

Appendix 1

Humboldt State University
***Diver Certification & Training
Documentation***

Diver's Name: _____

Document
(Appendix)

Current Document Date
(Document Date / Initials of DSO)

| | |
|---|---------------|
| A-2 Certification Application | _____ / _____ |
| CPR Expiration Date: | _____ |
| Oxygen Provider Expiration Date: | _____ |
| A-3 Approved Medical Evaluation of Fitness | _____ / _____ |
| Date of Last Evaluation: | _____ |
| A-4 CSU/HSU/NAUI Waivers | _____ / _____ |
| A-5 Statement of Understanding of HSU Dive Manual | _____ / _____ |
| A-6 Diver Emergency Information | _____ / _____ |
| A-7 Diver Certification Skills Verification | _____ / _____ |
| A-8 AAUS Request for Diving Reciprocity | _____ / _____ |
| A-12 HSU Dive Logs | _____ / _____ |
| Personal Diving Equipment Inspection Records | _____ / _____ |
| HSU Diver Certification Level: _____ | _____ / _____ |

Appendix 2

Humboldt State University
Diver Certification Application

Name: _____ SS/ID No. _____

Local Address: _____

Permanent Address (if different): _____

Home Phone: (____)_____ Business Phone: (____)_____ E-Mail: _____

Birth Date: _____ Occupation: _____

Employer: _____ Address: _____

In case of emergency notify: _____ Phone: (____)_____

Your Doctor: _____ Phone: (____)_____

Address: _____

Diving Related Certification or Experience:

(Use back of form if needed)

| Certification/Experience | Date | Location |
|--------------------------|-------|----------|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

CPR Certification:
Type: _____ Organization: _____ Expiration Date: _____

First-Aid Certification:
Type: _____ Organization: _____ Expiration Date: _____

Oxygen Provider Certification:
Type: _____ Organization: _____ Expiration Date: _____

I understand that I need to complete a *Diving Medical Evaluation* (Appendix 3) and be approved for diving by a licensed physician before any diving or hyperbaric exposure under the auspices of HSU and that I must comply with all standards and policies of this manual.

Signature of Applicant

Date: _____

***Note:** If you have special individual needs or disabilities, please see the Diving Safety Officer to arrange possible accommodation.

Appendix 3.0

Humboldt State University ***Medical Evaluation of Fitness for SCUBA, Surface-Supplied & Free Diving***

Section 14, *Medical Standards*, of the *Humboldt State University Diving Safety Manual* defines the standards for determining the medical fitness of a person to dive under the auspices of the University. Appendix 3 of the Manual lists the guidelines for the medical evaluation and requirements for medical clearance and approval to dive. The following HSU documents must be included in the physician's evaluation and report of fitness to dive. These documents shall be filed in the Applicant's HSU Diver Certification file.

A-3 Medical Evaluation Report of Fitness for SCUBA, Surface-Supplied and Free Diving

A-3.1 Diving Medical History Form.

Appendix A3.2, *Diving Medical Examination Overview for the Examining Physician*, provides the physician with a synopsis of factors which may affect the evaluation of the applicant. It includes a listing of medical conditions which may or should disqualify the applicant for diving and medical references to guide the physician.

It should be stressed that the examining physician must verify that the applicant does not have any medical conditions or limitations that would endanger their safety if they dive. Safety of the diver and Dive Team is the only consideration in determining fitness to dive.

The HSU Diving Safety Officer can provide additional information concerning the demands and rigors of diving, the types of hyperbaric and hypobaric injuries experienced by divers and of the standards described in the Manual.

Appendix 3.1

Humboldt State University
Diving Medical History Form

Date _____/_____/_____

Applicant's Name _____ **Gender** _____ **Age** _____ **Wt.** _____ **Ht.** _____

(Print)

TO THE APPLICANT: SCUBA, Surface-Supplied or Free Diving makes considerable demands on you both physically and mentally. Diving with certain medical conditions or deficiencies may place you and anyone coming to your assistance at risk and in danger. Therefore, it is prudent to meet certain medical and physical requirements before beginning to dive or participating in a diver training program. Your answers to the questions are more important, in many instances, in determining your fitness than what the physician may see, hear, or feel when you are examined. Obviously, you should give accurate information or the medical screening procedure becomes useless.

This form shall be kept confidential; it will be reviewed only by a physician and the Diving Safety Officer. If you believe any question amounts to invasion of your privacy, you may elect to omit an answer, provided that you shall subsequently discuss that matter with your own physician and he must then indicate, in writing, that you have done so and that no health hazard exists.

Should your answers indicate a condition which might make diving hazardous, you will be asked to review the matter with your physician. In such instances, his written authorization will be required in order for further consideration to be given your application. If your physician concludes that diving would involve undue risk for you, remember that he is concerned only with your well-being and safety. Respect his advice and the intent of this medical history form.

Have you ever had or do you presently have any of the following?

1. Trouble with your ears, including ruptured eardrum, difficulty clearing your ears or surgery on your ears. Yes _____ No _____
2. Trouble with dizziness. Yes _____ No _____
3. Eye surgery. Yes _____ No _____
4. Depression, anxiety, claustrophobia, etc. Yes _____ No _____
5. Substance abuse, including alcohol. Yes _____ No _____
6. Loss of consciousness. Yes _____ No _____
7. Epilepsy or other seizures, convulsions or fits. Yes _____ No _____
8. Stroke or a neurological deficit. Yes _____ No _____

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- 9. Recurring neurologic disorders, including transient ischemic attacks. Yes_____ No_____
- 10. Aneurysms or bleeding in the brain. Yes_____ No_____
- 11. Decompression sickness or embolism. Yes_____ No_____
- 12. Head injury. Yes_____ No_____
- 13. Disorders of the blood or easy bleeding. Yes_____ No_____
- 14. Heart disease, diabetes or high cholesterol. Yes_____ No_____
- 15. Anatomical heart abnormalities including patent foramen ovale, valve problems, etc. Yes_____ No_____
- 16. Heart rhythm problems. Yes_____ No_____
- 17. Need for a pacemaker. Yes_____ No_____
- 18. Difficulty with exercise. Yes_____ No_____
- 19. High blood pressure. Yes_____ No_____
- 20. Collapsed lung. Yes_____ No_____
- 21. Asthma. Yes_____ No_____
- 22. Other lung diseases. Yes_____ No_____
- 23. Diabetes mellitus. Yes_____ No_____
- 24. Pregnancy. Yes_____ No_____
- 25. Surgery (If “yes” explain below). Yes_____ No_____
- 26. Hospitalizations (If “yes” explain below). Yes_____ No_____
- 27. Do you take any medications? (If “yes” explain below). Yes_____ No_____
- 28. Do you have any allergies to medications, foods or environmental factors? (If “yes” explain below). Yes_____ No_____

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29. Do you smoke? Yes_____ No_____
30. Do you drink alcoholic beverages? Yes_____ No_____
31. Is there a family history of high cholesterol? Yes_____ No_____
32. Is there a family history of heart disease or stroke? Yes_____ No_____
33. Is there a family history of diabetes? Yes_____ No_____
34. Is there a family history of asthma? Yes_____ No_____
35. Have you or do you have any medical problems not listed? (If “yes” explain below). Yes_____ No_____

Please explain any “yes” answers to the above questions or comment on answers in the space below.

