



# U.S. FISH AND WILDLIFE SERVICE TRANSMITTAL SHEET

PART 241 FW 10	SUBJECT Safety Operations Diving Safety	RELEASE NUMBER 427
ORIGINATING OFFICE Division of Safety and Health		DATE July 23, 2003

## EXPLANATION OF MATERIAL TRANSMITTED:

This chapter is the Fish and Wildlife Service diving safety policy. It establishes operational policies, procedures, and practices for diving activities.

ACTING DIRECTOR

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## FILING INSTRUCTIONS:

Remove:

None

Insert:

241 FW 10, 07/23/03, FWM 427 (9 pages)  
Exhibit 1, 241 FW 10, 07/23/03, FWM 427 (1 page)  
Exhibit 2, 241 FW 10, 07/23/03, FWM 427 (1 page)

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**10.1 What is the purpose of this chapter?** This chapter is the Fish and Wildlife Service (Service) diving safety policy. It establishes operational policies, procedures, and practices for diving activities to ensure that we conduct diving operations in a manner that helps to prevent accidental injury or occupational illness.

**10.2 To whom does this chapter apply?** This chapter applies to all Service employees, volunteers, and cooperating personnel who are engaged in or who oversee Service diving activities. Snorkeling is not covered under this chapter; however, those using snorkel equipment should be aware of certain dangers that could affect their safety. It is recommended that those using snorkels conduct their activities in at least pairs, receive adequate training, be familiar with causes of shallow water blackout, and prepare an appropriate safety plan for the activity.

**10.3 What are the authorities for the diving safety program?**

**A.** Public Law 91-596, Sec 19, Federal Agency Safety Programs and Responsibilities.

**B.** Public Law 93-112, as amended, Rehabilitation Act of 1973. See also 29 U.S.C. 791(g) and 794(d) (incorporating standards of the American with Disabilities Act into the Rehabilitation Act).

**C.** Public Law 93-579, Privacy Act of 1974.

**D.** Executive Order 12196, Occupational Safety and Health Programs for Federal Employees.

**E.** Executive Order 12564, Drug-Free Federal Workplace.

**F.** 5 CFR 339, Medical Qualification Determinations.

**G.** 29 CFR 1614.203, Rehabilitation Act.

**H.** 29 CFR 1910, Subpart T, Commercial Diving Operations, and Appendix B, Guidelines for Scientific Diving.

**I.** 29 CFR 1960, Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters.

**J.** 370 DM 792, Drug Testing Procedures.

**K.** 485 DM 27, Underwater Diving Safety.

**L.** Department of the Interior Occupational Medicine Program Handbook.

**10.4 What is Service policy on diving activities?** We will conduct diving operations in accordance with the

requirements outlined in 29 CFR 1910, Subpart T; 485 DM 27; and this chapter. Safety of divers will be the prime consideration in all diving activities. Supervisors and managers will not promote nor will individual divers attempt difficult or hazardous tasks that compromise diver safety. Divers must adhere to the diving safety rules in this chapter during all diving operations.

**10.5 Can diving activities deviate from the requirements of this chapter?**

**A.** The Regional Diving Officer, with the concurrence of the National Diving Control Board, must approve any deviations from operational procedures required by this chapter. Only variances that are safe and essential to program operations will be approved. The request for variance, Regional Diving Officer approval, and National Diving Control Board concurrence must be in writing.

**B.** Emergency (life or injury-threatening) situations may warrant action contrary to this chapter. The appropriate project leader must submit immediately a written report of all such actions to the Regional Diving Officer.

**10.6 Who is responsible for the diving safety program?**

**A.** The **Assistant Director - Business Management and Operations** provides overall direction for the administration and implementation of an effective Diving Safety Program. In the event of a serious accident, the Assistant Director will appoint an accident investigation team.

**B.** The **Chief, Division of Safety and Health** is responsible for overall leadership and coordination of the Diving Safety Program.

**C.** The **National Diving Control Board (NDCB)** will:

(1) Develop, maintain, and update this chapter.

(2) Develop and maintain liaisons with other organizations that have diving programs.

(3) Adjudicate appeals from individual divers whose diving authorization has been denied or suspended.

(4) Review Regional programs and assess training needs.

(5) Recommend new equipment and techniques.

(6) Review requests for variance from diving safety requirements contained in this chapter, as submitted through the Regional Diving Officer.

**D.** **Regional Directors** who conduct diving activities within their areas of responsibility will appoint a Regional Diving

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Officer and ensure that sufficient resources and support are provided to implement the requirements of this chapter.

