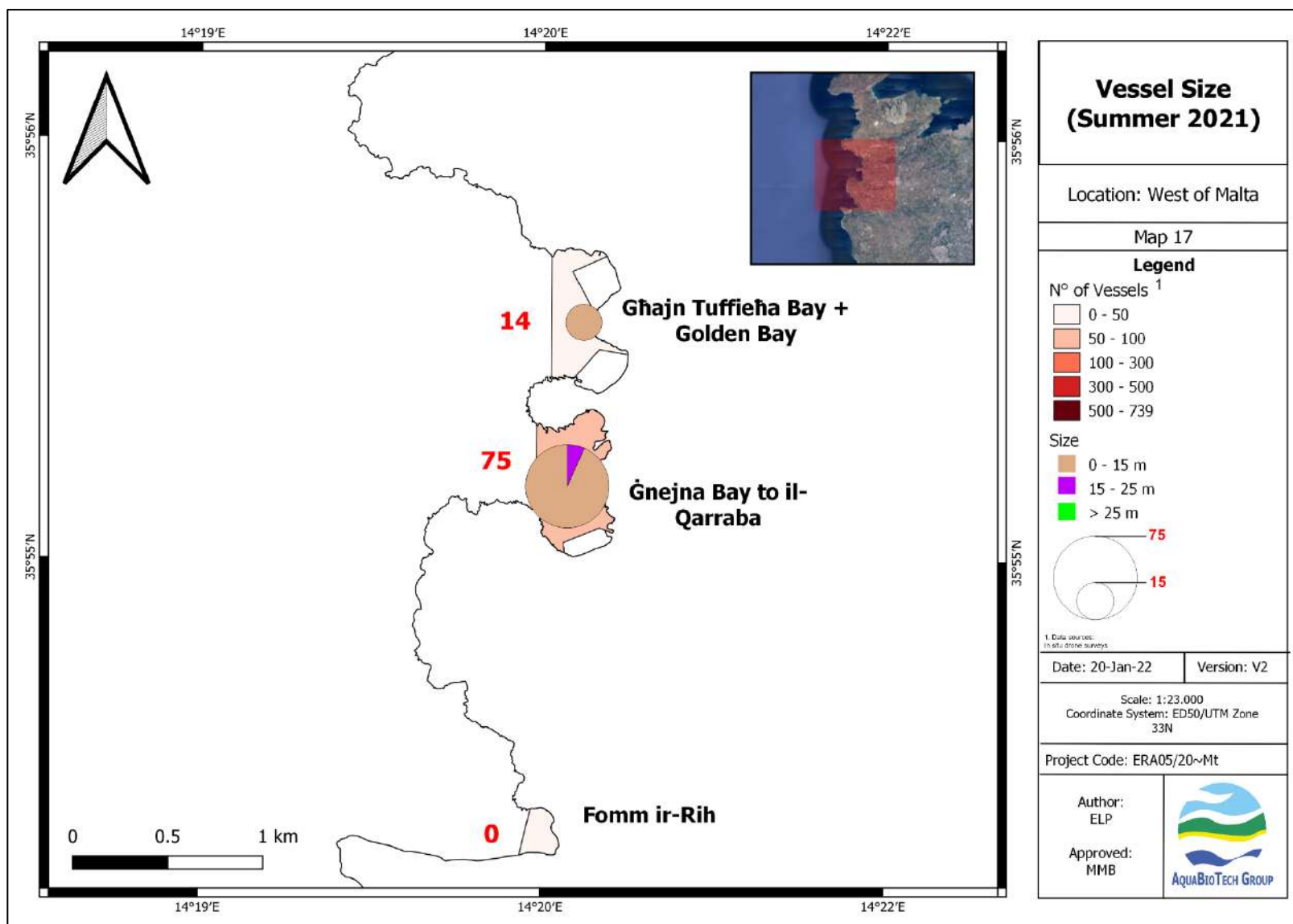


Figure 36. Map of West of Malta with pie charts representing the proportion of vessels per size class. The size of the pie charts is based on the total number of vessels in each site.

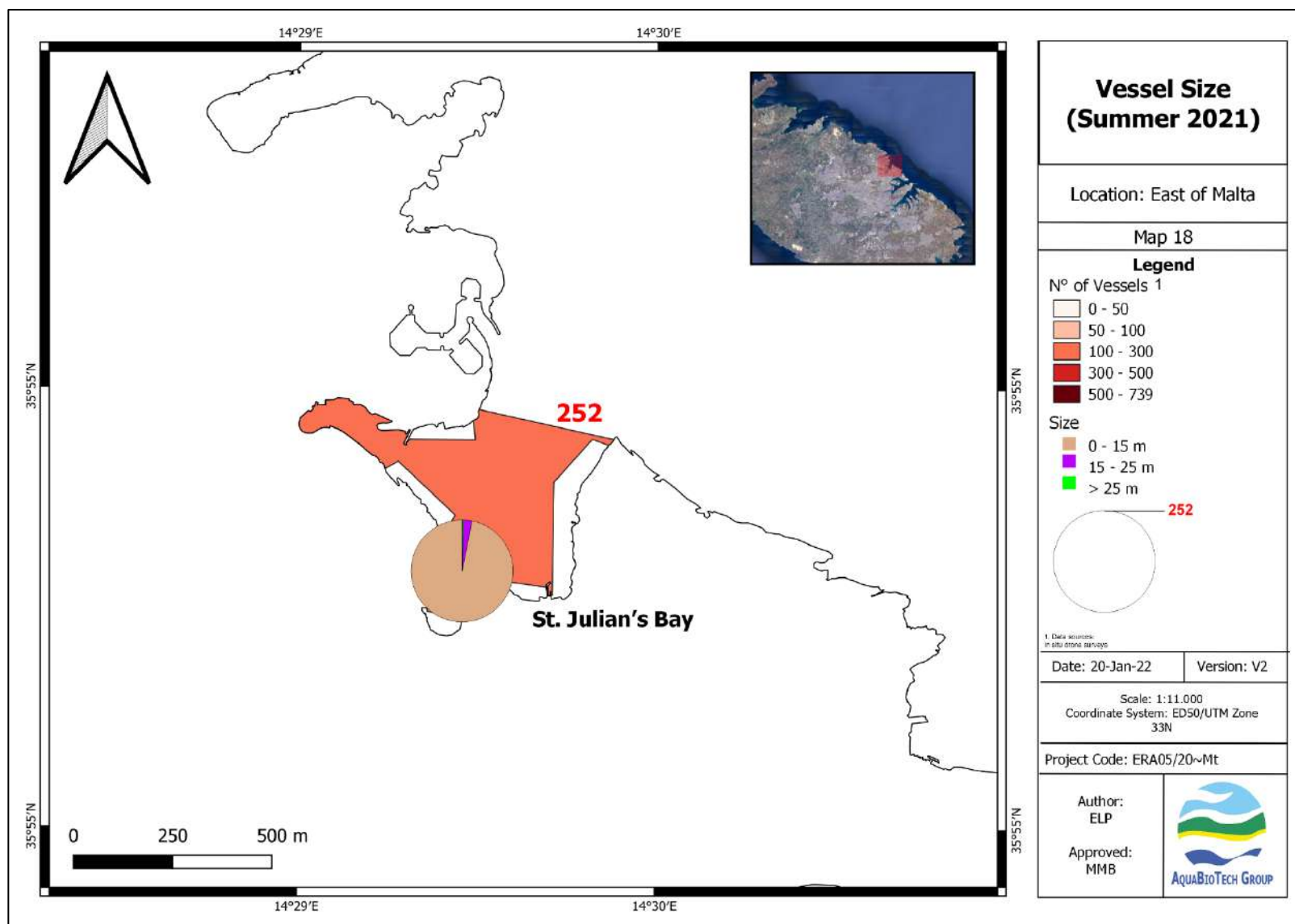


Figure 37. Map of East of Malta with pie charts representing the proportion of vessels per size class. The size of the pie charts is based on the total number of vessels in each site.

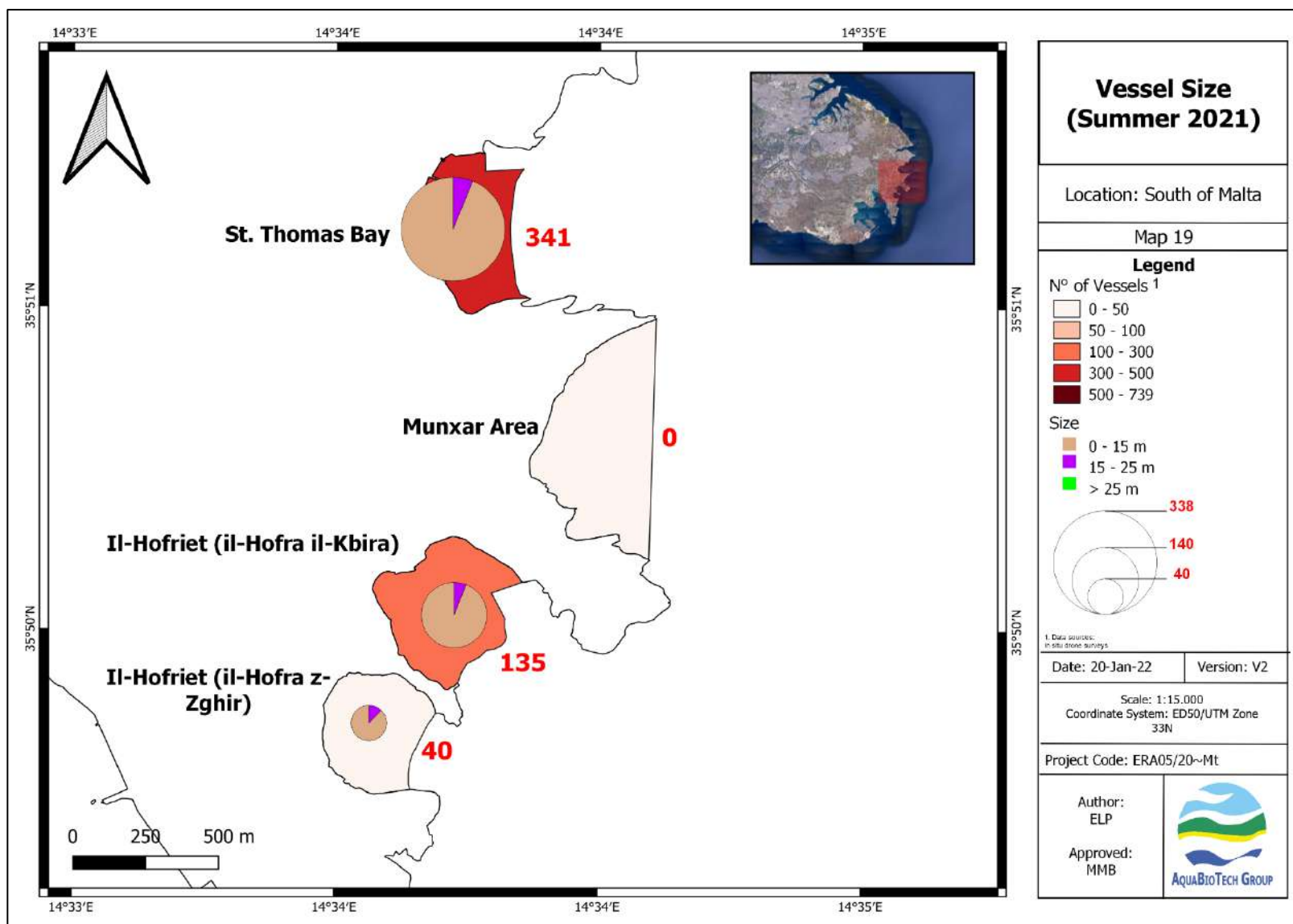


Figure 38. Map of South of Malta with pie charts representing the proportion of vessels per size class. The size of the pie charts is based on the total number of vessels in each site.

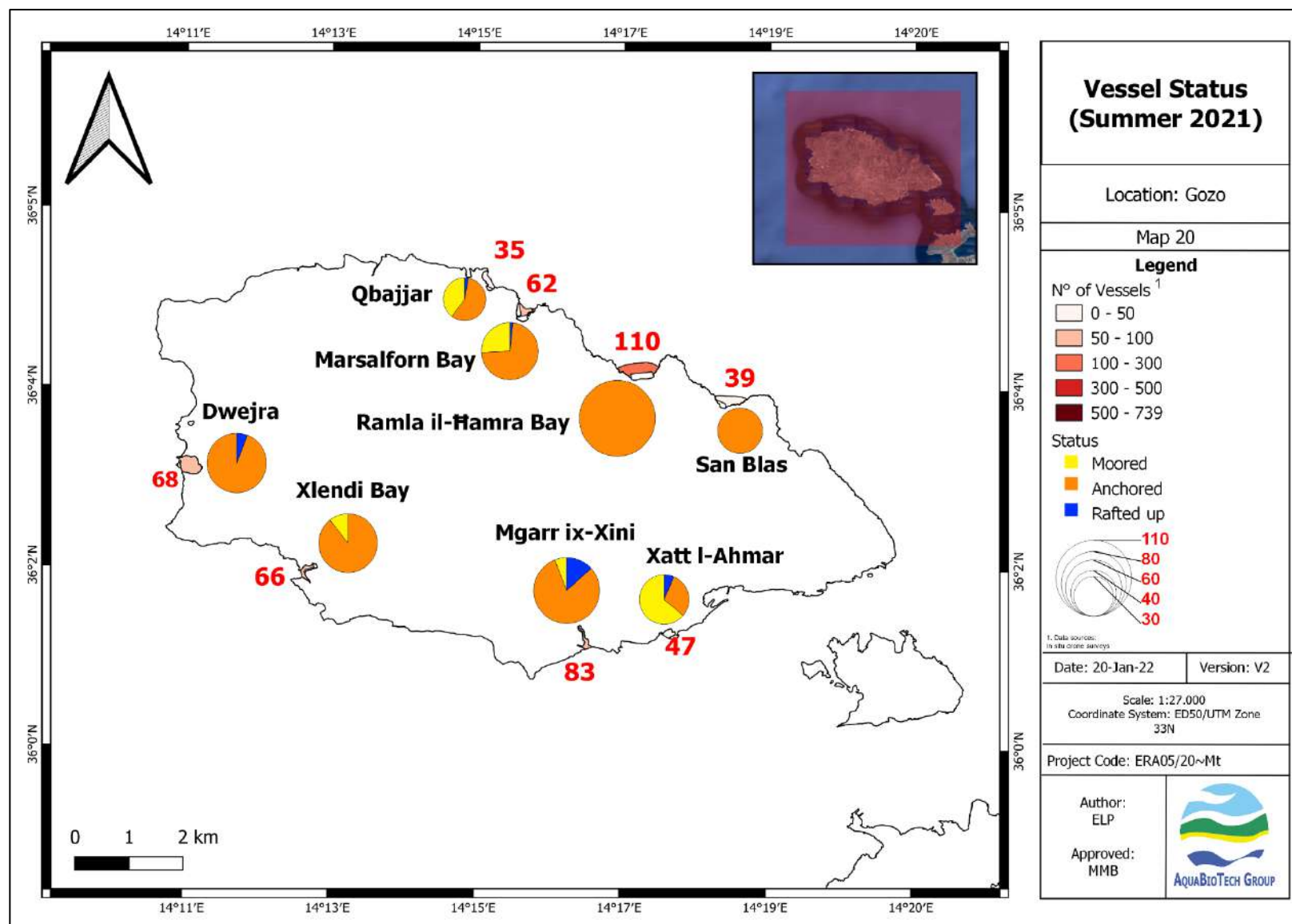


Figure 39. Map of Gozo with pie charts representing the proportion of vessels per status class. The size of the pie charts is based on the total number of vessels in each site.

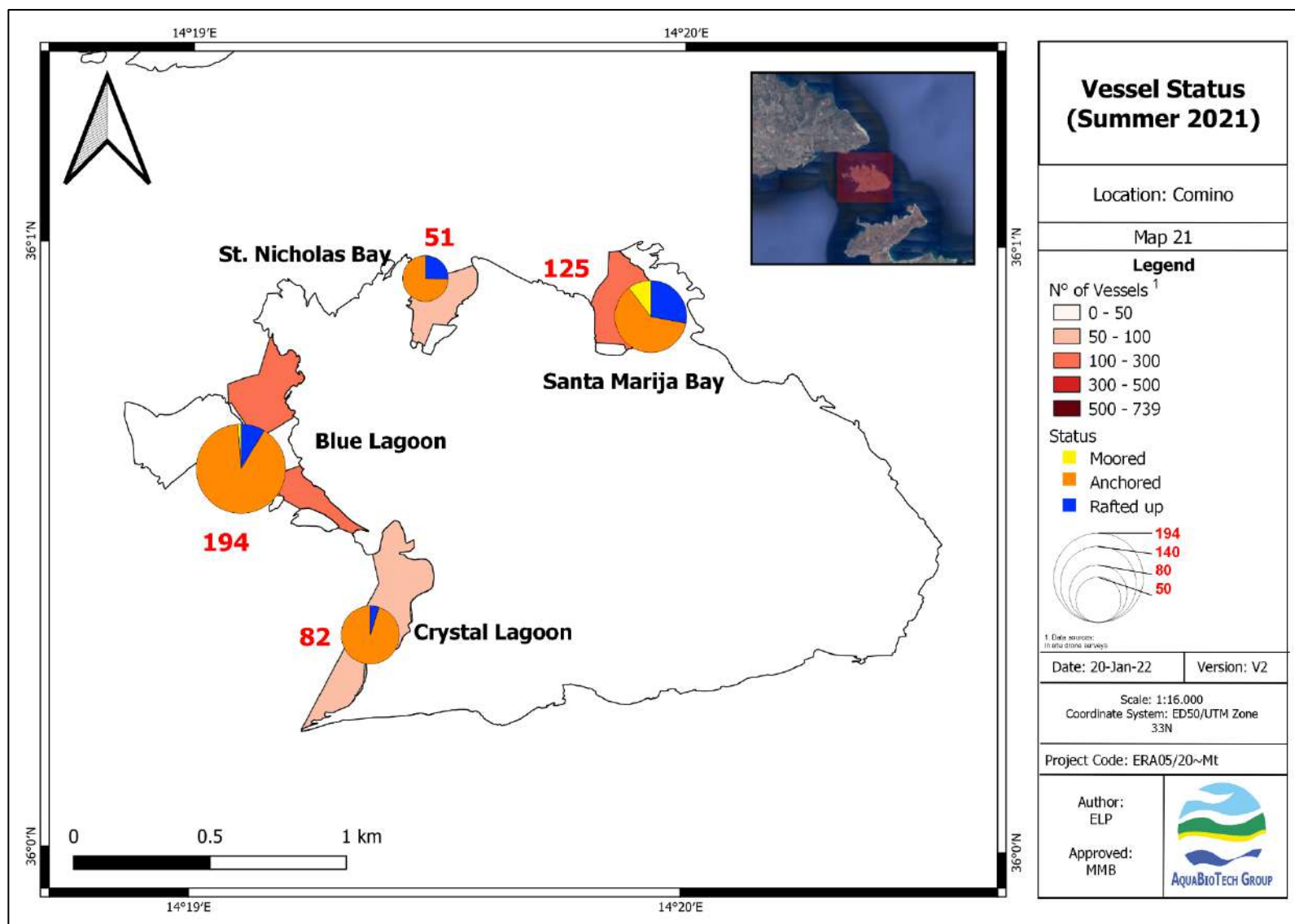


Figure 40. Map of Comino with pie charts representing the proportion of vessels per status class. The size of the pie charts is based on the total number of vessels in each site.

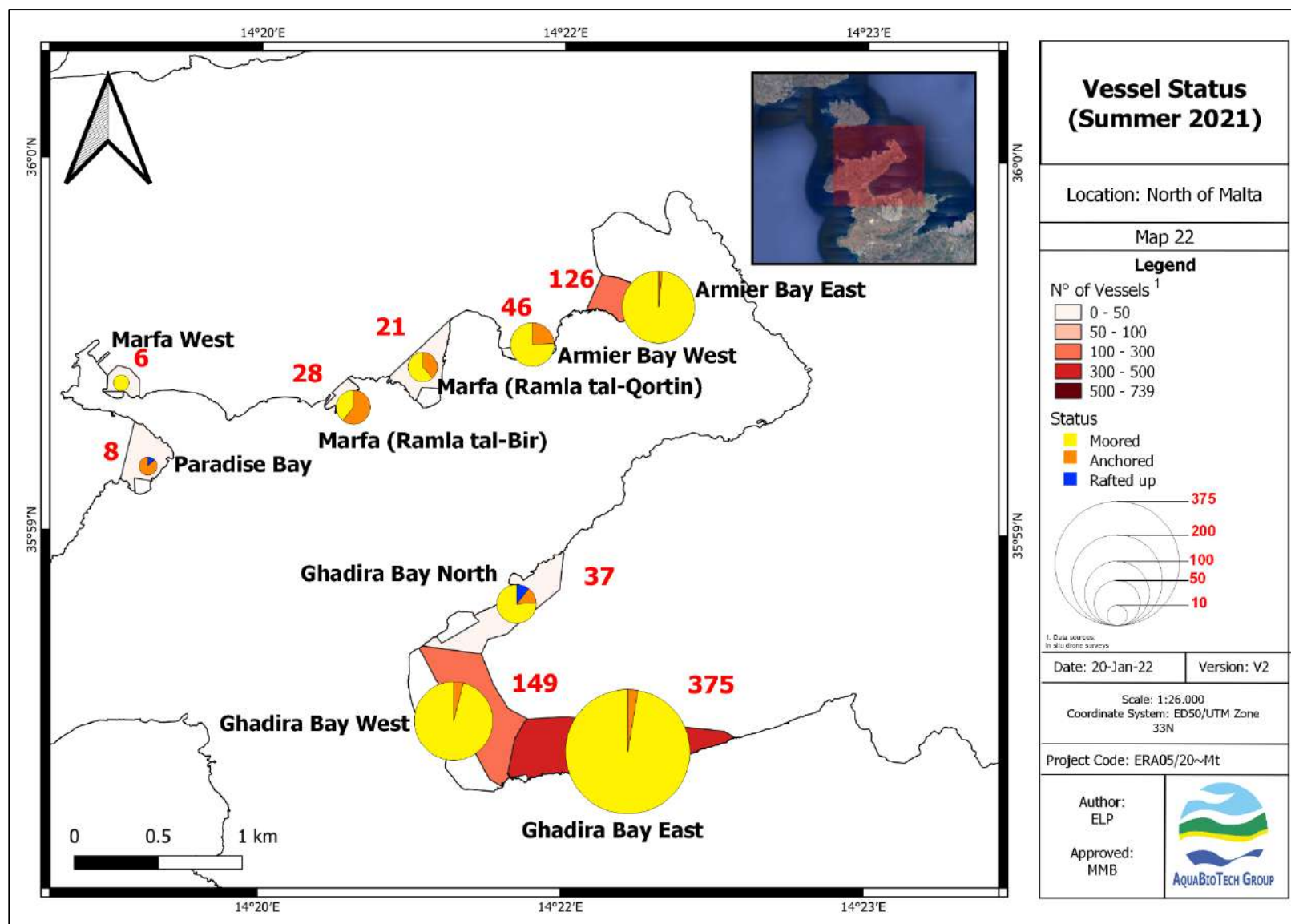


Figure 41. Map of North of Malta with pie charts representing the proportion of vessels per status class. The size of the pie charts is based on the total number of vessels in each site.

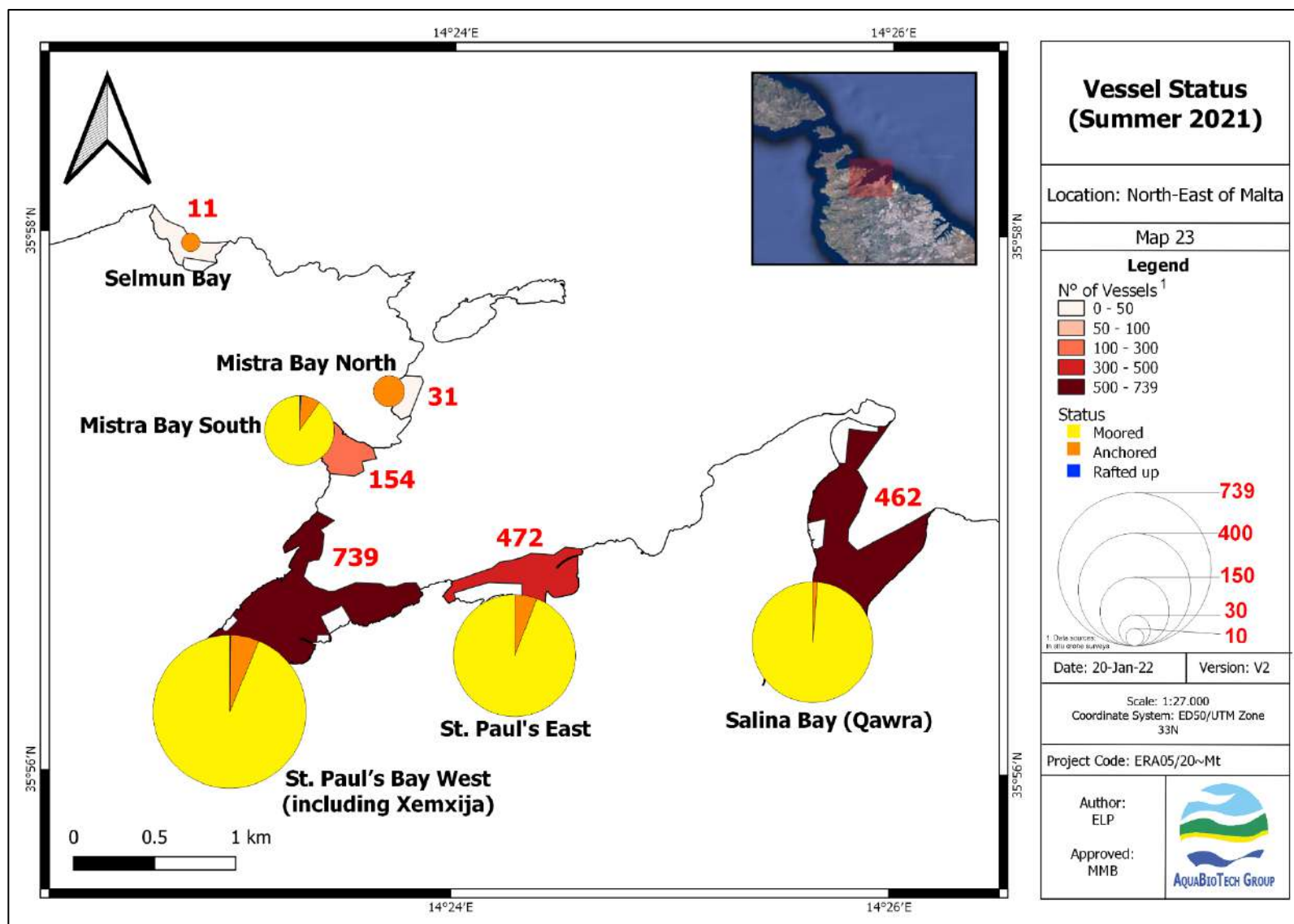


Figure 42. Map of North-East of Malta with pie charts representing the proportion of vessels per status class. The size of the pie charts is based on the total number of vessels in each site. White areas within survey site indicate swimming zones.

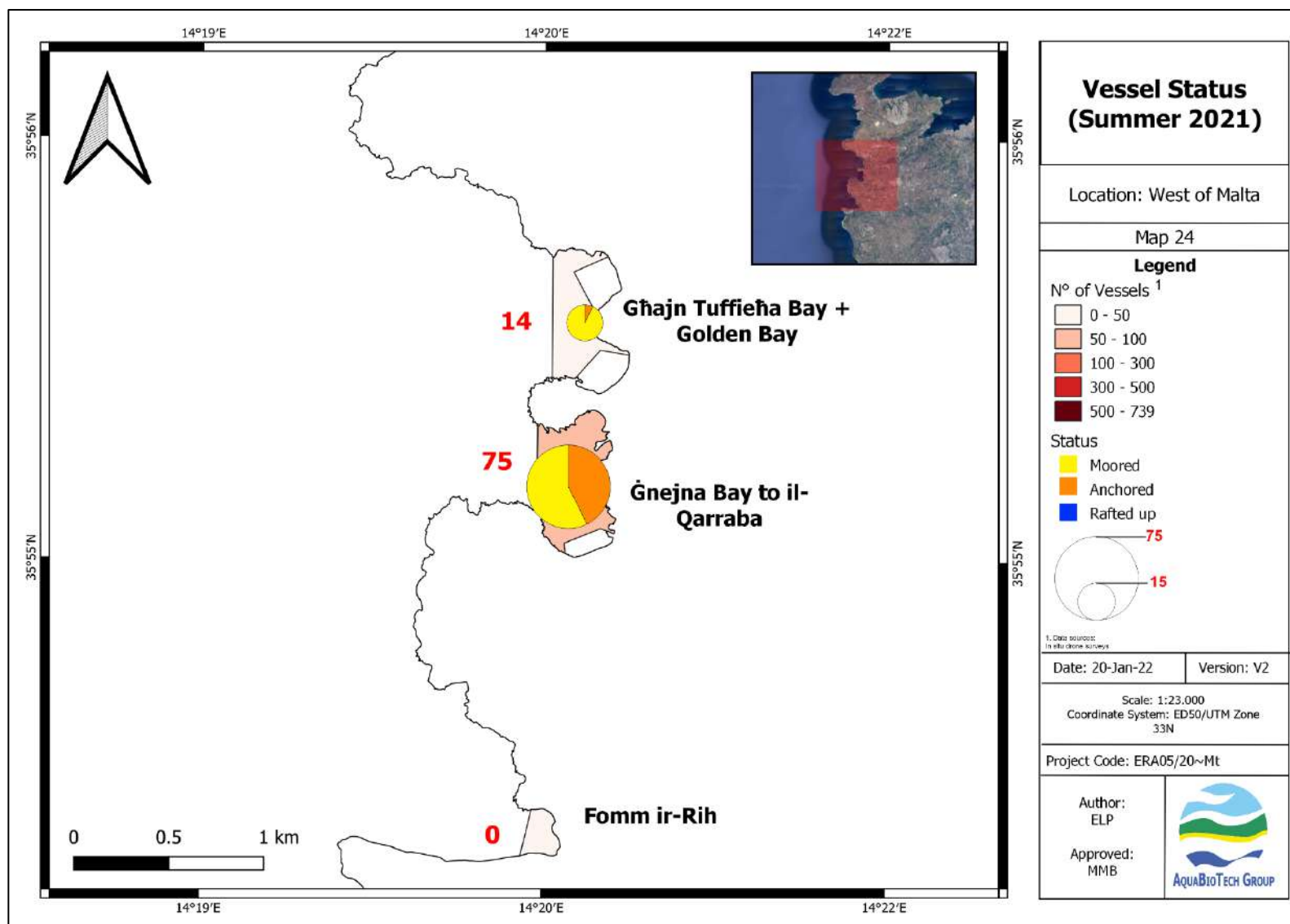


Figure 43. Map of West of Malta with pie charts representing the proportion of vessels per status class. The size of the pie charts is based on the total number of vessels in each site.

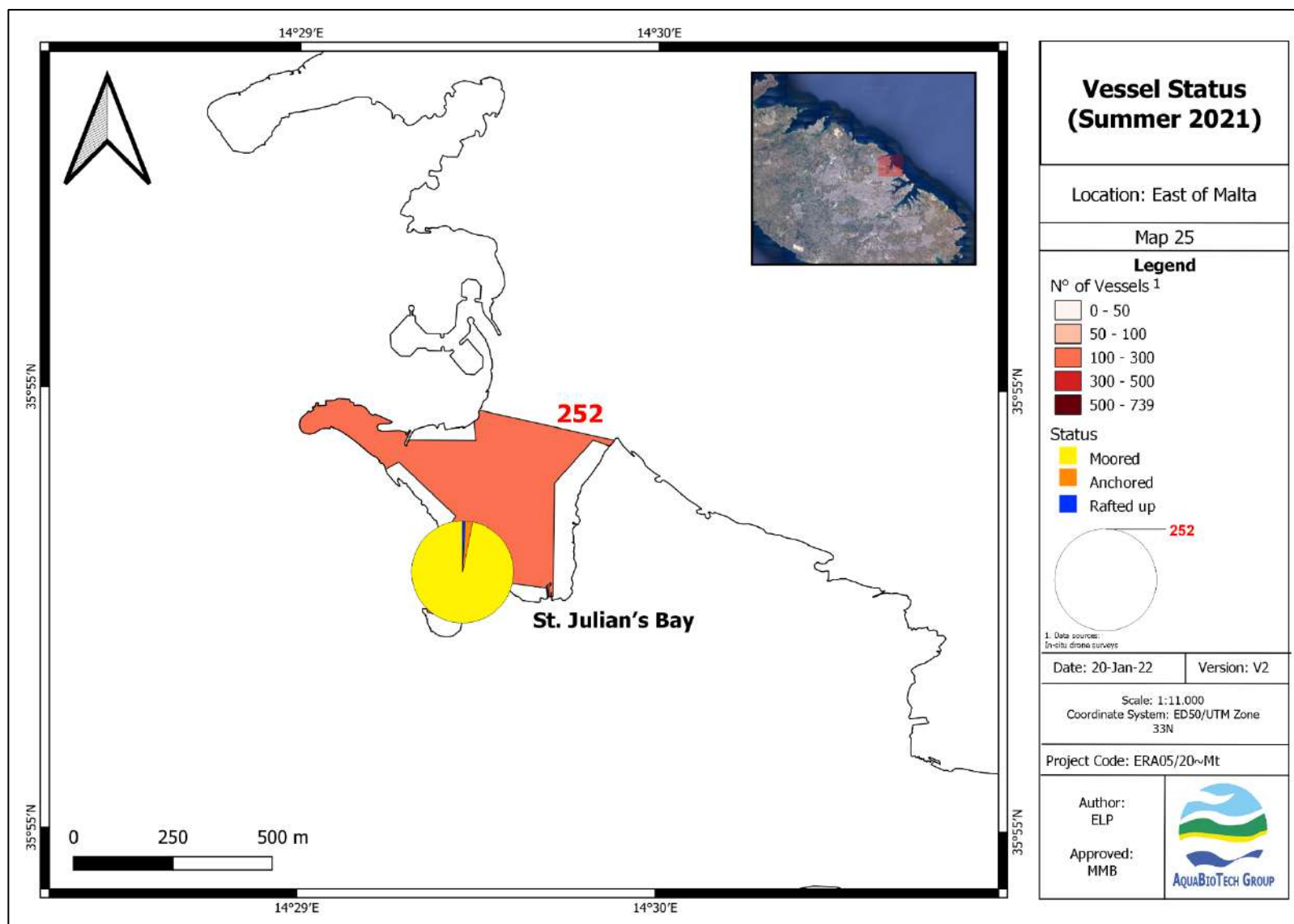


Figure 44. Map of East of Malta with pie charts representing the proportion of vessels per status class. The size of the pie charts is based on the total number of vessels in each site.