“I certify that the above answers and information represent an accurate and complete description of my medical history.”

Signature _____ Date ____/____/____

Appendix 3.2

Humboldt State University
***Diving Medical Examination Overview
for the Examining Physician***

To the Examining Physician:

This Applicant, _____, requires a medical examination to assess his/her fitness for certification as a SCUBA, Surface-Supplied or Free Diver. A SCUBA and Surface-Supplied diver breathes compressed-gas when diving, while a Free Diver holds their breath while diving and never breathes compressed-gas. The Applicant's *Diving Medical History Form* (Appendix 3.1) may indicate potential health or safety risks. Your evaluation is requested on the attached Diving Medical Examination form. If you have questions about diving medicine, you may wish to consult one of the references on the attached list or contact a physician with expertise in diving medicine. Please contact the HSU Diving Safety Officer if you have any questions or concerns about diving medicine, the standards or the Applicant's fitness to dive.

(Diving Officer)

(Phone)

SCUBA diving, Free Diving and other modes of diving can be strenuous and hazardous. There is a special risk during any SCUBA diving or other modes of hyperbaric compressed-gas diving (including in a pool) if the middle ear, sinuses or lungs do not readily equalize gas pressure changes. Free Diving does not normally cause pulmonary barotrauma. The most common cause of distress is eustachian insufficiency. Most fatalities involve deficiencies in prudence, judgment, emotional stability or physical fitness. The following is a partial listing of conditions which usually prohibit or restrict persons from diving.

Potential Absolute Contraindications to Diving Include:

1. Definite emotional instability or mental retardation.
2. Poor exercise tolerance, any cause.
3. Subject to faintness or blackout (e.g., epilepsy, brittle diabetes, dysrhythmia).
4. Subject to pneumothorax (previous pneumothorax, bleb or cyst or air-trapping lesion in lung).
5. Active pulmonary or cardiovascular disease.
6. History of myocardial infarction.
7. Drug addiction or habitual abuse, including alcohol.
8. Perforated eardrum or chronic otitis media.
9. Pregnancy.

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Relative Contraindications To Diving Include:

1. Decreased pulmonary reserve from any cause.
2. Malignancies (active) unless treated and without recurrences for 5 years.
3. Gross obesity in diving requiring decompression.
4. History of thoracotomy.
5. Impaired vision or blindness in one eye.
6. Chronic inability to equalize sinus and/or middle ear pressure.
7. Impaired organ function caused by alcohol or drug use.
8. Conditions requiring continuous medication for control (e.g., antihistamines, steroids, barbiturates, mood-altering drugs, or insulin).
9. Meniere's disease.
10. Hemoglobinopathies.
11. Cardiac abnormalities (e.g., pathological heart block, valvular disease, intraventricular conduction defects other than isolated right bundle branch block, angina pectoris, arrhythmia, coronary artery disease).
12. Juxta-articular osteonecrosis.

The Following List of Conditions Usually Prohibits Applicants From Diving: (Adapted from *Davis 1986:47-50*, bracketed numbers are pages in *Davis*.)

1. Tympanic membrane perforation or aeration tube [7]
2. Inability to auto-inflate the middle ears [6,7,8]
3. External ear exostoses or osteomas adequate to prevent external ear canal
4. Meniere's Disease or other chronic vertiginous conditions, status post-surgery, such as subarachnoid endolymphatic shunt for Meniere's Disease [11]
5. Stapedectomy and middle ear prosthesis [9]
6. Chronic mastoiditis or mastoid fistula [5]
7. Any oral or maxillofacial deformity that interferes with the retention of the regulator mouthpiece [43]
8. Corrected near visual acuity not adequate to see tank pressure gauge, watch, decompression tables, and compass underwater. Uncorrected visual acuity not adequate to see the diving buddy or locate the boat in case corrective lenses are lost underwater [13]
9. Radial keratotomy or other recent ocular surgery [14]
10. Claustrophobia of a degree to predispose to panic [15,16]
11. Suicidal ideation [16]
12. Significant anxiety states [16]
13. Psychosis [18]
14. Severe depression [16]
15. Manic states [16]
16. Alcoholism [19,20]
17. Mood-altering drug use [19,20]
18. Improper motivation for diving [16,17,18]

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19. Episodic loss of consciousness [1,22]
20. History of seizure. History of seizure in early childhood must be evaluated individually [21]
21. Migraine [20]
22. History of cerebrovascular accident or transient ischemic attack [23]
23. History of spinal cord trauma with neurologic deficit - whether fully recovered or not [23]
24. Any degenerative or demyelinating CNS process [25]
25. Brain tumor with or without surgery [24]
26. Intracranial aneurysm or other vascular malformation [24]
27. History of neurological decompression sickness with residual deficit [23,24]
28. Head injury with sequelae [21]
29. History of intracranial surgery [24]
30. Sickle cell disease [34]
31. Polycythemia or leukemia [34]
32. Unexplained anemia [34]
33. History of myocardial infarction [28,29,20]
34. Angina or other evidence of coronary artery disease [29]
35. Unrepaired cardiac septal defects [32]
36. Aortic stenosis or mitral stenosis [32]
37. Complete heart block [31]
38. Fixed second-degree heart block [31]
39. Exercised-induced tachyarrhythmias [31,32]
40. Wolf-Parkinson-White (WPW) Syndrome with paroxysmal atrial tachycardia or syncope [31]
41. Fixed-rate pacemakers [33]
42. Any drugs which inhibit the normal cardiovascular response to exercise tolerance [31]
43. Peripheral vascular disease, arterial or venous, severe enough to limit exercise tolerance [33,41]
44. Hypertension with end-organ finding - retinal, cardiac, renal or vascular [30]
45. History of spontaneous pneumothorax [36]
46. Bronchial asthma. History of childhood asthma requires special studies [7,35]
47. Exercise or cold air-induced asthma [36,37]
48. X-ray evidence of pulmonary blebs, bullae, or cysts [36,37]
49. Chronic obstructive pulmonary disease [37]
50. Insulin-dependent diabetes mellitus. Diet or oral medication-controlled diabetes mellitus if there is a history of hypoglycemic episodes [38]
51. Any abdominal wall hernia with potential for gas-trapping until surgically corrected [41]
52. Paraesophageal or incarcerated sliding hiatal hernia [39]
53. Sliding hiatus hernia if symptomatic due to reflux esophagitis [39]
54. Pregnancy [1,45]
55. Osteonecrosis. A history consistent with a high risk of dysbaric osteonecrosis
56. Any condition requiring ingestion of the following medication: antihistamines, bronchodilators, steroids, barbiturates, phenytoin, mood-altering drugs, insulin

