5. Freediver Marine Ecosystems Awareness

5.1 Introduction

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

5.2 Who May Teach

An active PFI Instructor that has been certified to teach this specialty

5.3 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 6 students per instructor; it is the instructor's discretion to reduce this number as conditions dictate
2. The instructor has the option of adding 4 more students with the assistance of an active assistant instructor
3. The total number of students an instructor may have in the water is 10 with the assistance of active assistant instructors

5.4 Student Prerequisites

1. PFI Freediver, PFI Junior Freediver, or equivalent
2. Minimum age 18, 10 with parental consent

5.5 Course Structure and Duration

Open Water Execution

1. Two dive sessions are required with complete briefs and debriefs by the instructor
2. Freedive plan must include surface interval calculation, direct supervision procedures, etc. to be figured out and logged

Course Structure

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

5.6 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. *PFI General Liability Release and Express Assumption of Risk* Form
    b. *PFI Medical History* Form

Upon successful completion of this specialty the instructor must:

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

5.7 Required Equipment

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

5.8 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 Freediving 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. Overfishing
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

5.9 Required Skill Performance and Graduation Requirements

Freedive sessions 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 Freedive session 1
    a. Demonstrate 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 freedive session
        ii. Describe all marine life for later identification
        iii. Record behavior
    d. Log freedives

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