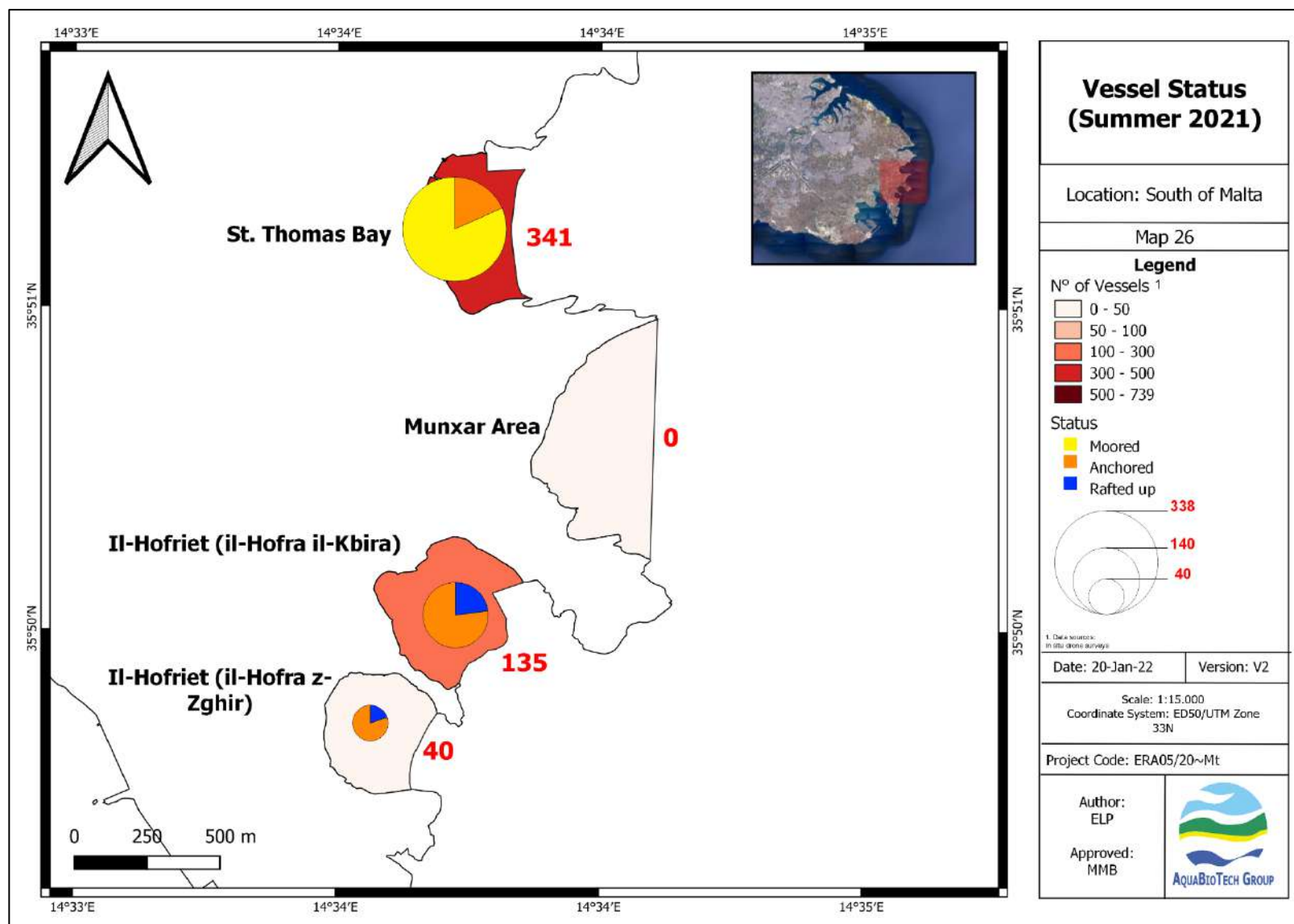


Figure 45: Map of South of Malta with pie charts representing the proportion of vessels per status class. The size of the pie charts is based on the total number of vessels in each site.

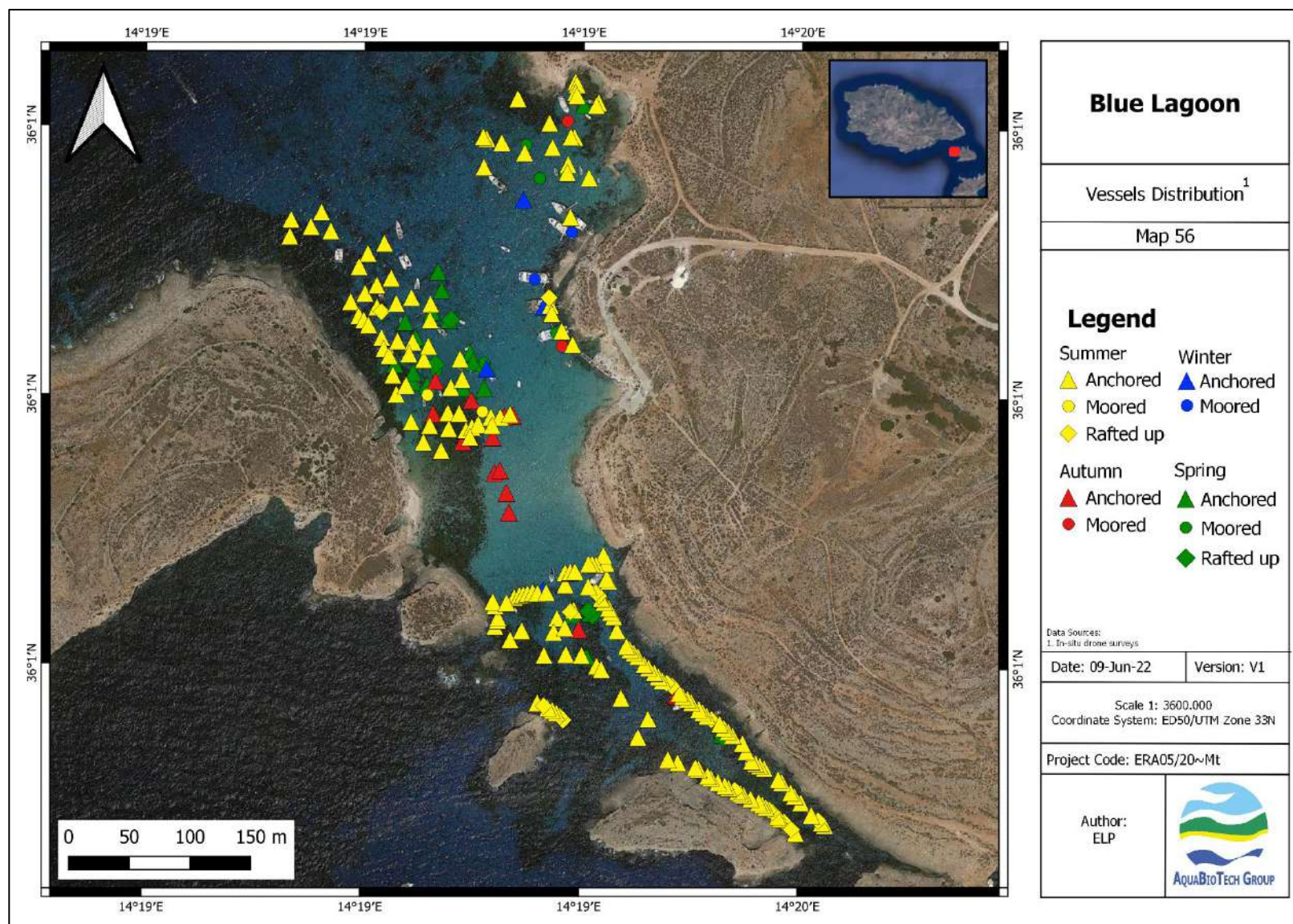


Figure 46. Vessel distribution in Blue Lagoon (Comino) categorised by status and season.

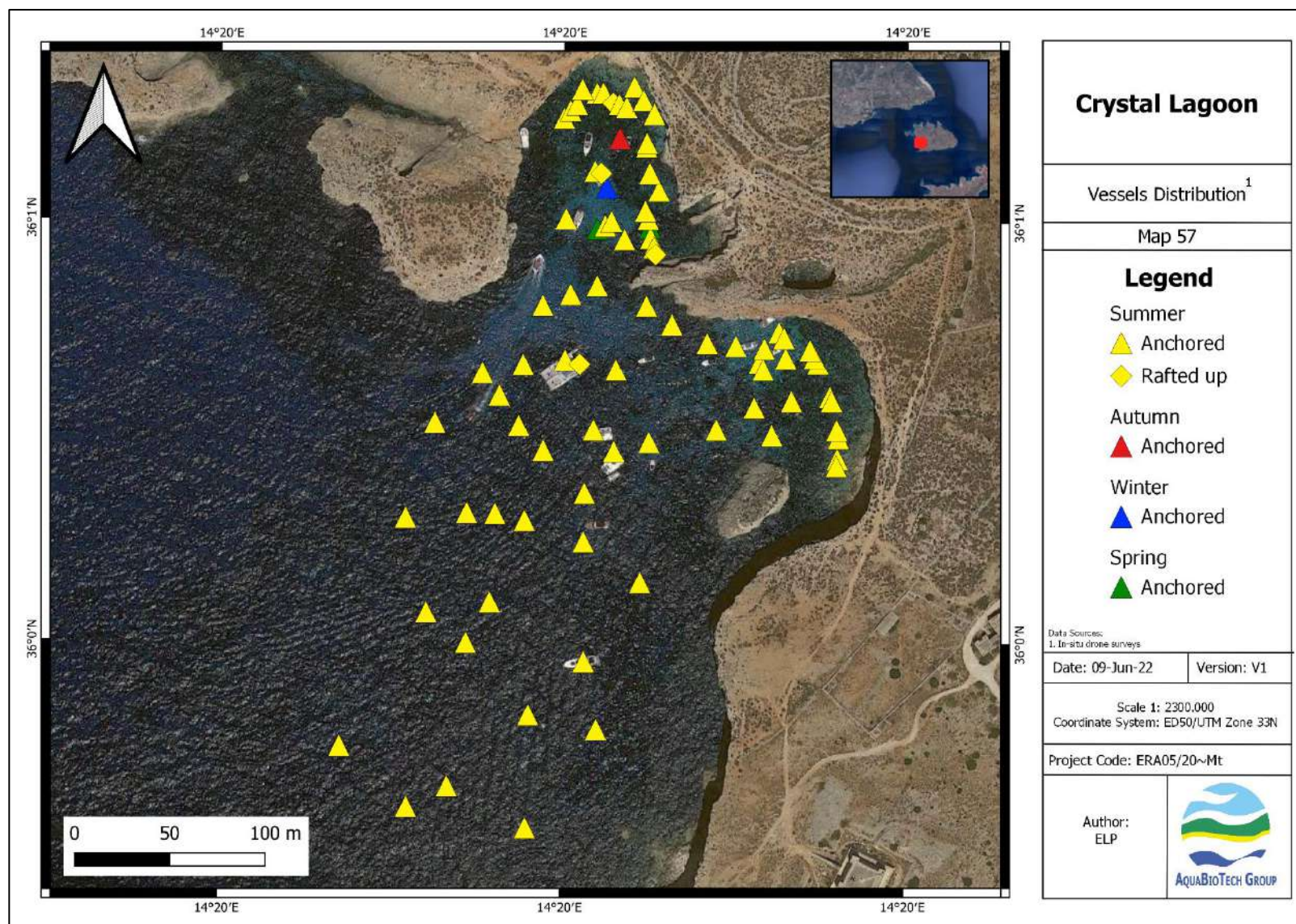


Figure 47. Vessel distribution in Crystal Lagoon (Comino) categorised by status and season.

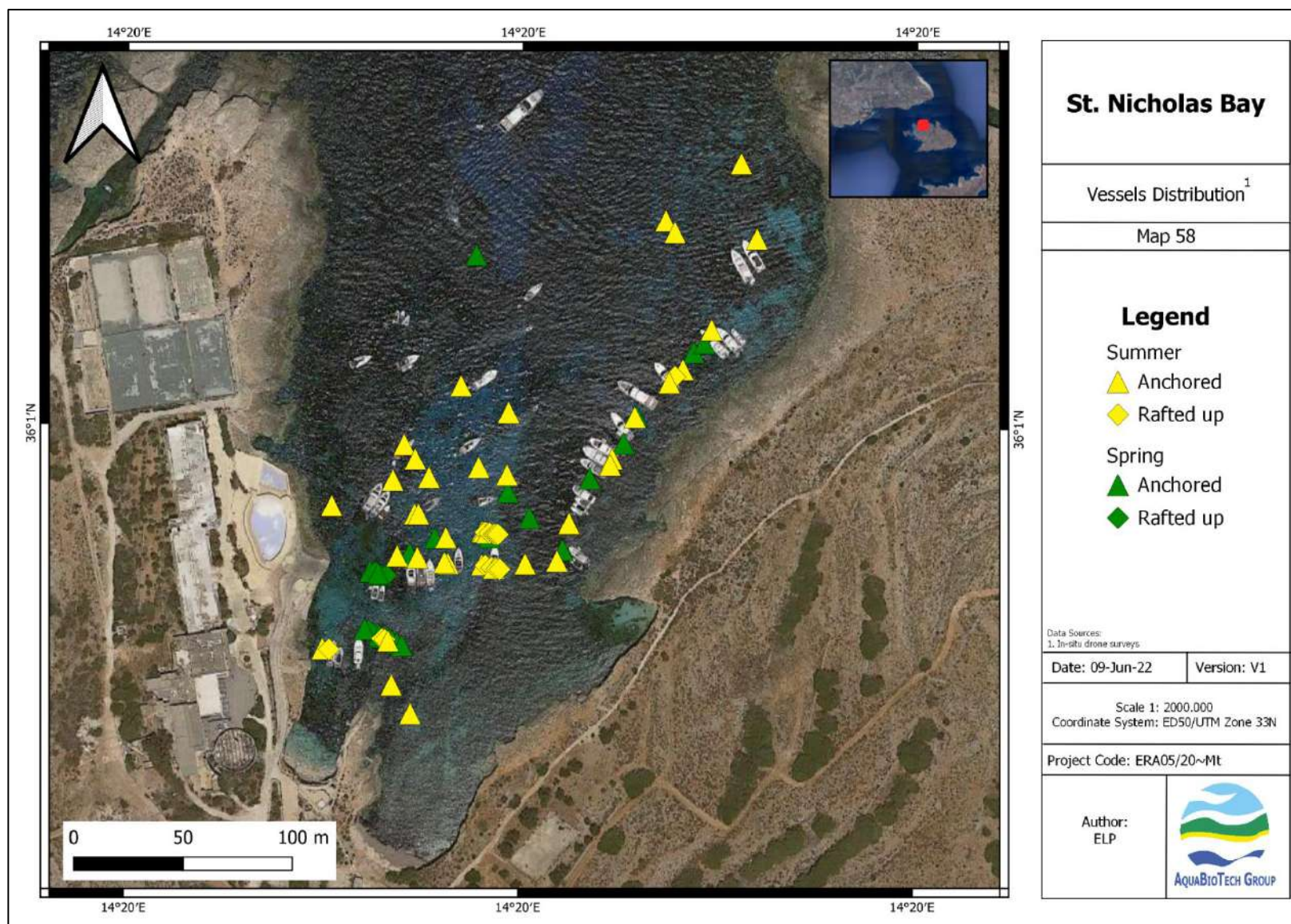


Figure 48. Vessel distribution in St. Nicholas Bay (Comino) categorised by status and season.

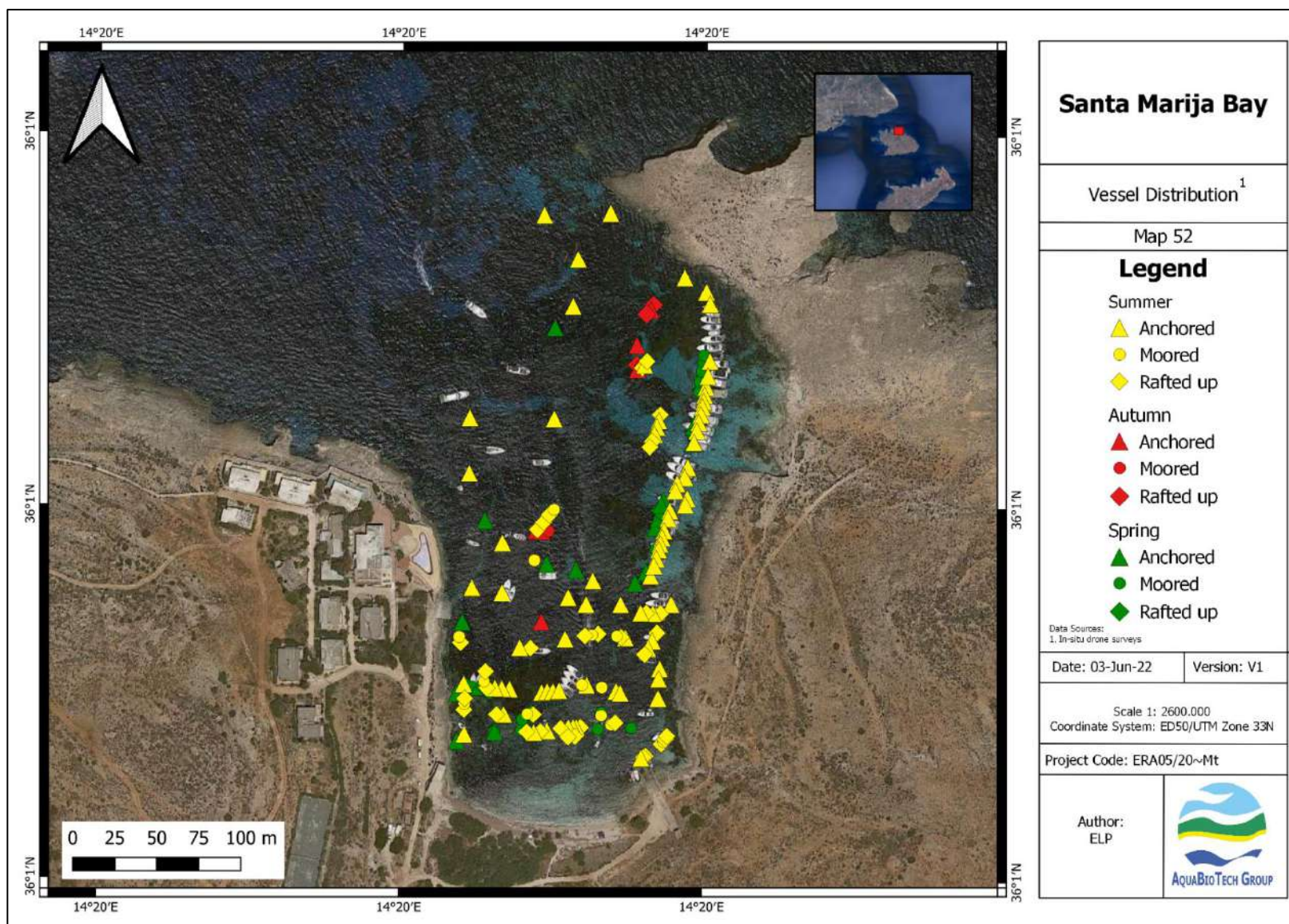


Figure 49. Vessel distribution in Santa Marija Bay (Comino) categorised by status and season.

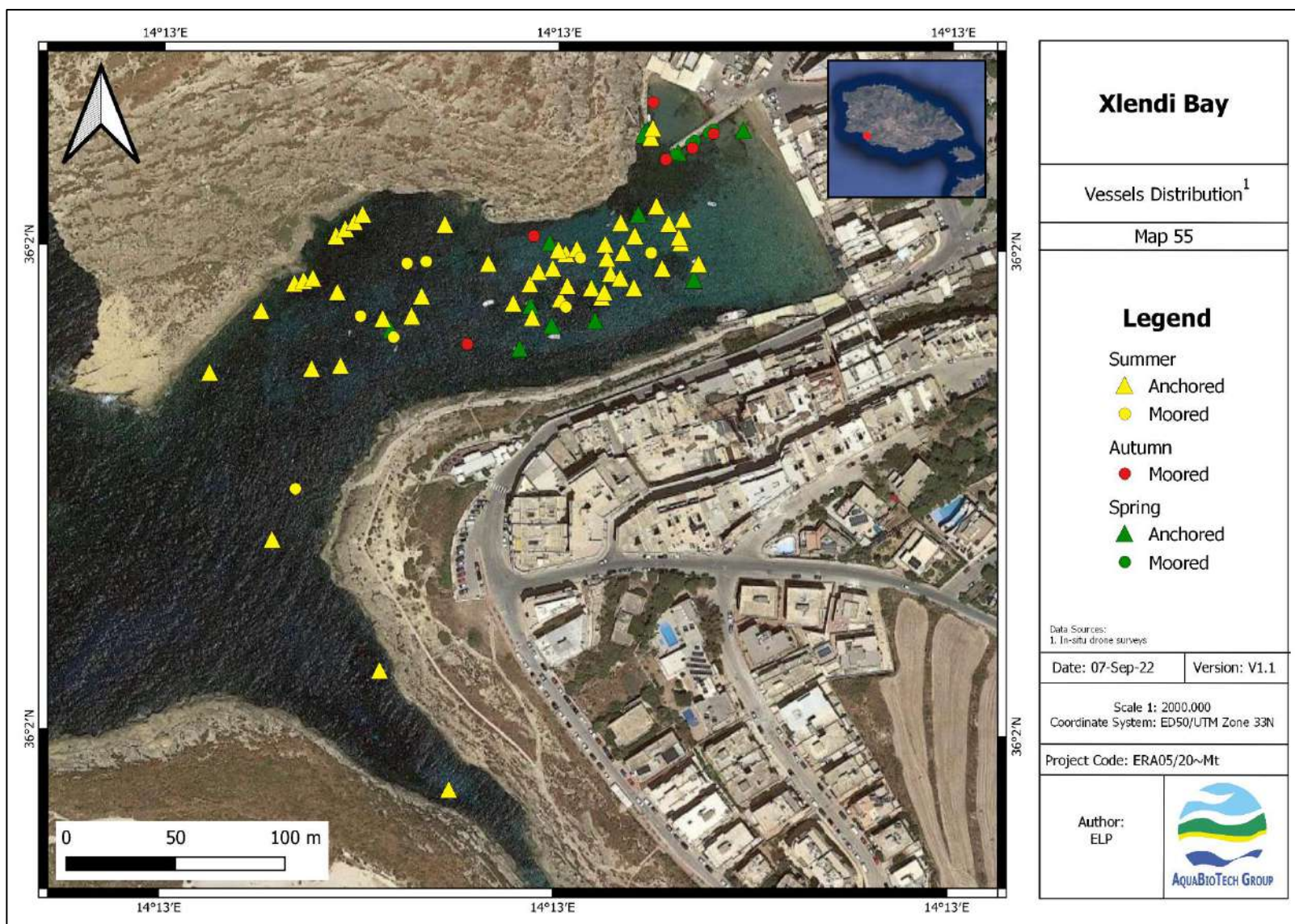


Figure 50. Vessel distribution in Xlendi Bay (Gozo) categorised by status and season.

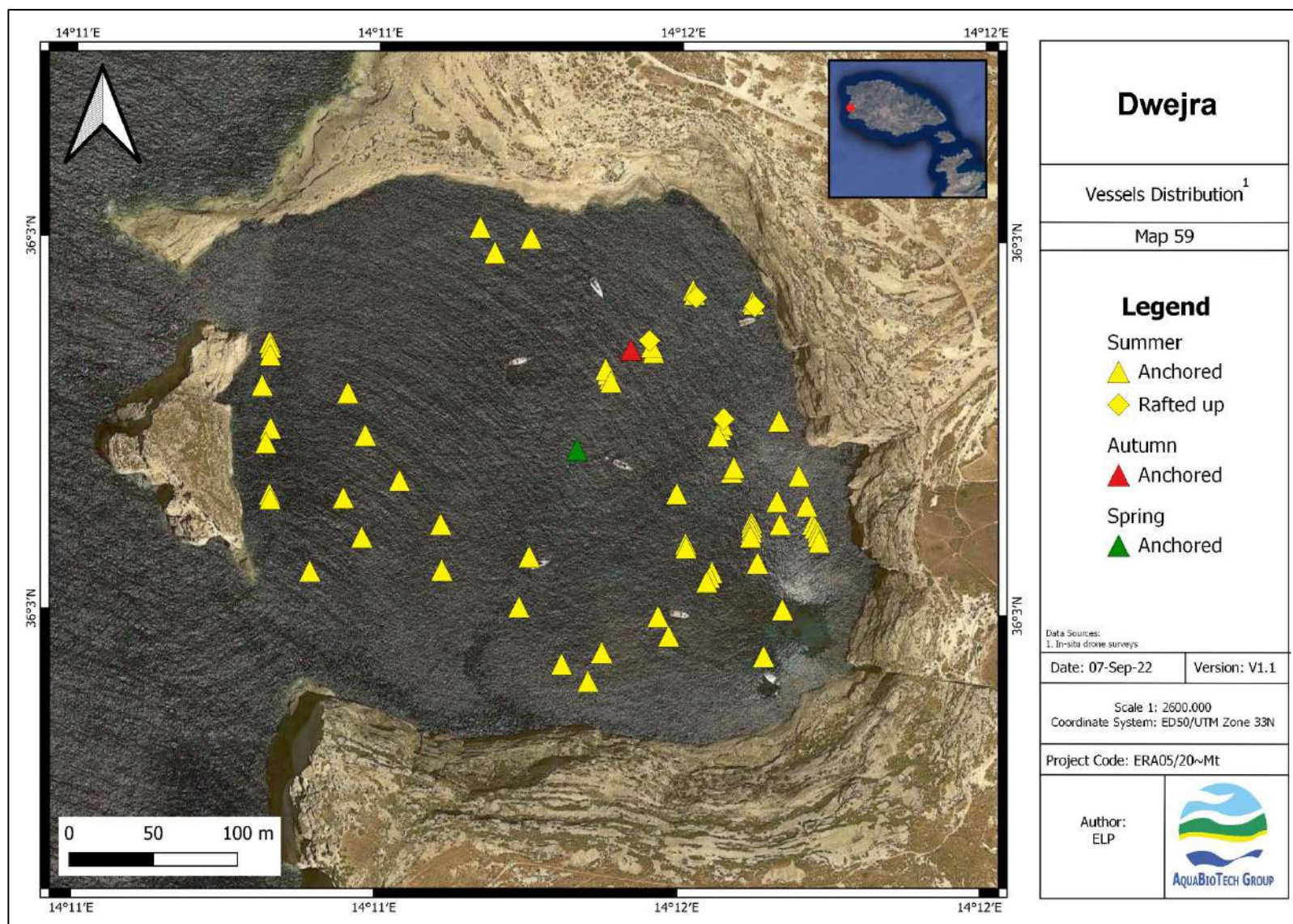


Figure 51. Vessel distribution in Dwejra (Gozo) categorised by status and season.

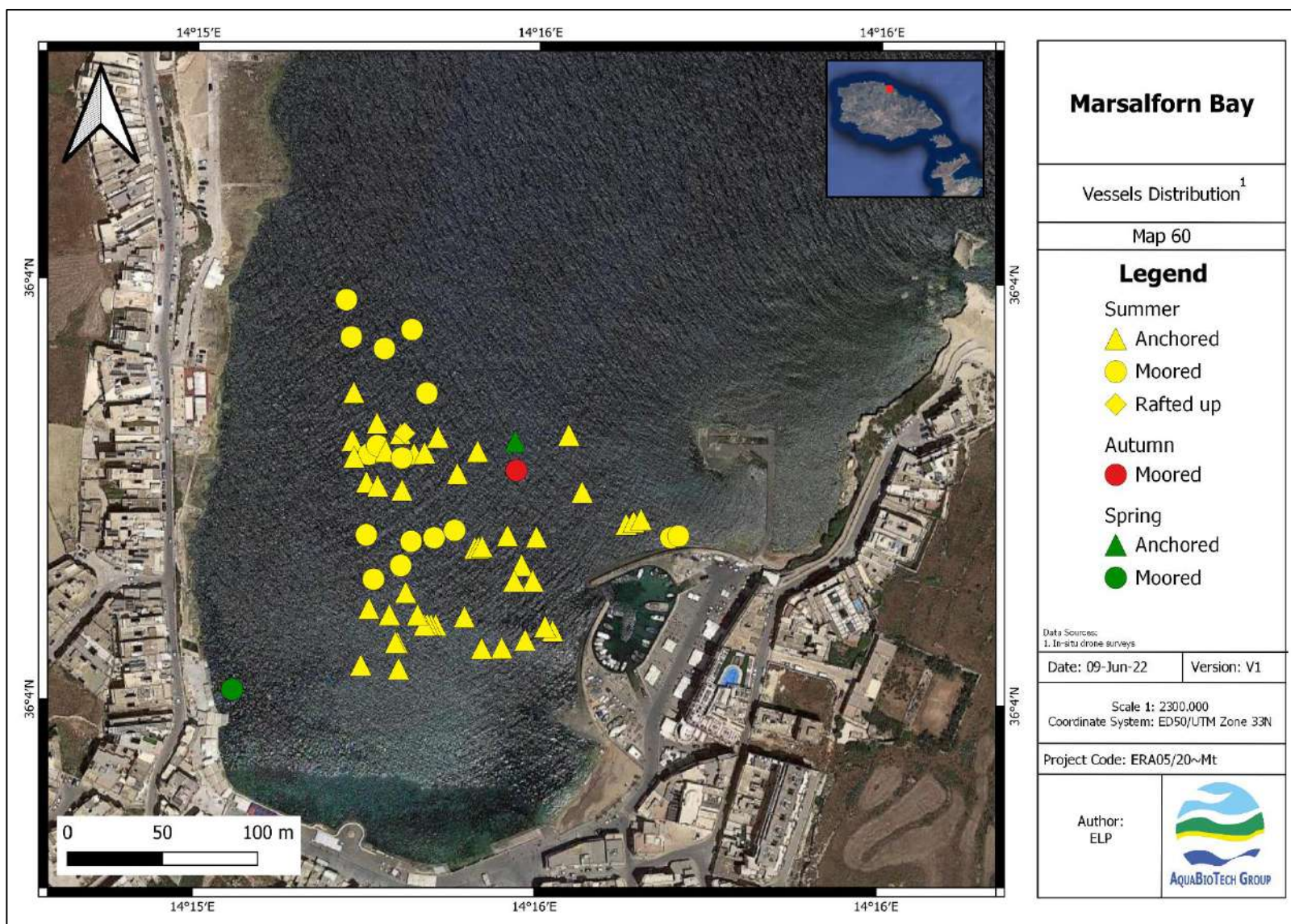


Figure 52. Vessel distribution in Marsalforn Bay (Gozo) categorised by status and season.

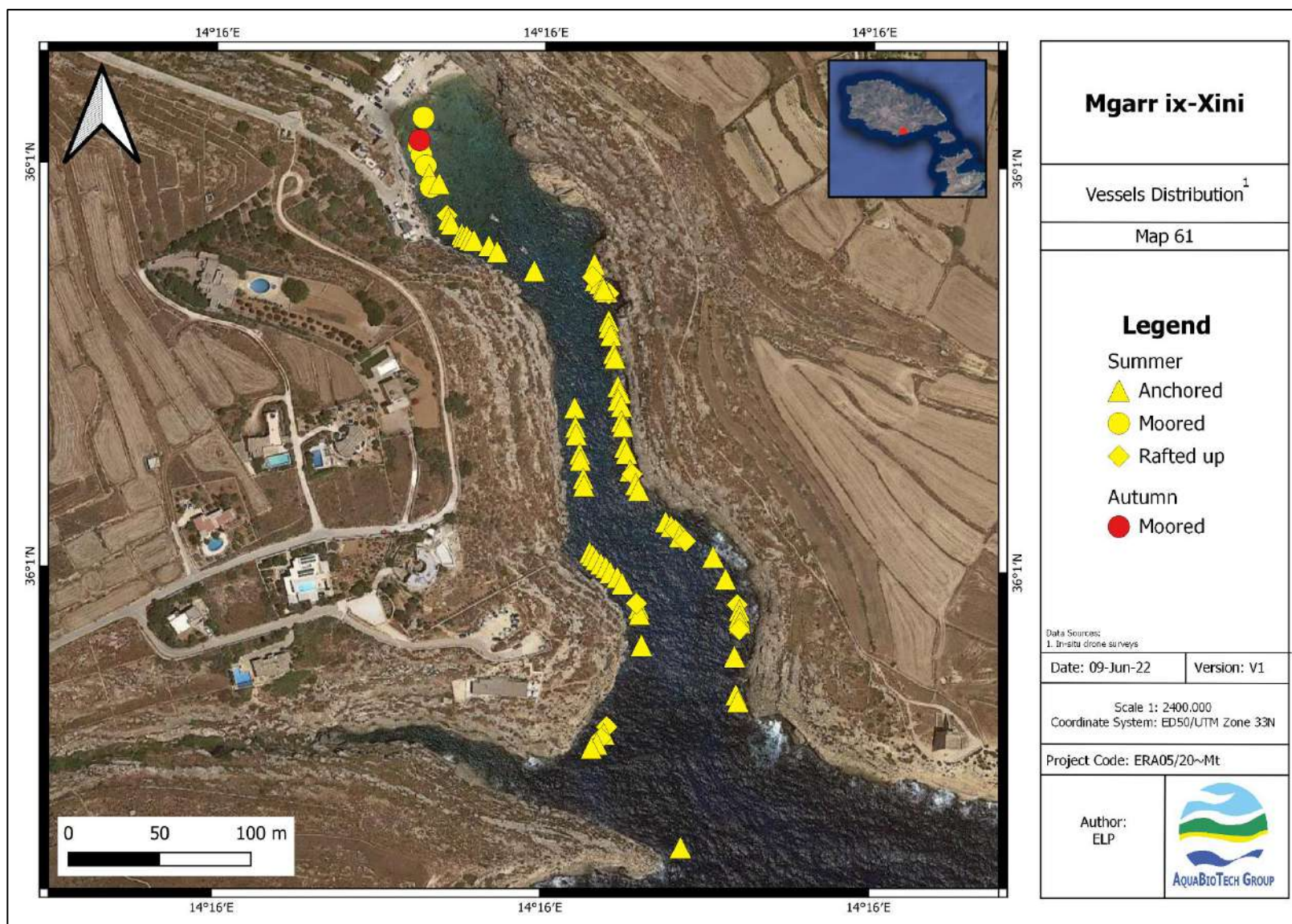


Figure 53. Vessel distribution in Mgarr ix-Xini (Gozo) categorised by status and season.