Appendix 3.2

Suggested References In Diving Medicine:

DIVING MEDICINE, 1997. A. Bove and J. Davis. W.B. Saunders Company, Philadelphia

DIVING AND SUBAQUATIC MEDICINE, Third Edition, 2001. C. Edmonds, C. Lowery and J. Pennefather. Butterworth-Heinemann Ltd. Oxford. (Available from Best Publishing Company, P.O. Box 30100, Flagstaff, AZ 86003-0100)

MEDICAL EXAMINATION OF SPORT SCUBA DIVERS, Jefferson Davis, M.D. (ed.). Best Publishing Company, P.O. Box 30100, Flagstaff, AZ 86003-0100.

NOAA DIVING MANUAL, NOAA. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C.

SCUBA DIVING IN SAFETY AND HEALTH, C.W. Deuker. Madison Publishing Associates, Diving Safety Digest, P.O. Box 2735, Menlo Park, CA 94026

THE PHYSICIAN'S GUIDE TO DIVING MEDICINE, C.W. Shilling, C.B. Carlston and R.A. Mathias. Plenum Press, New York, NY 1984 (Available through the Undersea and Hyperbaric Medical Association, Bethesda, MD)

U.S. NAVY DIVING MANUAL. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C.

Appendix 3.3.0

Humboldt State University
***Medical Evaluation Report of Fitness for:
SCUBA, Surface-Supplied & Free Diving***

Name of Applicant (Print or Type)

Date (Mo/Day/Year)

To The Examining Physician:

This person is an applicant for diver training or is presently certified to engage in diving with self-contained underwater breathing apparatus (SCUBA), Surface-Supplied or Free Diving. Diving requires heavy exertion and in several ways puts unusual stress on the diver. Your opinion on the applicant's medical fitness to dive is requested and your approval is required before this person is allowed to dive. The diver must be free of cardiovascular and respiratory disease. An absolute requirement is the ability of the lungs, middle ear and sinuses to equalize pressure when diving while breathing compressed-gas and the ability of the middle ear and sinuses to equalize pressure when Free Diving. Any condition that risks the loss of consciousness shall disqualify the applicant. **Note:** Free Diving may be restricted to pool only diving, but compressed-gas diving can not have limited hyperbaric or hypobaric exposures either in a pool or open water.

Tests: Please initial that the following required tests were completed.

Initial Examination

____ Medical History
____ Complete Physical Exam with emphasis
on cardio-pulmonary, neurological and
otological components
____ Chest X-Ray
____ Resting EKG or 12 lead EKG
____ Pulmonary function
____ Audiogram
____ Visual acuity
____ Hematocrit or Hemoglobin
____ Blood chemistry
____ Urinalysis
____ Assessment of coronary artery disease
using Multiple-Risk-Factor Assessment
(age, lipid profile, blood pressure, diabetic screening, smoker)
____ Any further tests deemed necessary
by the physician

Re-examination

____ Medical History
____ Complete Physical Exam with emphasis
on cardio-pulmonary, neurological and
otological components
____ Resting EKG or 12 lead EKG
____ Pulmonary function
____ Visual acuity
____ Hematocrit or Hemoglobin
____ Blood chemistry
____ Urinalysis
____ Assessment of coronary artery disease
using Multiple-Risk-Factor Assessment
____ Any further tests deemed necessary
by the physician

Appendix 3.3.1

Physician's Recommendation

(Applicant's Name: _____)

- APPROVAL.** I find no medical condition(s) which I consider incompatible with diving.

- RESTRICTED ACTIVITY APPROVAL.** The applicant may dive in certain circumstances as described in "*Remarks*".

- FURTHER TESTING REQUIRED.** I have encountered a potential contraindication to diving. Additional medical tests must be performed before a final assessment can be made. See "*Remarks*".

- REJECT.** This applicant has medical condition(s) which, in my opinion, clearly would constitute unacceptable hazards to health and safety in diving.

Date: _____

Signature of Examining Physician: _____ M.D.

Name of Examining Physician (Print or Type): _____

Mailing Address: _____

Telephone Number: (_____) _____

Appendix 3.3.2

Examining Physician's Remarks

(Applicant's Name: _____)

"I have discussed with the patient any medical condition(s) which could pose a health hazard to them if they were to participate in diving."

Date: _____

Signature of Examining Physician M.D.

=====

Applicant's Release of Medical Information

"I authorize the release of this information and all medical information subsequently acquired in association with my diving to the HSU Diving Safety Officer and Diving Control Board or their designee at (place) _____ on (date) _____."

Signature of Applicant : _____

Appendix 4

CSU/HSU and NAUI Waiver, Release and Indemnity Agreement

For consideration of permitting (Diver/Student) _____ to enroll in and participate in diving activities and/or class instruction of Free Diving and/or SCUBA diving given by HSU, NAUI and instructor/s _____, in the city of Arcata, county of Humboldt, in the state of California, such activities are to begin on (date) _____, the undersigned hereby voluntarily releases, discharges, waives and relinquishes any and all actions or causes of action for personal injury, property damage or wrongful death occurring to him or her, which injury, property damage or wrongful death arises as a result of engaging in, or receiving instructions in said diving activity and any activities incidental to such activities or instructions, wherever, whenever or however such may occur. The undersigned does for him/herself, his/her heirs, executors, administrators and assigns hereby release, waive, discharge and relinquish any action or causes of action, which may hereafter arise for him/herself and for his/her estate, and agrees that under no circumstances will he/she or his/her heirs, executors, administrators and assigns prosecute or present any claim for personal injury, property damage or wrongful death against HSU and instructor/s _____ or against any of its agents, servants or employees for any of said causes of action, whether the same shall arise by the negligence of any of said persons or organizations, or otherwise.

