**Table S1.** **CDOM and ancillary data of inlet water.** The a 325 values are the absorption coefficients at wavelength 325 nm (m-1), the S275-295 values are the spectral slopes at the wavelength band from 275 to 295 nm (μm-1), SR is the ratio of the slope between 275 and 295 nm divided by the slope between 350 and 400 nm (unitless) and the a\*325 values are the molar absorption coefficients at wavelength 325 nm (mg C l-1m-1). TOC is total organic carbon in mg C l-1, POM is particulate organic carbon in mgl-1, chl *a* is the concentration of chlorophyll a in μg l-1 and BA is the bacterial abundance in (x106 cells ml-1). x-no datum

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Date  (dd/mm/yy) | a325  (m-1) | S275-295  (μm-1) | SR | a\*325  ( m-1mg C L-1) | TOC  (mg C l-1) | POM  (mg l-1) | Chlorophyll *a*  (μg l-1) | Bacteria abundance  (x 106 cells ml-1) |
| 17/07/13 | 0.38 | 20.0 | 1.85 | 3.51 | 0.11 | 5.07 | x | 9.76 |
| 30/07/13 | 0.70 | 19.0 | 1.31 | 1.97 | 0.35 | 3.85 | 1.25 | 18.94 |
| 29/08/13 | 0.43 | 20.0 | 2.05 | 1.88 | 0.23 | x | 0.42 | 8.19 |
| 13/09/13 | 0.83 | 16.3 | 1.52 | x | x | 3.21 | 0.72 | 5.98 |
| 27/09/13 | 0.20 | 26.7 | 1.89 | 1.60 | 0.12 | 2.98 | 0.29 | 5.55 |
| 15/10/13 | 0.50 | 18.7 | 1.35 | 3.49 | 0.14 | 2.40 | 0.46 | 6.52 |
| 30/10/13 | 0.46 | 18.2 | 1.40 | 3.40 | 0.13 | 2.51 | 0.27 | 4.24 |
| 13/11/13 | 0.25 | 23.5 | 1.93 | 1.28 | 0.19 | 2.31 | 0.57 | 0.50 |
| 02/12/13 | 0.24 | 20.5 | 2.63 | 1.13 | 0.21 | 2.33 | 0.29 | 4.13 |
| 17/12/13 | 0.18 | 28.0 | 2.15 | 0.52 | 0.36 | 2.31 | 0.97 | 4.79 |
| 30/12/13 | 0.21 | 24.1 | 1.94 | 0.58 | 0.37 | 1.20 | 0.74 | 20.74 |
| 15/01/14 | 0.20 | 24.3 | 1.76 | 0.71 | 0.28 | 1.20 | 0.87 | 1.64 |
| 30/01/14 | 0.45 | 15.2 | 1.21 | 5.29 | 0.09 | 0.60 | 2.35 | 2.33 |
| 11/02/14 | 0.18 | 22.8 | 2.04 | 1.99 | 0.09 | 1.28 | 1.07 | 1.58 |
| 27/02/14 | 0.06 | 19.3 | 2.05 | 0.21 | 0.31 | 1.39 | 0.41 | 3.82 |
| 14/03/14 | 0.08 | 24.0 | 1.63 | 0.20 | 0.43 | 0.39 | 0.28 | 14.29 |
| 27/03/14 | 0.06 | 24.3 | 1.76 | 0.51 | 0.13 | 1.08 | 0.50 | 3.17 |
| 11/04/14 | 0.07 | 38.1 | 0.64 | 0.40 | 0.17 | 1.75 | 0.34 | 2.78 |
| 30/04/14 | 0.07 | 24.7 | 1.79 | 0.39 | 0.17 | 6.27 | 2.62 | 4.22 |
| 14/05/14 | 0.14 | 10.3 | 0.63 | 0.54 | 0.26 | 2.25 | 0.37 | 2.93 |
| 29/05/14 | 0.40 | 19.0 | 1.44 | 2.29 | 0.18 | 1.80 | 0.48 | 5.68 |
| 11/06/14 | 0.36 | 21.6 | 1.58 | 4.21 | 0.09 | 2.47 | 0.57 | 4.83 |
| 30/06/14 | 0.36 | 19.7 | 1.59 | x | x | 1.60 | 0.33 | 7.39 |
| 11/07/14 | 0.58 | 18.5 | 1.25 | x | x | 2.45 | 0.66 | 10.24 |
| 25/07/14 | 0.18 | 27.9 | 1.22 | 1.07 | 0.17 | 2.50 | 0.70 | 8.96 |
