CLAIMS

1. An apparatus, comprising:

a parameter acquisition means for acquiring a parameter relating to an environment in which a vessel having a water contacting surface coated with a certain type of anti-fouling coating material is placed;

an index value acquisition means for acquiring a first index value indicating a likelihood of occurrence of fouling of the water contacting surface per unit time corresponding to the parameter; and

an index value specification means for specifying a second index value indicating the likelihood of the occurrence of fouling of the water contacting surface in a first period in the environment, based on the first index value.

2. The apparatus according to claim 1,

wherein the parameter acquisition means acquires water temperature and vessel speed as the parameters,

the index value acquisition means acquires the first index value indicating a decrease amount per unit time of the certain type of anti-fouling coating material or an anti-fouling component contained in the anti-fouling coating material on the water contacting surface, corresponding to the water temperature and the vessel speed, and

based on the first index value, the index value specification means specifies the second index value indicating a decrease amount of the certain type of anti-fouling coating material or anti-fouling component contained in the anti-fouling coating material on the water contacting surface in the first period in the environment.

3. The apparatus according to claim 2,

wherein the parameter acquisition means acquires the parameters

for each of a plurality of periods constituting the first period,

the index value acquisition means acquires the first index value for each of the plurality of periods, and

for each of the plurality of periods, based on the first index value acquired by the index value acquisition means for the period, the index value specification means specifies a third index value indicating the likelihood of the occurrence of fouling of the water contacting surface in an environment indicated by the parameters acquired by the parameter acquisition means for the period, and specifies the second index value based on a plurality of the third index values that were specified.

4. The apparatus according to claim 3, comprising:

a remaining amount acquisition means for acquiring a remaining amount of the certain type of anti-fouling coating material or the anti-fouling component contained in the anti-fouling coating material on the water contacting surface at a start timing of the first period; and

a remaining amount specification means for specifying a remaining amount of the certain type of anti-fouling coating material or the anti-fouling component contained in the anti-fouling coating material on the water contacting surface at an ending timing of the first period, based on the remaining amount of the anti-fouling component and the second index value.

5. The apparatus according to claim 3,

wherein the index value acquisition means acquires the first index value for each of a plurality of types of anti-fouling coating material, and

the index value specification means specifies the second index value for each of the plurality of types of anti-fouling material.

6. The apparatus according to claim 2, comprising:

a decrease amount acquisition means for acquiring a measurement

value of the decrease amount of the certain type of anti-fouling coating material or the anti-fouling component contained in the anti-fouling coating material on the water contacting surface in the first period; and

an index value correction means for, for each of a plurality of the first periods, correcting the first index value based on the parameters acquired by the parameter acquisition means and the measurement value acquired by the decrease amount acquisition means.

7. The apparatus according to claim 1,

wherein the parameter acquisition means acquires a vessel speed and a position of the vessel as the parameters,

the index value acquisition means acquires the first index value indicating a degree of influence per unit time that attached matter on the water contacting surface has on an increase in resistance that occurs during a voyage of the vessel , corresponding to the vessel speed and position of the vessel, and

based on the first index value, the index value specification means specifies the second index value indicating a degree of influence that attached matter on the water contacting surface has on an increase in resistance that occurs during a voyage of the vessel, in the first period in the environment.

8. The apparatus according to claim 7, wherein the index value acquisition means acquires the decrease amount per unit time of the certain type of anti-fouling coating material or the anti-fouling component contained in the anti-fouling coating material on the water contacting surface, corresponding to the vessel speed, and acquires the first index value corresponding to the decrease amount per unit time.

9. The apparatus according to claim 7 or 8,

wherein the parameter acquisition means acquires the parameter for each of a plurality of periods constituting the first period,

the index value acquisition means acquires the first index value for each of the plurality of periods, and

for each of the plurality of periods, based on the first index value acquired by the parameter acquisition means for the period, the index value specification means specifies a third index value indicating the degree of influence that attached matter on the water contacting surface has on an increase in resistance that occurs during the voyage of the vessel in the environment indicated by the parameter acquired by the parameter acquisition means for the period, and specifies the second index value based on a plurality of the third index values that were specified.

10. The apparatus according to any one of claims 9,

wherein the index value acquisition means acquires the first index value for each of a plurality of types of anti-fouling coating material, and

the index value specification means specifies the second index value for each of the plurality of types of anti-fouling material.

11. The apparatus according to claim 7, comprising:

an influence degree acquisition means for acquiring a measurement value for the degree of influence that the attached matter on the water contacting surface of the vessel has on an increase in resistance that occurs during the voyage of the vessel in the first period; and

an index value correction means for, for each of a plurality of the first periods, correcting the first index value based on the parameter acquired by the parameter acquisition means and the measurement value acquired by the influence degree acquisition means.

12. The apparatus according to claim 11,

wherein the parameter acquisition means acquires the vessel speed of the vessel or a physical amount correlated with the vessel speed of the vessel, and the fuel consumption of the vessel or a physical amount correlated with the fuel consumption of the vessel, as the parameters, and

the influence degree acquisition means calculates the measurement value of the degree of influence based on the vessel speed or physical amount correlated with the vessel speed, acquired by the parameter acquisition means, and the fuel consumption or physical amount correlated with the fuel consumption, acquired by the parameter acquisition means.

13. A program for causing a computer to execute:

processing for acquiring a parameter relating to an environment in which a vessel having a water contacting surface coated with a certain type of anti-fouling coating material is placed;

processing for acquiring a first index value indicating a likelihood of occurrence of fouling of the water contacting surface per unit time corresponding to the parameter; and

processing for specifying a second index value indicating a likelihood of occurrence of fouling of the water contacting surface in a first period in the environment, based on the first index value.

14. A computer-readable storage medium permanently storing a program for causing a computer to execute:

processing for acquiring a parameter relating to an environment in which a vessel having a water contacting surface coated with a certain type of anti-fouling coating material is placed;

processing for acquiring a first index value indicating a likelihood of occurrence of fouling of the water contacting surface per unit time corresponding to the parameter; and

processing for specifying a second index value indicating the likelihood of the occurrence of fouling of the water contacting surface in a first period in the environment, based on the first index value.