IT IS THE INTENTION OF (Diver/Student) _____, BY SIGNING THIS DOCUMENT, TO EXEMPT AND RELIEVE THE ORGANIZATION AND INSTRUCTOR/S NAMED HEREIN AND THEIR AGENTS, SERVANTS AND EMPLOYEES, FROM LIABILITY FOR PERSONAL INJURY, PROPERTY DAMAGE OR WRONGFUL DEATH CAUSED BY NEGLIGENCE. BY SIGNING THIS DOCUMENT, THE DIVER/STUDENT ACKNOWLEDGES THAT HE/SHE ASSUMES THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE OR WRONGFUL DEATH UPON HIM/HERSELF.

The undersigned, for him/herself, his/her heirs, executors, administrators or assigns agrees that in the event any claim for personal injury, property damage or wrongful death shall be prosecuted against the organization or instructor/s named above, he/she shall indemnify and hold them harmless from any and all claims or causes of action by whomever or wherever made or presented for personal injuries, property damage or wrongful death.

The undersigned acknowledges that he/she has read the foregoing paragraphs and fully understands the legal rights that he/she is giving up by signing this document. He/she further warrants that he/she has been fully and completely advised of the potential hazards and dangers incidental to engaging in the activity and/or instruction of Free Diving, SCUBA diving, Surface-supplied diving or diving related activities.

Name of Witness

Signature of Witness

Signature of Student (Participant)

Date Signed

Signature of Parent or Guardian
(If student is a minor)

Appendix 5

Humboldt State University
***Statement Of Understanding of the
HSU Diving Standards & Diving Safety Manual***

I (Diver's Name) _____, have in my possession a current copy of the **Humboldt State University Diving Safety Manual**.

I have read and fully understand the contents of the **Diving Safety Manual** and agree to comply with all guidelines, regulations, procedures, and standards in the manual. I understand that failure to comply with the regulations of the manual may be cause for revocation, suspension, or restriction of my HSU diving certification by action of the campus Diving Safety Officer or the HSU Diving Control Board.

Name of Witness

Signature of Witness

Signature of HSU Diver

Date Signed

Appendix 7

Humboldt State University
HSU Diver Certification Skills Verification

Diver: _____ Phone: (_____) _____

Certification: _____ Date Certified: _____

Skills will only be "signed off" when an HSU SCUBA Instructor has verified the competency of the applicant. **Competency in all skills is required for certification.** Skills must be verified and signed by the Diver/Instructor on the day they are completed. The testing and skills review is to be conducted in a swimming pool or confined water. The SCUBA Instructor or the Diving Safety Officer may require the diver applying for HSU certification to demonstrate all or part of these skills in open water.

1. Swimming Test

| | Date & Location | Diver / Instructor (initials) |
|---|----------------------------|---|
| •Swim underwater without swim aids for a distance of 75 feet without surfacing. | _____ | _____/_____ |
| •Swim 400 yards in less than 12 minutes without swim aids. | _____ | _____/_____ |
| •Tread water for 10 minutes, or 2 minutes without the use of hands, without swim aids. | _____ | _____/_____ |
| •Without the use of swim aids, transport another person of equal size a distance of 75 feet in the water. | _____ | _____/_____ |
| •Swim underwater without swim aids for a distance of 150 feet on three breaths. | _____ | _____/_____ |

2. Free Diving Test (full gear; including wet suit)

| | | |
|------------------------------------|-------|-------------|
| •Entries | _____ | _____/_____ |
| •Neutral buoyancy | _____ | _____/_____ |
| •Surface swimming | _____ | _____/_____ |
| •Free dive: 25 yds UW | _____ | _____/_____ |
| •Free dive: 50 yds UW on 1 breath | _____ | _____/_____ |
| •Free dive: Recover 25 lbs @ 10 ft | _____ | _____/_____ |
| •Inflation BCD | _____ | _____/_____ |
| •Weight belt R/R (surface & UW) | _____ | _____/_____ |
| •Mask R&R @ 10 ft | _____ | _____/_____ |
| •Deep water exit | _____ | _____/_____ |
| •Fins R&R @ 10 ft | _____ | _____/_____ |

Appendix 7

| | Date & Location | Diver / Instructor (initials) |
|--|----------------------------|---|
| 2. SCUBA Diving Test (full gear; including wet suit) | | |
| •Gear assembly | _____ | _____/_____ |
| •Buddy check | _____ | _____/_____ |
| •Entries | _____ | _____/_____ |
| •Neutral buoyancy (surf) | _____ | _____/_____ |
| •Hooked-up descent | _____ | _____/_____ |
| •Neutral buoyancy @ 10 ft | _____ | _____/_____ |
| •Regulator R&R/2 methods | _____ | _____/_____ |
| •Mask R&R (UW) | _____ | _____/_____ |
| •Weight belt R&R (surface) | _____ | _____/_____ |
| •Weight belt R&R (UW) | _____ | _____/_____ |
| •Tank R&R (surface) | _____ | _____/_____ |
| •Tank R&R (UW) | _____ | _____/_____ |
| •Buddy breathing: stationary | _____ | _____/_____ |
| •Buddy breathing: 50 yd swim | _____ | _____/_____ |
| •Buddy breathing: ascent | _____ | _____/_____ |
| •Octopus breathing: stationary | _____ | _____/_____ |
| •Octopus breathing: 50 yd swim | _____ | _____/_____ |
| •Octopus breathing: ascent | _____ | _____/_____ |
| •Emergency swimming: ascent | _____ | _____/_____ |
| •Mask off: ascent | _____ | _____/_____ |
| •Mask off: descent | _____ | _____/_____ |
| •Surface swim: 400 yds (Snorkel-to-regulator) (12 mins or less) | _____ | _____/_____ |
| 3. Diver Rescue Test (full SCUBA gear; including wet suit) | | |
| • Approaches: surface | _____ | _____/_____ |
| • Approaches: UW | _____ | _____/_____ |
| •Assists (100 yds) | _____ | _____/_____ |
| •Panicked-diver control (active) | _____ | _____/_____ |
| •Panicked-diver control (passive) | _____ | _____/_____ |
| •Cramp removal | _____ | _____/_____ |
| •Tourniquet: arm (victim and self) | _____ | _____/_____ |
| •Tourniquet: leg (victim and self) | _____ | _____/_____ |
| •Victim wt belt removal: UW | _____ | _____/_____ |
| •Victim wt belt removal: surface | _____ | _____/_____ |

Appendix 7

| | Date & Location | Diver / Instructor (initials) |
|--|----------------------------|---|
| •Victim BCD inflation: surface | _____ | _____/_____ |
| •Unconscious UW diver (10+ ft to surface) | _____ | _____/_____ |
| •Resuscitation (100 yds) Mouth-to-mouth* | _____ | _____/_____ |
| •Gear removal (max 2 min) | _____ | _____/_____ |

***Note:**

The Diving Safety Officer or his/her designee may require modification of this skills testing because of environmental conditions, experience or skill level of person being tested, or to assure the safety of the Dive Team.