| 20/08/14 | 0.31 | 23.1 | 1.22 | 2.29 | 0.13 | 2.45 | 0.84 | x |

**Table S2.** **CDOM and ancillary data of the *+holothurian* effluent water.** The a 325 values are the absorption coefficients at wavelength 325 nm (m-1), the S275-295 values are the spectral slopes at the wavelength band from 275 to 295 nm (μm-1), SR is the ratio of the slope between 275 and 295 nm divided by the slope between 350 and 400 nm (unitless) and the a\*325 values are the molar absorption coefficients at wavelength 325 nm (mg C l-1m-1). TOC is total organic carbon in mg C l-1, POM is particulate organic carbon in mgl-1, chl *a* is the concentration of chlorophyll a in μgl-1 and BA is the bacterial abundance in (x106 cells ml-1).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Date  (dd/mm/yy) | a325  (m-1) | S275-295  (μm-1) | SR | a\*325  (m-1mg C L-1) | TOC  (mgC l-1) | POM  (mg l-1) | Chlorophyll *a*  (μg l-1) | Bacteria abundance  (x106 cells ml-1) |
| 17/07/13 | 0.38 | 15.2 | 1.57 | 3.11 | 0.12 | 4.59 | x | 1.09 |
| 30/07/13 | 0.59 | 13.6 | 1.32 | 3.02 | 0.20 | 3.87 | 1.04 | 20.24 |
| 29/08/13 | 0.31 | 18.0 | 2.07 | 1.61 | 0.20 | 4.49 | 0.62 | 8.13 |
| 13/09/13 | 0.45 | 15.7 | 1.99 | 5.15 | 0.09 | 3.30 | 0.12 | 4.77 |
| 27/09/13 | 0.41 | 16.7 | 1.82 | 2.82 | 0.15 | 4.17 | 0.32 | 8.41 |
| 15/10/13 | 0.53 | 13.1 | 1.32 | 3.44 | 0.15 | 2.13 | 0.52 | 7.93 |
| 30/10/13 | 0.34 | 16.2 | 2.03 | 2.19 | 0.16 | 3.86 | 0.20 | 4.33 |
| 13/11/13 | 0.32 | 14.5 | 2.34 | 1.80 | 0.18 | 2.59 | 1.01 | 5.94 |
| 02/12/13 | 0.32 | 12.2 | 3.13 | 1.24 | 0.26 | 2.01 | 0.48 | 13.96 |
| 17/12/13 | x | - | x | x | x | 2.24 | 0.37 | 10.34 |
| 30/12/13 | 0.13 | 17.2 | 2.07 | 0.45 | 0.29 | 1.70 | 0.32 | 7.23 |
| 15/01/14 | 0.21 | 22.5 | 2.59 | 0.64 | 0.32 | 1.60 | 2.48 | 3.92 |
| 30/01/14 | 0.37 | 12.6 | 1.66 | 1.26 | 0.29 | 0.07 | 1.39 | 6.73 |
| 11/02/14 | 0.20 | 18.3 | 2.13 | 0.69 | 0.29 | 1.40 | 0.63 | 2.63 |
| 27/02/14 | 0.07 | 17.4 | 1.81 | 0.23 | 0.31 | 1.52 | 0.34 | 5.76 |
| 14/03/14 | 0.14 | 15.1 | 2.19 | 0.26 | 0.55 | 2.32 | 0.53 | 18.10 |
| 27/03/14 | 0.10 | 19.4 | 1.48 | 0.48 | 0.21 | 1.28 | 0.87 | 3.51 |
| 11/04/14 | 0.06 | 19.6 | x | 0.30 | 0.20 | 1.11 | 0.52 | 6.13 |
| 30/04/14 | x |  | x | x | x | 2.09 | 1.87 | 7.97 |
| 14/05/14 | 0.17 | 17.3 | 1.43 | 0.50 | 0.33 | 2.70 | 0.60 | 1.23 |
| 29/05/14 | 0.45 | 12.9 | 1.48 | 1.67 | 0.27 | 3.80 | 0.79 | 8.78 |
| 11/06/14 | 0.79 | 5.5 | 0.49 | 7.08 | 0.11 | 2.20 | 1.70 | 15.79 |
| 30/06/14 | 0.51 | 11.8 | 1.26 | 5.65 | 0.09 | 1.55 | 0.50 | 6.76 |
| 11/07/14 | 0.35 | 19.3 | 1.65 | 3.69 | 0.09 | 2.20 | 0.87 | 9.90 |
| 25/07/14 | 0.20 | 28.7 | 1.63 | 1.31 | 0.15 | 3.05 | 1.22 | 10.42 |
