

North East Kent Scientific Coastal Advisory Group

Current Account

A Register of the Distribution, Impact and Control of Selected Non-Native Species
within the Inter-Tidal Zone of the North East Kent Marine Protected Areas.

Issue 3: 31 December 2021

Willie McKnight



Contents

1. Introduction.
 2. Distribution and Impact by Selected Non Native Species.
 3. Distribution and Impact by NEKMPA Section.
 4. Control of Selected Non Native Species.
 5. Summary of Management Group Action Points for Non Native Species.
- Appendix A. Description of Selected Non Native Species.
- Appendix B. Location of NEKMPA Sections.

Current Account

1. Introduction

1. Introduction

Aim

The aim of this project is to set up and maintain an ongoing process to record the distribution, impact and control of selected Non Native Species within the inter-tidal zone of the NEKMPA thereby enabling the Management Group to make informed decisions regarding species management.

The Register

The prime function of the register is to provide the NEKMPA Management Group and the MPA officer with a summary of the condition of the NEKMPA inter-tidal zone in terms of the distribution, impact and control of selected Non Native Species. In addition, open access to the register is made available on-line to interested organizations and individuals via the Thanet Coast Project website: www.thanetcoast.org.uk
Contact MPA Officer Tony Child: tony.child@thanet.gov.uk

Register Management

The register is issued and maintained under documentation control by NEKSCAG and is an agenda item included in the Non Native Species section of NEKSCAG meetings. This provides an opportunity to discuss progress, make adjustments to the process and add or remove selected species. The register is managed on behalf of NEKSCAG by Willie McKnight. The process is “future proof” to facilitate the inclusion of additional new arrivals selected by NEKSCAG.

Frequency

To launch the project, Issue 1 of the register contains baseline and control data for 5 Non Native Species selected by Natural England in 2011. These are:

- Pacific Oyster *Magallana gigas*
- Wireweed *Sargassum muticum*
- Carpet Sea Squirt *Didemnum vexillum*
- Chinese Mitten Crab *Eriocheir sinensis*
- Wakame *Undaria pinnatifida*

The register is updated and re-issued annually on the 31st of December. Re-issues include new field data and amendments approved by NEKSCAG during the current year. Previous issues are archived on the Thanet Coast Project website to provide access to historic data.

Data

To ensure the integrity of the data, the register is compiled entirely with survey data recorded in compliance with the methodology stated in Natural England’s Non Native Species project which was launched within the NEKMPA in 2011. Field data must therefore be gathered by surveyors who have attended the associated Non Native Species training course. All surveys are conducted using standard approved methodology. Survey data is therefore quantifiable, evidence based and auditable to its source. Control data is sourced from Coastbusters volunteers (Natural England and KWT teams). Observations reported from non-trained sources are filtered initially by the MPA officer. Those considered viable are raised at NEKSCAG for assessment and possible field survey.

1. Introduction

Summary of field work completed in 2021.

As in 2020, field work was severely disrupted due to restrictions imposed by the Government to impede the spread of the Covid-19 virus consequently field events were delayed until June.

Current Account Section 2: Distribution and Impact by Selected Non-Native Species.

No surveys were completed in 2021. Data in Section 2 of the Current Account are therefore unchanged since 2019. See Current Account issue 1, 31 December 2019, for baseline details.

Current Account Section 3: Distribution and Impact by NEKMPA Section.

No surveys were completed in 2021. Data in Section 3 of the Current Account are therefore unchanged since 2019. See Current Account issue 1, 31 December 2019, for baseline details.

Current Account Section 4: Control of Selected Non-Native Species.

Pacific Oyster:

A total of 49,187 oysters was removed and 136.5 man-hours were spent onsite.

Wireweed:

A total of 131.5kg wet weight was removed and 8.5 man-hours were spent onsite.

Current Account Section 5: Summary of Management Group Action Points for Non-Native Species.

There were no Management Group or NEKSCAG meetings during 2021 due to Government Covid restrictions. However, the MPA manager produced a draft NEKMPA Management Scheme Action Plan which contains Non-native Species elements. These are copied in Section 5.