Appendix 8

AAUS Request for Diving Reciprocity Form & Verification of Diver Training and Experience

A scientific diver that is currently certified under the auspices of an organizational member institution of the American Academy of Underwater Sciences (AAUS) shall be recognized by any other organizational member of AAUS and may apply for reciprocity in order to dive with the host organization. Organizational members that are in good standing with AAUS operate, at a minimum, under the AAUS Standards for Scientific Diving Certification and Operation of Scientific Diving Programs (1996 edition). The visiting diver will comply with the diving regulations of the host organization's Diving Safety Manual unless previously arranged by both organization's Diving Control Boards.

The host organization has the right to approve or deny this request and may require, at a minimum, a checkout dive with the Diving Safety Officer (DSO) or designee of the host organization. If the request is denied, the host organization should notify the DSO of the visiting diver the reason for the denial. The DSO for the visiting scientific diver has confirmed the following information:

Visiting Diver's Name: _____

(Date)

- _____ Written scientific diving examination
- _____ Last diving medical examination
- _____ Most recent checkout dive
- _____ Scuba regulator/equipment service/test
- _____ CPR training (Agency) _____
- _____ Oxygen administration (Agency) _____
- _____ First aid for diving _____
- _____ Date of last dive

Number of dives completed within previous 12 months? _____

Depth certification _____

Any restrictions? (Y/N) _____ if yes, explain:

Please check any pertinent specialty certifications:

- | | | |
|----------------------|--------------------------------|------------------|
| _____ Dry suit | _____ Rescue | _____ Blue Water |
| _____ Dive computer | _____ Divemaster | _____ Altitude |
| _____ Nitrox | _____ Instructor | _____ Ice/Polar |
| _____ Mixed gas | _____ EMT | _____ Cave |
| _____ Closed circuit | _____ Dive Accident Management | _____ Night |
| _____ Saturation | _____ Chamber operator | _____ Other |
| _____ Decompression | _____ Lifesaving | |

This is to verify that the above individual is currently a certified Scientific Diver

at: _____

(Name of AAUS Organizational Member)

Diving Safety Officer: _____

(Signature)

(Date)

(Print Name)

(Telephone, FAX, Email)

Appendix 8.1

AAUS Checkout and Training Evaluation

Certified scientific divers and Divers-In-Training from AAUS organizational members should be able to demonstrate proficiency in the following skills during checkout dives or training evaluation dives with the Dive Safety Officer or designee:

- Knowledge of AAUS diving standards and regulations
- Pre-dive planning, briefing, site orientation, and buddy check
- Use of dive tables and/or dive computer
- Equipment familiarity
- Underwater signs and signals
- Proper buddy contact
- Monitor cylinder pressure, depth, bottom time
- Swim skills:
 - Surface dive to 10 ft without scuba gear
 - Demonstrate watermanship and snorkel skills
 - Surface swim without swim aids (400 yds <12 min)
 - Underwater swim without swim aids (25 yds without surfacing)
 - Tread water without swim aids (10 min.), or without use of hands (2 min.)
 - Transport another swimmer without swim aids (25 yds)

- Entry and exit (pool, boat, shore)
- Mask removal and clearing
- Regulator removal and clearing
- Surface swim with scuba; alternate between snorkel and regulator (400 yd.)
- Neutral buoyancy (hover motionless in midwater)
- Proper descent and ascent with B.C.
- Remove and replace weight belt while submerged
- Remove and replace scuba cylinder while submerged
- Alternate air source breathing with and without mask (donor/receiver)
- Buddy breathing with and without mask (donor/receiver)
- Simulated emergency swimming ascent
- Compass and underwater navigation
- Simulated decompression stop
- Rescue:
 - Self rescue techniques
 - Tows of conscious and unconscious victim
 - Simulated in-water rescue breathing
 - Rescue of submerged non-breathing diver (including equipment removal, simulated rescue breathing, towing, and recovery to boat or shore)
 - Use of emergency oxygen on breathing and non-breathing victim
 - Accident management and evacuation procedures

Additional Training (optional)

- Compressor / Fill station orientation and usage
- Small boat handling

Appendix 9

Humboldt State University *Procedure for Suspending HSU Diver Certification and Diving Activities*

The purpose of this protocol is to provide:

- 1) A clear and definitive procedure for the suspension of diving operations and/or diver certification(s) under the auspices of Humboldt State University.
- 2) For the review and appeal of a suspension.

Suspension of Diving Activities

When can diving activities be suspended?

Diving operations and/or diver certification(s) can be suspended if the health or safety of the dive team or individual diver may be in jeopardy and when California State University or Humboldt State University regulations are violated.

Who can suspend diving activities?

Suspension can be initiated by any of the following:

1. Diving Safety Officer (Section 3.32.4)
2. Diving Control Board (Section 1.24 and 3.42.13)
3. Dive Team Members (Section 6.04 and 6.05)
4. Lead Diver (Section 3.67.4)

How are diving activities suspended?

- 1) Initial notification and suspension of diving operations and/or diver certification(s) may be delivered verbally or in writing. If the notification of suspension is written, the document shall be signed by the person suspending the activities and the dive team member(s) receiving the suspension notification. All parties signing the document shall be given a copy of the document.
- 2) Within forty-eight (48) hours after the suspension of diving activities, a written explanation and justification of the suspension shall be delivered to the Diving Control Board (DCB) Chair or the Diving Safety Officer (DSO).
- 3) The DCB shall deliver written notification of the suspension to the Lead Diver and dive team member(s) affected by the suspension. This written notification shall be delivered within five (5) working days after the date that the DCB or DSO was notified (in writing) of the suspension. The DCB Chair, DSO, Lead Diver, and suspended divers shall sign and receive a copy of the document.

The suspension notification shall contain the following:

- 1) The name(s) of the diver(s) whose diving privilege(s) is/are suspended;
- 2) The identification of the dive plan or diving operation that was suspended.
- 3) An explanation of why the diving activities/certification(s) were suspended.
- 4) The length of the suspension and conditions or actions necessary for reinstatement of diving privileges (certification).

Appendix 10

Humboldt State University *Review and Appeal of Diver Certification Suspension*

STEP #1 - Suspended Diver(s):

Shall respond in writing to the DCB within five (5) working days of receipt of the written suspension notification from the DCB. The written response shall include, but not be limited to:

- 1) A review of the events or conditions which led to the suspension and were listed in the suspension notification.
- 2) How these events or conditions will be rectified, corrected, and prevented.
- 3) A request, if desired, to appear before the DCB to provide information regarding the suspension or to appeal the suspension.