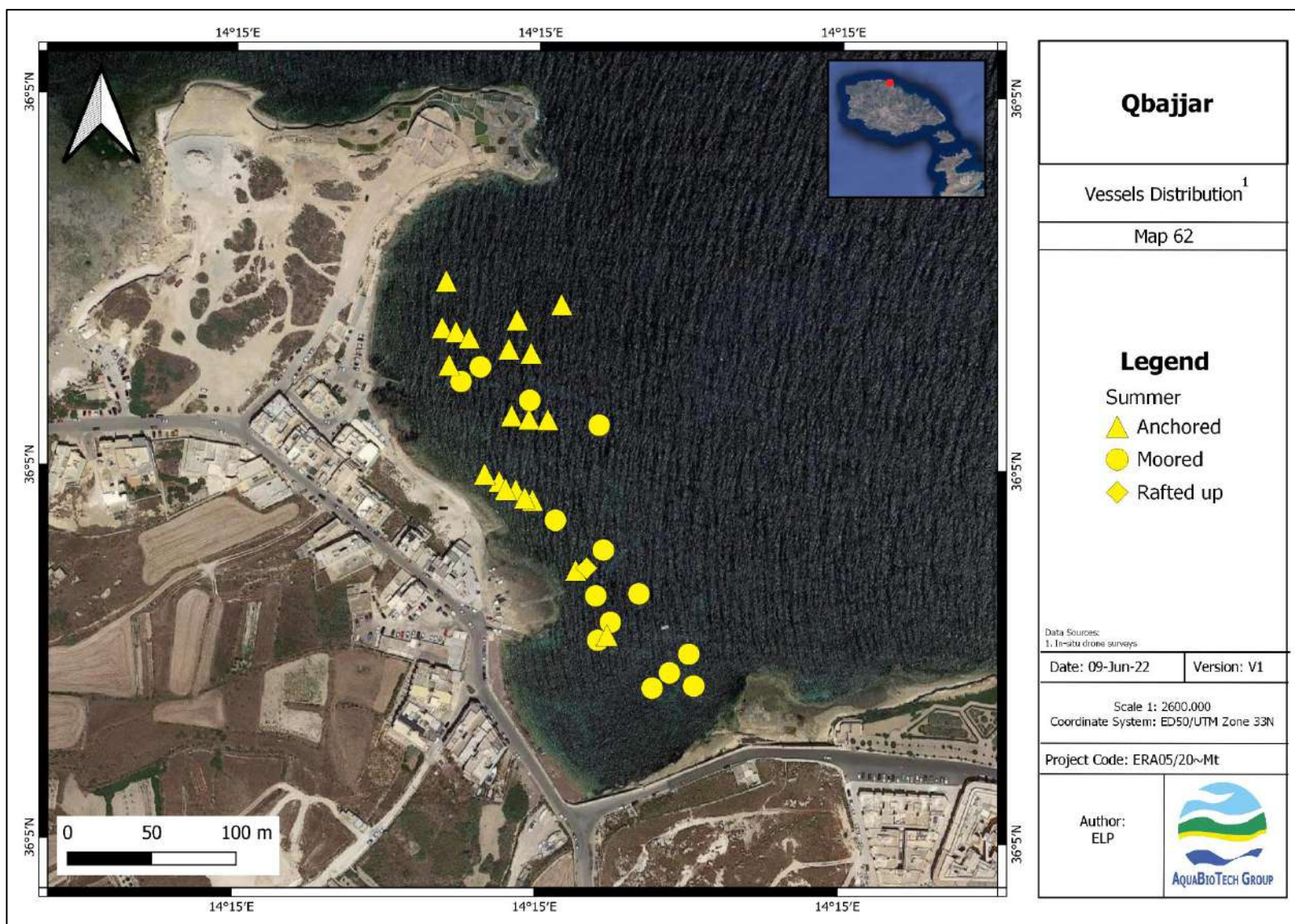


Figure 54. Vessel distribution in Qbajjar (Gozo) categorised by status and season.

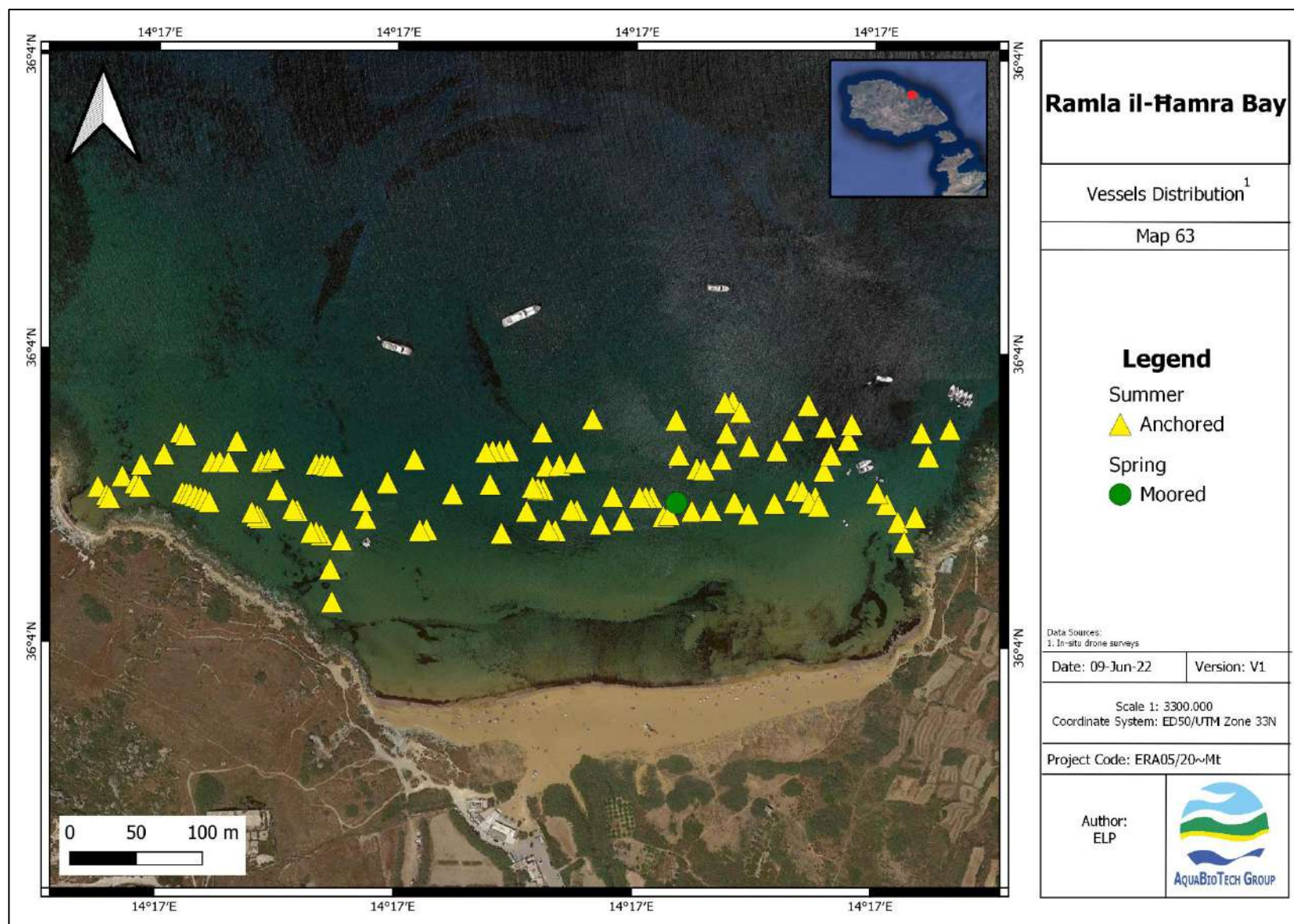


Figure 55. Vessel distribution in Ramla il-Hamra Bay (Gozo) categorised by status and season.

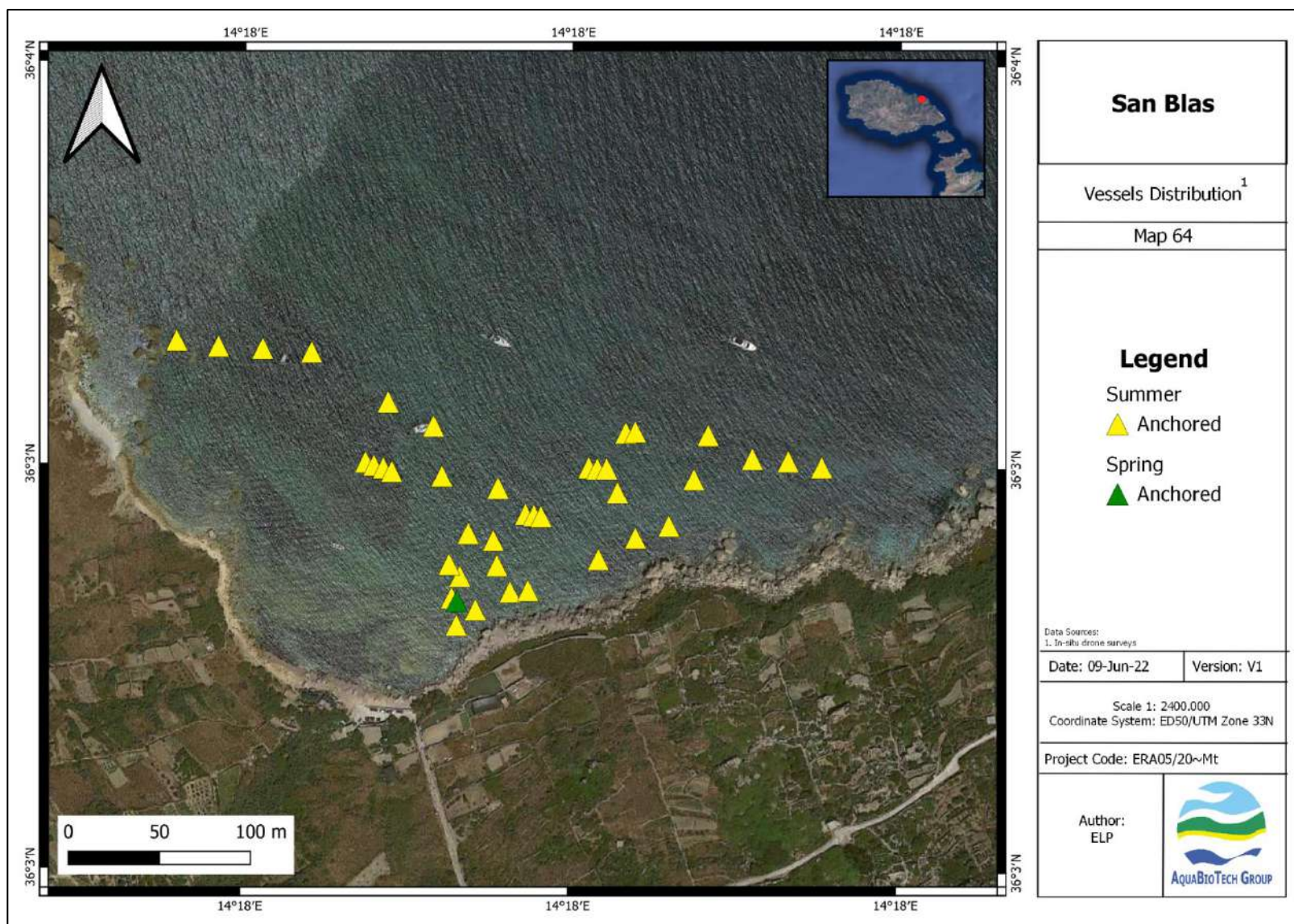


Figure 56. Vessel distribution in San Blas (Gozo) categorised by status and season.

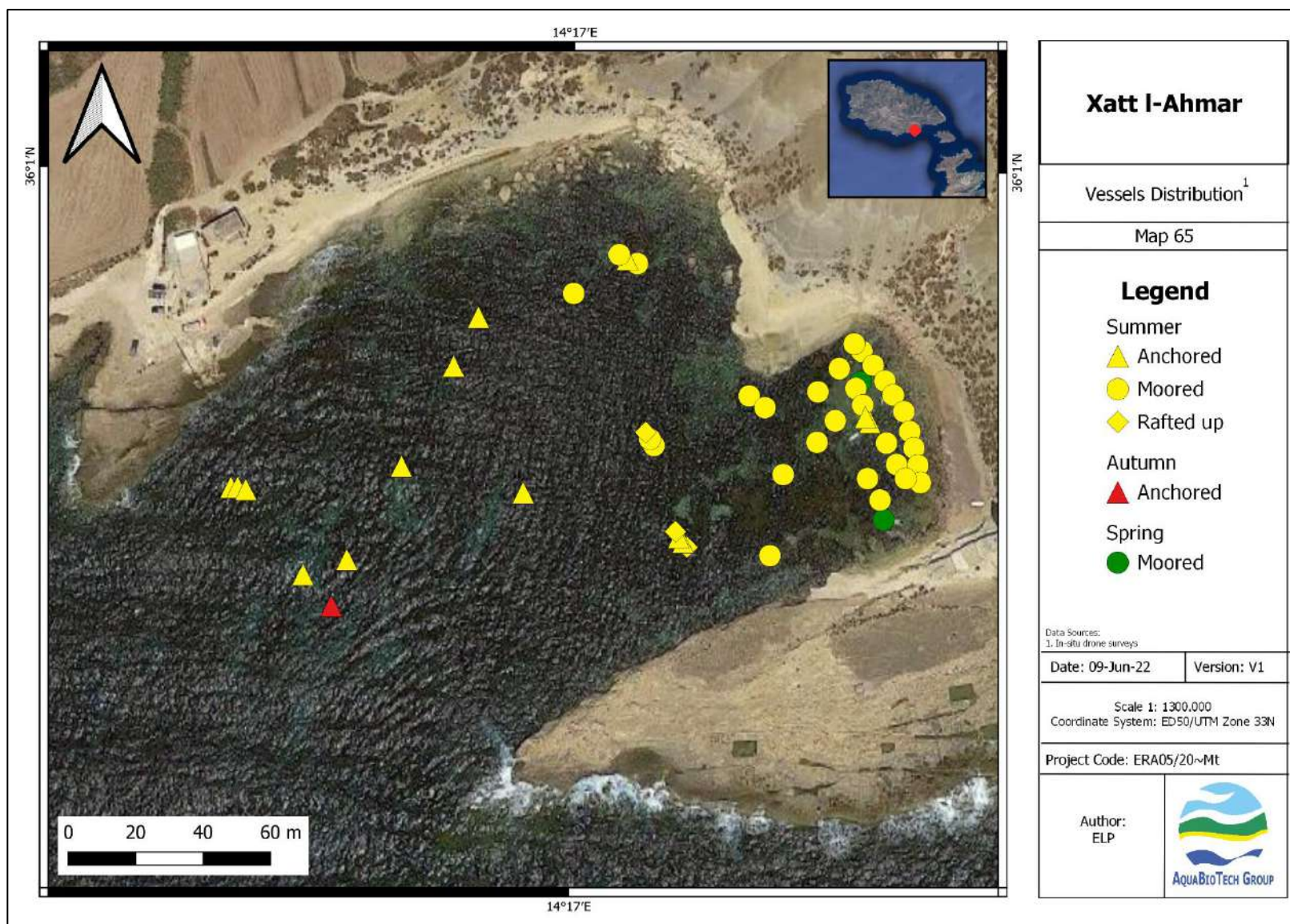


Figure 57. Vessel distribution in Xatt I-Ahmar (Gozo) categorised by status and season.

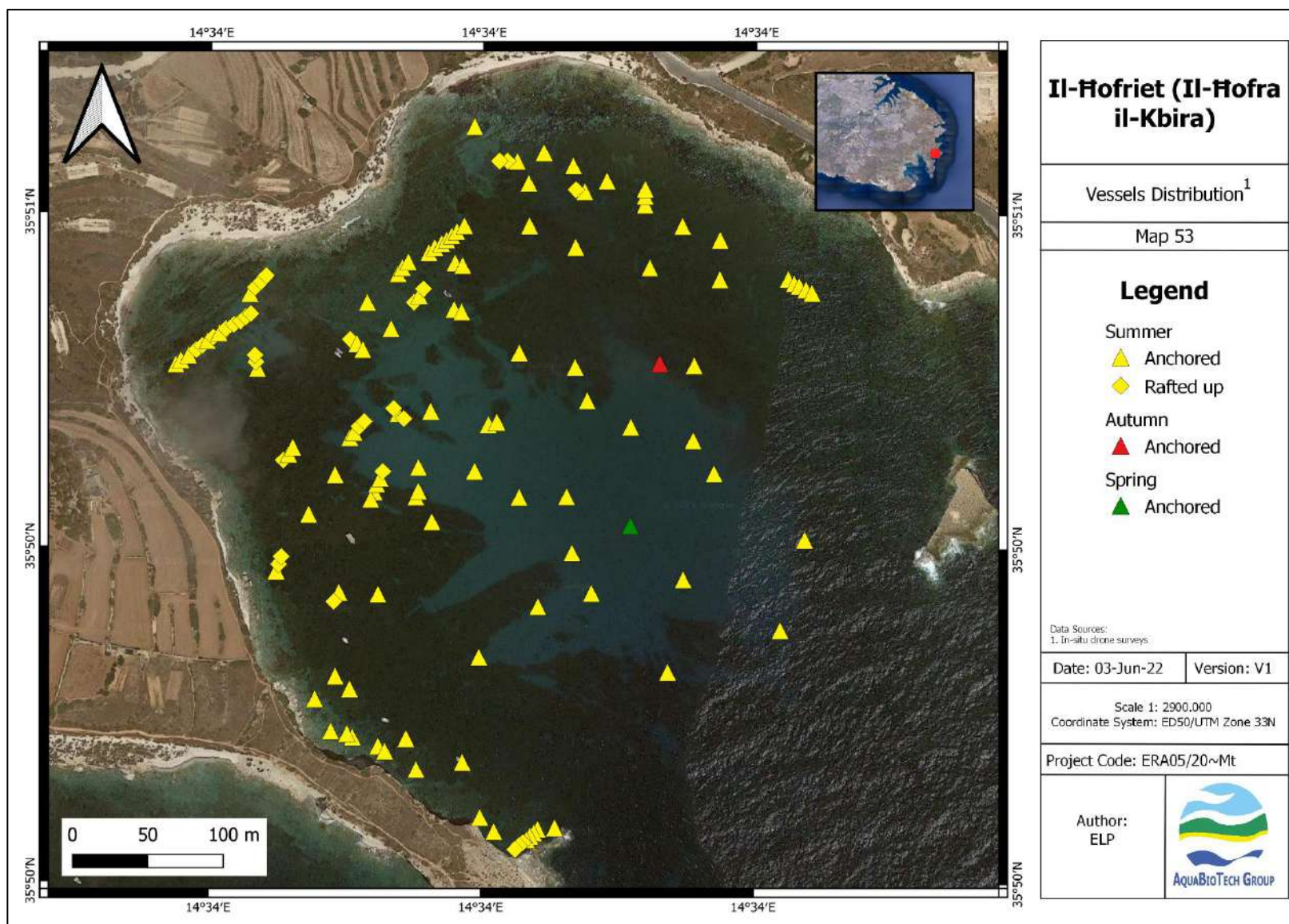


Figure 58. Vessel distribution in Il-Hofriet (Il-Hofra il-Kbira) (Malta) categorised by status and season.

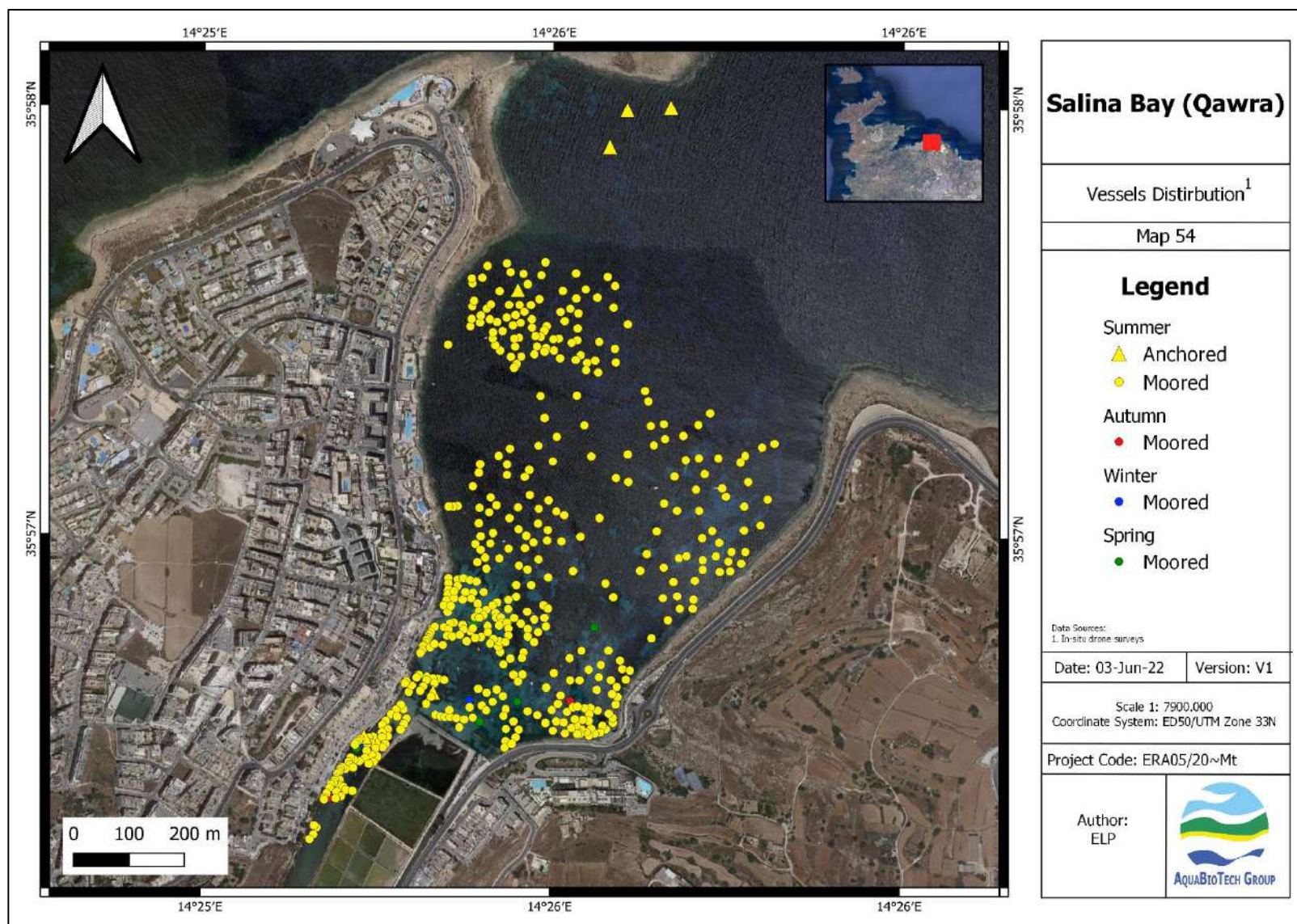


Figure 59. Vessel distribution in Salina Bay (Malta) categorised by status and season.

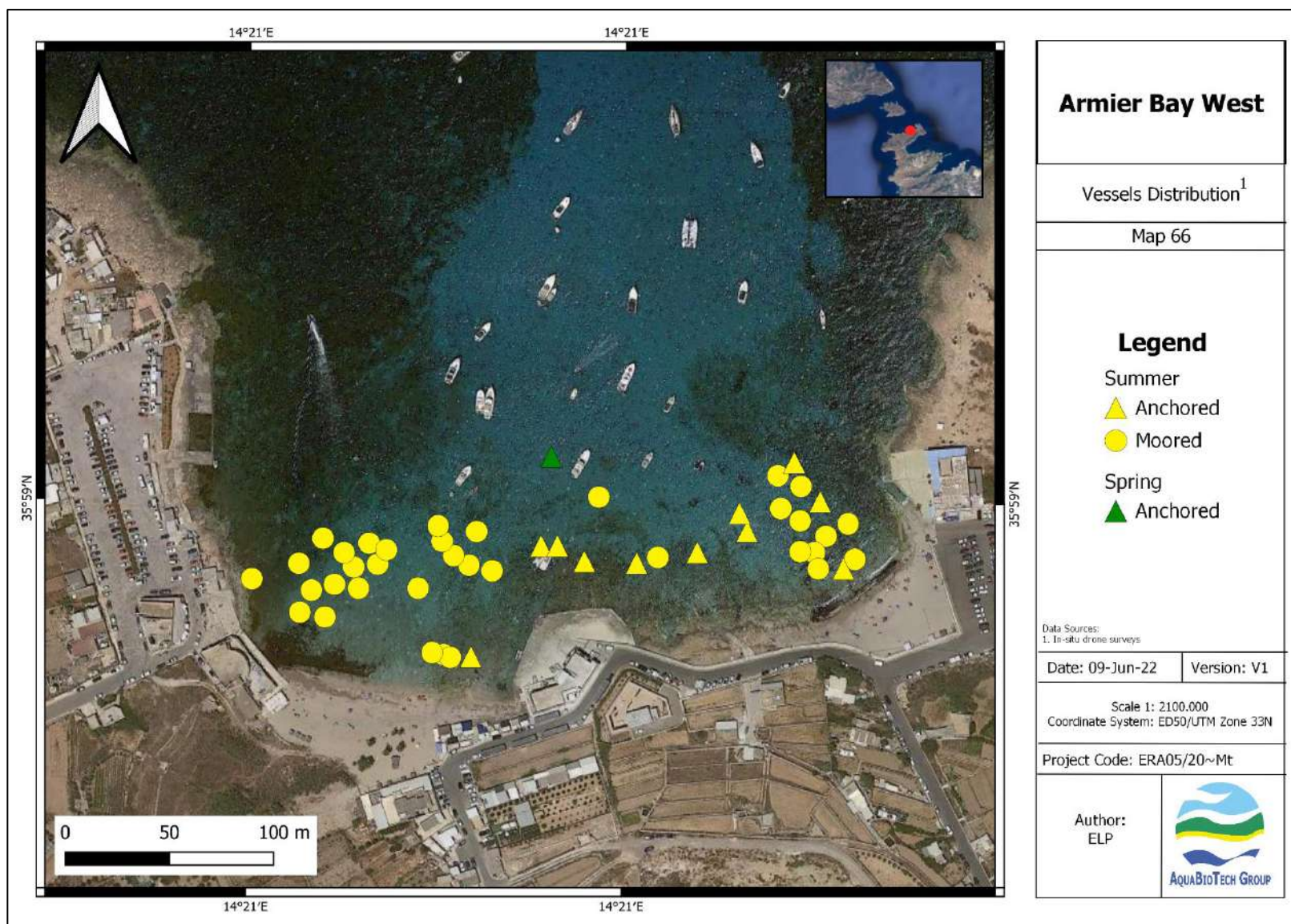


Figure 60. Vessel distribution in Armier Bay West (Malta) categorised by status and season.

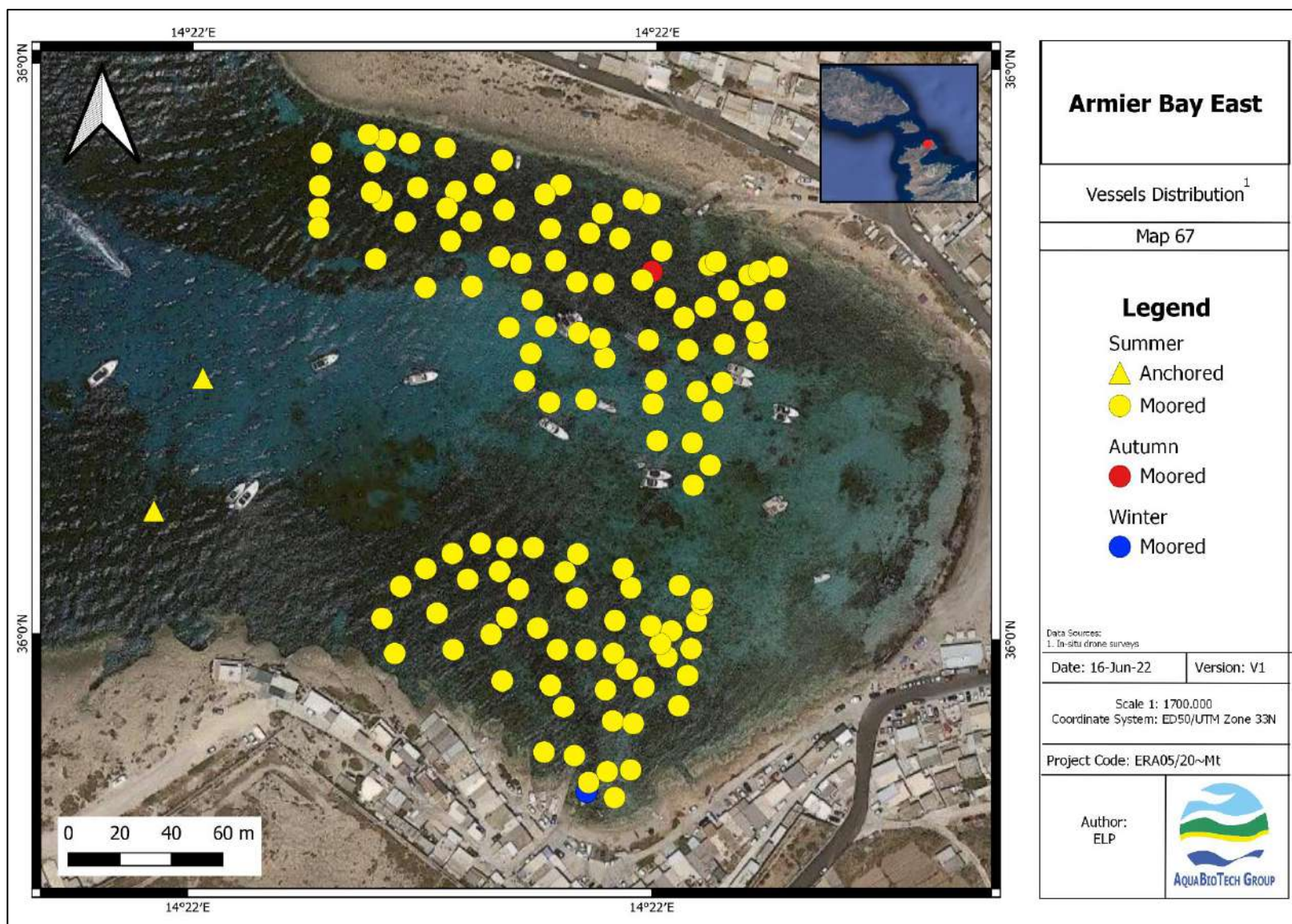


Figure 61. Vessel distribution in Armier Bay East (Malta) categorised by status and season.

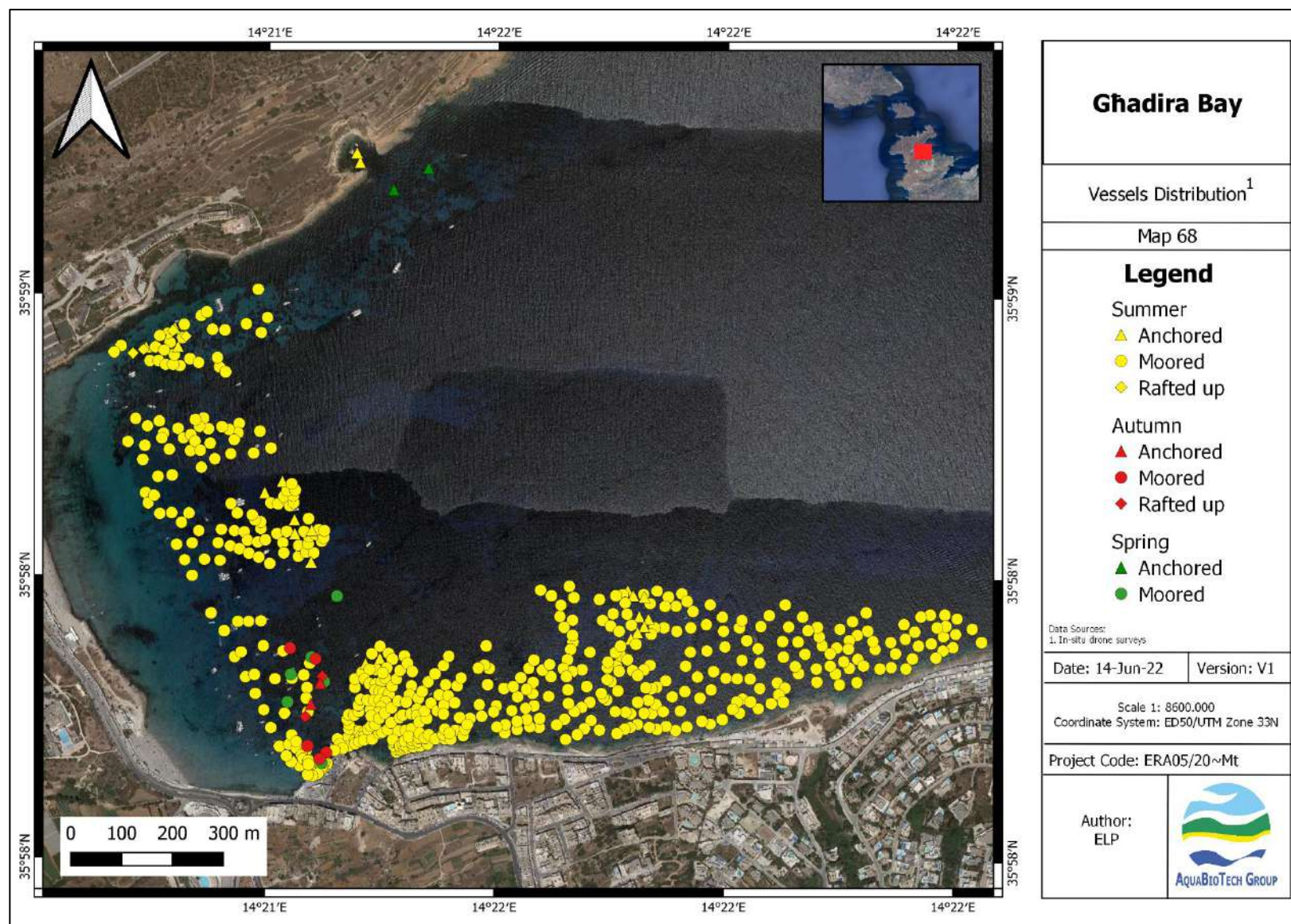


Figure 62. Vessel distribution in Ghadira Bay (Malta) categorised by status and season.