Current Account

2. Distribution and Impact by Selected Non Native Species



Undaria pinnatifida



Didemnum vexillum



Eriocheir sinensis



Sargassum muticum



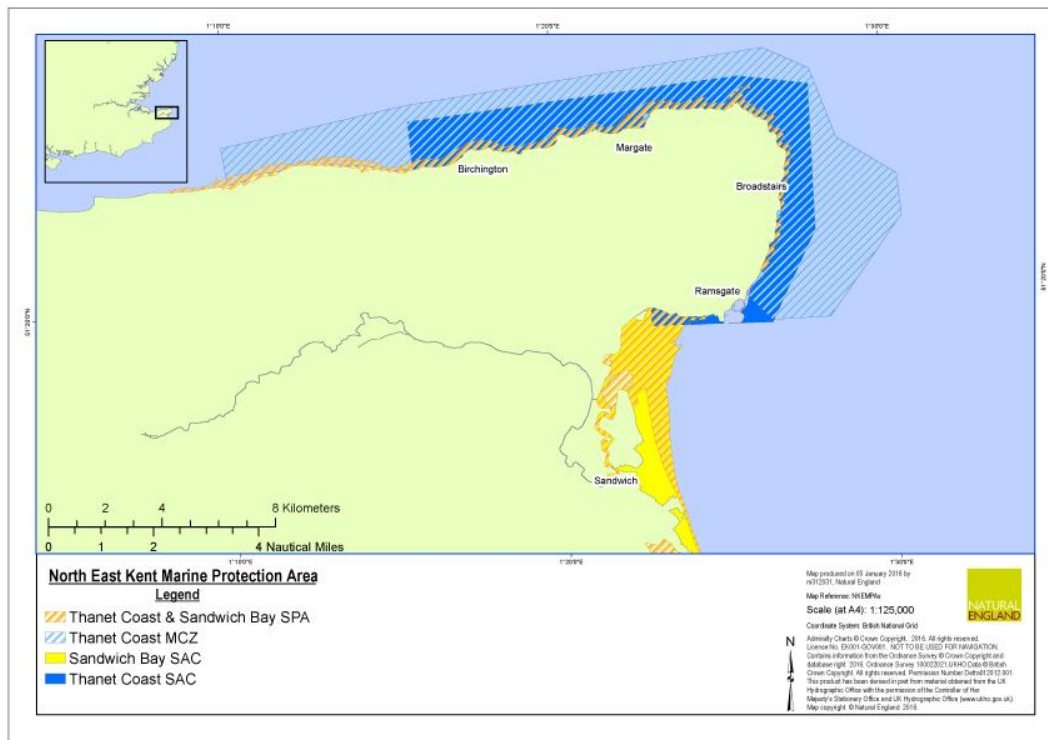
Magallana gigas

Current Account Section 2: Distribution and Impact by Selected Non-Native Species.

No surveys were completed in 2021. Data in Section 2 of the Current Account are therefore unchanged since 2019. See Current Account issue 1, 31 December 2019, Section 2 for baseline details.

Current Account

3. Distribution and Impact by NEKMPA Section



Current Account Section 3: Distribution and Impact by NEKMPA Section.

No surveys were completed in 2021. Data in Section 3 of the Current Account are therefore unchanged since 2019. See Current Account issue 1, 31 December 2019, Section 3 for baseline details.

Page 3.2 shows typical distribution and impact by section using NEKMPA Section 1 Swalecliffe data from Current Account Issue 1 (31 December 2019) as an example. Baseline data for all 46 NEKMPA sections are similarly recorded in Current Account Issue 1.

3. Example of Distribution and Impact by NEKMPA Section

using NEKMPA Section 1 Swalecliffe baseline data.

Section 1

OS Sheet TR Eastings 13000 to 13999

29 Oct. 2011

Magallana gigas is present across the expanse of the site and continues east into Section 2. Attachment is on flint and other shells. Oysters are scattered singly or at low density except on concrete spoil and the outflow pipe in the lower shore where peak density reaches 32. Scattered spat was seen along the northern edge of the spit. This section is low density but large area.

Didemnum vexillum drift was present at the low water line around the perimeter of Long Rock spit attached to drift *Plocamium cartilagineum* suggesting source was sub-littoral. Within an 80m stretch I counted 22 drift items. This ranged from small blobs (5mm) up to patches reaching 150mm. Similar drift was present along the strand line on the upper shore. D.vex was also present on several submerged and semi-submerged clay boulders along the northern edge of the spit. Peak density was found at the seaward end of a metal outflow pipe (approx. 600mm diameter) in the lower shore zone. Attachment was found on the eastside + westside + underside. In places this formed thin latex like sheets on the vertical faces of timber supports.

Sargassum muticum was found attached to stable flint cobbles along the northern edge of the Long Rock spit. All specimens were < 300mm which may indicate recent settlement. Drift was seen across the section.

