

## 18. Marine Ecosystems Awareness Diver

### 18.1 Introduction

Divers have a vested interest in protecting the marine environment. In many cases, divers do not have environmental information about the local sites. This specialty is designed to increase the open water diver's understanding of marine and freshwater environments, the problems facing these unique ecosystems, and the role that divers play in protecting our marine resources.

### 18.2 Who May Teach

An active SDI Instructor or Assistant Instructor that has been certified to teach this specialty

### 18.3 Student to Instructor Ratio

#### Academic

1. Unlimited, so long as adequate facility, supplies and time are provided to insure comprehensive and complete training of subject matter

#### Confined Water (swimming pool-like conditions)

1. N/A

#### Open Water (ocean, lake, quarry, spring, river or estuary):

1. A maximum of 8 students per instructor; it is the instructor's discretion to reduce this number as conditions dictate
2. The instructor has the option of adding 2 more students with the assistance of an active assistant instructor or divemaster
3. The total number of students an instructor may have in the water is 12 with the assistance of 2 active assistant instructors or divemasters

### 18.4 Student Prerequisites

1. SDI Open Water Scuba Diver, SDI Junior Open Water Scuba Diver, or equivalent
2. Minimum age 18, 10 with parental consent

## **18.5 Course Structure and Duration**

### **Open Water Execution**

1. Two dives are required with complete briefs and debriefs by the instructor
2. Dive plan must include surface interval, maximum no-decompression time, etc. to be figured out and logged

### **Course Structure**

1. SDI allows instructors to structure courses according to the number of students participating and their skill level

## **18.6 Administrative Requirements**

### **Administrative Tasks:**

1. Collect the course fees from all the students
2. Ensure that the students have the required equipment
3. Communicate the schedule to the students
4. Have the students complete the:
  - a. *SDI Liability Release and Express Assumption of Risk Form*
  - b. *SDI Medical Statement Form*

### **Upon successful completion of this specialty the instructor must:**

1. Issue the appropriate SDI certification by submitting the *SDI Diver Registration Form* to SDI Headquarters or registering the students online through member's area of the SDI website

## **18.7 Required Equipment**

1. Basic open water scuba equipment as described in section three of this manual
2. A marine life identification guide
3. Diver's slate

## 18.8 Approved Outline

**Instructors may use any additional text or materials that they feel help present these topics. The following topics must be covered:**

1. Physical Attributes
  - a. Temperature and thermoclines
  - b. Salinity and halocline
  - c. Dissolved gases
  - d. Light, as it applies to photosynthesis
  - e. Nutrient circulation
  - f. Waves and tides
  - g. Currents and nutrient cycling
2. Topographical Features
3. Marine Organisms
  - a. Plankton
    - i. Zooplankton
    - ii. Phytoplankton
  - b. Aquatic plants
    - i. Types of algae
    - ii. Seed plants
    - iii. Specific local plant life
  - c. Aquatic animals
    - i. Sponges
    - ii. Cnidarians
    - iii. Mollusks
    - iv. Arthropods
    - v. Echinoderms
    - vi. Chordates
  - d. Specific local animals
  - e. Aquatic food webs
  - f. Behavioral changes due to daily cycle
4. Ecosystems
  - a. Tropical reef
  - b. Temperate
  - c. Freshwater
5. Environmentally Friendly Diving Techniques
  - a. Buoyancy control
  - b. Kick technique
  - c. Local considerations

6. Issues Facing Marine Ecosystems
  - a. Issues of local interest
  - b. Global habitat destruction and pollution
  - c. Over fishing
7. Coral Bleaching
8. Diver Animal Interactions
  - a. Intrusive
  - b. Non-intrusive
  - c. Feeding
  - d. Treating marine life injuries
9. Observation Techniques
  - a. Grids
  - b. Passive observation
10. Collection Methods

## **18.9 Required Skill Performance and Graduation Requirements**

**Dives must be completed at 2 different sites or at different times of the day. Students are required to successfully complete the following:**

1. Open Water Dive 1
  - a. Buoyancy control
  - b. Make general observations
    - i. Location
    - ii. Bottom composition
    - iii. Marine life
    - iv. Special characteristics
    - v. Indications of human impact
  - c. Grid observations
    - i. Make two separate sets of grid observations during the dive
    - ii. Describe all marine life for later identification
    - iii. Record behavior
  - d. Log dive

2. Open Water Dive 2
  - a. Complete this dive at a different site or time of day than dive 1
  - b. General Observations
  - c. Same as open water dive 1
  - d. Specific observations
  - e. Same as open water dive 1
  - f. Site debrief
  - g. Compare and contrast dive sites
  - h. Discuss the effect of human impacts
  - i. Discuss ways to minimize human impact
  - j. Log dive