

Supplementary Table S2. Overview of water samples used for targeted and broad-target COI amplicon molecular methods. The targeted approach utilised *C. simula*-specific primers while the broad-targeted approach utilised universal COI gene primers. Samples were analysed individually, except for targeted Nanopore sequencing of *C. simula* DNA, where PCR products from eighteen samples in total were pooled together.

Water samples	<i>C. simula</i> PCR (targeted/individual)	Sanger sequencing (targeted/individual)	Nanopore sequencing (targeted/pooled)	Nanopore sequencing (universal COI amplicon/individual)	<i>C. simula</i> qPCR (targeted/individual)
29 th May 2019					✓
4 th June 2019	✓	✓	✓		✓
11 th June 2019	✓	✓	✓		✓
18 th June 2019	✓		✓		✓
25 th June 2019	✓		✓		✓
2 nd July 2019	✓	✓	✓		✓
9 th July 2019	✓		✓		✓
16 th July 2019					✓
23 rd July 2019					✓
30 th July 2019					✓
6 th Aug 2019					✓
13 th Aug 2019					✓
20 th Aug 2019					✓
27 th Aug 2019					✓
1 st Oct 2019					✓
5 th Nov 2019					✓
3 rd Dec 2019					✓
7 th Jan 2020					✓
4 th Feb 2020					✓
3 rd March 2020					✓
23 rd June 2020	✓	✓	✓		✓
25 th June 2020 ¹					✓
30 th June 2020	✓	✓	✓		✓
2 nd July 2020 ¹					✓
7 th July 2020	✓	✓	✓		✓
9 th July 2020 ¹					✓
16 th July 2020 ¹					✓

Water samples	<i>C. simula</i> PCR (targeted/individual)	Sanger sequencing (targeted/individual)	Nanopore sequencing (targeted/pooled)	Nanopore sequencing (universal COI amplicon/individual)	<i>C. simula</i> qPCR (targeted/individual)
13 th July 2020	✓		✓		✓
21 st July 2020					✓
28 th July 2020					✓
4 th Aug 2020					✓
18 th Aug 2020					✓
11 th May 2021					✓
17 th May 2021					✓
25 th May 2021	✓		✓		✓
2 nd June 2021	✓		✓		✓
8 th June 2021	✓		✓		✓
15 th June 2021	✓	✓	✓	✓	✓
22 nd June 2021	✓	✓	✓		✓
29 th June 2021	✓		✓		✓
6 th July 2021	✓	✓	✓		✓
13 th July 2021	✓		✓		✓
20 th July 2021					✓
27 th July 2021					✓
Total	18	9	18	1	44

¹ seawater samples collected in addition to weekly samples, associated with biweekly analysis of *M. gigas* digestive glands