| 20/08/14 | 0.56 | 15.1 | 1.68 | 2.90 | 0.19 | 3.19 | x | x |

**Table S3.** **CDOM and ancillary data of the *-holothurian* effluent water.** The a 325values are the absorption coefficients at wavelength 325 nm (m-1), the S275-295 values are the spectral slopes at the wavelength band from 275 to 295 nm (μm-1), SR is the ratio of the slope between 275 and 295 nm divided by the slope between 350 and 400 nm (unitless) and the a\*325values are the molar absorption coefficients at wavelength 325 nm (mg C l-1m-1). TOC is total organic carbon in mg C l-1, POM is particulate organic carbon in mgl-1, chl *a* is the concentration of chlorophyll a in μgl-1 and BA is the bacterial abundance in (x106 cells ml-1).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Date  (dd/mm/yy) | a325  (m-1) | S275-295  (μm-1) | SR | a\*325  (m-1mg C L-1) | TOC  (mgC l-1) | POM  (mg l-1) | Chlorophyll *a*  (μg l-1) | Bacteria abundance  (x106 cells ml-1) |
| 17/07/13 | 0.72 | 34.9 | 2.34 | 4.85 | 0.15 | x | x | 9.36 |
| 30/07/13 | x | x | x | x | x | x | 0.79 | x |
| 29/08/13 | 0.58 | 39.8 | 2.60 | 3.91 | 0.15 | x | 0.53 | 8.68 |
| 13/09/13 | 1.27 | 30.8 | 2.80 | 12.71 | 0.10 | x | 0.47 | 4.21 |
| 27/09/13 | 0.85 | 33.4 | 2.55 | 4.50 | 0.19 | 3.36 | 0.29 | 5.91 |
| 15/10/13 | 0.88 | 33.1 | 2.35 | 4.03 | 0.22 | 3.80 | 0.47 | 6.53 |
| 30/10/13 | 0.72 | 35.1 | 2.85 | 3.54 | 0.20 | 2.21 | 0.40 | 4.21 |
| 13/11/13 | 0.54 | 38.0 | 3.30 | 2.00 | 0.27 | 2.73 | 0.57 | 5.71 |
| 02/12/13 | 0.54 | 36.0 | 3.64 | 1.28 | 0.42 | 1.67 | x | 15.23 |
| 17/12/13 | 0.68 | 34.3 | 3.90 | 1.62 | 0.42 | 1.67 | x | 9.23 |
| 30/12/13 | x |  | x | x | x | 2.64 | x | 9.19 |
| 15/01/14 | x | x | x | x | x | 3.54 | 2.31 | 7.9.8 |
| 30/01/14 | 0.54 | 13.7 | 1.66 | 2.54 | 0.21 | 2.94 | 0.92 | 8.8.8 |
| 11/02/14 | 0.54 | 36.5 | 2.97 | 2.34 | 0.23 | 1.92 | 0.52 | 2.2.9 |
| 27/02/14 | 0.37 | 40.4 | 3.16 | 1.51 | 0.24 | 2.35 | x | 14.21 |
| 14/03/14 | 0.49 | 34.3 | 2.74 | 0.96 | 0.51 | 0.72 | 1.91 | 17.60 |
| 27/03/14 | x | x | x | x | x | 2.28 | 2.19 | x |
| 11/04/14 | x | x | x | x | x | 1.98 | x | 10.58 |
| 30/04/14 | 0.44 | 37.2 | 0.40 | 1.90 | 0.23 | 1.12 | 0.37 | 12.16 |
| 14/05/14 | 0.45 | 39.3 | 2.43 | 1.22 | 0.37 | 2.76 | 0.34 | 4.89 |
| 29/05/14 | 0.67 | 33.6 | 2.45 | 3.36 | 0.20 | 0.66 | 0.98 | 7.99 |
| 11/06/14 | 1.13 | 31.3 | 2.22 | 7.33 | 0.15 | 2.80 | 1.26 | 9.13 |
| 30/06/14 | 0.90 | 30.5 | 2.48 | 10.03 | 0.09 | 2.52 | 0.83 | 7.13 |
| 11/07/14 | 0.74 | 36.1 | 2.44 | 6.26 | 0.12 | 2.82 | 1.69 | 14.51 |
| 25/07/14 | 0.57 | 39.1 | 1.75 | 3.80 | 0.15 | 2.88 | 1.16 | 13.48 |
| 20/08/14 | x | x | x | x | x | x | 0.81 | x |