Table 3.1 shows Impact Factor scoring for Section 1.

Table 3.1 Impact Factor scoring for Section 1.

Section 1 29.10.11	Peak Density Score	Area Affected Score	Substrate Chalk Score	Substrate Sediment Score	Substrate Flint Score	Substrate Fauna Score	Substrate Algae Score	Substrate Man-made Score	Substrate Native sp Score	Impact Factor
Site 1.1 Mg	8	12	0	0	1	0	0	1	0	22
Site 1.2 Sm	2	8	0	0	1	0	0	0	0	11
Site 1.3 Dv	8	8	0	2	0	0	2	1	8	29
Site 1.4 Dv	1	1	0	0	0	0	2	0	4	8
Site 1.5 Sm	1	1	0	0	1	0	0	0	0	3
Section Total	20	30	0	2	3	0	4	2	12	73

Table 3.2 shows the location of sites within Section 1.

Table 3.2 Location of sites within Section 1.

GPS		Key
Site 1.1: OS TR 13317 67549		Impact Factor
Site 1.2: OS TR 13412 67946		1 - 10
Site 1.3: OS TR 13437 67983		11 - 20
Site 1.4: OS TR 13699 68055		21 - 30
Site 1.5: OS TR 13699 68055		> 30

Figure 3.1 shows an Impact Factor comparison between species within the section.

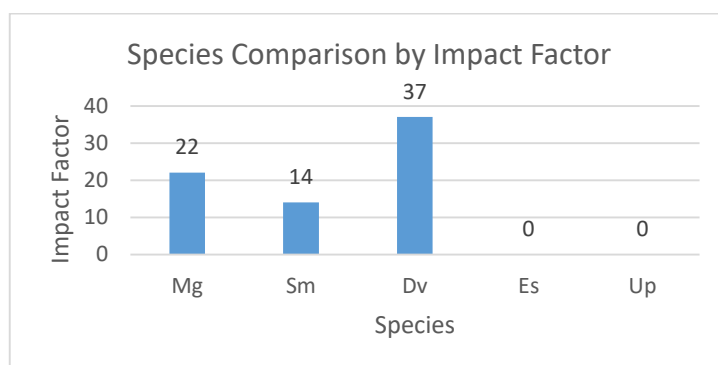


Figure 3.1 Species comparison by Impact Factor

4. Control of Selected Non Native Species



Magallana gigas control



Sargassum muticum control

4. Control of Selected Non Native Species.

Annual Progress. All Selected Species.

Table 4.1 shows control progress per year / project phase.

Table 4.1: Annual Progress

Natural England Team										
Period	Mg (Shore)	Mg (Harbour)	Sm (Kg. Wet Weight)	Dv	Es	Up				
Pilot 23.03.2011 04.02.2012 Phase 5	40196	0								
Trial 06.07.2012 29.06.2013 Phase 6 & 7	35740	0								
Post Trial 20.1.2014 05.03.2014 Phase 7	7153	0								
01.04.2014 31.03.2015 Phase 8	29299	0								
01.04.2015 31.03.2016 Phase 9	59675	0	55.31							
01.04.2016 31.03.2017 Phase 10	29450	0								
01.04.2017 31.03.2018 Phase 11	33067	1259								
01.04.2018 31.03.2019 Phase 12	30960	2926	346.86							
01.04.2019 31.12.2019 Phase 13	23724	968	850.36							
01.01.2020 31.12.2020 Phase 14	28078									
01.01.2021 31.12.2021 Phase 15	48705	482	131.5							
01.01.2022 31.12.2022 Phase 16										
Total	366047	5635	1384.03	0	0	0	0	0	0	0
KWT Team										
Period	Mg (Shore)	Mg (Harbour)	Sm (Kg. Wet Weight)	Dv	Es	Up				
Pilot 23.03.2011 04.02.2012 Phase 5										
Trial 06.07.2012 29.06.2013 Phase 6 & 7										
Post Trial 20.1.2014 05.03.2014 Phase 7										
01.04.2014 31.03.2015 Phase 8										
01.04.2015 31.03.2016 Phase 9										
01.04.2016 31.03.2017 Phase 10										
01.04.2017 31.03.2018 Phase 11										
01.04.2018 31.03.2019 Phase 12										
01.04.2019 31.12.2019 Phase 13										
01.01.2020 31.12.2020 Phase 14										
01.01.2021 31.12.2021 Phase 15										
01.01.2022 31.12.2022 Phase 16										
Total	0	0	0	0	0	0	0	0	0	0

4. Control of Selected Non Native Species.

Magallana gigas by NEKMPA Sections

Table 4.2 shows *Magallana gigas* control data since Natural England commissioned a control pilot in 2011. This was followed by the launch of Natural England's Coastbusters volunteer team in 2012 and in 2018 KWT launched their Coastbusters team.