**E. Regional Diving Officers (RDO) will:**

- (1) Act as the chairman of the NDCB when called upon.
- (2) Review all diving-related activities within their Region to ensure compliance with this chapter and all National and Regional diving program policies, procedures, and standards. Notify the appropriate project leader of any deficiencies.
- (3) Maintain contact with Regional diving activities and periodically inspect diving equipment storage and any existing dive facilities. This can also be performed by a Field Diving Officer.
- (4) Plan and coordinate diver training programs to meet their Region's diving needs.
- (5) Maintain files of Regional diving activities including current diver qualifications.
- (6) Investigate any significant occurrence of equipment failure or problems, and ensure that Regional divers and the NDCB are aware of necessary actions.
- (7) Promote Regional diving operations and assist project leaders in ascertaining how the Region's diving program can help meet their program objectives. The RDO may help project leaders assess the need to establish a diving program.
- (8) Nominate for approval by line management Field Diving Officers to assist administratively and operationally in managing the dive program within their geographic area on an as-needed basis.
- (9) Keep abreast of technological advances and problems with diving equipment and methods, and advise divers within their Region and the NDCB of these updates.
- (10) Coordinate and authorize diving activities and proficiency standards with other cooperating agencies with whom the Service may have occasion to conduct joint operations.
- (11) Issue initial diving authorization and annual reauthorization in accordance with requirements of this chapter. If the RDO approves, this can be done by the Field Diving Officer.
- (12) Coordinate and/or conduct qualification/training dives with prospective Service divers.
- (13) Report any dive-related accident that occurs in their geographic area to the Regional Safety Manager and assist with followup investigations and reports.

**F. Field Diving Officers (FDO) will perform the following duties as assigned by the RDO:**

- (1) Evaluate field diving operations within an assigned geographic area to determine if they are conducted in a safe and efficient manner and in accordance with this chapter and all National and Regional policies, procedures, and standards. The FDO will bring any identified deficiencies or potential problems to the attention of the RDO and appropriate line management.
- (2) Conduct, with approval of the RDO, qualification and training dives with prospective Service divers providing that the FDO has 100 dives and 5 years of diving experience or a recognized dive instructor's certification, such as PADI, SSI, NAUI, etc.
- (3) Ensure that all divers understand procedures for routine and emergency measures prior to any diving activities, as required in paragraphs 10.15A and B.
- (4) Ensure that authorization, training, and proficiency requirements and records for all active divers within their geographic area are maintained, and provide required certification documentation to the RDO.
- (5) Immediately report (i.e., verbally) any dive-related accident that occurs in their geographic area to the RDO and Regional Safety Manager and assist with followup investigations and reports.
- (6) Maintain records of all dive logs for their geographic area.

**G. Project Leaders must:**

- (1) Ensure that diving operations within their jurisdiction are conducted in accordance with the requirements of this chapter and encourage staff participation commensurate with workload and budgetary constraints.
- (2) Ensure that a Diving Safety Plan (DSP) (Exhibit 1) is submitted to the RDO and FDO, as appropriate.
- (3) Ensure that only authorized divers participate in diving activities. You must give divers the necessary time, equipment and training to meet and maintain authorization standards, including up to 3 hours per week for aerobic exercise and strength building.
- (4) Provide funding for physical examinations, first aid and CPR training, equipment, oxygen administration, and other training required by the Service for a diver to maintain diving authorization.
- (5) Respond in a timely fashion to reports or requests from the RDO or FDO.

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(6) Rely on the diver's professional judgment as to whether dive conditions are unsafe or unfavorable and would violate the dictates of his/her training or this chapter.

(7) Following an accident/incident involving personnel under your responsibility, ensure that a report is completed electronically using the DOI Safety Management Information System (SMIS).

**H. Individual divers/conditional divers** must have authorization to dive from the RDO and will:

(1) Ensure that diver training certification, medical examination, CPR, first aid, and oxygen administration training requirements are current and that appropriate documentation and training records are on file with the RDO or FDO, as applicable.

(2) Maintain a Dive Log ([FWS Form 3-2221](#)) and submit it annually to the RDO.

(3) Report any dive-related accident or injury immediately to the supervisor, FDO or RDO.

(4) Ensure equipment and maintenance records are maintained as required.

(5) Determine if a dive can be accomplished within their abilities and in a safe manner.

(6) Participate in the Department's random drug testing program.