STEP #2 -Diving Control Board:

Shall meet within ten (10) working days of receipt of the written response from the suspended diver(s) to review the information provided.

STEP #3 -Diving Control Board:

Shall set a hearing date, if a hearing is requested by the suspended diver(s). This request for a hearing date must be written and delivered to the DCB. The board shall set a hearing date within fifteen (15) working days after receipt of such request.

STEP #4 -Diving Control Board:

Shall consider any written information or appeal from the suspended divers and shall modify, cancel, or reaffirm the suspension of diving activities. The DCB shall deliver to the suspended diver(s), within five (5) working days, a written review of its decision which shall include, but not be limited to:

- 1) Any modifications to the written suspension notification from the DCB.
- 2) A response to the written information or information delivered during the appeal hearing by the suspended diver(s).
- 3) The terms and duration of the suspension.
- 4) The conditions necessary for re-certification of the suspended divers for diving under the auspices of HSU.

Appendix 11

Humboldt State University

DIVE PLAN

1. **Lead Diver:** _____ Certification: _____

2. **Other Dive Team Members:**

Name: _____ Certification: _____

Name: _____ Certification: _____

Name: _____ Certification: _____

3. **Date(s) Of Dive(s):** _____

4. **Location(s) of Dive(s):** _____

5. **Estimated Depth(s) & Bottom Time(s):**

6. **Summary of Dive Objectives and Activities.** (List equipment, boats and support equipment to be used, description of repetitive dive profile and any anticipated hazards.)

7. **Current Emergency Management Plan Filed?** _____ Yes _____ No

8. **Lead Diver's Signature:** _____ **DATE:** _____

Approved By:

9. **HSU Diving Safety Officer:** _____ **DATE:** _____

* See back of this form for restrictions and to list additional information.

Appendix 12

Humboldt State University

DIVE LOG

Dive Date: _____ (Only one day per Dive Log)

Diver Filing Log: _____ **Certification:** _____

Dive Buddy: _____ **Certification:** _____

Lead Diver: _____ **Certification:** _____

Location of Dive(s): _____

Dive Conditions

Sea State: _____ **Visibility:** _____

Surf Height: _____ **Bottom Depth:** _____

Type of Bottom: _____ **Altitude:** _____

Dive Objectives and Activities

Dive Mode

SCUBA: _____ **Free Diving:** _____ **Surface Supplied:** _____

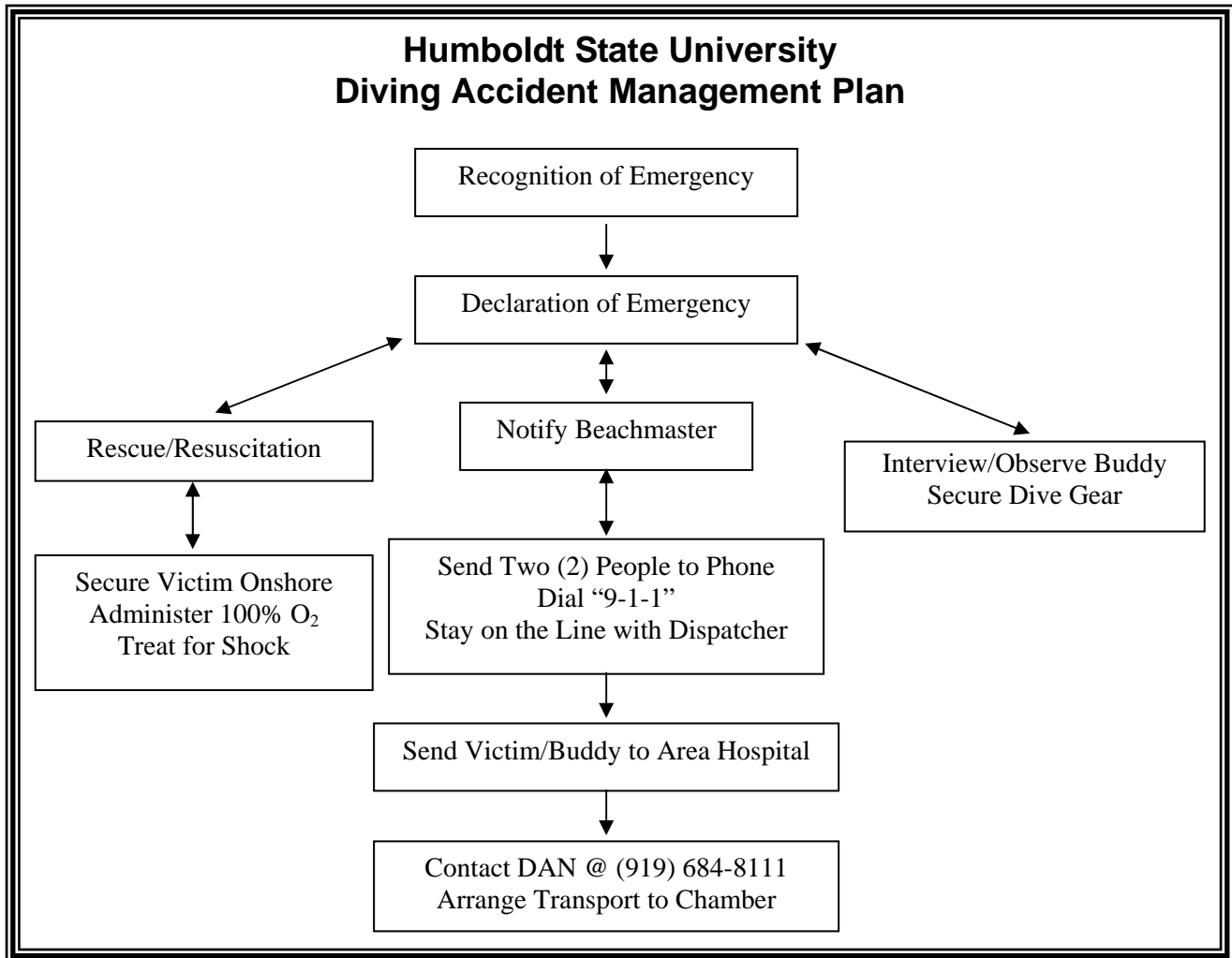
Breathing Gas: _____ **Model Dive Computer or Dive Table Used:** _____