Oysters removed are counted by individual specimen. Only live, attached, oysters are counted. Changes this year shown in **Red**.

Table 4.2 *Magallana gigas* control by NEKMPA sections since control launch in 2011

Natural England Team					KWT Team				
NEKMPA Section	Mg Removed	Mg Manhours	Mg H&S Incidents	Mg Chalk Reef Impacts	NEKMPA Section	Mg Removed	Mg Manhours	Mg H&S Incidents	Mg Chalk Reef Impacts
1					1				
2					2				
3					3				
4					4				
5					5				
6					6				
7					7				
8					8				
9					9				
10					10				
11					11				
12					12				
13					13				
14					14				
15					15				
16					16				
17					17				
18					18				
18					19				
20					20				
21					21				
22					22				
23					23				
24					24				
25					25				
26	5848	59.5	0	2	26				
27	13195	76.2	0	5	27				
28	3917	80.75	0	3	28				
29					29				
30					30				
31	3140	20	0	1	31				
32	367	4.25	0	8	32				
33	143	4.5	0	0	33				
34 Harbour	5635	92.75	1	0	34 Harbour				
35	280305	1047.25	3	40	35				
36	55345	271.25	0	5	36				
37	3787	23.25	0	0	37				
38					38				
39					39				
40					40				
41					41				
42					42				
43					43				
44					44				
45					45				
46					46				
Total	371682	1679.7	4	64	Total				

4. Control of Selected Non Native Species.

Sargassum muticum by NEKMPA Sections

Table 4.3 shows *Sargassum muticum* control data since Natural England commissioned a control pilot in 2011. This was followed by the launch of Natural England's Coastbusters volunteer team in 2012 and in 2018 KWT launched their Coastbusters team. *Sargassum* removed is counted by wet weight (kg). Only live, attached, specimens are counted. Changes this year shown in **Red**.

Table 4.3 *Sargassum muticum* control by NEKMPA sections since control launch in 2011.

Natural England Team					KWT Team				
NEKMPA Section	Sm Removed Kg	Sm Manhours	Sm H&S Incidents	Sm Chalk Reef Impacts	NEKMPA Section	Sm Removed Kg	Sm Manhours	Sm H&S Incidents	Sm Chalk Reef Impacts
1					1				
2					2				
3					3				
4					4				
5					5				
6					6				
7					7				
8					8				
9					9				
10					10				
11					11				
12					12				
13					13				
14					14				
15					15				
16	55.3	7.5	0	0	16				
17					17				
18					18				
18					19				
20					20				
21					21				
22					22				
23					23				
24					24				
25					25				
26					26				
27					27				
28					28				
29					29				
30					30				
31	1197.22	46.5	0	0	31				
32					32				
33					33				
34 Harbour					34 Harbour				
35	131.5	8.5			35				
36					36				
37					37				
38					38				
39					39				
40					40				
41					41				
42					42				
43					43				
44					44				
45					45				
46					46				
Total	1384.02	62.5	0	0	Total				

4. Control of Selected Non Native Species.

Didemnum vexillum by NEKMPA Sections

Best practices for *Didemnum vexillum* control have not been designed or agreed with Natural England. No control measures have therefore been undertaken. This is reflected in Table 4.4.

Table 4.4 *Didemnum vexillum* control by NEKMPA sections since control launch in 2011.

Natural England Team					KWT Team				
NEKMPA Section	Dv Removed Kg	Dv Manhours	Dv H&S Incidents	Dv Chalk Reef Impacts	NEKMPA Section	Dv Removed Kg	Dv Manhours	Dv H&S Incidents	Dv Chalk Reef Impacts
1					1				
2					2				
3					3				
4					4				
5					5				
6					6				
7					7				
8					8				
9					9				
10					10				
11					11				
12					12				
13					13				
14					14				
15					15				
16					16				
17					17				
18					18				
18					19				
20					20				
21					21				
22					22				
23					23				
24					24				
25					25				
26					26				
27					27				
28					28				
29					29				
30					30				
31					31				
32					32				
33					33				
34 Harbour					34 Harbour				
35					35				
36					36				
37					37				
38					38				
39					39				
40					40				
41					41				
42					42				
43					43				
44					44				
45					45				
46					46				
Total					Total				

4. Control of Selected Non Native Species.

Eriocheir sinensis by NEKMPA Sections

Best practices for *Eriocheir sinensis* control have not been designed or agreed with Natural England. No control measures have therefore been undertaken. This is reflected in Table 4.5.