**Table S4. CDOM and ancillary data of the +*holothurian* tank water.** The a 325values are the absorption coefficients at wavelength 325 nm (m-1), the S275-295 values are the spectral slopes at the wavelength band from 275 to 295 nm (μm-1), SR is the ratio of the slope between 275 and 295 nm divided by the slope between 350 and 400 nm (unit less) and the a\*325values are the molar absorption coefficients at wavelength 325 nm (mg C l-1m-1). TOC is total organic carbon in mg C l-1, POM is particulate organic carbon in mgl-1, chl *a* is the concentration of chlorophyll a in μgl-1 and BA is the bacterial abundance in (x106 cells ml-1).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Date  (dd/mm/yy) | a325  (m-1) | S275-295  (μm-1) | SR | a\*325  ( m-1mgC L-1) | TOC  (mg C l-1) | POM  (mg l-1) | Chlorophyll *a*  (μg l-1) | Bacteria abundance  (x 106 cell ml-1) |
| 17/07/13 | 0.55 | 23.4 | 1.87 | 5.18 | 0.11 | 3.90 | x | 9.06 |
| 30/07/13 | 0.30 | 29.2 | 1.85 | 0.94 | 0.31 | 3.62 | 0.25 | 6.38 |
| 29/08/13 | 0.60 | 23.7 | 2.37 | 2.76 | 0.22 | 4.75 | 0.37 | 7.00 |
| 13/09/13 | 1.02 | 19.8 | 1.92 | 10.04 | 0.10 | 3.96 | 0.51 | 4.64 |
| 27/09/13 | 0.48 | 25.3 | 2.02 | 2.51 | 0.19 | 4.48 | 0.41 | 8.28 |
| 15/10/13 | 0.76 | 20.6 | 1.61 | 3.89 | 0.20 | 3.65 | 0.46 | 6.86 |
| 30/10/13 | 0.46 | 25.0 | 2.21 | 2.75 | 0.17 | 2.96 | 0.11 | 3.16 |
| 13/11/13 | 0.46 | 23.7 | 2.49 | 1.85 | 0.25 | 3.13 | 0.50 | 5.79 |
| 02/12/13 | 0.41 | 21.5 | 2.87 | 1.08 | 0.38 | 2.63 | 0.44 | 14.83 |
| 17/12/13 | 0.46 | 26.2 | 2.34 | 1.48 | 0.31 | 2.68 | 1.26 | 10.24 |
| 30/12/13 | 0.28 | 30.7 | 2.67 | 0.89 | 0.32 | 1.23 | 0.54 | 7.13 |
| 15/01/14 | 0.35 | 27.5 | 2.15 | 1.10 | 0.32 | 1.30 | 1.41 | 3.82 |
| 30/01/14 | 0.48 | 21.6 | 2.04 | 3.06 | 0.16 | 1.00 | 0.69 | 6.62 |
| 11/02/14 | 0.31 | 26.1 | 2.61 | 1.53 | 0.20 | 1.48 | 0.52 | 2.31 |
| 27/02/14 | 0.14 | 29.2 | 2.03 | 0.47 | 0.30 | 1.56 | 0.70 | 7.31 |
| 14/03/14 | 0.24 | 24.5 | 2.25 | 0.43 | 0.57 | 1.80 | 0.50 | 18.35 |
| 27/03/14 | 0.32 | 22.1 | 2.30 | 1.43 | 0.22 | 1.40 | 1.05 | 3.42 |
| 11/04/14 | 0.19 | 27.5 | 4.37 | 1.09 | 0.17 | 1.40 | 0.45 | 6.58 |
| 30/04/14 | 0.48 | 22.1 | 1.66 | 1.68 | 0.29 | 2.93 | 1.84 | 8.05 |
| 14/05/14 | 0.30 | 25.0 | 1.88 | 1.02 | 0.30 | 2.60 | 0.39 | 3.92 |
| 29/05/14 | 0.49 | 23.0 | 1.74 | 4.47 | 0.11 | 2.25 | 0.66 | 6.77 |
| 11/06/14 | 0.93 | 14.5 | 1.08 | 3.42 | 0.27 | 2.27 | 0.99 | 7.01 |
| 30/06/14 | 0.62 | 21.0 | 1.57 | 10.82 | 0.06 | 2.30 | 0.45 | 6.90 |
| 11/07/14 | 0.56 | 23.6 | 1.77 | 6.97 | 0.08 | 2.55 | 0.92 | 9.76 |
| 25/07/14 | 0.34 | 36.6 | 2.10 | 2.88 | 0.12 | 3.20 | 1.17 | 12.20 |