DIVE PROFILE

| | #1 | #2 | #3 | #4 |
|--------------------------------------|----|----|----|----|
| Time In | | | | |
| Time Out | | | | |
| Bottom Time | | | | |
| Max Depth | | | | |
| Surface Interval | | | | |
| Residual Group | | | | |
| SS/Decom Stop: Depth-Time | | | | |

***On back of this form, describe actual or near incidents and problems.**

Appendix 13



IMPORTANT PHONE NUMBERS

| CITY: | <i>Gold Beach</i> | <i>Crescent City</i> | <i>Trinidad</i> | <i>Eureka</i> | <i>Trinity Lake</i> | <i>Fort Bragg</i> | <i>Monterey</i> |
|------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|----------------------------------|-----------------------------------|--------------------------------|
| HOSPITAL: | Curry General (541) 247-6621 | Sutter Coast (707) 464-8888 | Mad River (707) 822-3621 | St Joseph (707) 445-8121 | Trinity County (530) 623-5541 | Mendocino Coast (707) 961-1234 | Mont. Commun (831) 624-5311 |
| TRANSPORT | So.Oregon AA (541) 469-7911 | Del Norte AA (707) 487-1116 | Redding Mercy (530) 246-0400 | Redding Mercy (530) 246-0400 | Redding Mercy (530) 246-0400 | Mediplane Reach (800) 622-4045 | Air Ambul. (800) 262-8526 |

Chambers (North to South)

Virginia Mason Hosp (Seattle): (206) 624-1144

Travis Air Force Base (Fairfield): E.R. (707)423-3828 Dr. Wirjosemipo (707) 423-3987

Pacific Grove (Monterey): Emergency: (831) 648-3110 Information: (831) 648-3111

Search and Rescue (North to South)

United States Coast Guard **Astoria:** (503) 861-2242

United States Coast Guard **Humboldt Bay:** (707) 839-6100

USCG Search and Rescue **Fort Bragg:** (707) 964-6611

A= OPEN THE AIRWAY

B= CHECK FOR BREATHING..... *100% oxygen ventilation!*

C= CHECK PULSE

Appendix 14

Humboldt State University *Procedures for Profiling Dives*

Dive Depth: Maximum depth during dive.

Bottom Times (BT): Total time from leaving surface until return to surface (excluding decompression stop times).

Total Bottom Time: Residual Nitrogen Time (RNT) will be added to Bottom Time and the total will be the Total Bottom Time (TBT).

Ascent Rates: Maximum ascent rates will be 30 fsw/min; unless otherwise indicated by dive computer or alternate dive table being used to profile dive. The AAUS “Safe Ascent Recommendations” should be followed.

Decompression Stop: Is required at a depth of 15 feet for a minimum of 5 minutes for all dives deeper than 30 fsw and on all repetitive dives. Decompression time is not added to Bottom Time.

Dive Tables: Unless otherwise indicated in this manual, the NAUI Dive Tables will be used to profile dives.

Dive Computers: The Diving Safety Officer must approve the use of Dive Computers in lieu of dive tables.

Exceptional Exposure Correction (EEC): Add one (1) “time box” on Table 1 of Dive Tables to Total Bottom Time. Required on all dives.

Decompression Dives: No diving beyond the No-Decompression Limits (NDL) is permitted unless pre-approved by the Diving Safety Officer.

Decompression Dives Tables: NAUI dive table decompression guidelines will be followed; if NAUI table limits are exceeded then profiling will be in accordance with U.S. Navy Air Decompression tables and procedures.

Altitude Dives: Dives made above 1,000 feet ABSL or when a diver will go above 1,000 feet ABSL within 24 hours after the dive, must be profiled using the NOAA Sea Level Equivalent Depth (SLED) Tables. The SLED correction is only used in Table 1 of NAUI Dive Tables. Upon arriving at altitude, appropriate residual nitrogen tables must be used to profile the first dive at altitude if that dive is made within 24 hours of arriving at altitude.

Repetitive Dives: When possible, repetitive dives should be made so that the maximum depth of each successive dive is less than the maximum depth of the preceding dive.

Example of Dive Profiling Using the EEC

Single Dive (NAUI Table 1)

Dive Depth.....Maximum depth + arithmetic correction

Bottom Time.....Bottom time + arithmetic correction + EEC

Repetitive Dives (NAUI Table 1)

Dive Depth.....Maximum depth + arithmetic correction

Total Bottom Time.....Bottom time + RNT + arithmetic correction + EEC

Definition of Terms

Apnea- Breath-holding as used during Free Diving.

American Academy of Sciences (AAUS)- An organization that is recognized by the federal OSHA as representing scientific diving organizations in the establishment of scientific diving standards.

Altitude Dive- A dive made above 1,000 feet Above Sea Level (ABSL) or a dive made by a diver that will go above 1,000 feet ABSL within twenty-four (24) hours of the end of the last dive.

Arterial Gas Embolism (AGE)- A form of Decompression Illness caused by a hypobaric pulmonary injury while breathing a compressed gas.

Ascent Rate -The rate of reduction of hyperbaric pressure. The maximum equivalent rate of pressure reduction at sea level is an ascent of 30 feet per minute; unless dive profiling is based on specialized tables or computers.

Barotrauma- Any injury to a diver resulting from pressure disequilibria within the body as the result of a hyperbaric or hypobaric exposure.

Bottom Time (B.T.) - The total time from leaving surface until return to surface (excluding decompression stop times).

Breath-hold Diving - A diving mode in which the diver does not use compressed gas during the dive. Free Diving.

Buddy Breathing - The sharing of a single air source between divers.

Buddy Diver - Second member of a two person Dive Team.

Buddy System- When Buddy Divers are in constant communication.

Buoyant Ascent - An emergency ascent made using some form of positive buoyancy.

Certified Diver- A diver who has a valid diver certification from an AAUS organization or certifying organization recognized by Humboldt State University.

Closed or Semi-Closed Circuit SCUBA - SCUBA equipment that either totally or partially re-circulates the breathing gas(es). Often called "Rebreathers".

Compressed Air Cylinder - A pressure vessel or tank for the storage of compressed gas.

Controlled Ascent - Any one of several kinds of ascents including normal, swimming, and buddy breathing ascents where the diver(s) maintain a normal ascent rate and complete all safety and decompression stops.

Decompression Dive - A dive that requires a stop during the ascent.

Decompression Illness (DCI)- Hypobaric injuries to divers that require immediate treatment and ventilation with 100% oxygen. Includes AGE and DCS.

Appendix 15

Decompression Sickness (DCS) - A condition with a variety of symptoms which may result from gas and bubbles in the tissues of divers after pressure reduction while breathing a compressed gas. Injury results from hypoxia and hypo-perfusion. A form of Decompression Illness.