Table 4.5 *Eriocheir sinensis* control by NEKMPA sections since control launch in 2011.

Natural England Team					KWT Team				
NEKMPA Section	Es Removed	Es Manhours	Es H&S Incidents	Es Chalk Reef Impacts	NEKMPA Section	Es Removed	Es Manhours	Es H&S Incidents	Es Chalk Reef Impacts
1					1				
2					2				
3					3				
4					4				
5					5				
6					6				
7					7				
8					8				
9					9				
10					10				
11					11				
12					12				
13					13				
14					14				
15					15				
16					16				
17					17				
18					18				
18					19				
20					20				
21					21				
22					22				
23					23				
24					24				
25					25				
26					26				
27					27				
28					28				
29					29				
30					30				
31					31				
32					32				
33					33				
34 Harbour					34 Harbour				
35					35				
36					36				
37					37				
38					38				
39					39				
40					40				
41					41				
42					42				
43					43				
44					44				
45					45				
46					46				
Total					Total				

4. Control of Selected Non Native Species.

Undaria pinnatifida by NEKMPA Sections

Best practices for *Undaria pinnatifida* control have not been designed or agreed with Natural England. No control measures have therefore been undertaken. This is reflected in Table 4.6.

Table 4.6 *Undaria pinnatifida* control by NEKMPA sections since control launch in 2011

Natural England Team					KWT Team				
NEKMPA Section	Up Removed Kg	Up Manhours	Up H&S Incidents	Up Chalk Reef Impacts	NEKMPA Section	Up Removed Kg	Up Manhours	Up H&S Incidents	Up Chalk Reef Impacts
1					1				
2					2				
3					3				
4					4				
5					5				
6					6				
7					7				
8					8				
9					9				
10					10				
11					11				
12					12				
13					13				
14					14				
15					15				
16					16				
17					17				
18					18				
18					19				
20					20				
21					21				
22					22				
23					23				
24					24				
25					25				
26					26				
27					27				
28					28				
29					29				
30					30				
31					31				
32					32				
33					33				
34 Harbour					34 Harbour				
35					35				
36					36				
37					37				
38					38				
39					39				
40					40				
41					41				
42					42				
43					43				
44					44				
45					45				
46					46				
Total					Total				

5. Summary of Management Group Action Points for Non Native Species

Current Account Section 5: Summary of Management Group Action Points for Non-Native Species.

There were no Management Group or NEKSCAG meetings during 2021 due to Government Covid restrictions. However, the MPA officer produced a draft NEKMPA Management Scheme–Action Plan 2019–2024. The following Non-native Species related actions are copied from the draft plan:

1. Non-native species survey: Update baseline survey to investigate spread of invasive species.
2. Non-native species management: Use Non-native species survey (that identifies 5 species currently posing the greatest threat across the NEKMPA) to discuss and direct management measures to targeting locations for active management of invasive species. Pacific Oysters (*Magallana gigas*) and Wire weed (*Sargassum muticum*).
3. Monitor the spread of Carpet Sea Squirt (*Didemnum vexillum*) across the NEKMPA and follow up to discuss if any management measures are required.
4. Continue to implement and monitor the agreed management measures for Pacific Oysters within the NEKMPA with the help of volunteers/NEKMPA Coastal Wardens/Guardians.
5. Identify and trial control management measures to remove Wireweed (*Sargassum muticum*) within identified sections of the NEKMPA with the help of volunteers/NEKMPA Coastal Wardens/Guardians.

Current Account

Appendix A Description of Selected Non Native Species

Appendix A. Description of Selected Non Native Species

Table A.1 lists the species currently included in the register and shows, per species, if an Identification Sheet is available to view and download from the GB NON NATIVE SPECIES SECRETARIAT website:

<http://www.nonnativespecies.org/home/index.cfm>

Follow links Homepage/Species Information/Species ID Sheets.

Table A.1. Species currently included in the Current Account register.