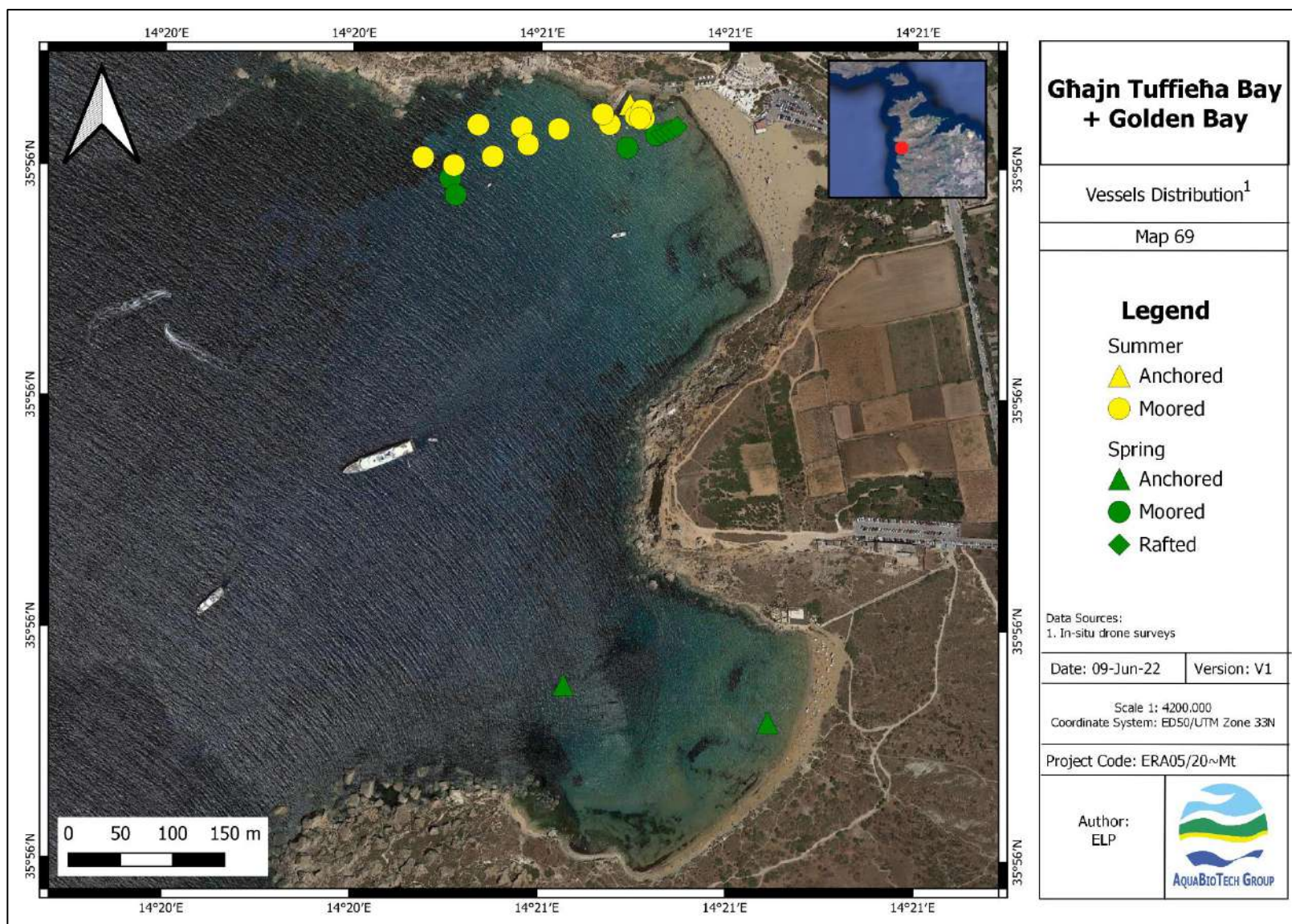


Figure 63. Vessel distribution in Ghajn Tuffieħa Bay + Golden Bay (Malta) categorised by status and season.

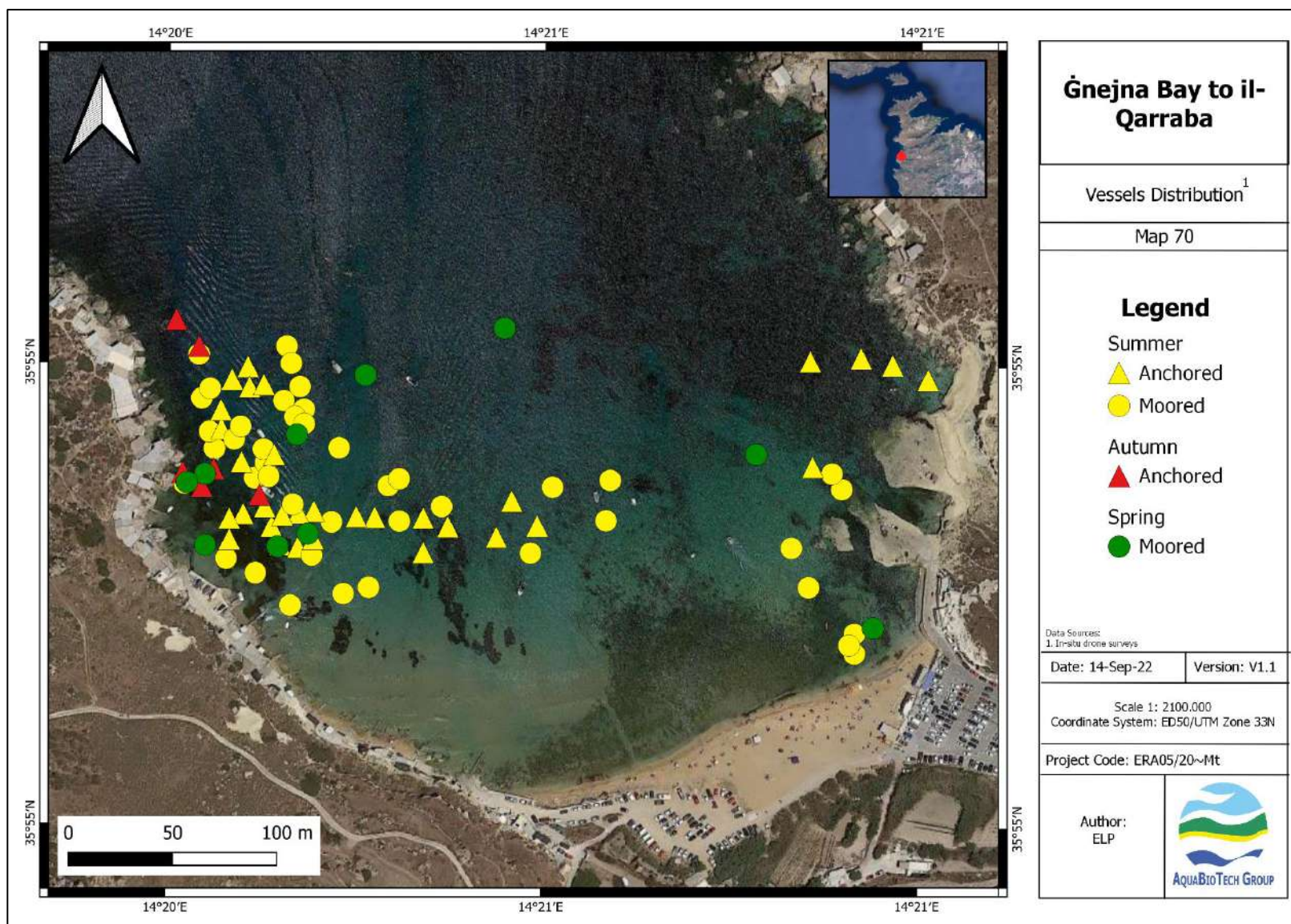


Figure 64. Vessel distribution in Ġnejna Bay to il-Qarraba (Malta) categorised by status and season.

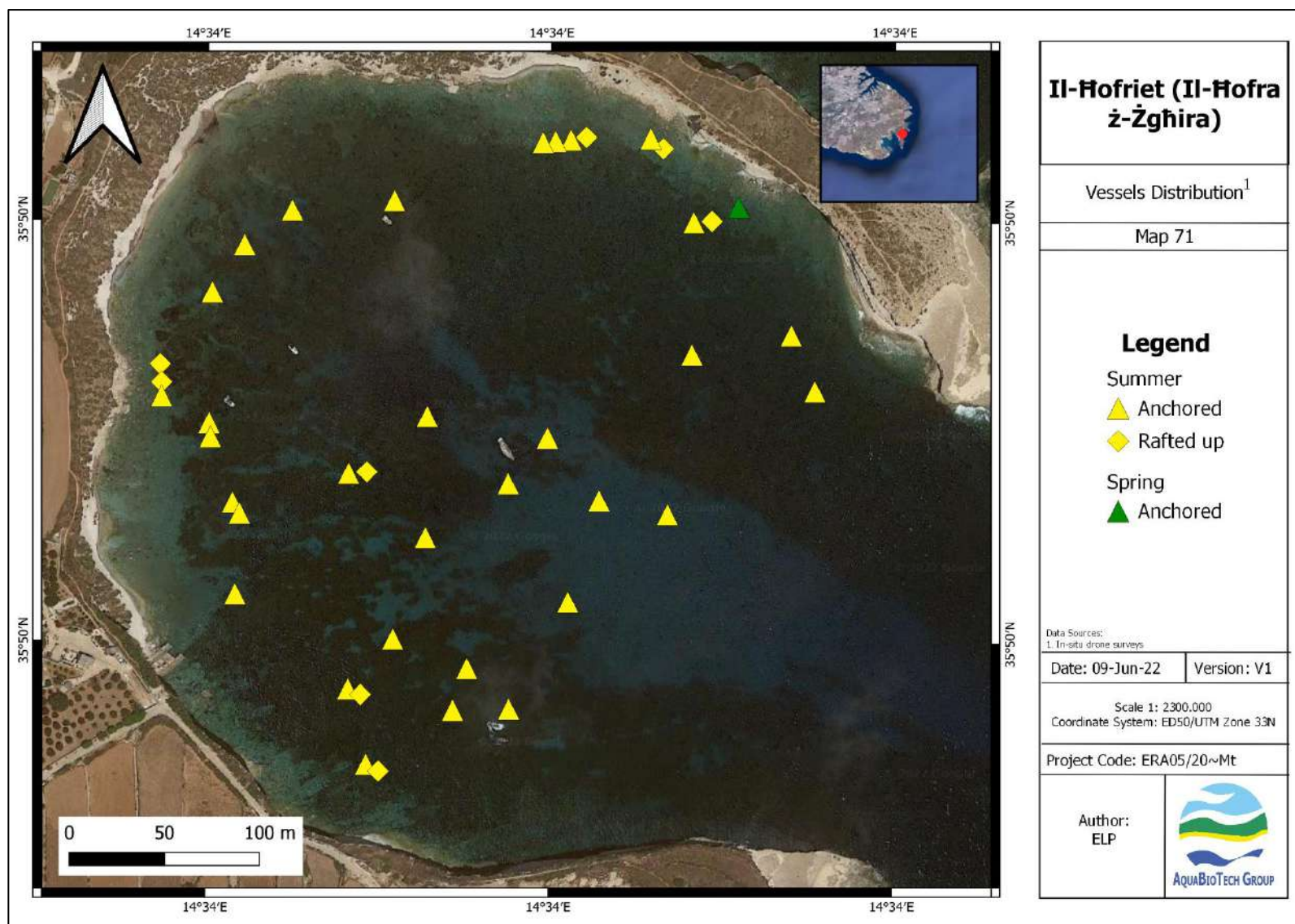


Figure 65. Vessel distribution in Il-Hofriet (Il-Hofra ż-Żghira) (Malta) categorised by status and season.

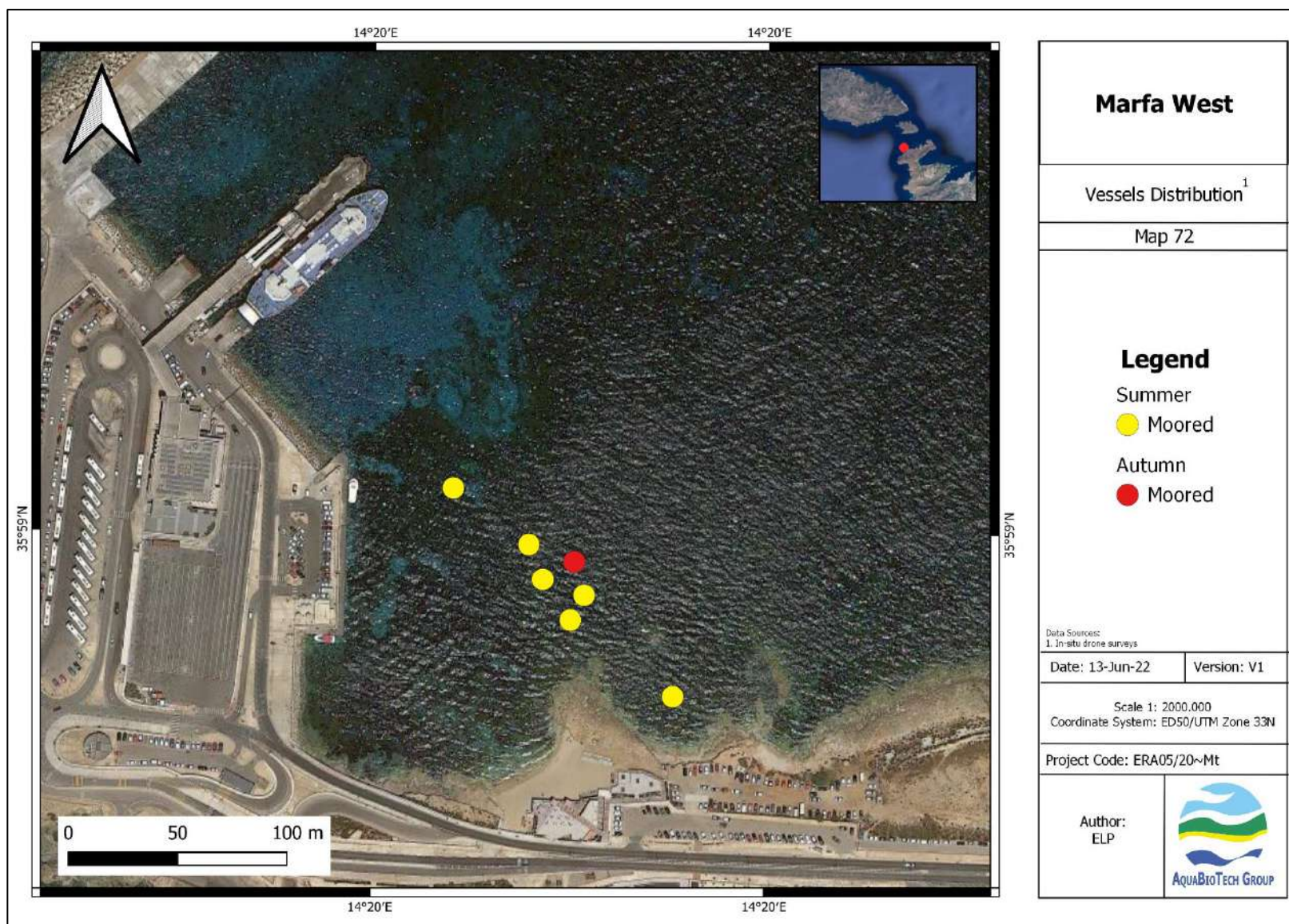


Figure 66. Vessel distribution in Marfa West (Malta) categorised by status and season.

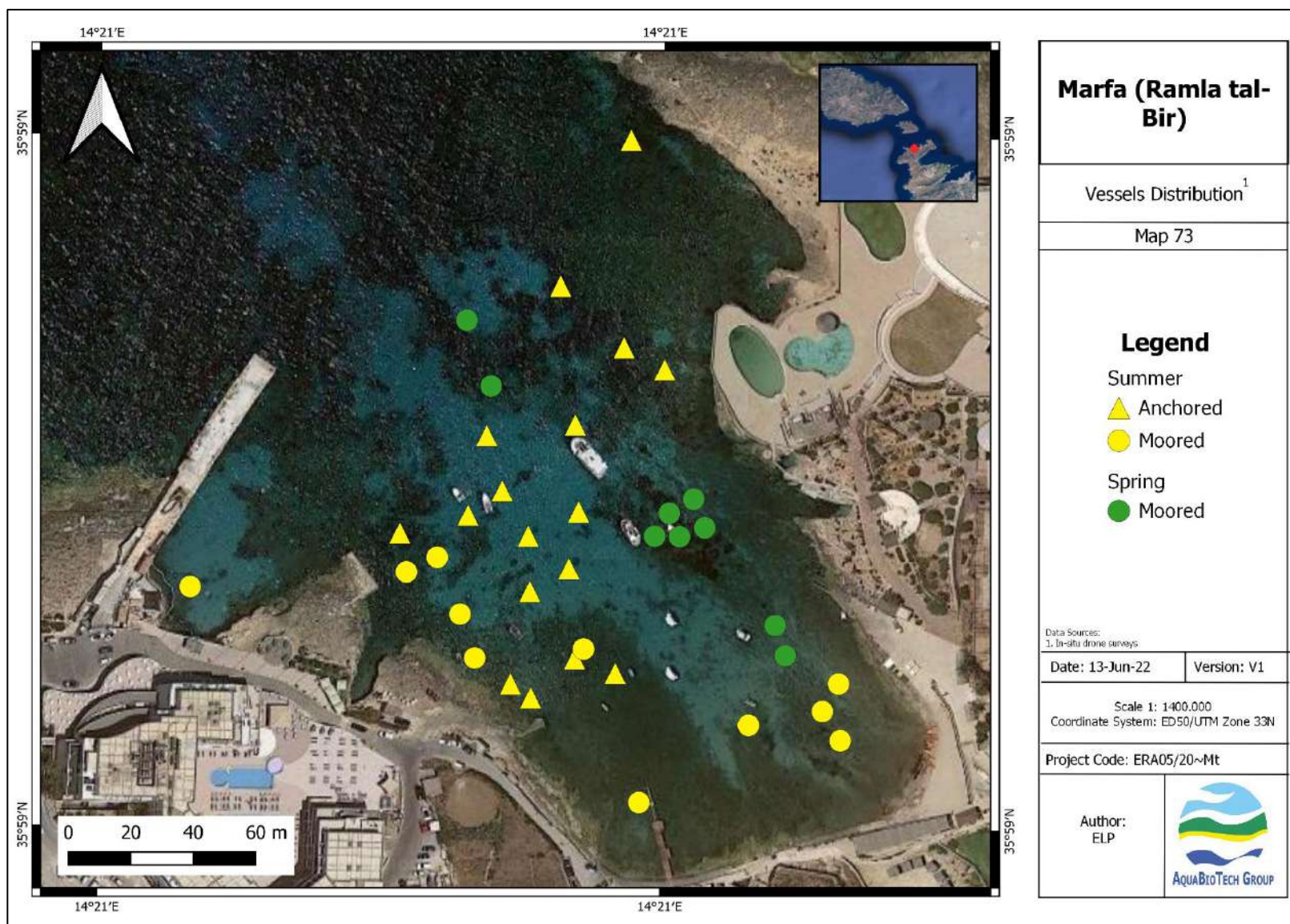


Figure 67. Vessel distribution in Marfa (Ramla tal-Bir) (Malta) categorised by status and season.

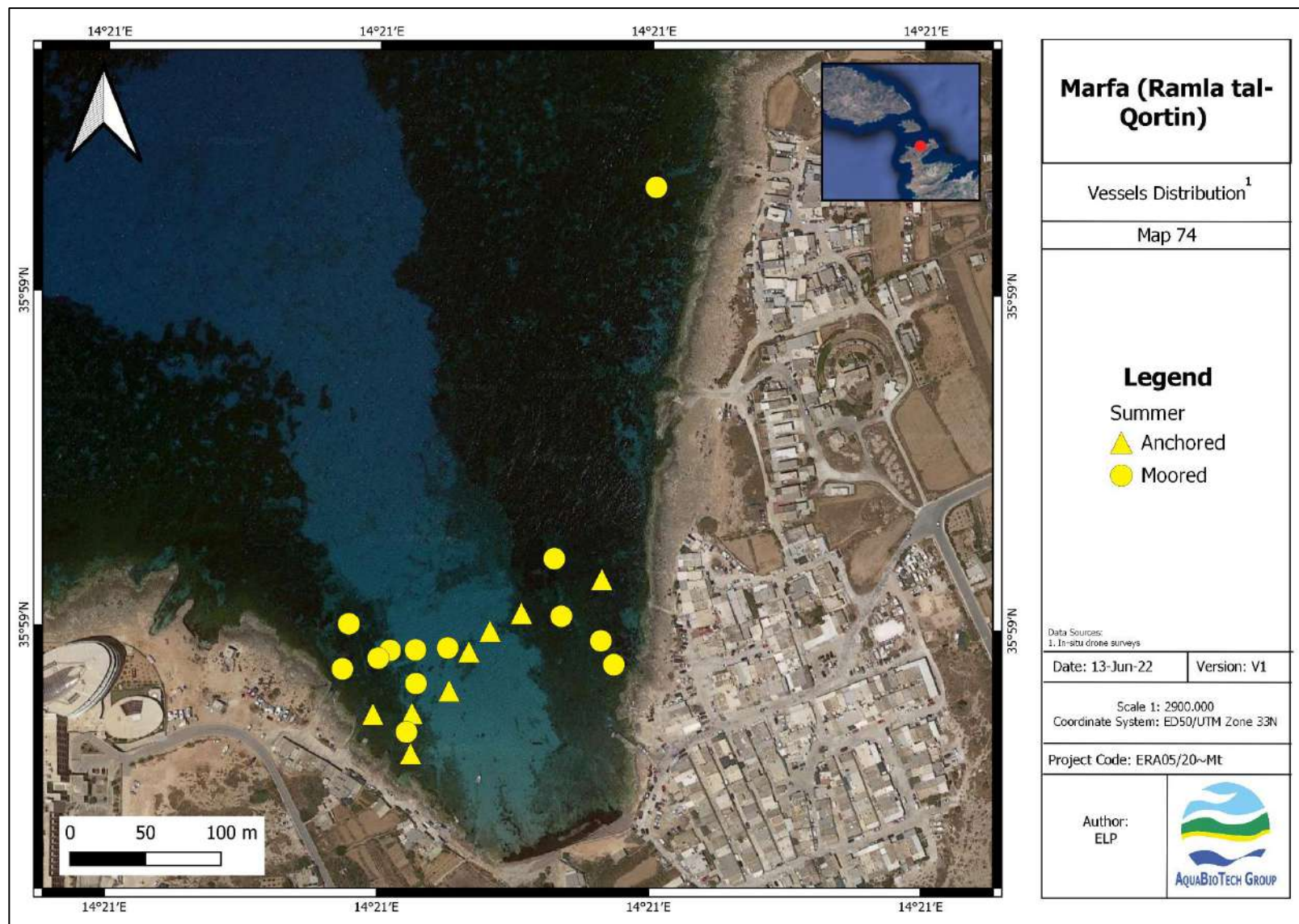


Figure 68. Vessel distribution in Marfa (Ramla tal-Qortin) (Malta) categorised by status and season.

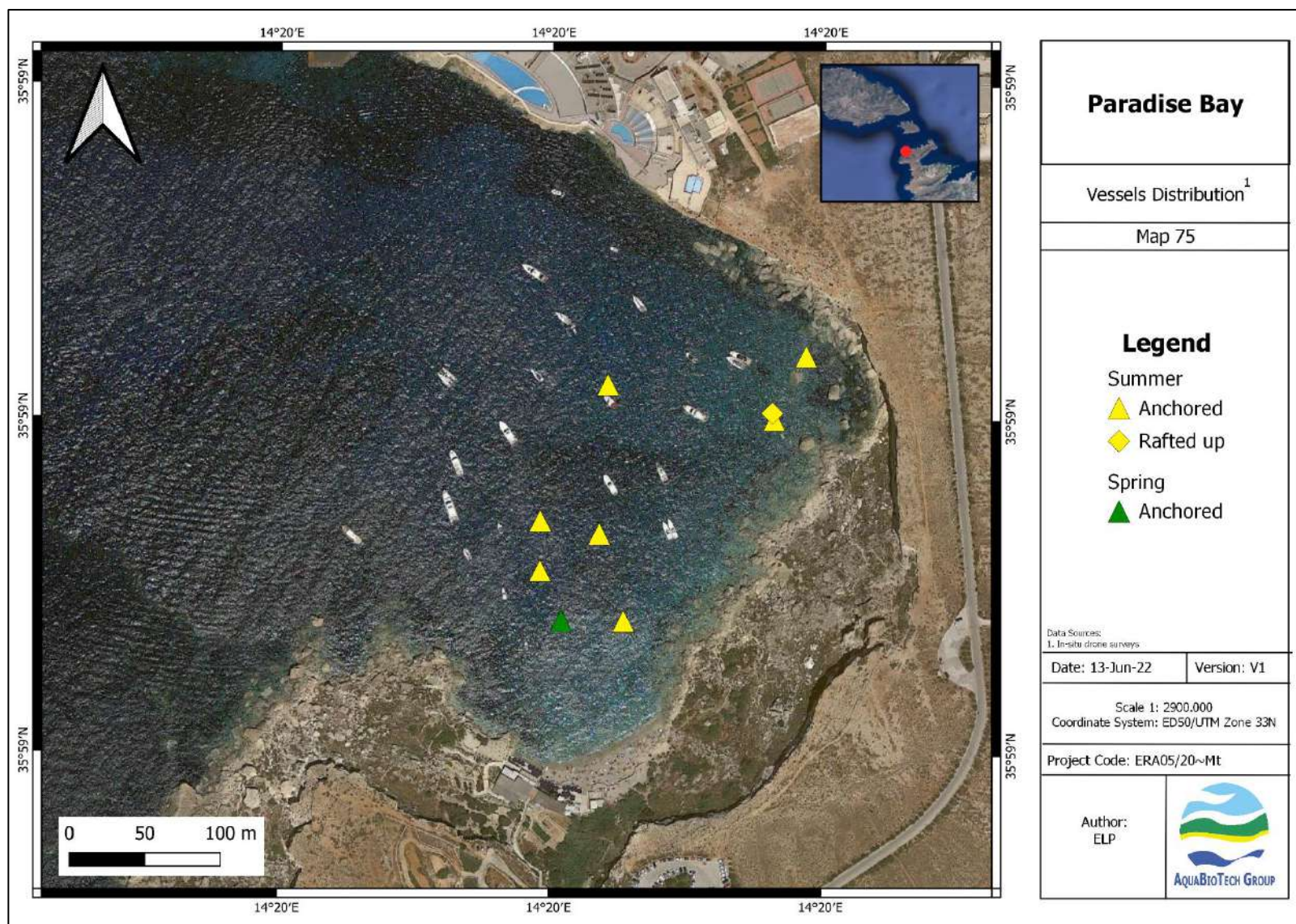


Figure 69. Vessel distribution in Paradise Bay (Malta) categorised by status and season.

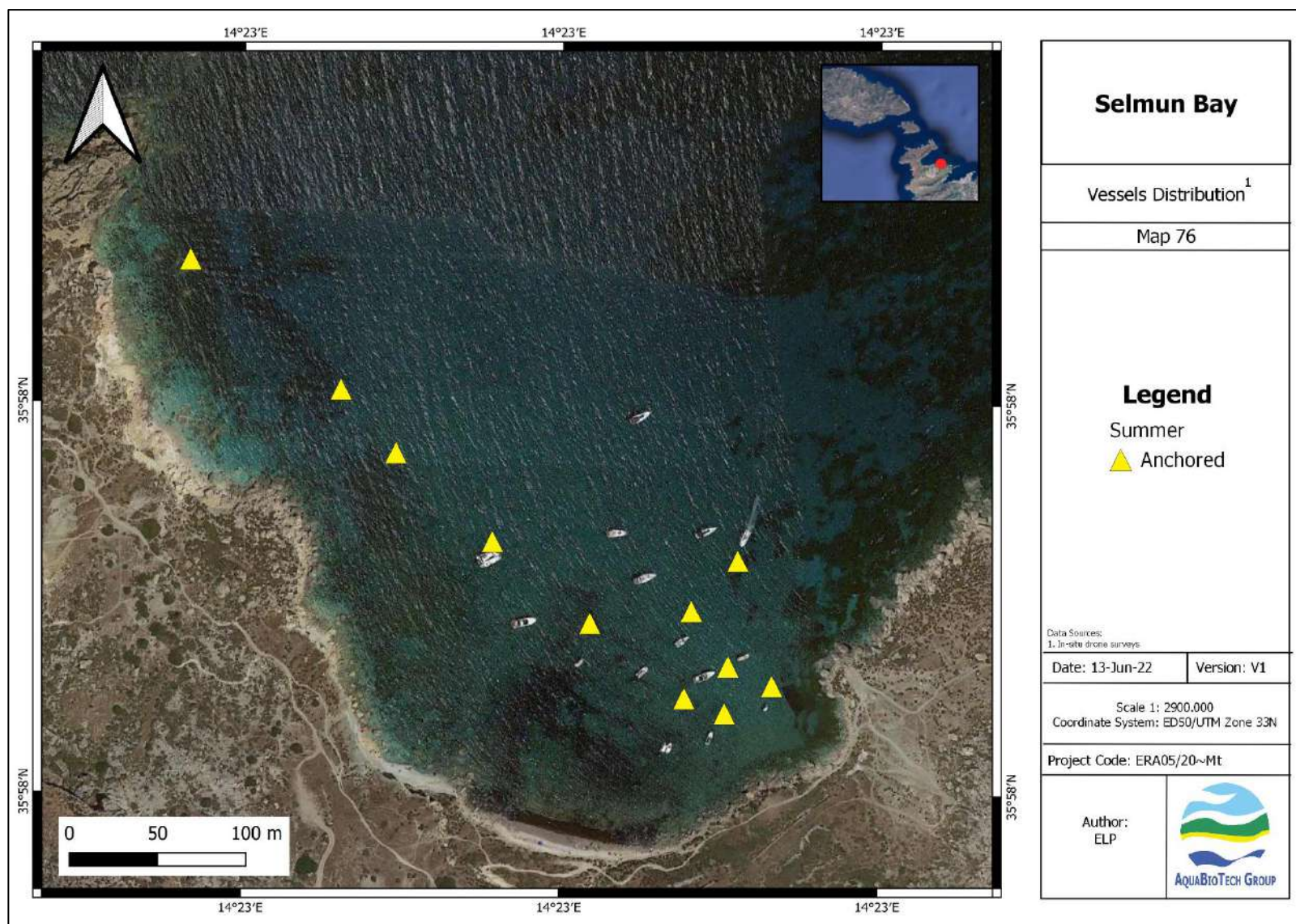


Figure 70. Vessel distribution in Selmun Bay (Malta) categorised by status and season.

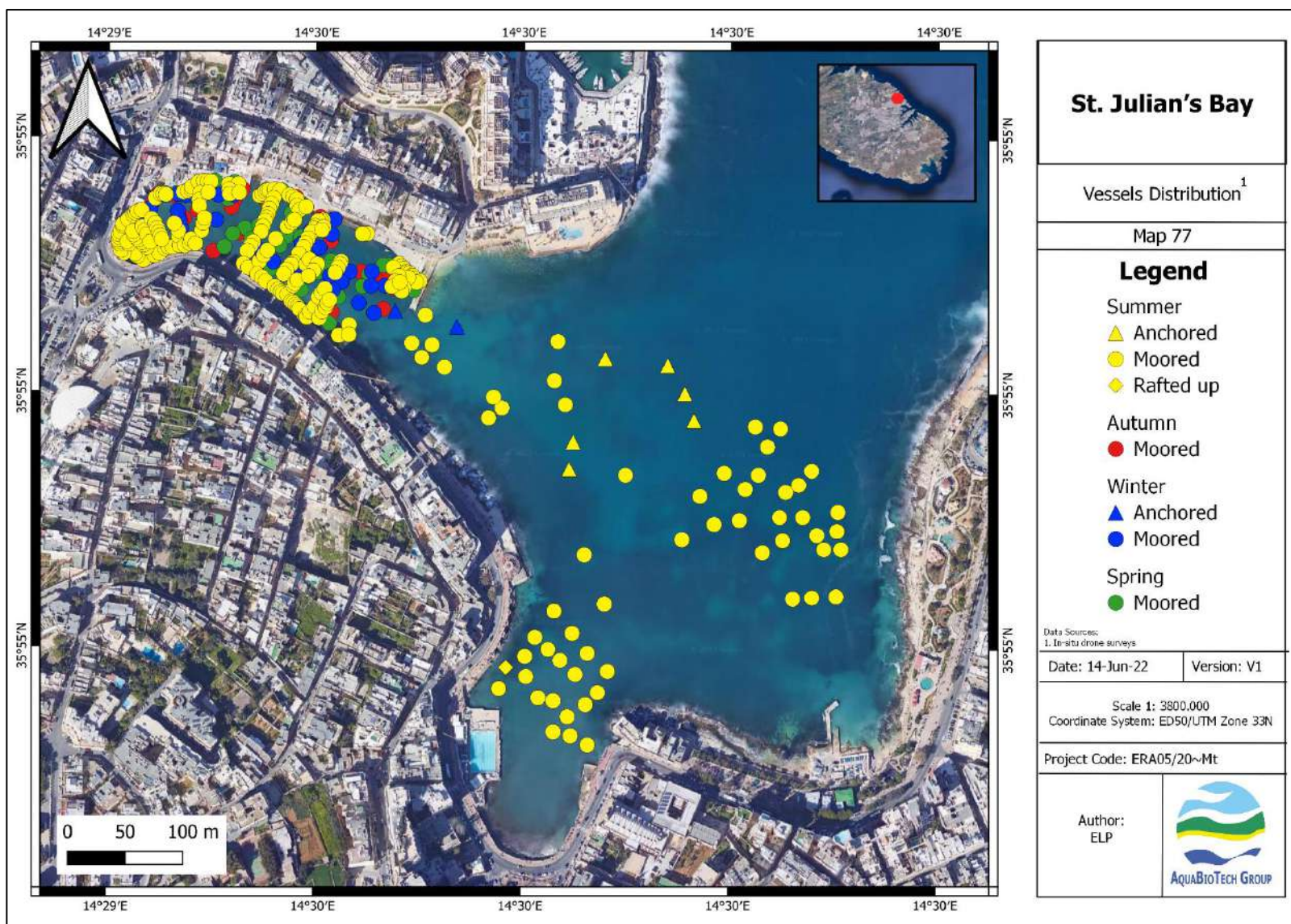


Figure 71. Vessel distribution in St. Julian's Bay (Malta) categorised by status and season.

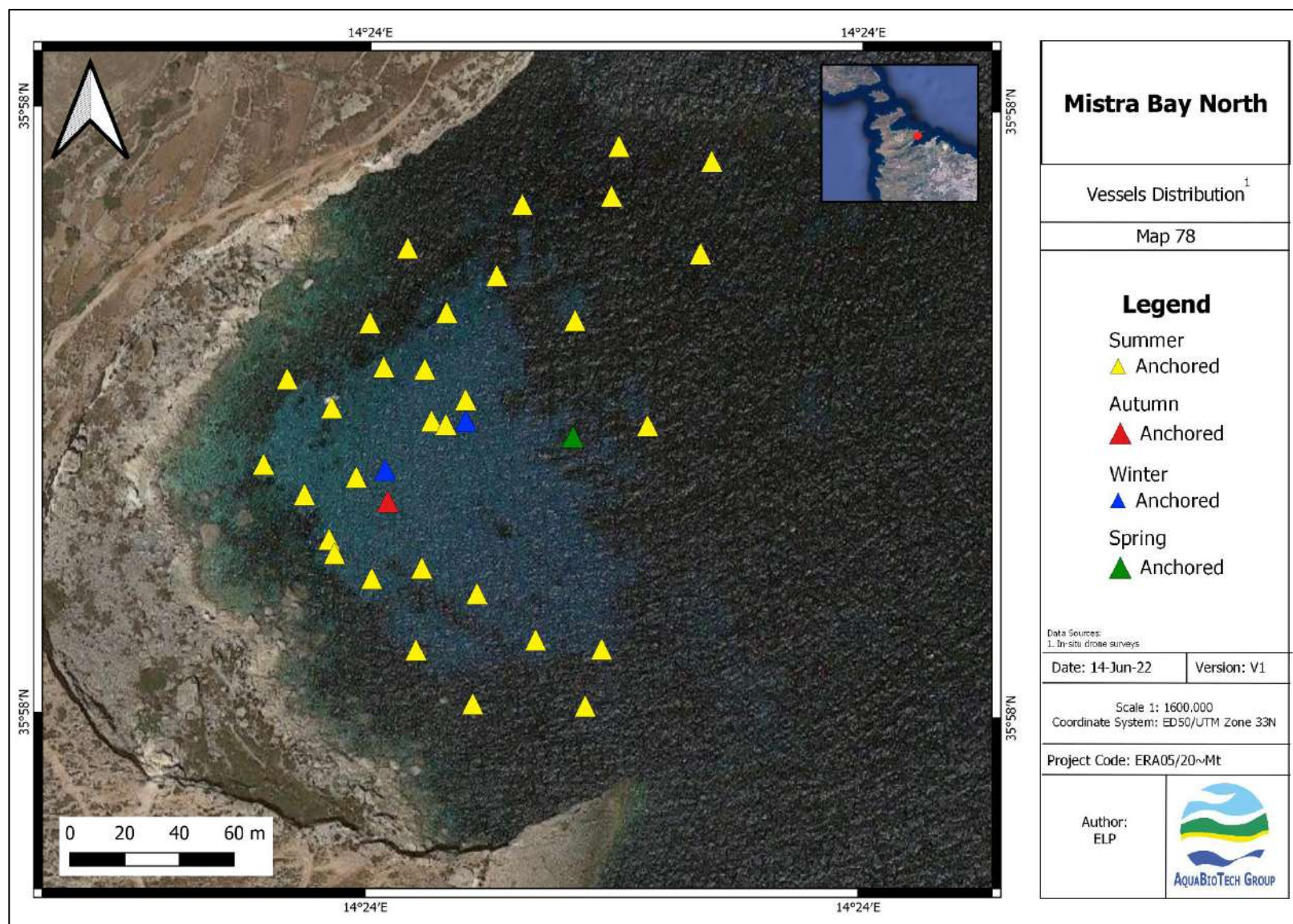


Figure 72. Vessel distribution in Mistra Bay North (Malta) categorised by status and season.