**10.7 What definitions are useful in understanding the requirements of this chapter?**

**A. Active Diver.** A diver who dives a minimum of 12 times a year with at least 1 dive in the previous 6-month period.

**B. Advanced Diving Course.** A course offered by nationally recognized diving organizations that instructs divers in topics beyond basic certification such as underwater navigation and over-bottom water diving, boat diving, night diving, dry suit diving, underwater naturalist, altitude diving, search and recovery, etc.

**C. Authorized Service Diver.** A diver who has complied with all Service requirements and has an authorization to dive signed by the appropriate RDO.

**D. Over-Bottom Water Diving.** A dive in which it is possible to lose orientation with the bottom or descend below safe levels. This generally occurs in deep water situations where there is no vertical reference.

**E. Buddy System.** Two or more divers in the water and in contact with each other. The intent of the buddy system is to allow for a diver to respond to an emergency.

**F. Buoyancy Compensator (BC).** A safety vest worn by the diver to control buoyancy while diving and to provide positive buoyancy while at the surface. The BC is inflated by a hose connected to the SCUBA cylinder and can also be inflated orally by the diver.

**G. CPR.** Cardiopulmonary resuscitation.

**H. Conditional Diver.** A diver who has not performed 12 dives within the previous 12 months or a diver who has not completed a single dive within the past 6 months.

**I. Diving.** Any activity taking place underwater using self contained underwater breathing apparatus (SCUBA) or surface-supplied gas, including mixed gases, enriched air, or rebreathing apparatus.

**J. Dive Computer.** An electronic, submersible, diver-carried meter based on an algorithm or dive table that computes the diver's decompression status from time-depth inputs.

**K. Dive Table.** A table that contains a set of depth-time relationships that govern the amount of time a diver should spend at a specified depth, and any necessary safety stops recommended before ascending to the surface.

**L. Diving Leadership Course.** A course, such as Divemaster, offered by nationally recognized diving organizations, that teaches skills needed for planning and supervising diving operations.

**M. Diving Safety Plan (DSP).** Written plan that documents the planning and hazard analysis for a specific type of diving operation. The dive team conducting the diving operation must complete the plan and the RDO must approve it prior to diving. A DSP is not a substitute for a Daily Dive Plan.

**N. Enriched Air Diving.** An air supply where the oxygen content exceeds normal atmospheric oxygen content.

**O. Hyperbaric Medicine.** Hyperbaric medicine is the specialty dedicated to the study of the medical aspects of sport, military, and commercial diving; improving the scientific basis of hyperbaric oxygen therapy; and providing sound treatment protocols and standards of practice for diving related injuries and illnesses.

**P. Mixed Gas.** A diving mode in which the diver is supplied with a breathing gas other than air.

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**Q. Nationally/Internationally Recognized Diving Certification Organization.** Organizations that offer diving certification; e.g., PADI, NAUI, YMCA, and NASDS. Dive training by a college or university may be an acceptable substitute.

**R. Oxygen Administration Course.** A course that teaches how to treat diving-related accident/injuries with oxygen, and the use, care, and maintenance of oxygen administering equipment.

**S. Rebreather.** Closed or semi-closed circuit SCUBA system.

**T. Safety Stop.** A planned stop at a specified depth, usually 15 feet for 3 minutes minimum, to help release dissolved nitrogen from tissues and reduce the chances of incurring decompression illness.

**U. SCUBA.** Self contained underwater breathing apparatus.

**V. Shallow Water Blackout** A phenomenon that may occur to breath-holding (skin) divers in shallow water. Skin divers who have excessively hyperventilated before diving below the surface may reduce the level of carbon dioxide in their alveoli and bloodstream so low that their body may deplete oxygen to the point of unconsciousness before the carbon dioxide level in the blood builds up to sufficient levels to stimulate the nervous system to breathe again.

**W. [Safety Management Information System \(SMIS\)](#).** Department of the Interior's internet based system for reporting accidents and injuries.

**X. Snorkeling.** The use of mask, fins, and snorkel at the surface or underwater (breath-holding dives).

**Y. Surface Supplied Gas.** A diving mode in which the diver in the water is supplied with breathing gas via hose to surface cylinders or compressed air intake systems.

**10.8 Who is responsible for diver safety?**

**A.** The primary responsibility for diver safety lies with the individual diver. Each diver must exercise the responsibility and privilege to refuse to dive if, in the diver's judgment, conditions are unsafe or unfavorable and would violate the dictates of his/her training or this chapter. Accordingly, a diver will not attempt to dive if he/she is not in the proper mental or physical condition for diving.

**B.** The National Diving Control Board (NDCB) provides administrative oversight of the Service's diving safety program to ensure compliance with OSHA, Departmental, and Service requirements.