Decompression Stop: Is required at a depth of 15 feet for a minimum of 5 minutes for all dives deeper than 30 fsw and on all repetitive dives. Decompression Stops made during dives above 1,000 ft ABSL will be made at less than 15 fsw (see NOAA Tables). Decompression time is not added to Bottom Time.

Decompression Table - A profile or set of profiles of depth-time relationships for ascent rates, breathing mixtures and decompression stops required, which are to be followed after a specific depth-time exposure or exposures. Decompression stops made during dives above 1,000 ft ABSL will be made at depths less than the depths specified for sea level dives. (Section 6)

Dive - A descent underwater, during which the diver experiences hyperbaric conditions. Diving includes all hyperbaric exposures breathing compressed gas and Free Dives.

Dive Computer- A microprocessor device which computes a diver's theoretical decompression status, in real time, by using pressure (depth) and time as input to a decompression model, or set of decompression tables programmed into the device.

Dive Site - The location where a dive is conducted.

Dive Table - A table or set of tables of depth-time relationships for ascent rates and breathing mixtures to be followed after a specific depth-time and altitude exposure during decompression or no-decompression dives.

Dive Team - Divers and support individuals who are exposed to or control the exposure of others to hyperbaric conditions.

Diver - An individual who completes a dive; including, SCUBA, Surface-Supplied and Free Diving.

Diving Mode - A type of diving requiring specific equipment, procedures, and techniques ; such as, SCUBA, Surface-Supplied, mixed gas and Free Diving.

Diving Control Board- The persons acting as the official representative of Humboldt State University in matters concerning diving under the auspices of HSU.

Diving Safety Officer- The individual responsible for the safe conduct of diving under the auspices of HSU.

Emergency Swimming Ascent - A controlled emergency ascent made by swimming to the surface in the event of an emergency, as when the diver is low or out of air, or under excessive stress.

Exceptional Exposure Correction (EEC) - An adjustment made to dive table calculations during a non-decompression, air dive that compensates for factors which predisposes divers to Decompression Illness. The correction is part of a series of required dive profiling procedures specified in Appendix 14 of this manual.

Free Diving- A breath-hold (apnea) diving mode where the diver does not breathe compressed gas during the dive. A descent underwater while the diver hold his/her breath.

FSW - Feet of seawater, the equivalent hydrostatic pressure indicated in feet of sea water at sea level.

Appendix 15

Hookah Diving - A type of surface-supplied diving using a SCUBA regulator where there is no voice communication with the surface.

Hyperbaric Conditions - Pressure conditions during a dive which are in excess of normal, ambient atmospheric pressure.

Hypobaric Conditions- Pressure conditions during a dive which are less than ambient atmospheric or hydrostatic pressure

Hypoxia- Lower than normal tissue levels of oxygen.

Hydrostatic Pressure- Pressure generated by the weight of water at a specific depth; expressed as pounds-per-square-inch (psi) or Atmospheres Absolute (ATA), which includes ambient atmospheric pressure.

Lead Diver - The University or Scientific Diver with experience and training to conduct the diving operation and who has been designated as the person responsible for the diving operation.

Leadership Diver - A University Diver certified, or training for certification, as a diving Assistant Instructor, Divemaster or Instructor.

Mixed-Gas Diving - A diving mode in which the diver is supplied in the water with a breathing gas other than air.

MSW - Meters of seawater or hydrostatic pressure.

Neutral Buoyancy- When diver density equals the water density.

Nitrox- A breathing mixture that has more oxygen than atmospheric air. Recognized mixtures are NOAA Nitrox 1 = 32% oxygen and NOAA Nitrox 2 = 36% oxygen. Also called "Enriched Air" (EAN_x).

No-Decompression Limits (NDL) - The maximum amount of time a diver may spend at a given depth and return directly to the surface at a controlled rate, without a decompression stop.

Normal Ascent - An ascent made at the designated ascent rate and with required safety or decompression stops.

Psig - Pounds per square inch gauge.

Rated Pressure - The pressure of a gas storage cylinder at which the cylinder contains the maximum volume of gas allowed in that cylinder.

Recompression Chamber - A pressure vessel for human occupancy such as a decompression chamber, closed bell, or deep diving systems used to decompress divers and to treat decompression sickness, air embolism or any barotrauma.

Reserve Breathing Gas - A supply system of air or mixed gas (as appropriate) carried by the diver which is independent of the primary supply system and sufficient to support divers during any planned decompression dive and an ascent.

Appendix 15

Recreational Diving- All non-Commercial or Scientific Diving.

Sea Level Equivalent Depth- A NOAA Dive Manual table that lists the altitude corrected ocean depth equivalents for calculating dive profiles above 1,000 ABSL.

Scientific Diver- A HSU diver certification required for the conducting Scientific Diving under the auspices of the University (Section 2).

SCUBA Diving - A diving mode independent of a surface supply in which the diver uses self-contained underwater breathing apparatus.

Shallow-Water Blackout- When a Free Diver losses consciousness during ascent from hypoxia.

Standby Diver - A diver at the dive site capable of rendering assistance to a diver in the water.

Surface-Supplied Diving - A diving mode in which the diver in the water is supplied from the dive location with compressed gas for breathing.

Umbilical - The composite hose bundle between a dive location and a diver or bell, or between a diver and a bell, which supplies the diver or bell with breathing gas, communications, power, or heat, as appropriate to the diving mode or conditions, and includes a safety line between the diver and surface support Dive Team.

Visiting Diver- A diver certified to dive under the auspices of another university or agency who is given temporary HSU Scientific Diver Certification under the terms of AAUS reciprocity.

Working Pressure - The maximum pressure at which the system is designed to operate. The working pressure must be stamped on cylinders.

Appendix 16

Humboldt State University Dive Program ***Required Diving Equipment****

Mask/snorkel

Fins

Buoyancy compensator (BCD) w/ low pressure (LP) inflator and whistle

Exposure suit (wet suit) w/ hood, gloves and booties

Weight belt

SCUBA tank

SCUBA regulator w/alternate air (on right) & submersible pressure gauge (SPG)

Depth gauge

Bottom timer

Knife

NAUI Dive Table (1989-90); other tables as needed

Compass

Slate

(Specialized Equipment)

Dive Log/Field Notebook (“Rite-in-the-Rain” book)

Tourniquet, 40 inch surgical tubing (if trained in the use of)

Pocket-mask w/oxygen inlet (if trained in the use of)

Dive light

Mesh collecting bag

8 x 11” slate

*** All equipment must meet HSU standards and be approved by the DSO.**

Each course and diving operation will require specific equipment.