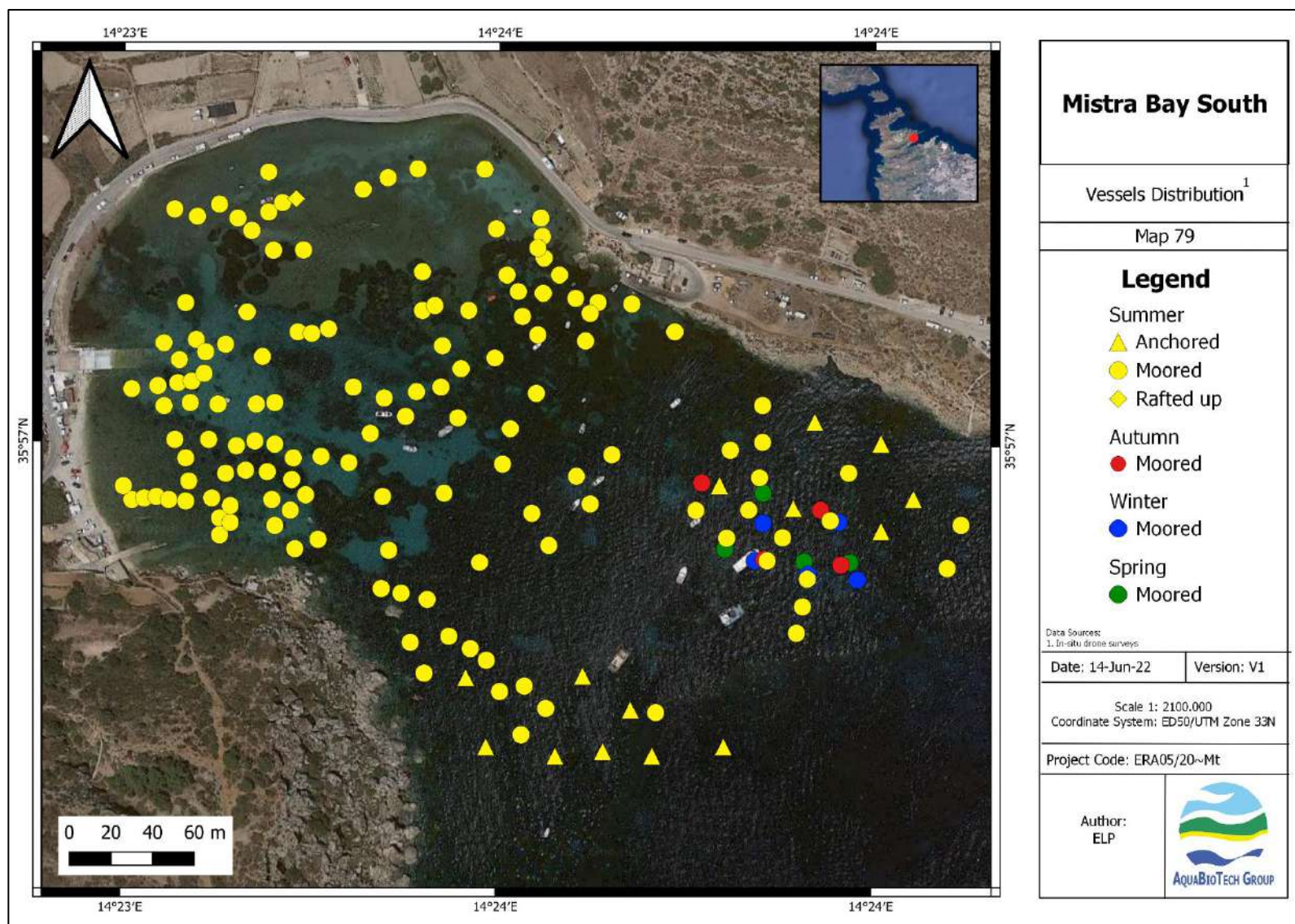


Figure 73. Vessel distribution in Mistra Bay South (Malta) categorised by status and season.

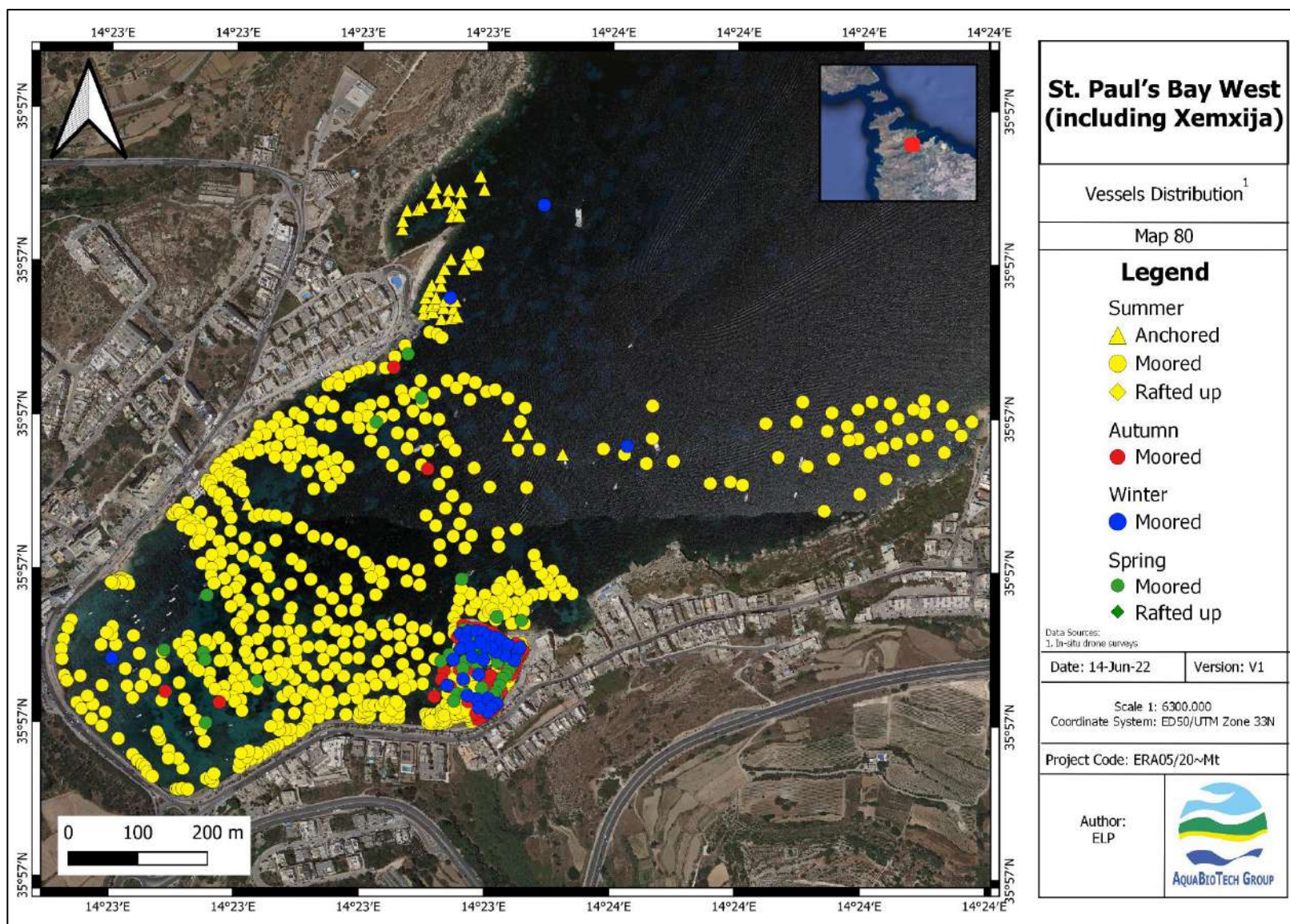


Figure 74. Vessel distribution in St. Paul's Bay West (including Xemxija) (Malta) categorised by status and season.

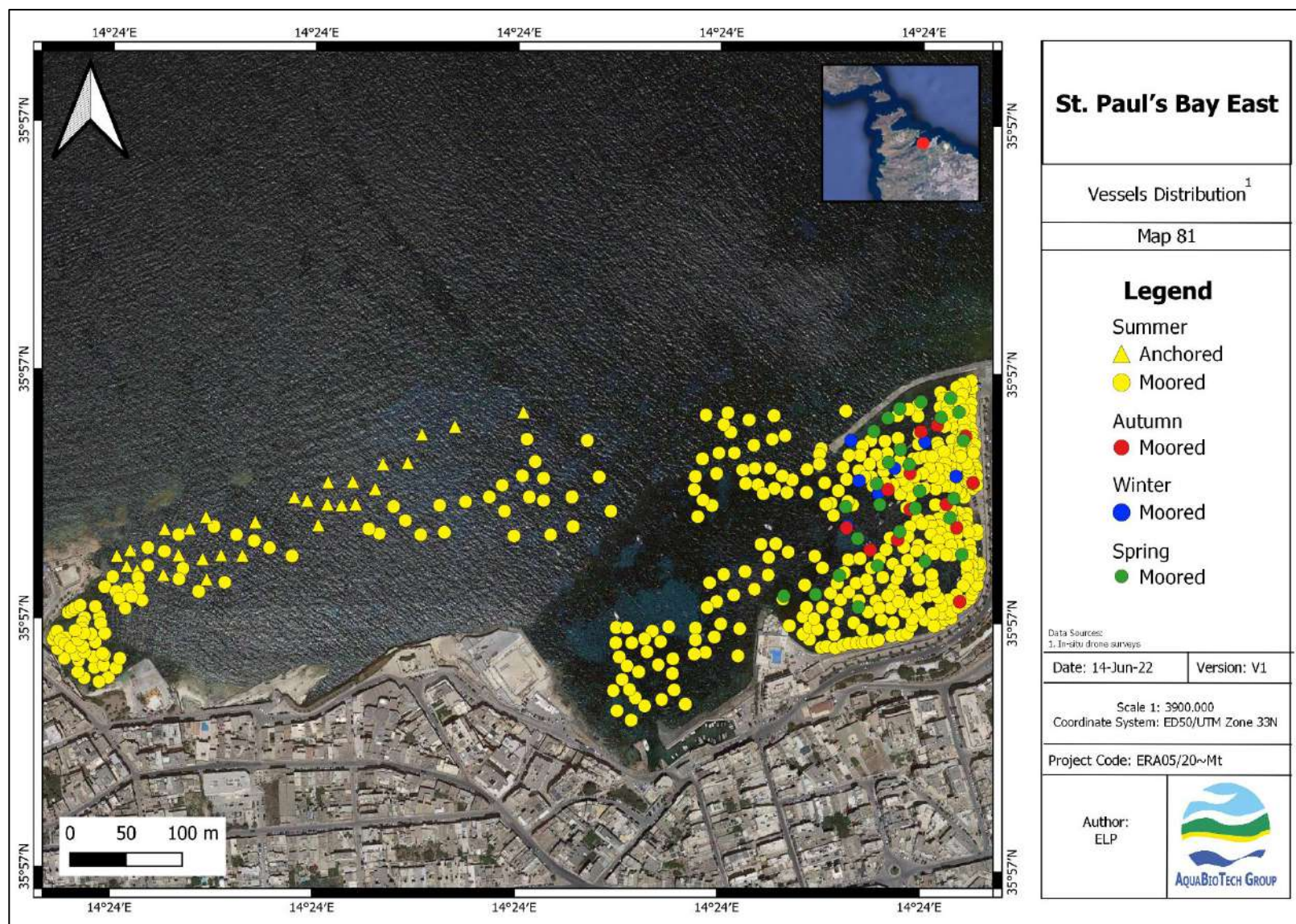


Figure 75. Vessel distribution in St. Paul's Bay East (Malta) categorised by status and season.

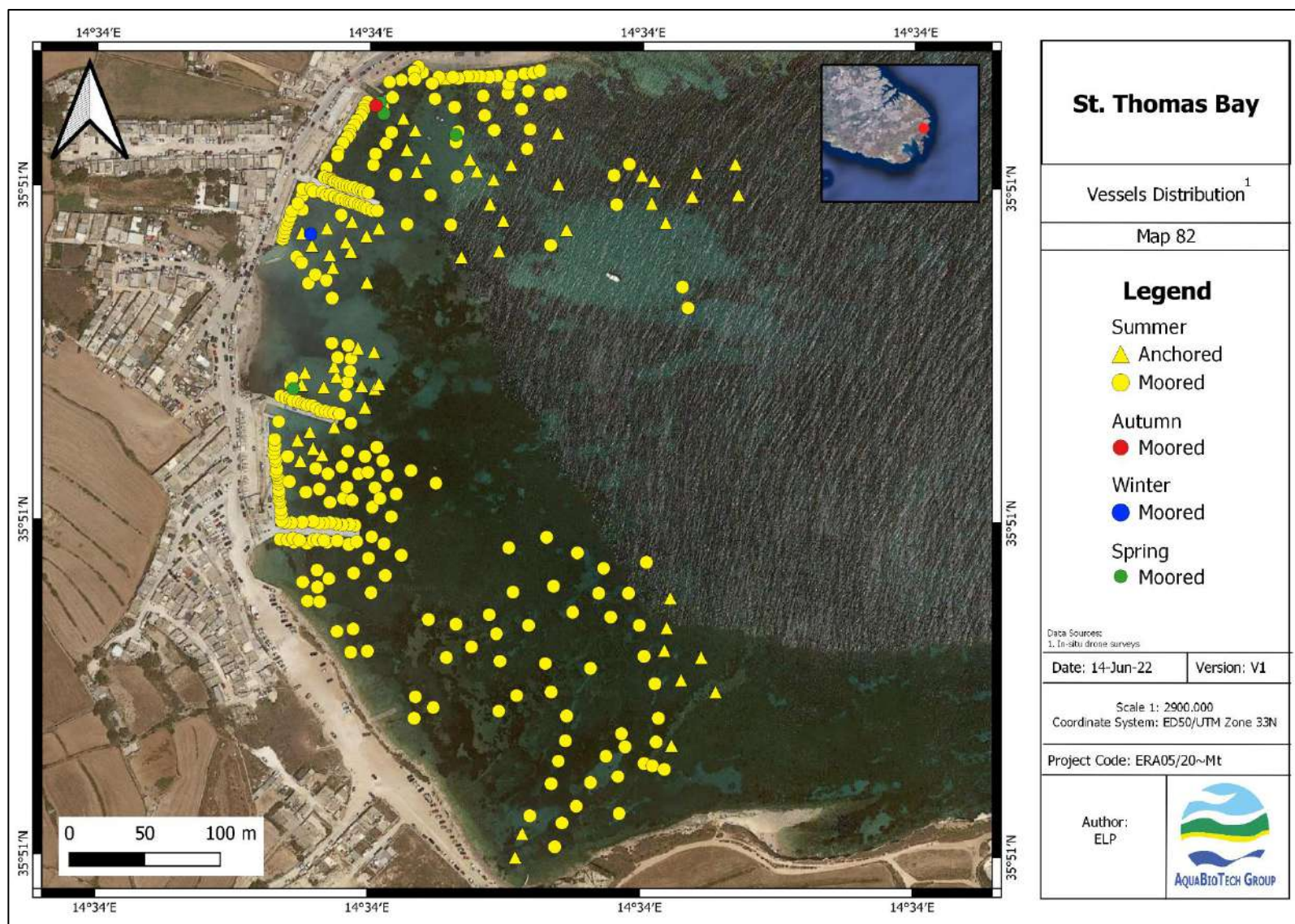


Figure 76. Vessel distribution in St. Thomas Bay (Malta) categorised by status and season.

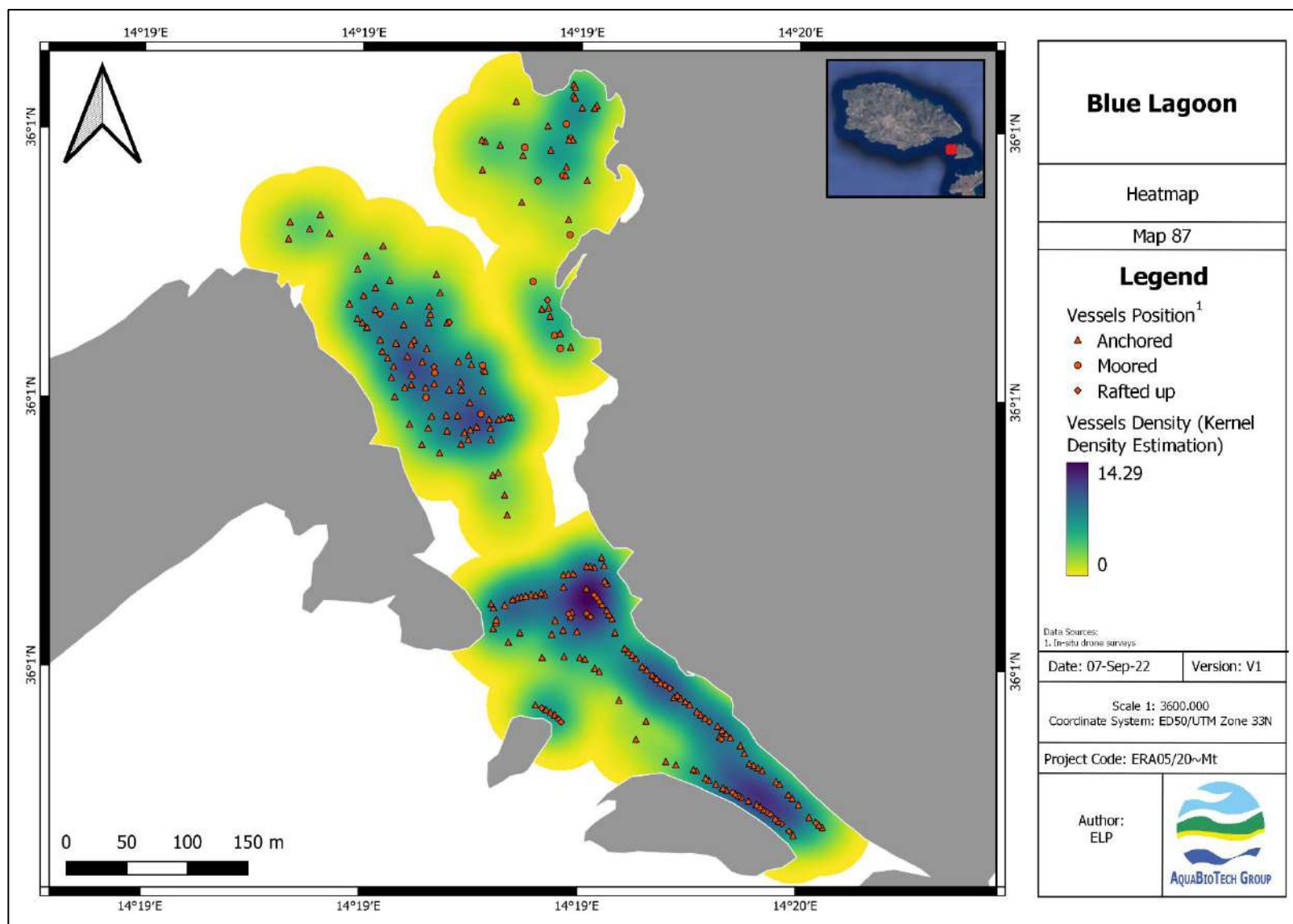


Figure 77. Heatmap of vessels in Blue Lagoon (Comino). Vessels have been categorised by status.

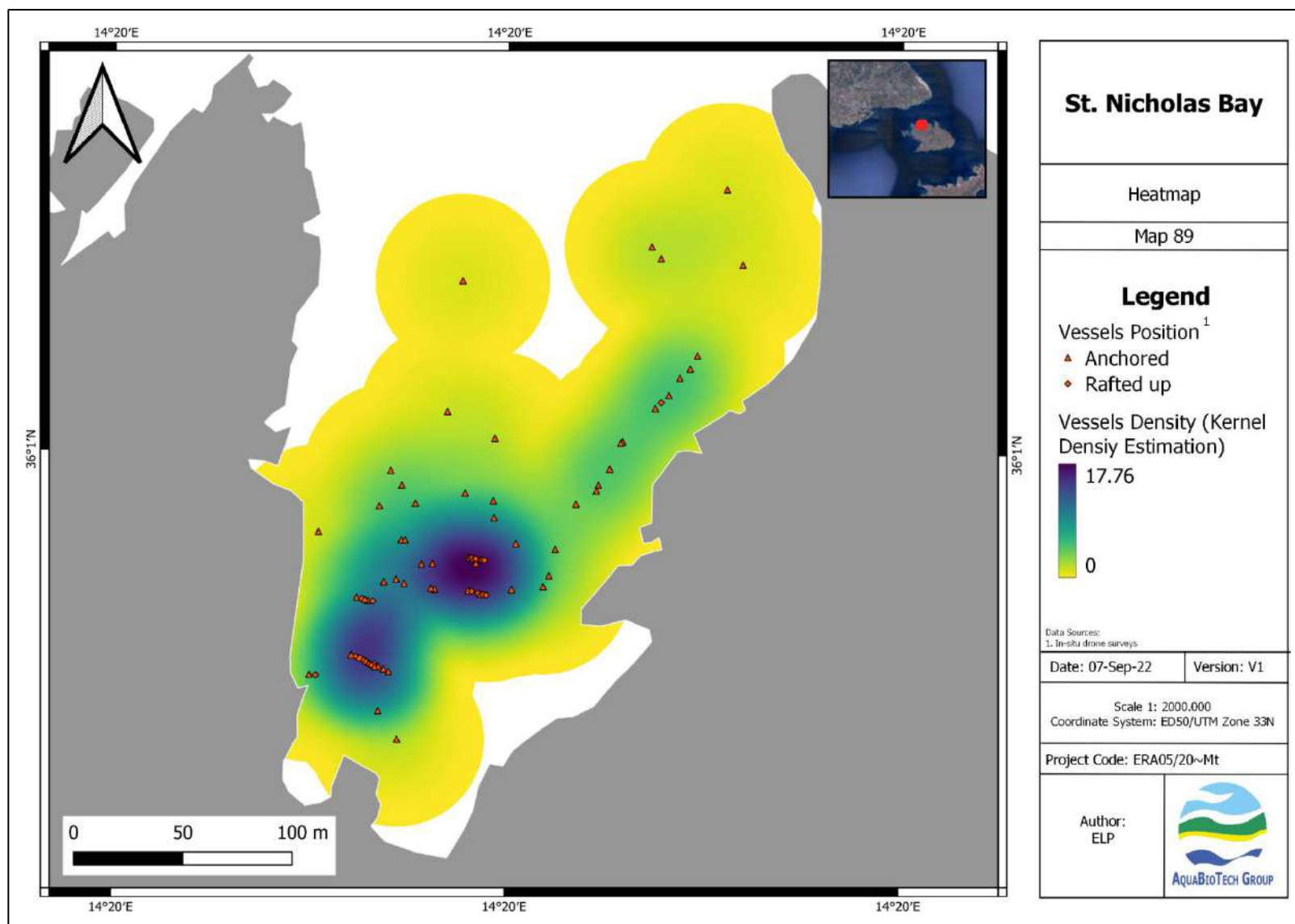


Figure 78. Heatmap of vessels in St. Nicholas Bay (Comino). Vessels have been categorised by status.

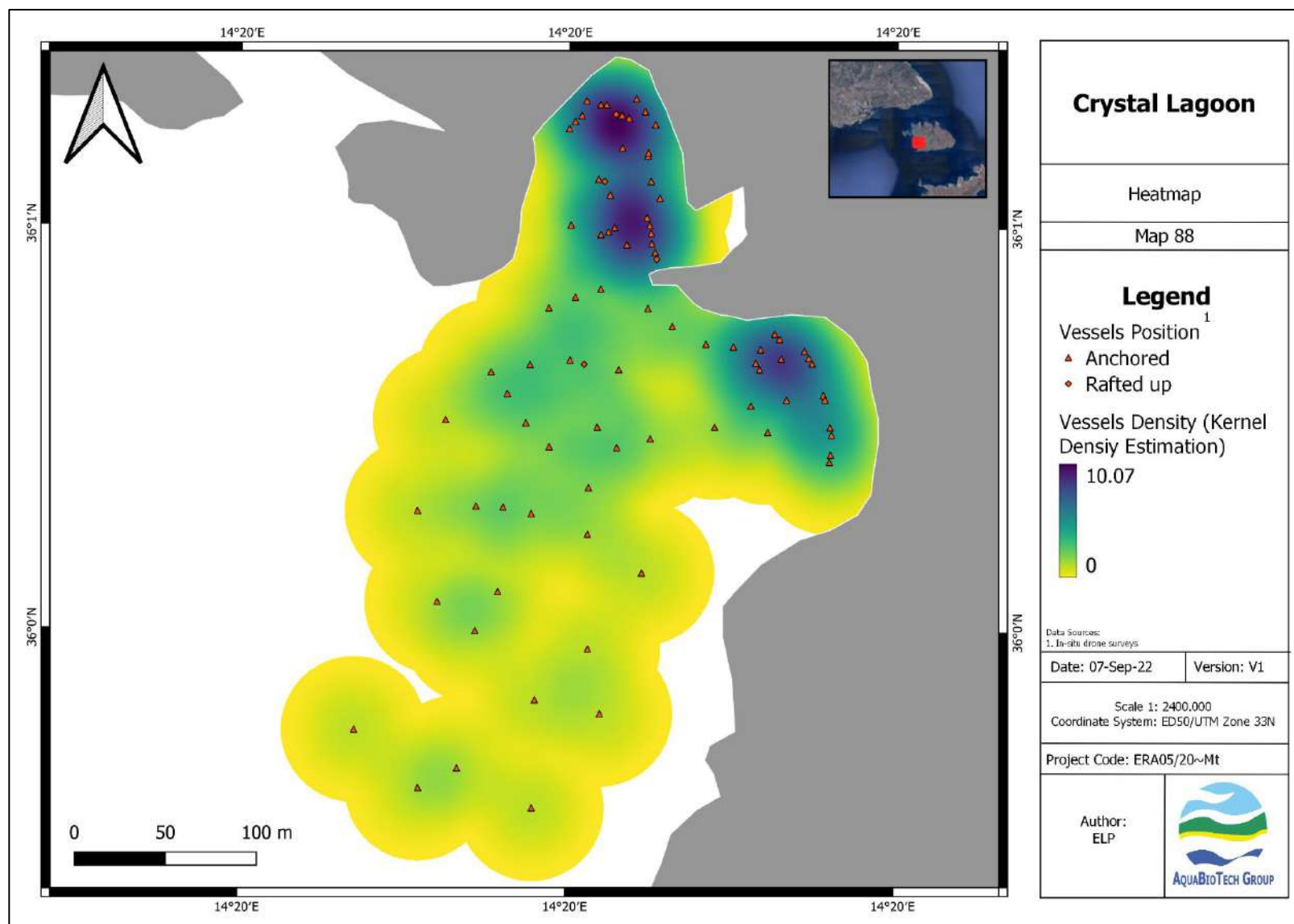


Figure 79. Heatmap of vessels in Crystal Lagoon (Comino). Vessels have been categorised by status.

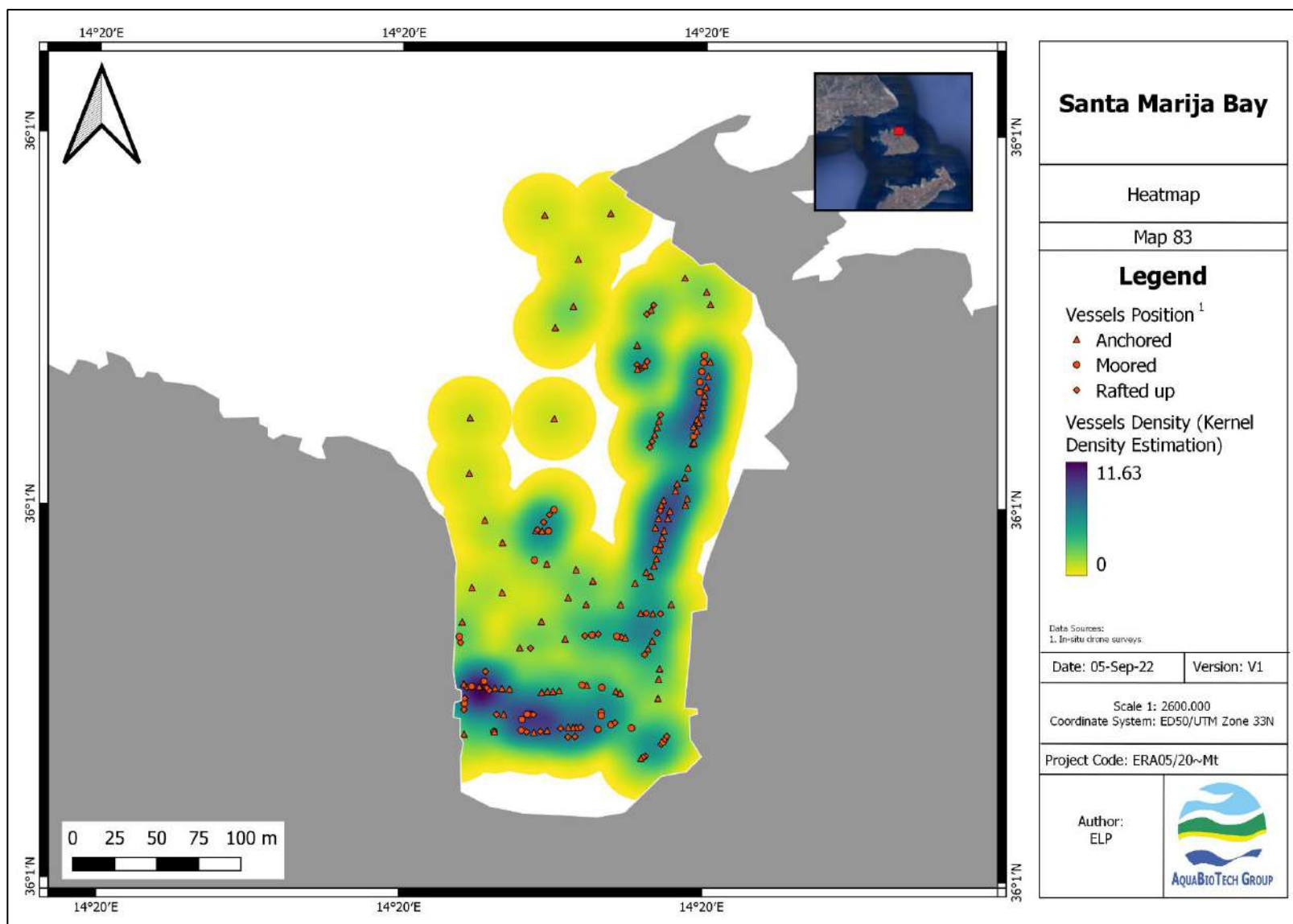


Figure 80. Heatmap of vessels in Santa Marija Bay (Comino). Vessels have been categorised by status.

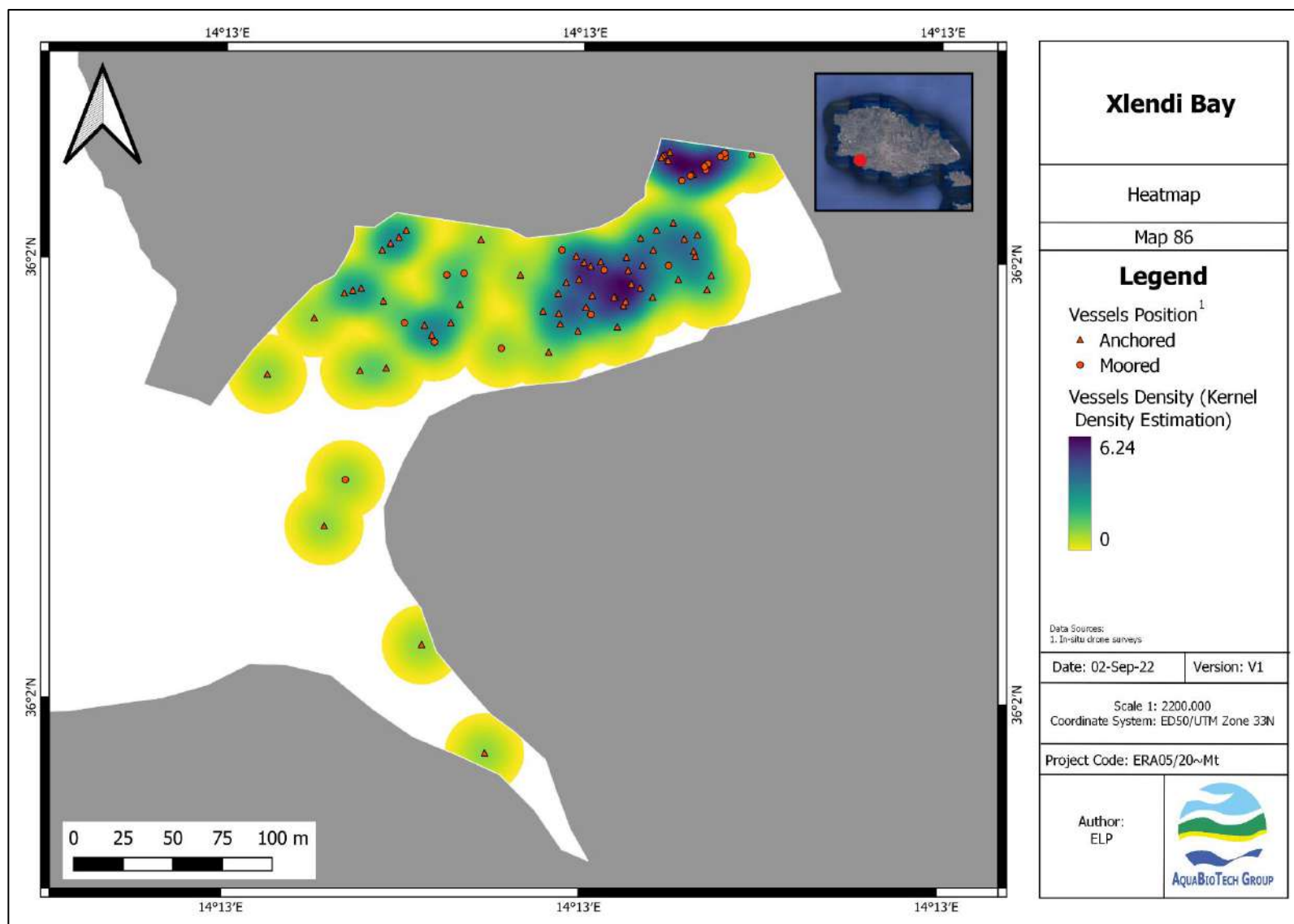


Figure 81. Heatmap of vessels in Xlendi Bay (Gozo). Vessels have been categorised by status.