| 20/08/14 | 0.67 | 24.1 | 2.01 | 4.11 | 0.16 | 3.05 | 2.07 | x |

**Table S5. CDOM and ancillary data of the *-holothurian* tank water**. The a 325values are the absorption coefficients at wavelength 325 nm (m-1), the S275-295 values are the spectral slopes at the wavelength band from 275 to 295 nm (μm-1), SR is the ratio of the slope between 275 and 295 nm divided by the slope between 350 and 400 nm (unit less) and the a\*325values are the molar absorption coefficients at wavelength 325 nm (mg C l-1m-1). TOC is total organic carbon in mg C l-1, POM is particulate organic carbon in mgl-1, chl *a* is the concentration of chlorophyll a in μgl-1 and BA is the bacterial abundance in (x106 cells ml-1).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Date  (dd/mm/yy) | a325  (m-1) | S275-295  (μm-1) | SR | a\*325  (m-1mg C L-1) | TOC  (mgC l-1) | POM  (mg l-1) | Chlorophyll *a*  (μg l-1) | Bacteria abundance  (x 106 cells ml-1) |
| 17/07/13 | 0.79 | 26.4 | 2.18 | 4.86 | 0.16 | 3.72 | x | 10.22 |
| 30/07/13 | x | x | x | x | x | x | x | x |
| 29/08/13 | 0.90 | 26.0 | 2.17 | 4.34 | 0.21 | x | 2.99 | 7.60 |
| 13/09/13 | 0.82 | 27.5 | 2.20 | 10.28 | 0.08 | 4.44 | 0.47 | 4.20 |
| 27/09/13 | 0.76 | 27.1 | 2.19 | 4.52 | 0.17 | 3.40 | 0.35 | 9.30 |
| 15/10/13 | 0.93 | 24.7 | 1.93 | 4.97 | 0.19 | 3.46 | 0.31 | 7.35 |
| 30/10/13 | 0.77 | 26.3 | 2.68 | 4.66 | 0.17 | 2.32 | 0.31 | 2.80 |
| 13/11/13 | 0.62 | 29.2 | 3.04 | 4.19 | 0.15 | 2.77 | 0.57 | 5.84 |
| 02/12/13 | 0.62 | 26.3 | 3.81 | 2.51 | 0.25 | 3.42 | 1.18 | 16.93 |
| 17/12/13 | 0.75 | 29.2 | 2.56 | 2.20 | 0.34 | 3.12 | 1.18 | 10.06 |
| 30/12/13 | x | x | x | x | x | 4.14 | x | 7.13 |
| 15/01/14 | x | x | x | x | x | 3.60 | 2.56 | 3.88 |
| 30/01/14 | 0.56 | 29.2 | 3.32 | 1.81 | 0.31 | 2.82 | 0.92 | 6.66 |
| 11/02/14 | 0.56 | 30.0 | 2.65 | 2.60 | 0.22 | 2.28 | 0.90 | 2.31 |
| 27/02/14 | 0.44 | 32.0 | 2.60 | 1.44 | 0.30 | 1.97 | x | 14.11 |
| 14/03/14 | 0.54 | 26.2 | 2.50 | 0.73 | 0.74 | 1.54 | 2.45 | 18.34 |
| 27/03/14 | x | x | x | x | x | 2.34 | 3.09 | x |
| 11/04/14 | x | x | x | x | x | 2.04 | x | 10.59 |
| 30/04/14 | 0.52 | 29.2 | 2.68 | 2.54 | 0.20 | 3.12 | 0.31 | 12.07 |
| 14/05/14 | 0.52 | 30.3 | 1.99 | 1.73 | 0.30 | 2.34 | 0.44 | 4.73 |
| 29/05/14 | 0.82 | 25.1 | 2.07 | 4.19 | 0.20 | 2.28 | 0.76 | 8.08 |
| 11/06/14 | 1.16 | 22.2 | 1.79 | 9.81 | 0.12 | 3.30 | 1.33 | 10.02 |
| 30/06/14 | 0.93 | 22.4 | 2.11 | 13.05 | 0.07 | 2.58 | 0.71 | 7.19 |
| 11/07/14 | 0.81 | 26.3 | 2.17 | 11.07 | 0.07 | 3.12 | 1.14 | 12.15 |
| 25/07/14 | 0.62 | 32.1 | 1.51 | 4.68 | 0.13 | 3.28 | 1.27 | x |
| 20/08/14 | x | x | x | x | x | x | x | x |