17. Marine Ecosystems Awareness Diver

17.1 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.

17.2 Who May Teach

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

17.3 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 dvemasters

17.4 Student Prerequisites

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

17.5 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

17.6 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

17.7 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

17.8 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

17.9 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