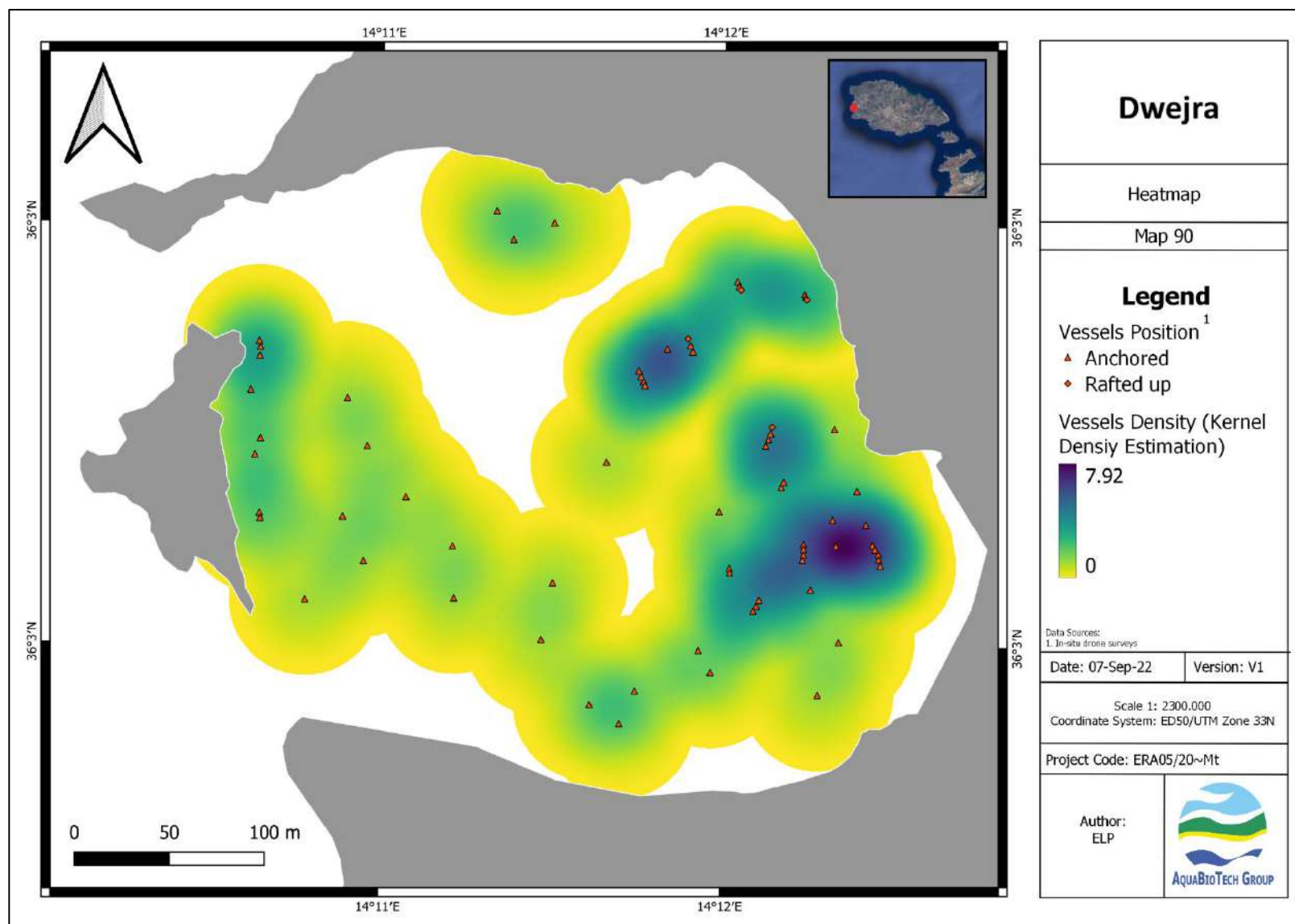


Figure 82. Heatmap of vessels in Dwejra (Gozo). Vessels have been categorised by status.

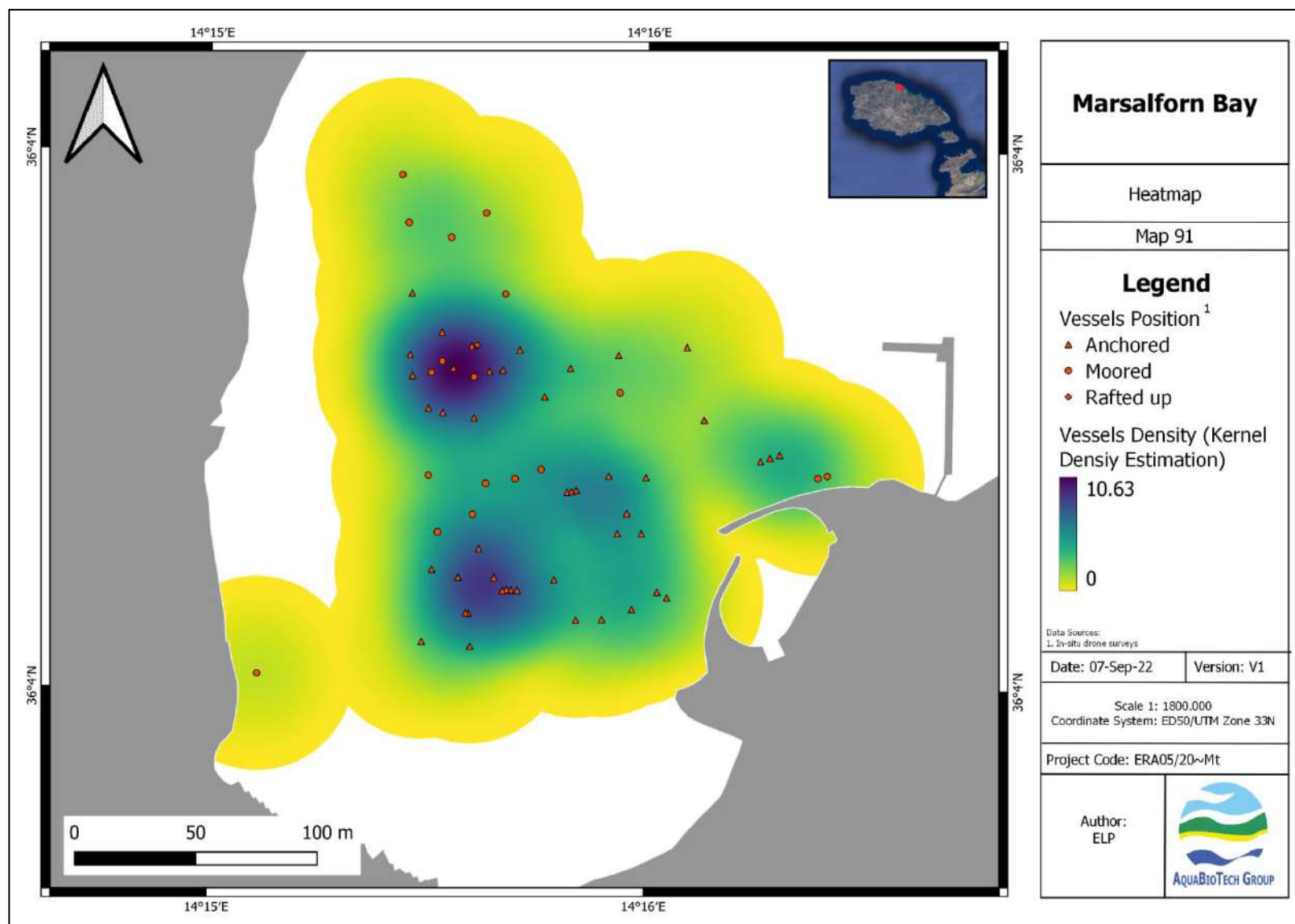


Figure 83. Heatmap of vessels in Marsalforn Bay (Gozo). Vessels have been categorised by status.

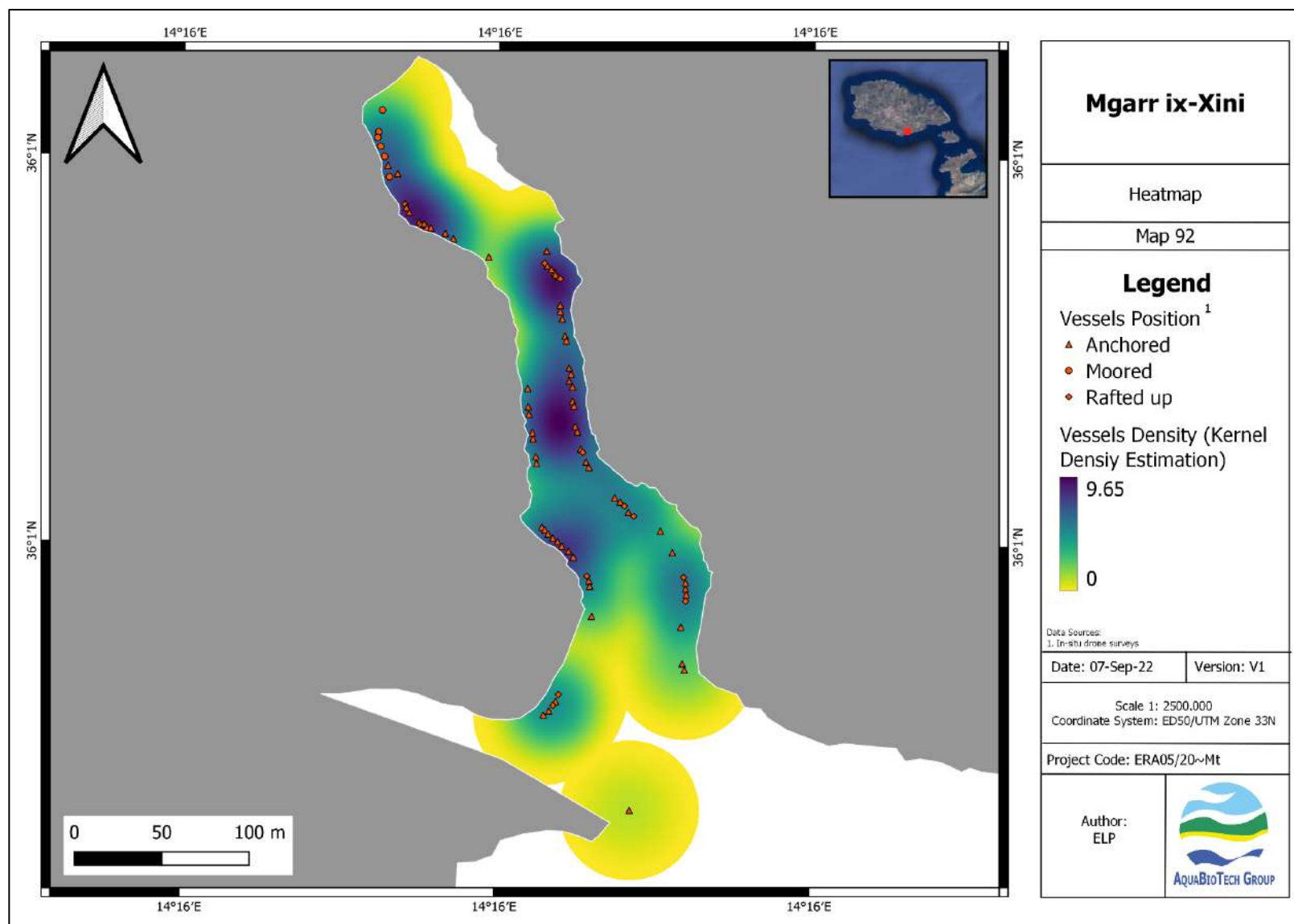


Figure 84. Heatmap of vessels in Mgarr ix-Xini (Gozo). Vessels have been categorised by status.

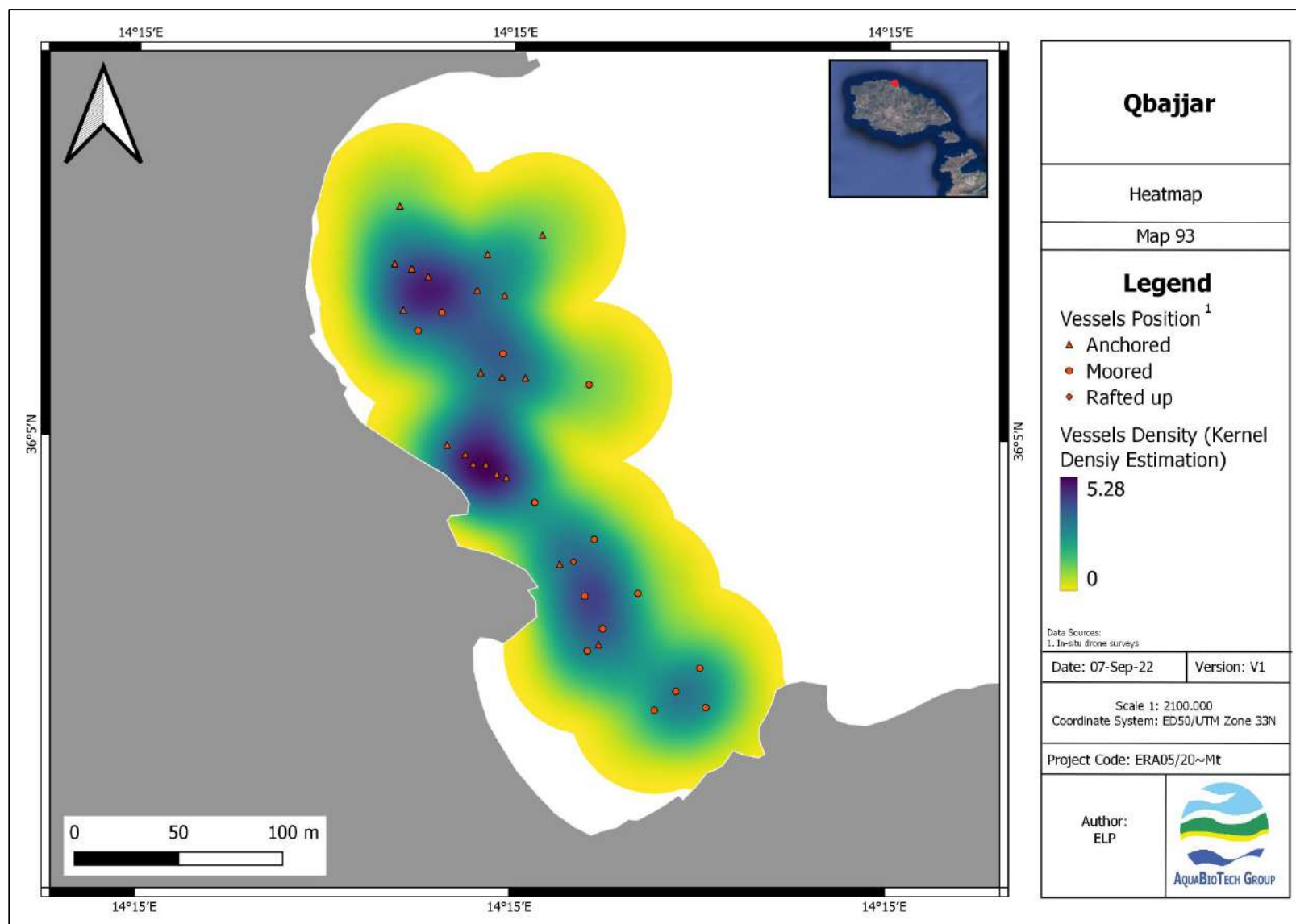


Figure 85. Heatmap of vessels in Qbajjar (Gozo). Vessels have been categorised by status.

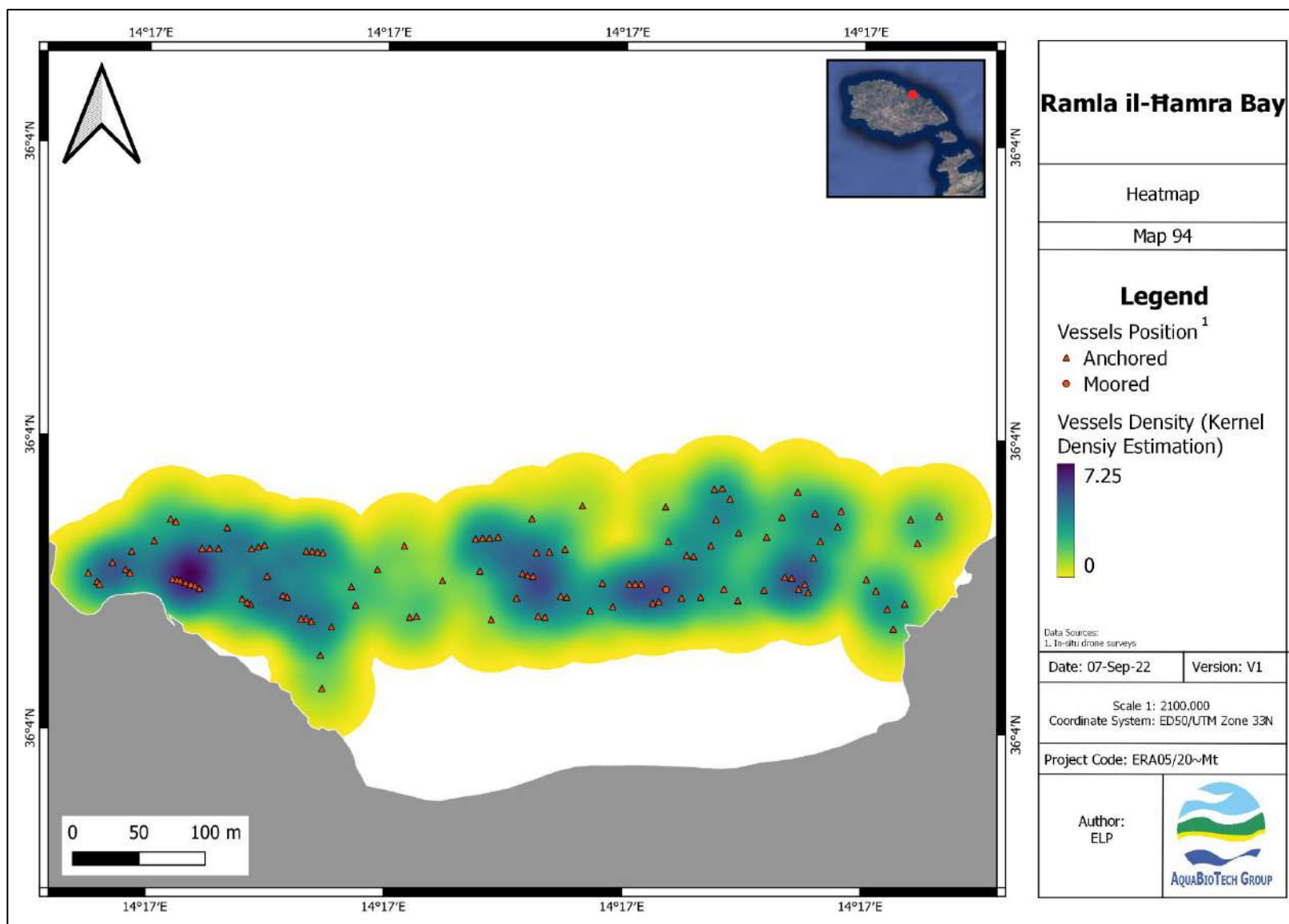


Figure 86. Heatmap of vessels in Ramla il-Hamra Bay (Gozo). Vessels have been categorised by status.

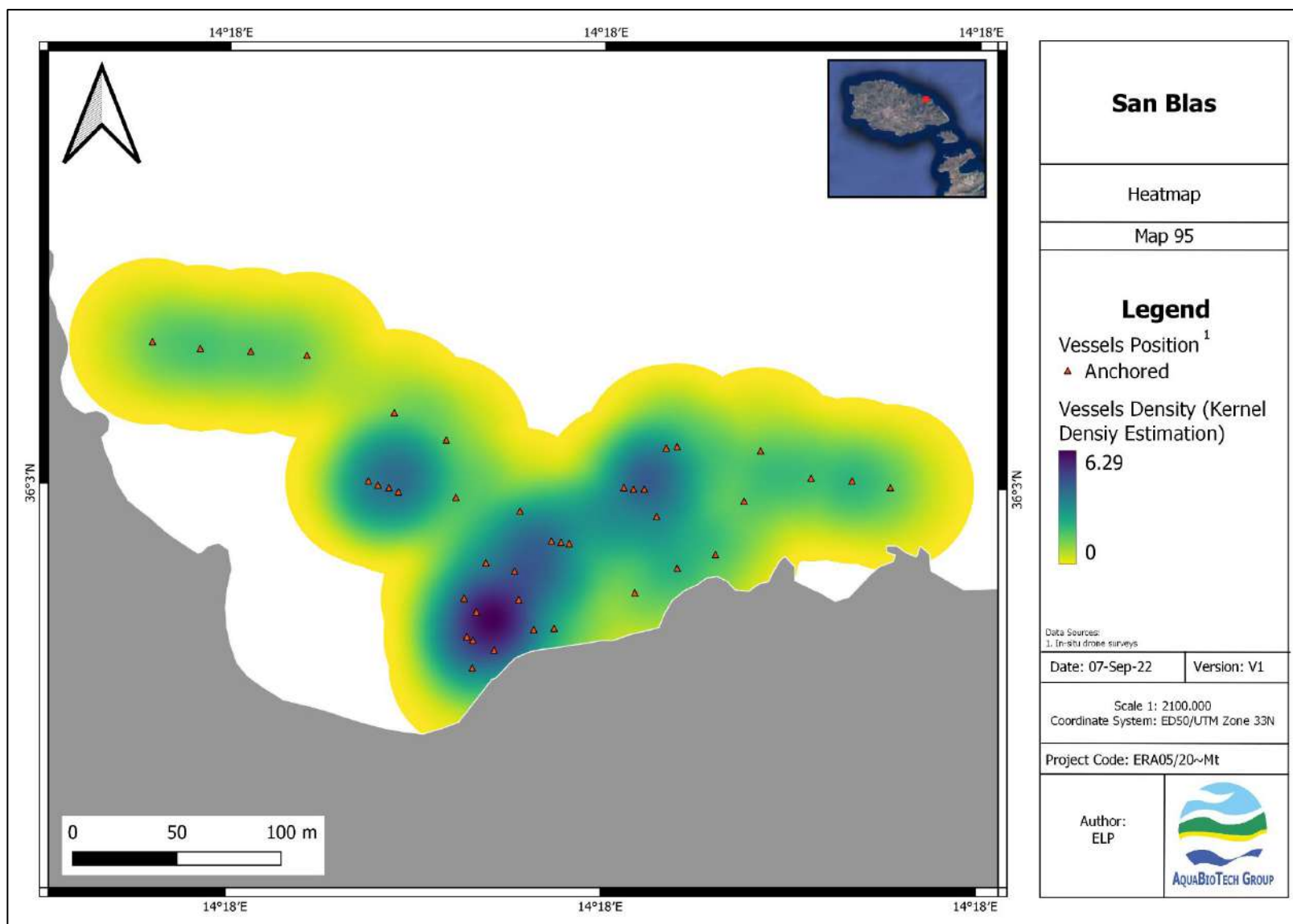


Figure 87. Heatmap of vessels in San Blas (Gozo). Vessels have been categorised by status.

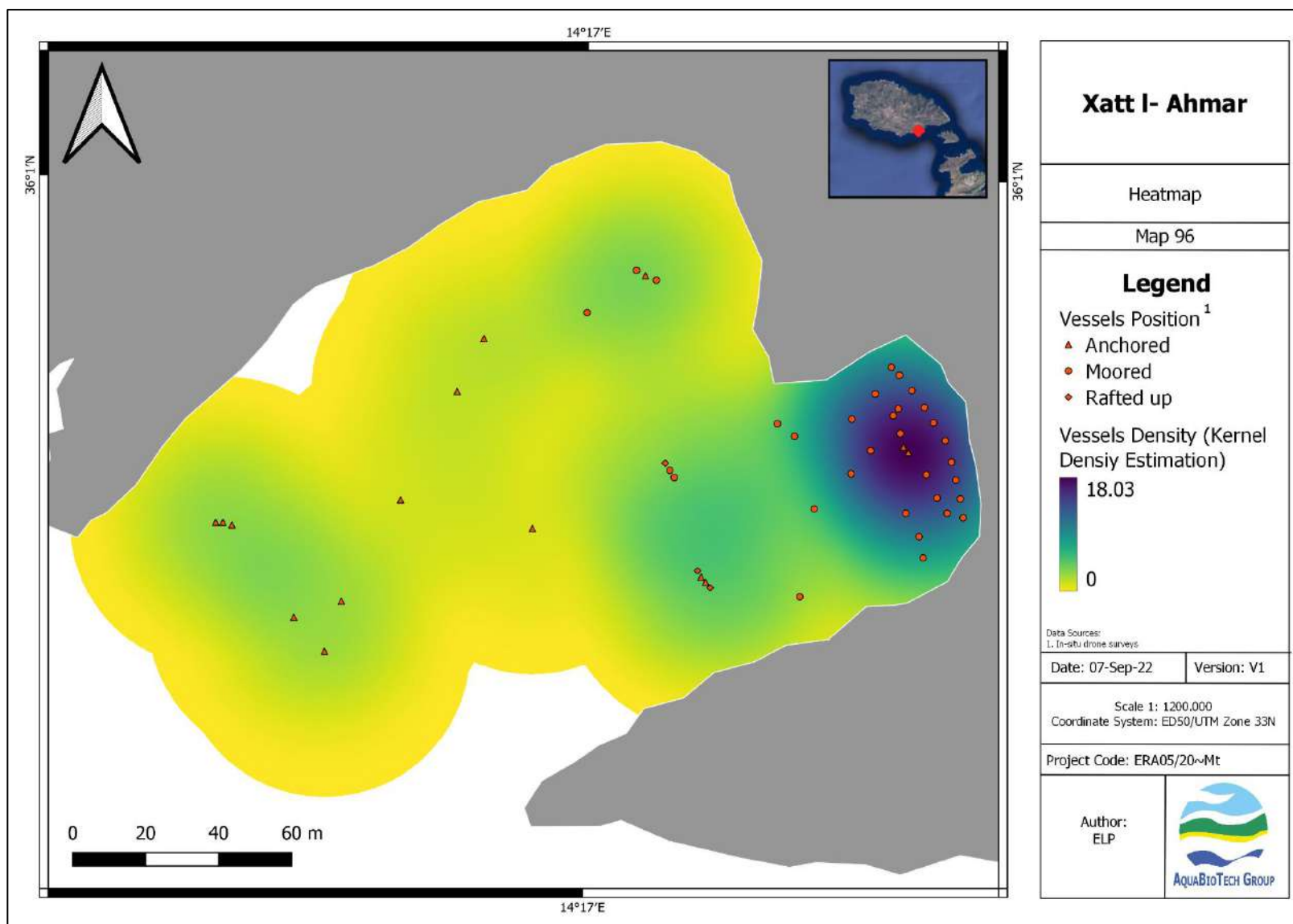


Figure 88. Heatmap of vessels in Xatt I- Ahmar (Gozo). Vessels have been categorised by status.

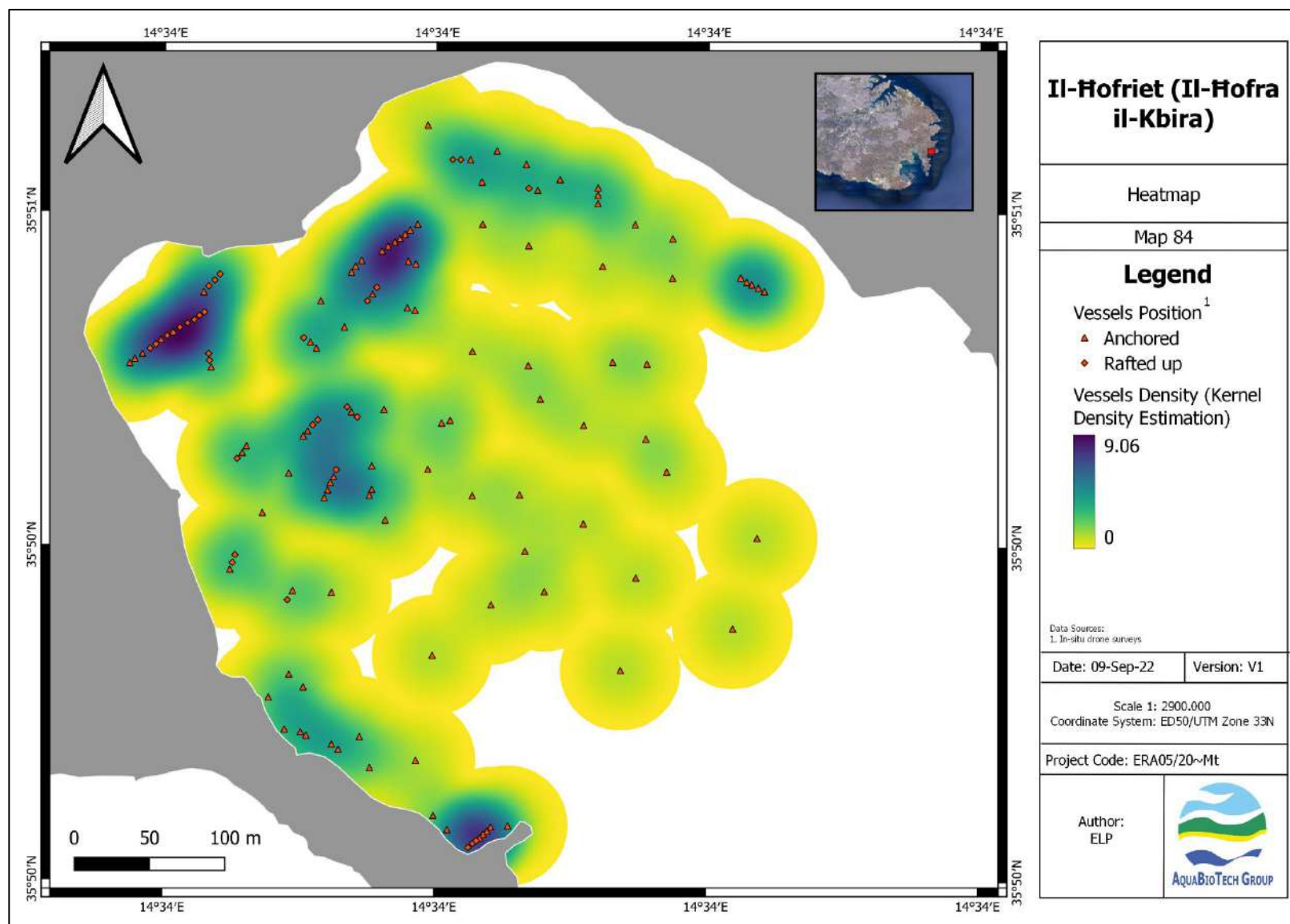


Figure 89. Heatmap of vessels in Il-Hofriet (Il-Hofra il-Kbira) (Malta). Vessels have been categorised by status.

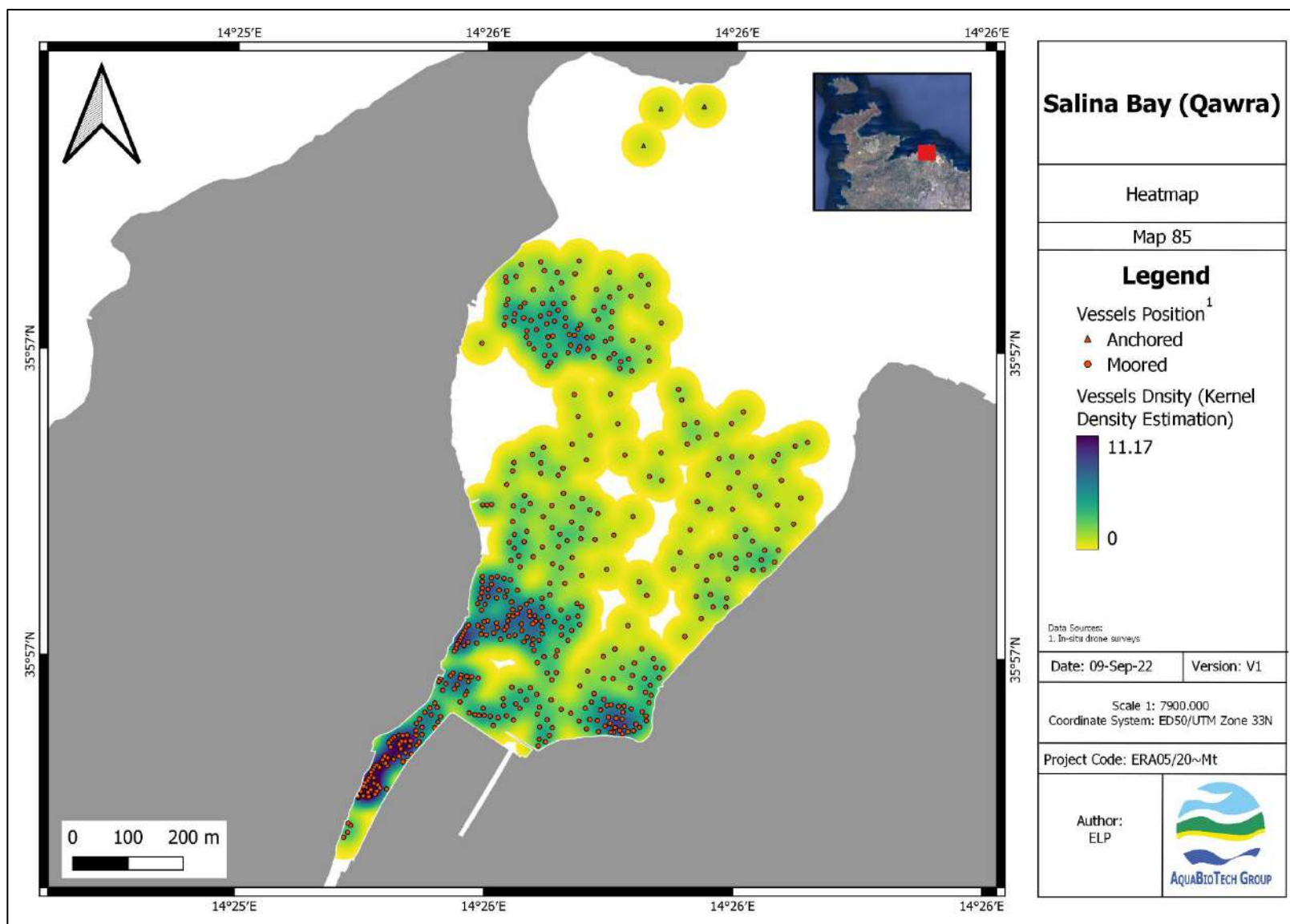


Figure 90. Heatmap of vessels in Salina Bay (Qawra) (Malta). Vessels have been categorised by status.