Common Name	Scientific Name	Date added to Register	Identification Sheet Available
Pacific Oyster	<i>Magallana gigas</i>	August 2011	No (see note 1)
Wireweed	<i>Sargassum muticum</i>	August 2011	Yes
Carpet Sea Squirt	<i>Didemnum vexillum</i>	August 2011	Yes
Chinese Mitten Crab	<i>Eriocheir sinensis</i>	August 2011	Yes
Wakame	<i>Undaria pinnatifida</i>	August 2011	Yes

Note 1: ID sheet not available but an information sheet can be accessed via <http://www.nonnativespecies.org/factsheet/factsheet.cfm?speciesId=1013>

Appendix B

Location of NEKMPA Sections

Appendix B. Location of NEKMPA Sections

Table B.1 shows the boundaries and locations of the 46 NEKMPA, 1km, inter-tidal sections using Ordnance Survey Eastings to define north facing sections and Northings to define east facing sections derived from OS Sheet TR.

Table B.1 Boundaries and locations of NEKMPA inter-tidal sections.

Section Number	OS TR Eastings	OS TR Northings	Aspect	Thanet Coast Project Equivalent Section
1	13000 to 13999		N	Section 1: Swalecliffe
2	14000 to 14999		N	Section 1: Swalecliffe
3	15000 to 15999		N	Section 1: Swalecliffe
4	16000 to 16999		N	Excluded from NEKEMS
5	17000 to 17999		N	Excluded from NEKEMS
6	18000 to 18999		N	Section 7: Bishopstone
7	19000 to 19999		N	Section 7: Bishopstone
8	20000 to 20999		N	Section 8A: Reculver West
9	21000 to 21999		N	Section 8B: Reculver East
10	22000 to 22999		N	Section 9A: Reculver to Coldharbour
11	23000 to 23999		N	Section 9A: Reculver to Coldharbour
12	24000 to 24999		N	Section 9A: Reculver to Coldharbour
13	25000 to 25999		N	Section 9B: Coldharbour
14	26000 to 26999		N	Section 9C: Plum pudding
15	27000 to 27999		N	Section 10: Minnis Bay West
16	28000 to 28999		N	Section 11A: Minnis Bay East
17	29000 to 29999		N	Section 11B+11C: Grenham + Beresford
18	30000 to 30999		N	Section 12A: Epple Bay
19	31000 to 31999		N	Section 12B + 13: Epple + Westgate
20	32000 to 32999		N	Section 14+15: Westgate + St Mildreds
21	33000 to 33999		N	Section 16+17: St Mildreds + Westbrook Bay
22	34000 to 34999		N	Section 18+19A: Nayland Rock + Margate Bay
23	35000 to 35999		N	Section 19B+20A: Margate Harbour + Fulsam Rock
24	36000 to 36999		N	Section 20B+20C: Newgate Gap + Walpole Bay
25	37000 to 37999		N	Section 21A: Palm Bay
26	38000 to 38999		N	Section 21B+21C: Foreness Bay/Point & Foreness to Botany
27	39000 to 39999		N	Section 21D+21E: Botany Bay + Whiteness
28		70000 to 70999	E	Section 21F+22A: Kingsgate Bay & Joss Bay
29		69000 to 69999	E	Section 22B: North Foreland
30		68000 to 68999	E	Section 22C+22D: Stone Bay + Broadstairs East Cliff
31		67000 to 67999	E	Section 22E+23A: Viking Bay + Louisa Bay
32		66000 to 66999	E	Section 23B+23C: Dumpton Point + Dumpton Gap
33		65000 to 65999	E	Section 23D+24: Winterstoke + Ramsgate Main Sands
34		64000 to 64999	SE	Section 24+25: Ramsgate Sands & Harbour
35		63000 to 64999	S	Section 26: Western Undercliff
36		63000 to 64999	E	Section 26 and 27: Western Undercliff to Pegwell
37		63000 to 64999	E	Section 28: Pegwell Country Park & Saltmarsh
38		62000 to 62999	E	Section 30A: Sandwich Bay North
39		61000 to 61999	E	Section 30A: Sandwich Bay North
40		60000 to 69999	E	Section 30A: Sandwich Bay North
41		59000 to 59999	E	Section 30B: Sandwich Bay Mid
42		58000 to 58999	E	Section 30B: Sandwich Bay Mid
43		57000 to 57999	E	Section 30B + 30C: Sandwich Bay Mid + Sandwich Bay South
44		56000 to 56999	E	Section 30C: Sandwich Bay South
45		55000 to 55999	E	Section 30C: Sandwich Bay South
46		54000 to 54999	E	Section 30C: Sandwich Bay South