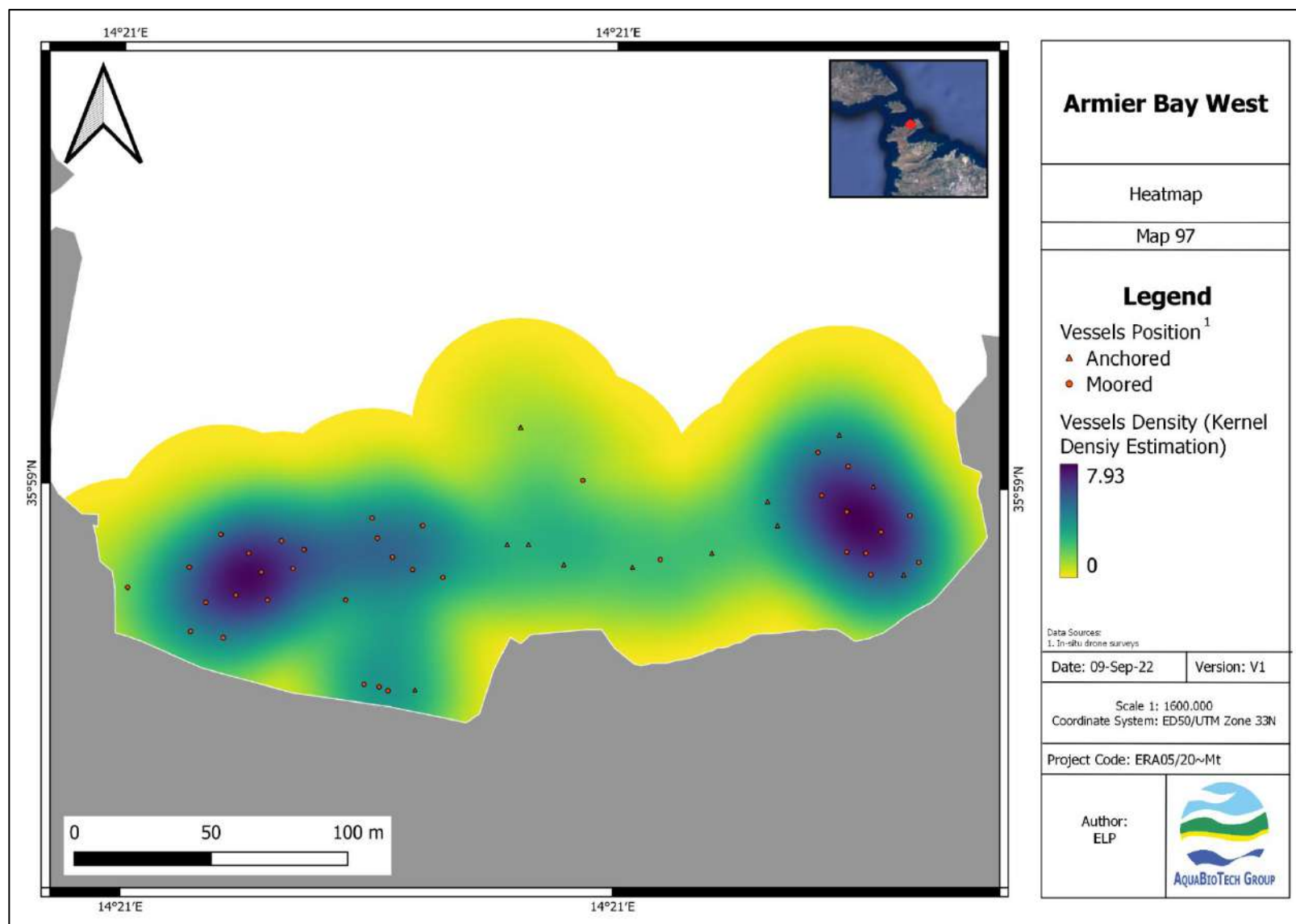


Figure 91. Heatmap of vessels in Armier Bay West (Malta). Vessels have been categorised by status.

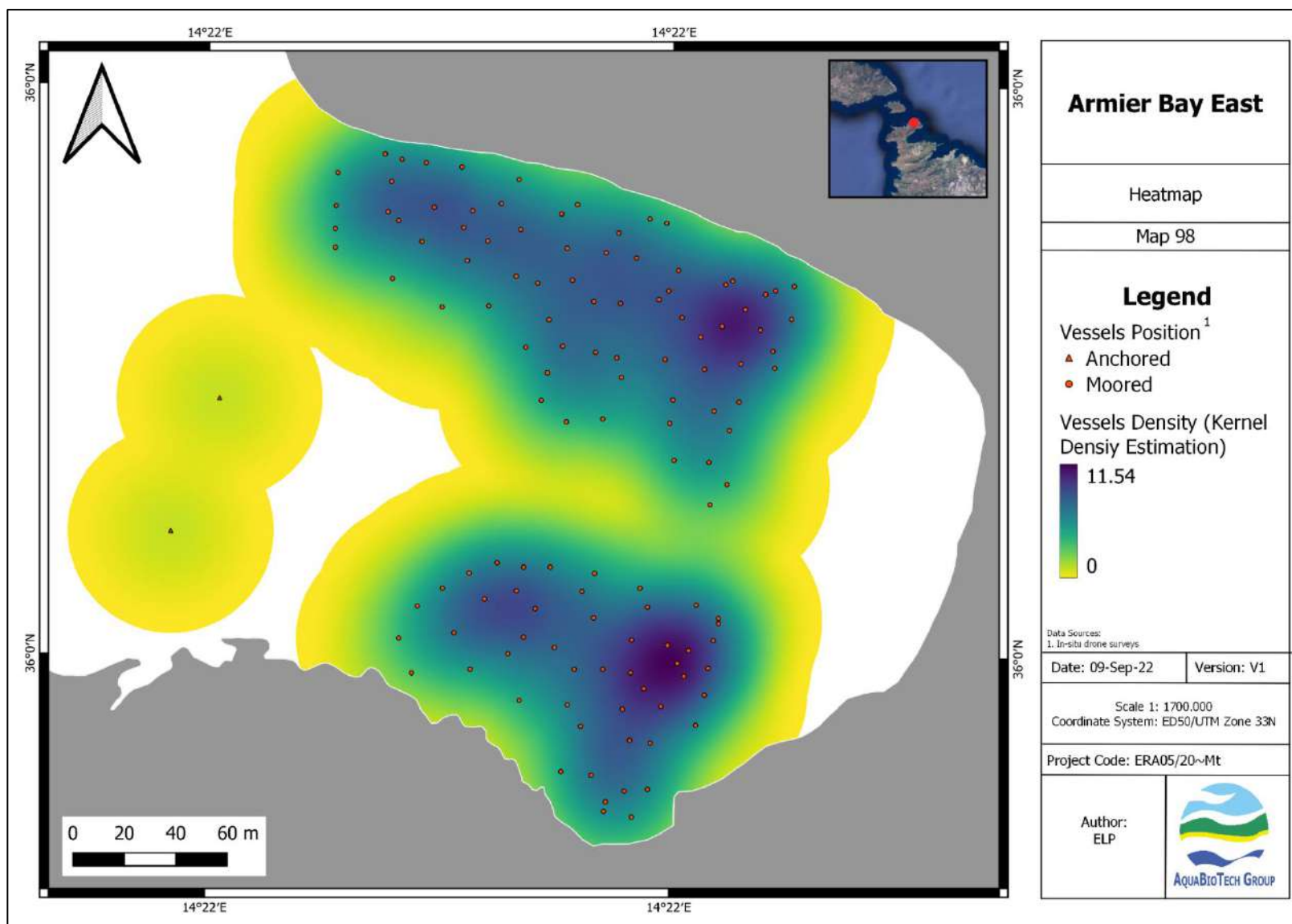


Figure 92. Heatmap of vessels in Armier Bay East (Malta). Vessels have been categorised by status.

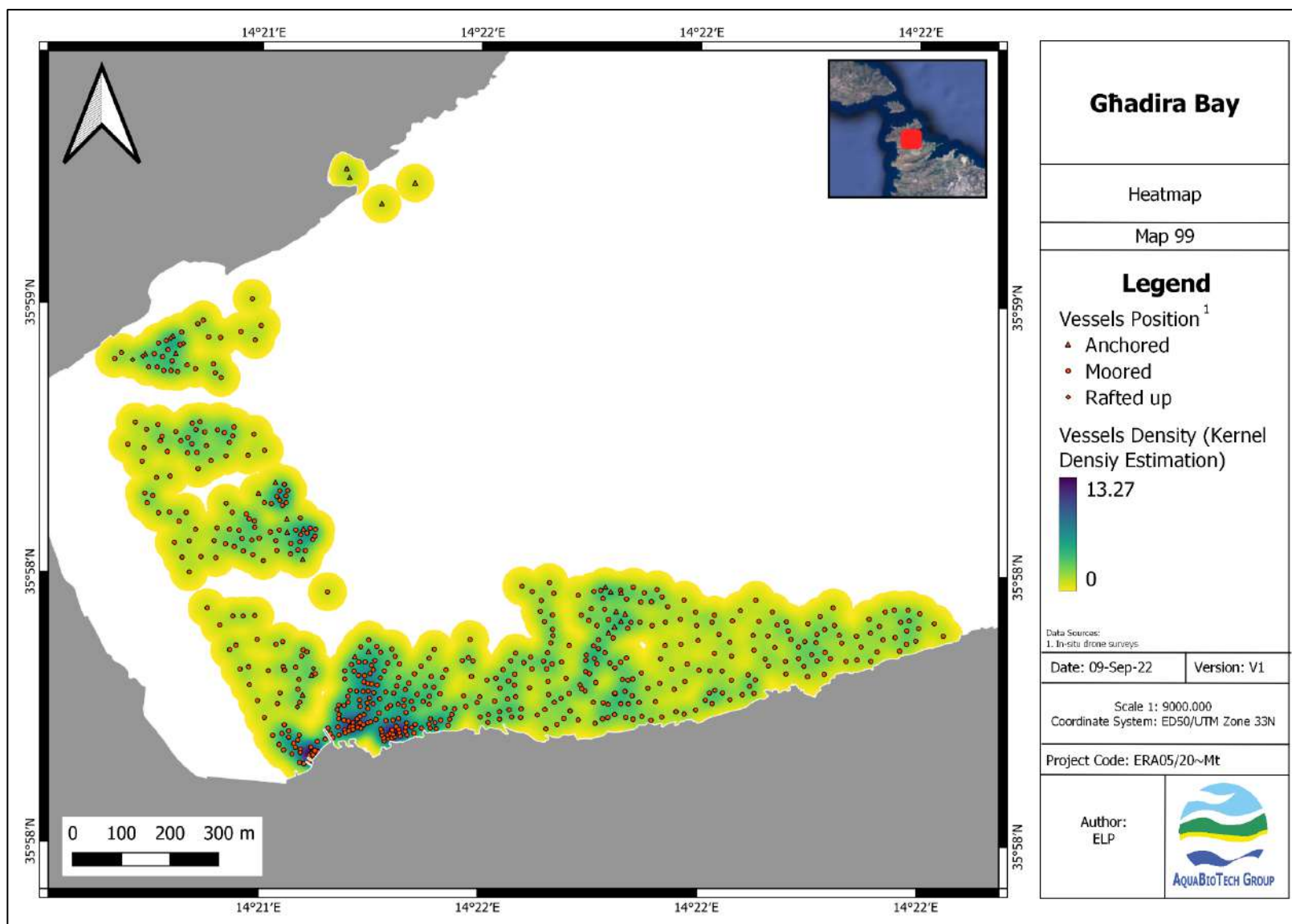


Figure 93. Heatmap of vessels in Ghadira Bay (Malta). Vessels have been categorised by status.

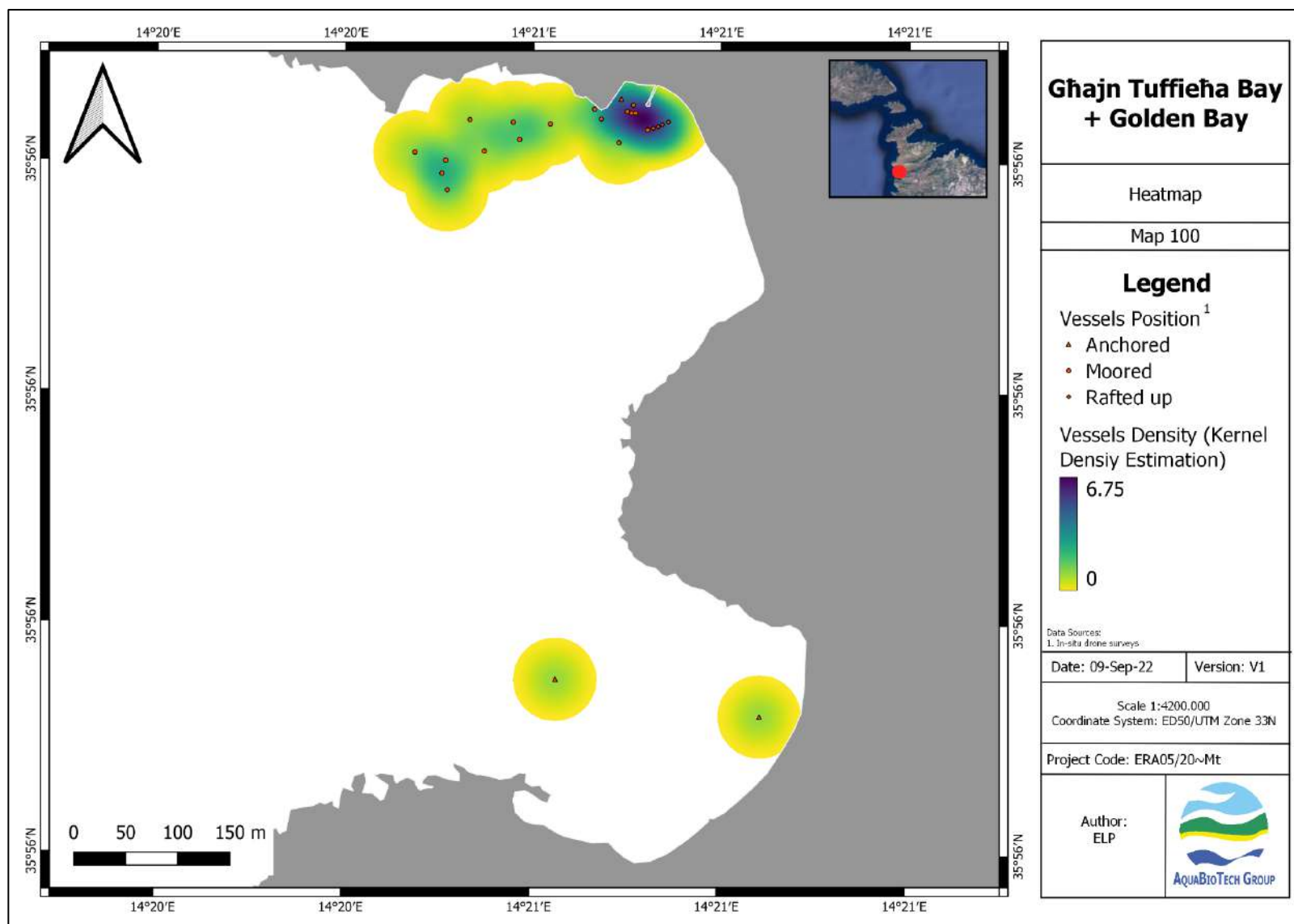


Figure 94. Heatmap of vessels in Ghajn Tuffieħa Bay + Golden Bay (Malta). Vessels have been categorised by status.

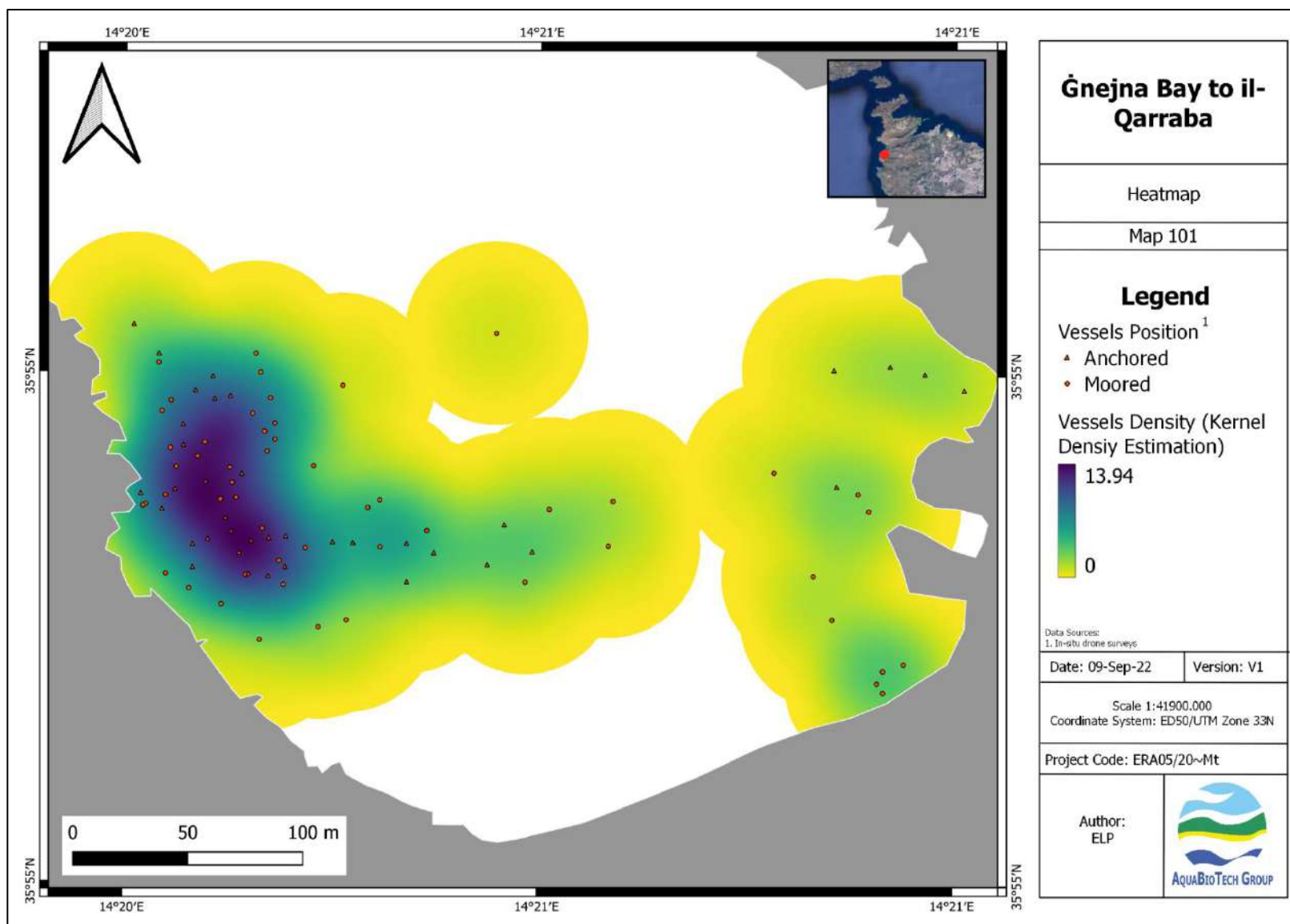


Figure 95. Heatmap of vessels in Ġnejna Bay to il-Qarraba (Malta). Vessels have been categorised by status.

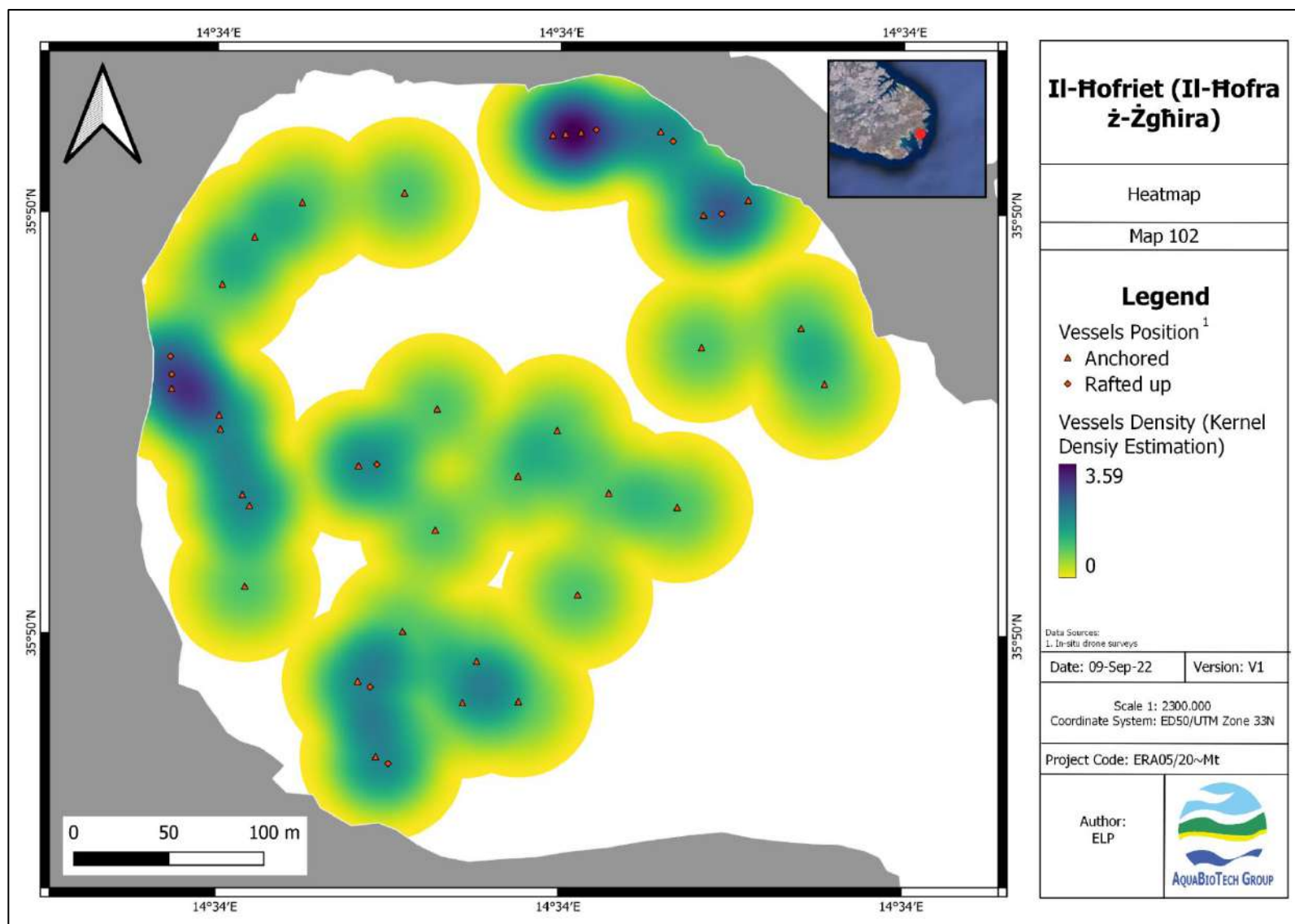


Figure 96. Heatmap of vessels in Il-Hofriet (Il-Hofra ż-Żghira) (Malta). Vessels have been categorised by status.

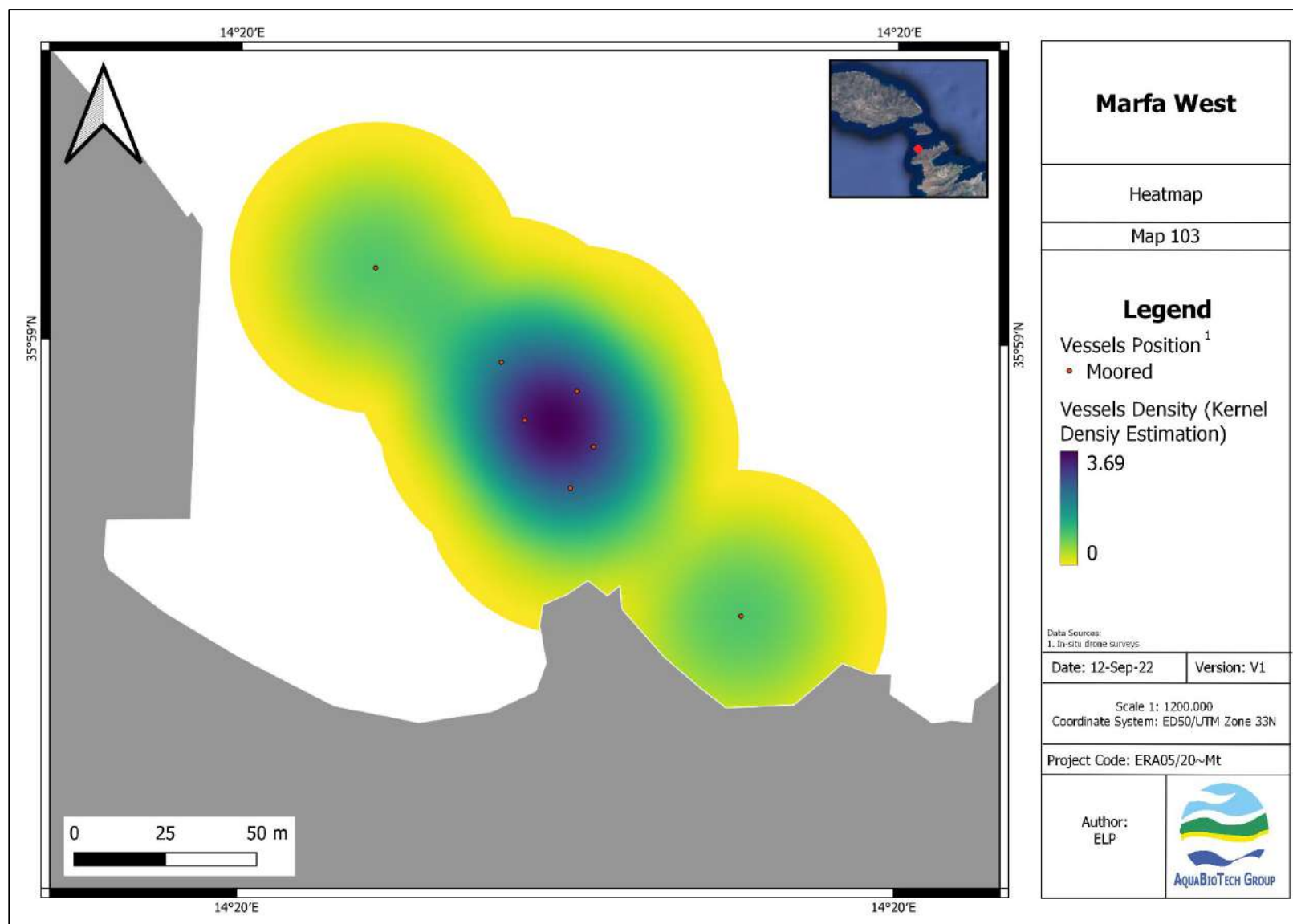


Figure 97. Heatmap of vessels in Marfa West (Malta). Vessels have been categorised by status.

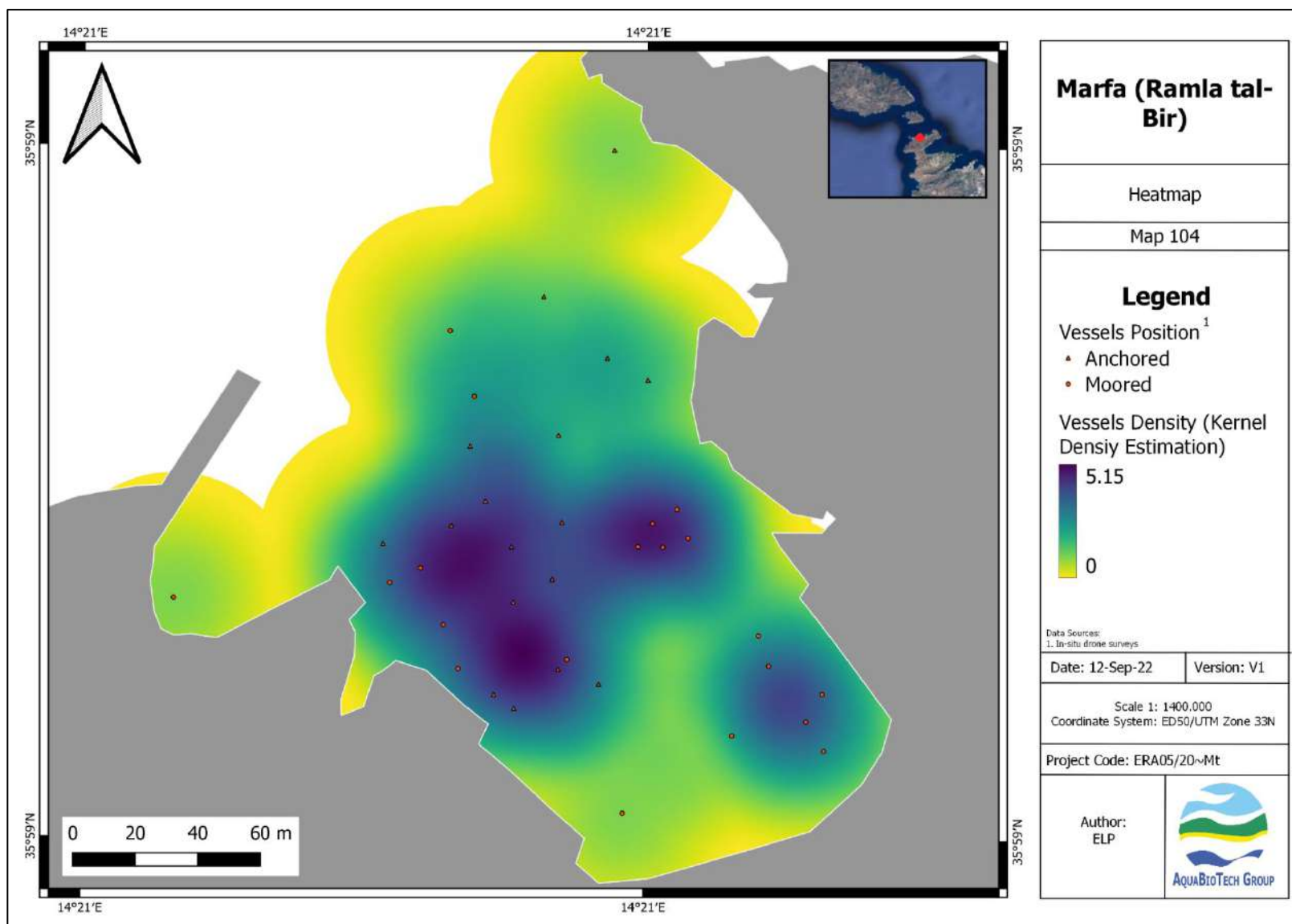


Figure 98. Heatmap of vessels in Marfa (Ramla tal-Bir) (Malta). Vessels have been categorised by status.

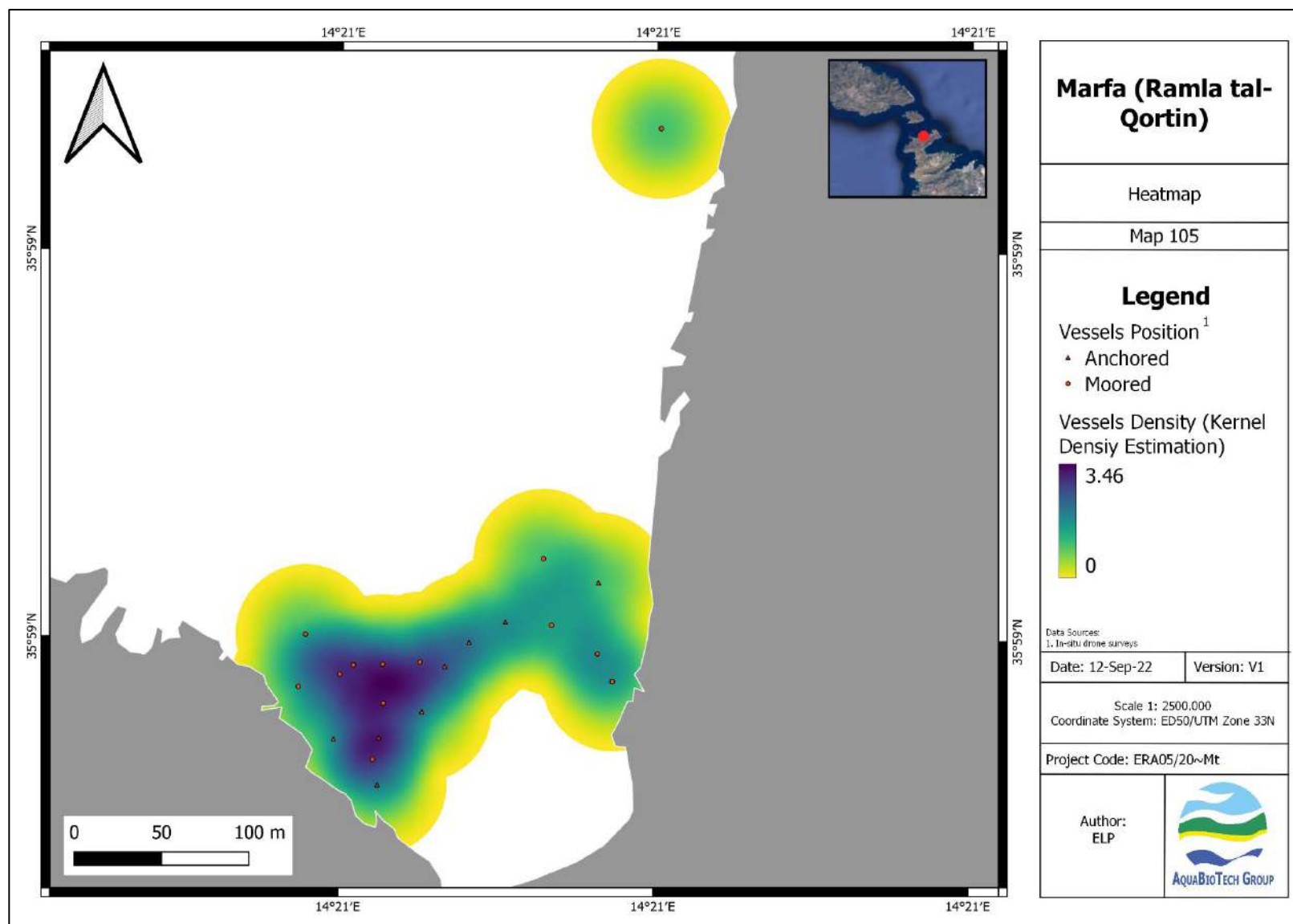


Figure 99. Heatmap of vessels in Marfa (Ramla tal-Qortin) (Malta). Vessels have been categorised by status.

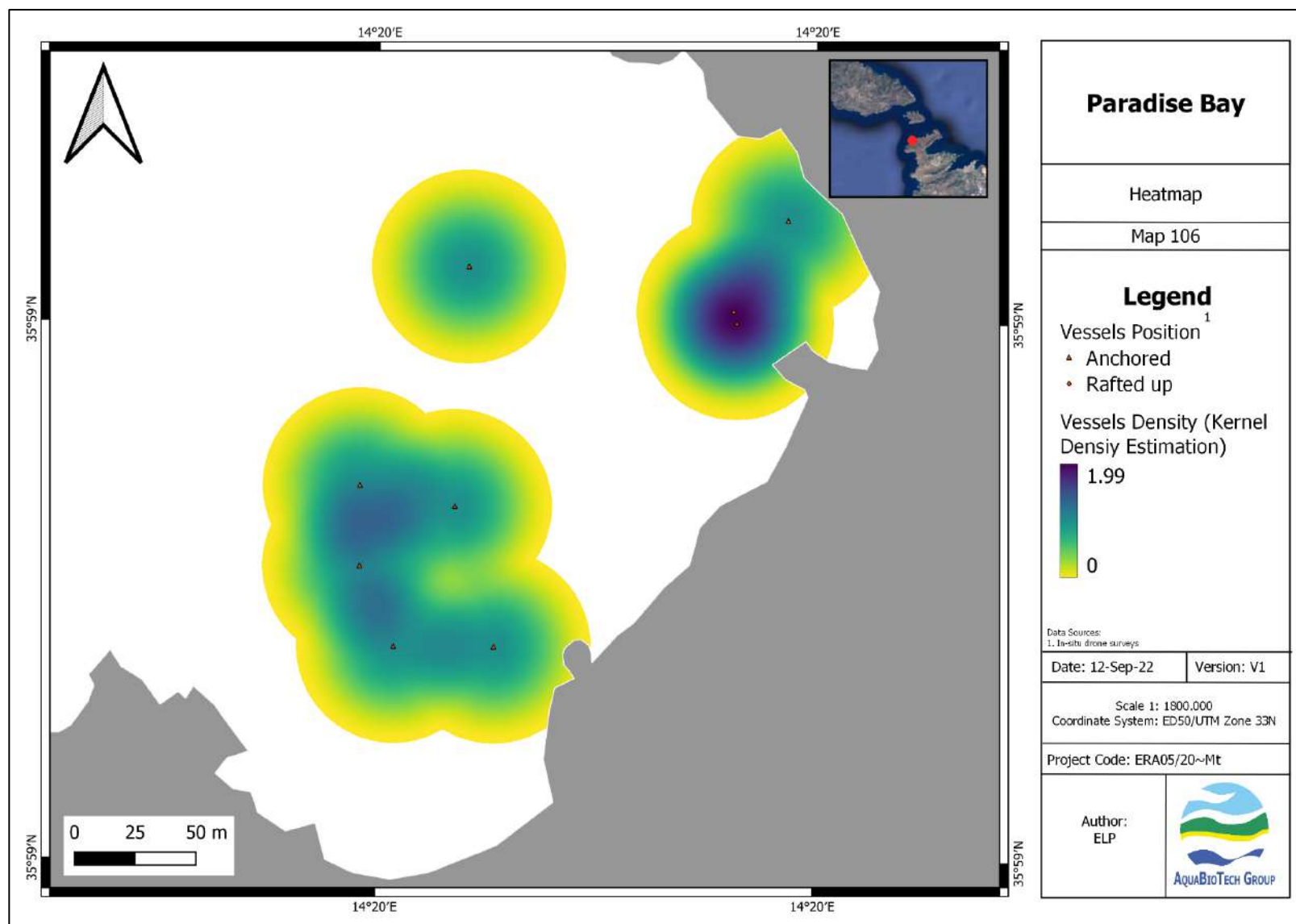


Figure 100. Heatmap of vessels in Paradise Bay (Malta). Vessels have been categorised by status.

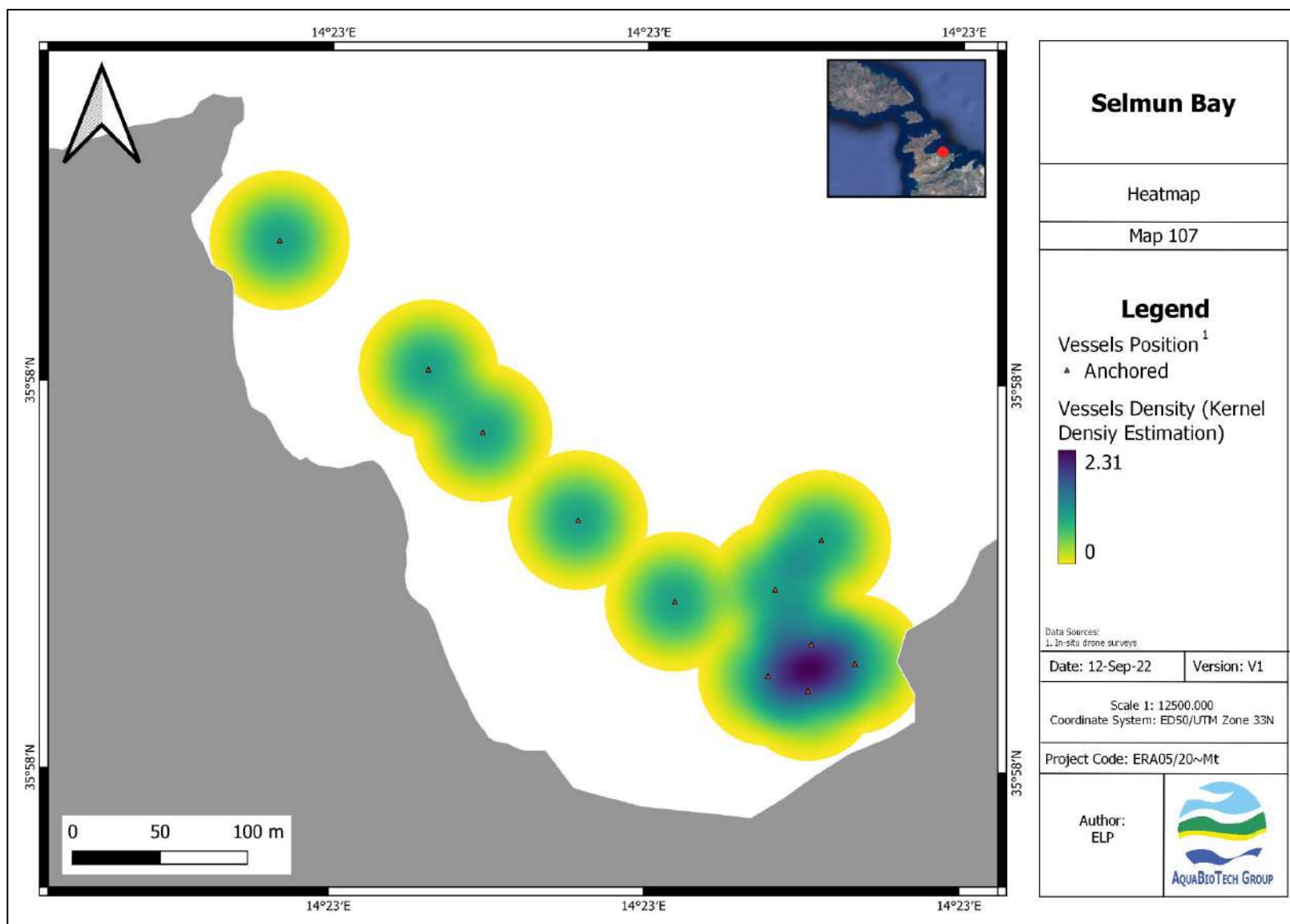


Figure 101. Heatmap of vessels in Selmun Bay (Malta). Vessels have been categorised by status.

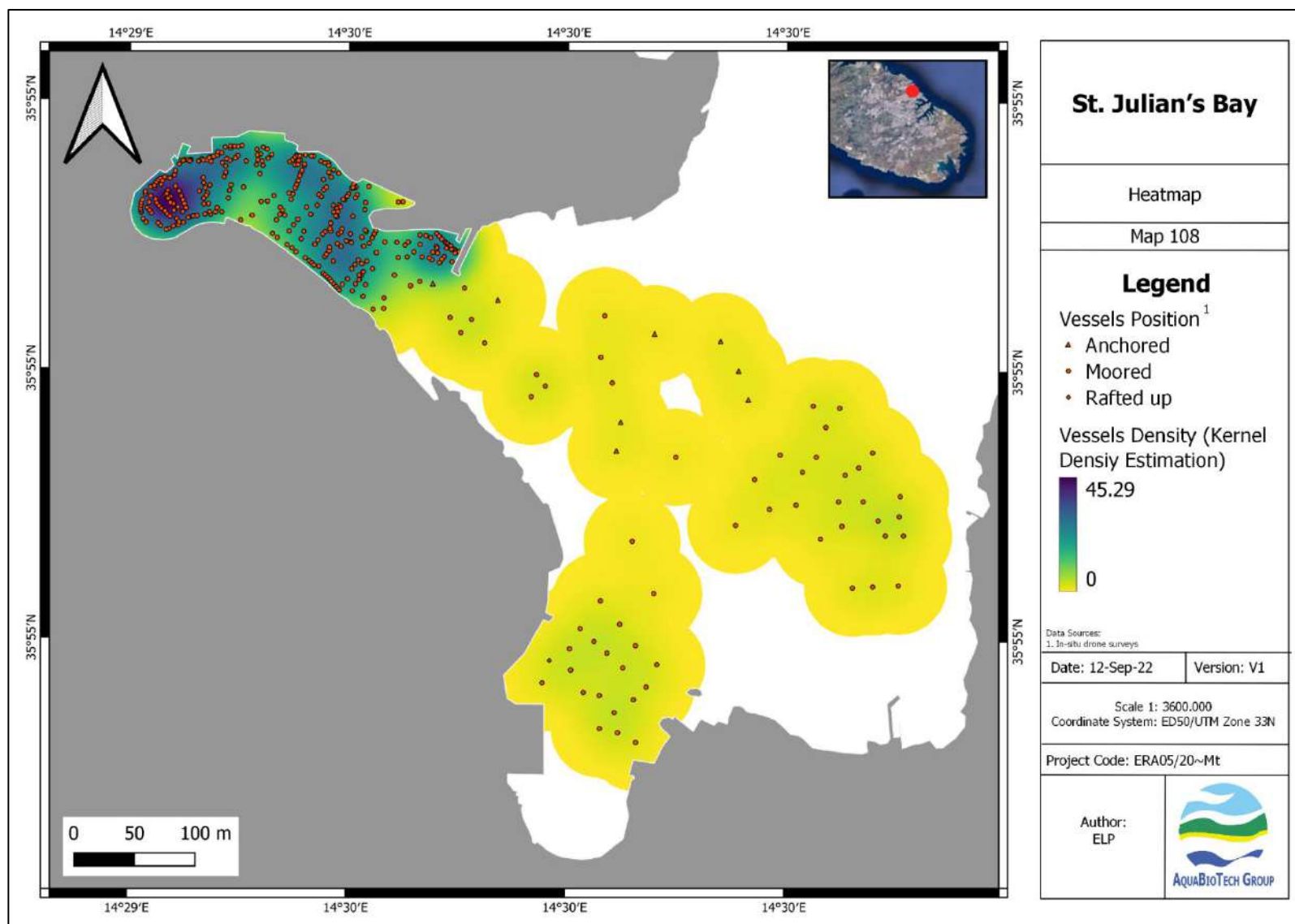


Figure 102. Heatmap of vessels in St. Julian's Bay (Malta). Vessels have been categorised by status.

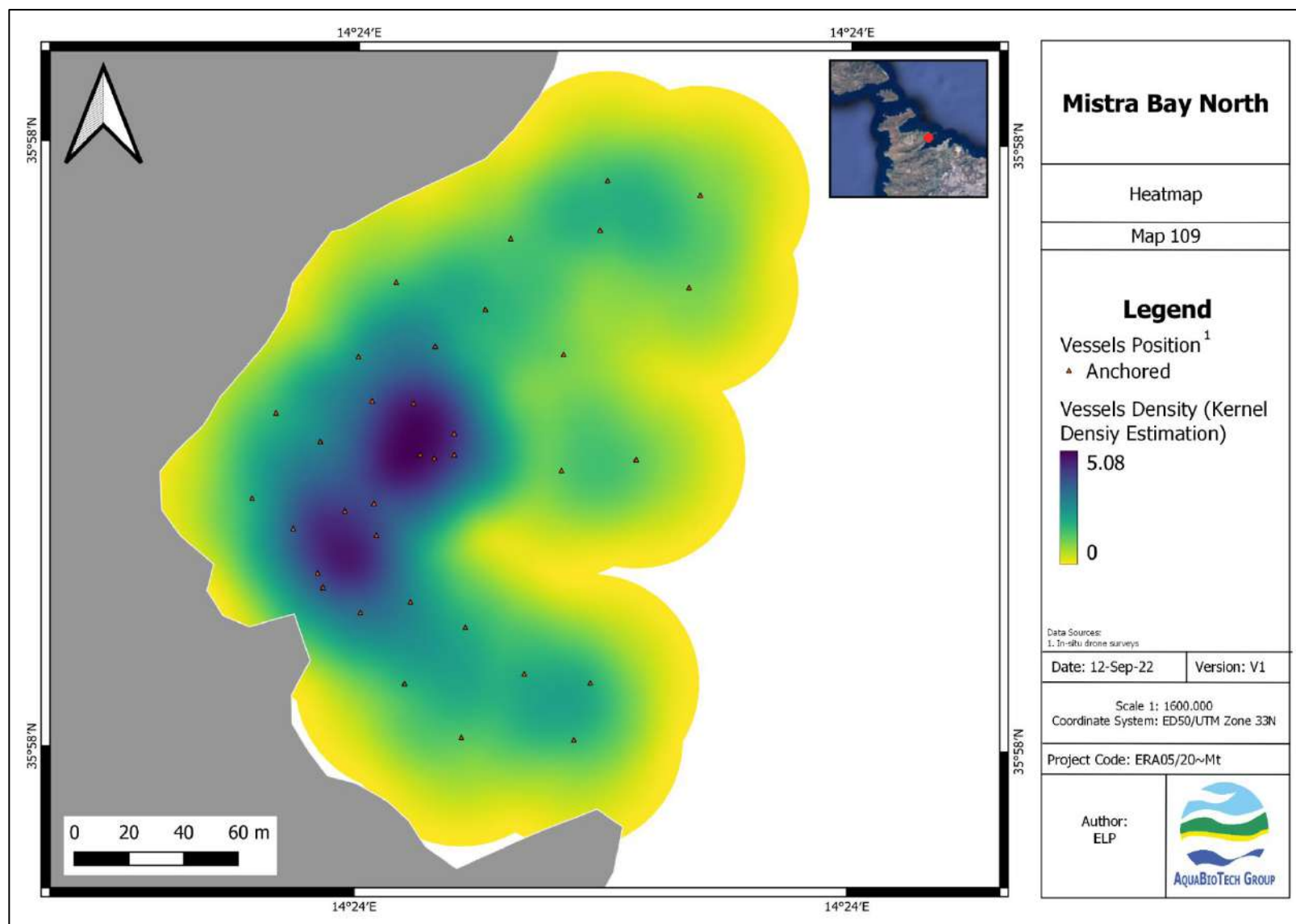


Figure 103. Heatmap of vessels in Mistra Bay North (Malta). Vessels have been categorised by status.

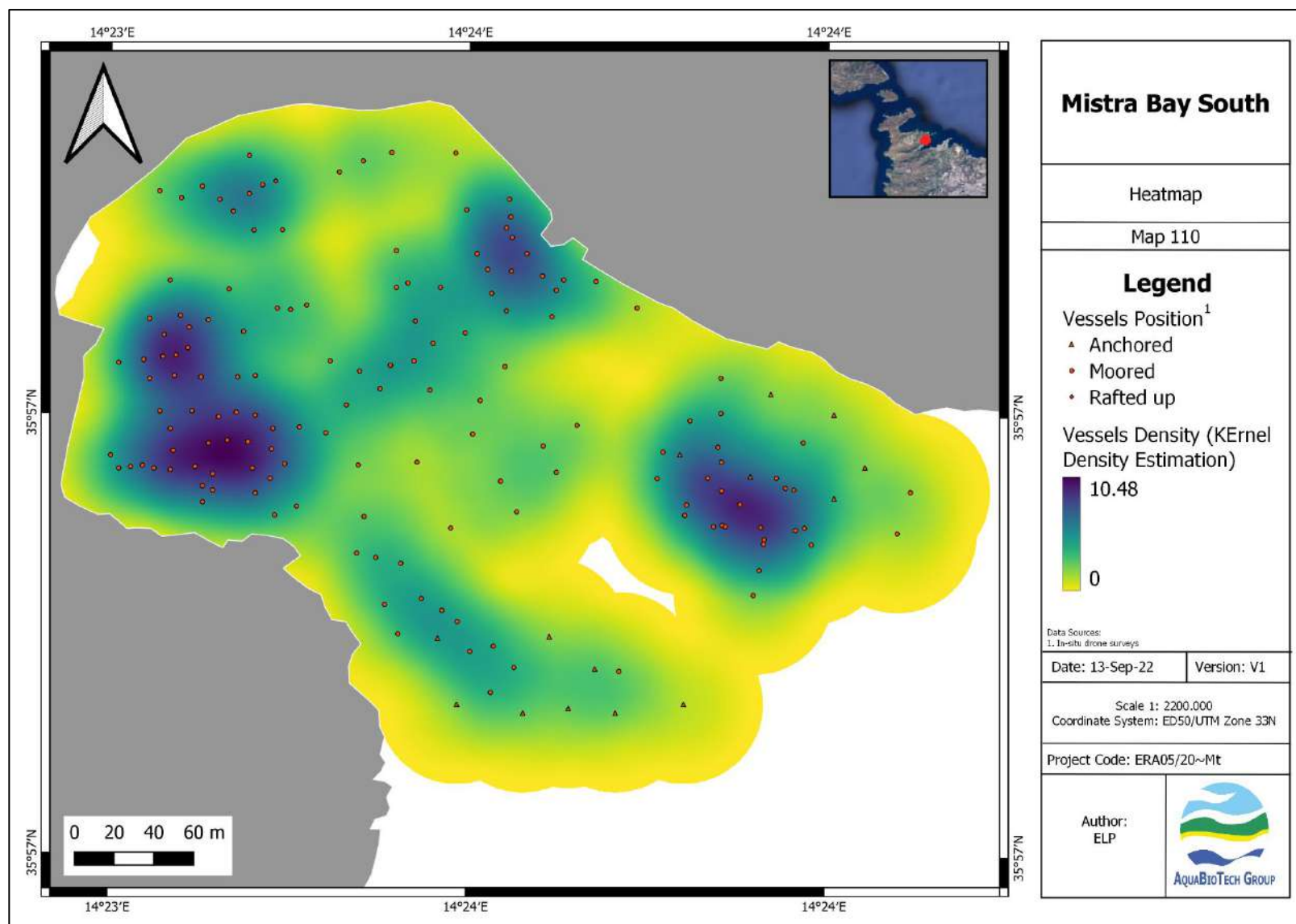


Figure 104. Heatmap of vessels in Mistra Bay South (Malta). Vessels have been categorised by status.

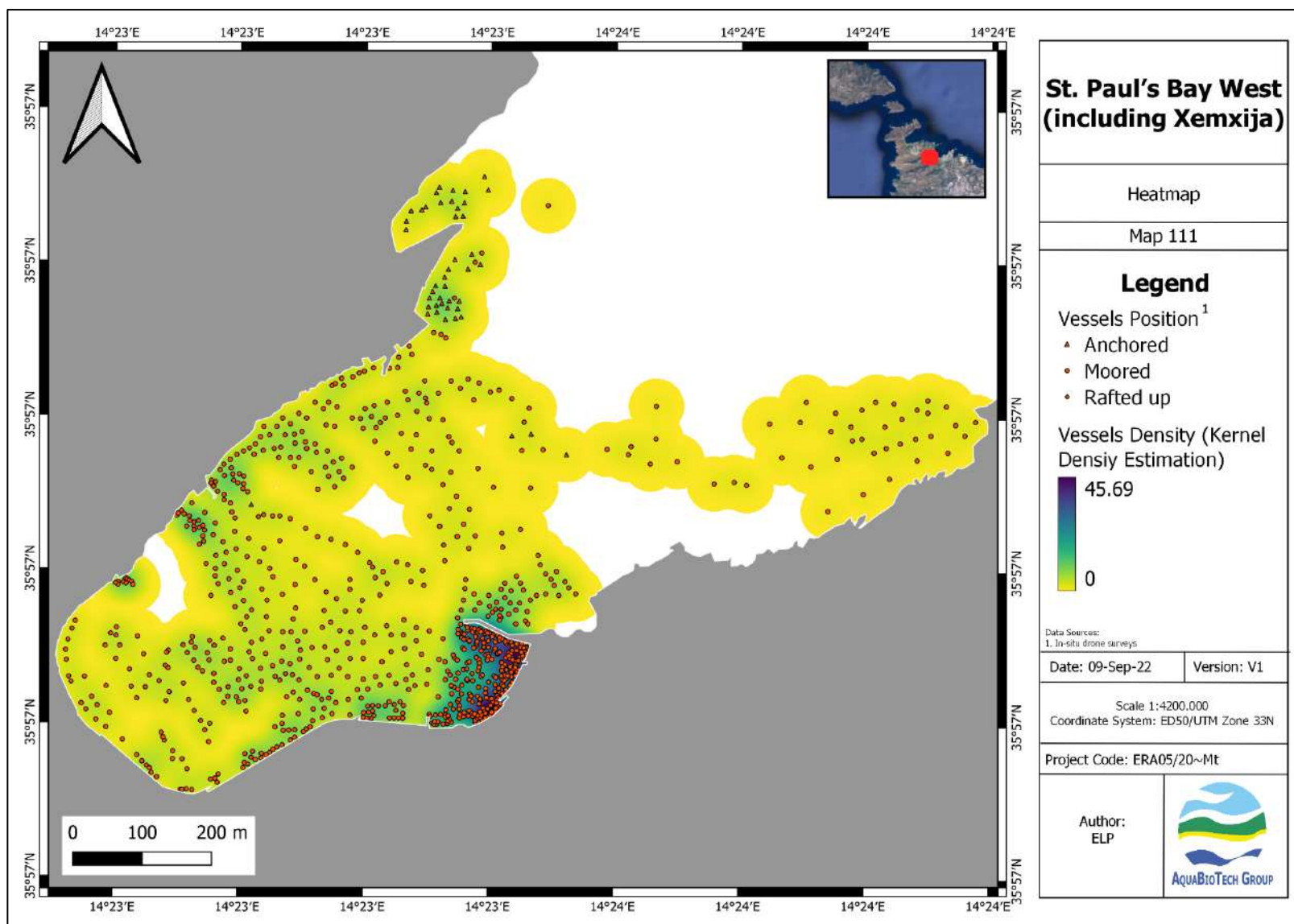


Figure 105. Heatmap of vessels in St. Paul's Bay West (including Xemxija) (Malta). Vessels have been categorised by status.

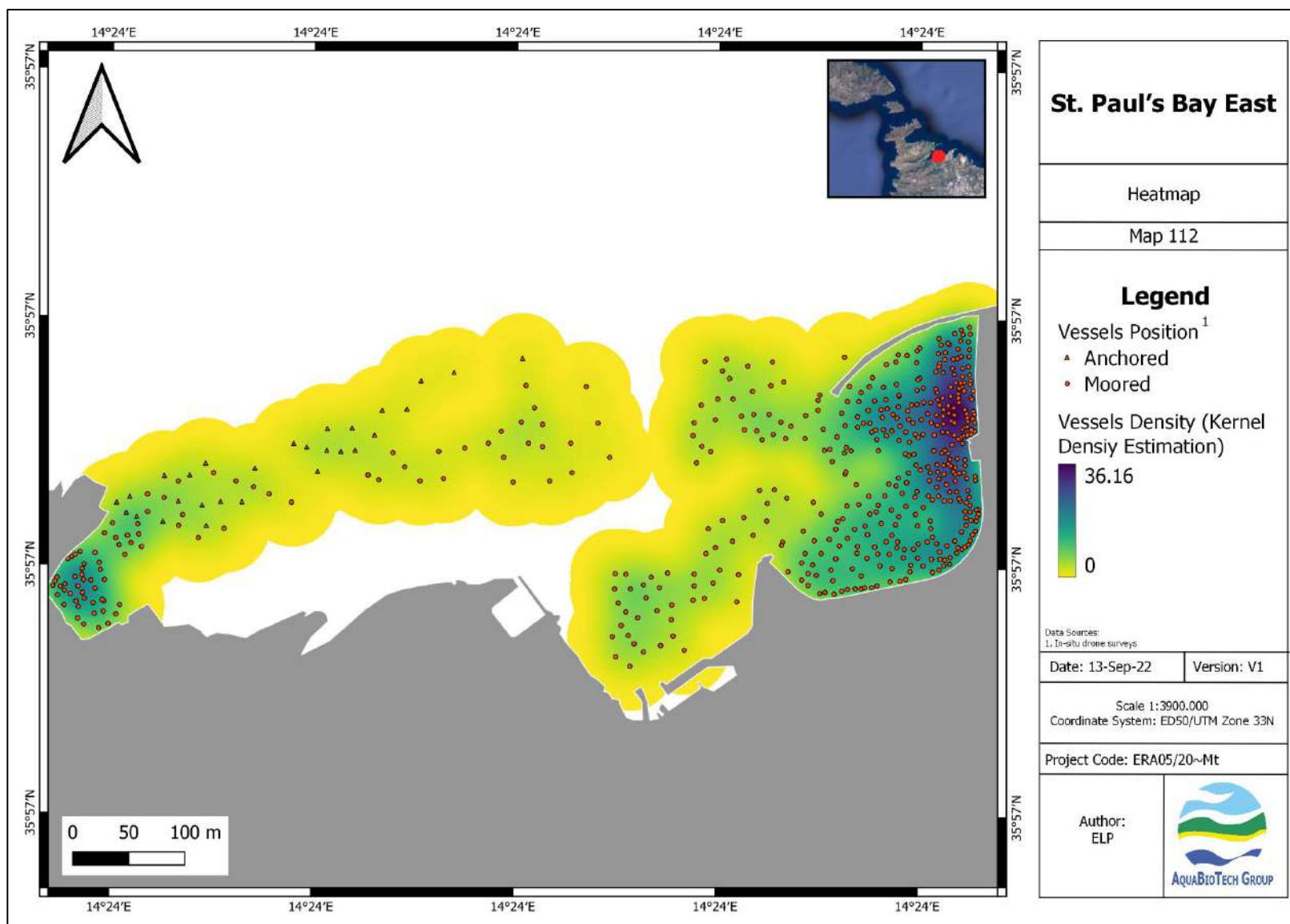


Figure 106. Heatmap of vessels in St. Paul's Bay East (Malta). Vessels have been categorised by status.

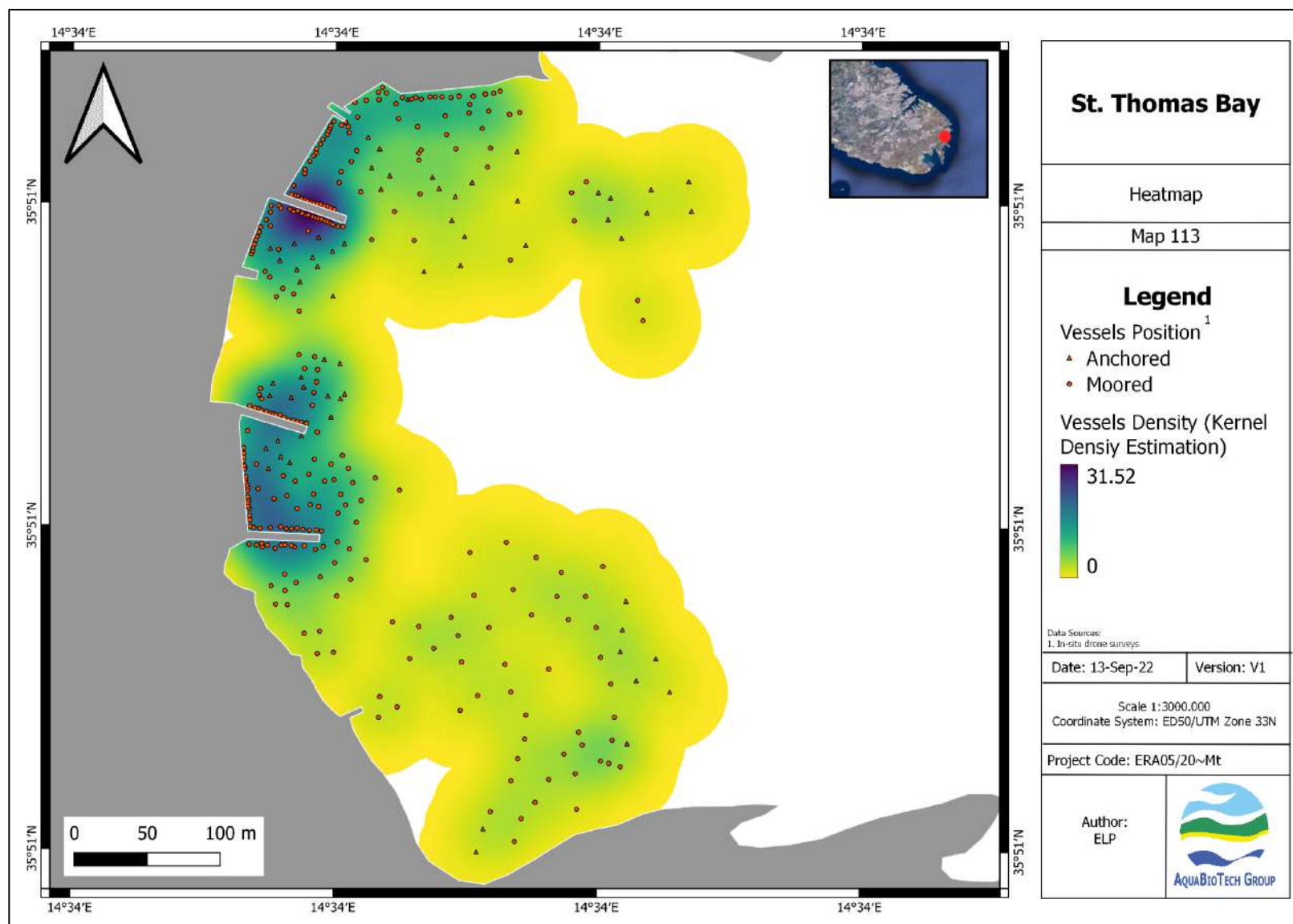


Figure 107. Heatmap of vessels in St. Thomas Bay (Malta). Vessels have been categorised by status.

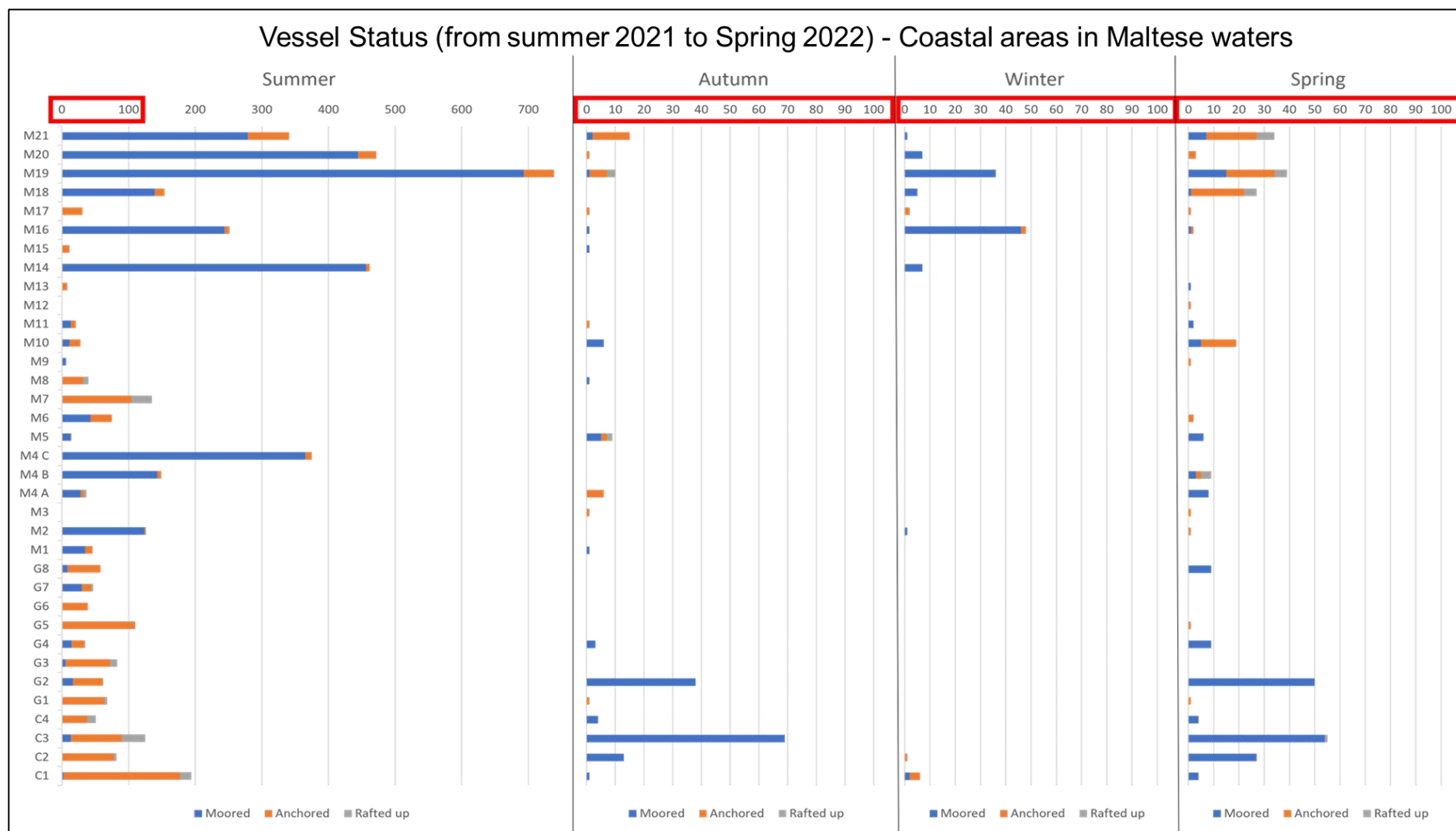


Figure 108. Graphs showing the number of moored, anchored and rafted up vessels seen during 1 year *in-situ* drone surveys at each site. In red, the scale proportion for ease of understanding.