**10.9 How is the National Diving Control Board organized?**

**A.** The NDCB must have the following as members, the majority of which must be active divers: Regional Diving Officers/representatives; Chief, Division of Safety and Health, or designee (nonvoting); and other qualified individuals approved by the NDCB. NDCB members may designate an alternate to act on their behalf.

**B.** The NDCB will consist of a chair, vice chair, and voting and nonvoting members. The NDCB will select the vice chair every 2 years. The vice chair will succeed to the chair position every 2 years.

**C.** Meetings will be held annually or more often when necessary. A quorum will consist of three voting NDCB members.

**D.** The Regions are responsible for funding the activities of their NDCB representatives.

**10.10 Do the RDO and FDO have to meet any qualifications?**

**A.** The Regional Diving Officer must meet the following requirements. If no person currently meets these requirements, the Regional Director may appoint a highly experienced diver who will undergo a training program developed by the NDCB. RDOs must:

**(1)** Be active and authorized Service divers.

**(2)** Have logged a minimum of 100 dives.

**(3)** Have 5 years of diving experience, including a minimum of 1 year's diving experience in the conditions found in the Region's geographic area that they represent.

**(4)** Demonstrate the ability to administer a safe and efficient diving program.

**(5)** Have completed an advanced diving or diving leadership course. As an alternative to the advanced diving or diving leadership course requirement, the candidate can have a diving instructor qualification issued by a nationally recognized diving organization.

**B.** Field Diving Officers must be active, authorized Service divers who have logged a minimum of 50 dives with at least 1 year of experience diving in the conditions found in their geographic area. The FDO must have completed an advanced diving or diving leadership course beyond basic diver certification requirements. If a fully qualified candidate is not available, the RDO may nominate the best-qualified diver in the geographic area to an "acting" capacity until a fully qualified candidate is available or until that diver undergoes a

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training program developed by the NDCB/RDO to upgrade his/her abilities.

**10.11 What are the Service's diving safety rules?**

**A.** No diver may dive unattended. Use of the "buddy system" will be standard operating procedure for all diving activities. An authorized Service diver must accompany a conditional diver during all Service diving activities in which conditional divers participate.

**B.** No dive will exceed 60 feet in depth without the diver having obtained an advanced dive certification beyond the open-water level, having had specific deep diving instruction from a nationally recognized dive agency, or documentation of deep dive experience reviewed and approved by the RDO. The RDO must approve, in writing, all dives in excess of 100 feet. No diving should be planned to exceed 130 feet.

**C.** During dives beyond easy swimming distance from shore or in areas of strong currents, a surface support vessel with boat operator must attend the divers.

**D.** All divers will be fully aware of standard diver hand signals. Divers must review these signals prior to the dive, especially when diving with an unfamiliar buddy.

**E.** No over-bottom dives will be made unless direct contact with the surface is maintained, such as a line suspended from a float.

**F.** Divers undertaking single dives within the no-decompression limits will plan their activities to include a minimum surface interval of 12 hours before ascent to an altitude equivalent to that flown by commercial airlines (i.e., 8,000 feet). Divers who make multiple dives for several days or repetitive same-day dives, will take special precautions and provide for a minimum surface wait of 18 hours.

**G.** Immediately prior to a dive, participants will conduct a pre-dive briefing to discuss the manner in which the dive is to be conducted, related safety measures, and any necessary contingencies, and to assess current state of physical fitness. At this briefing, participants must review a pre-dive checklist of all necessary equipment.

**H.** Closed and semi-closed circuit SCUBA (re-breathers) may be used if approved by the RDO with concurrence by the NDCB.

**I.** Gas mixes of other than oxygen/nitrogen are not allowed. The use of enriched air (Nitrox) requires specialized training.

**J.** Divers must follow the procedures established by the manufacturer of the tables or dive computer being used. When using computers, both buddy divers will be equipped

with their own individual computers. Use the more conservative of the two computers to determine time, depth, and ascent rates. Divers will not exceed no-decompression dive limits for the dive table or dive computer they use for the dive.

**K.** All dives will utilize a safety stop at approximately 15 feet for a minimum of 3 minutes where dive profiles allow. Where applicable, a longer stay at 15 feet may be required per the dive tables being used.

**L.** When conducting diving activities, display dive flags that best fit current dive conditions; e.g., international alpha, sport diver's/diver-down.

**M.** An oxygen administration kit and first aid kit must be available at the dive site during all diving operations. All divers will be trained in their use.

**N.** Two-way communication (telephone or radio) adequate to summon emergency assistance must be available at the dive site.

**O.** There must be an additional diver at the port of entry of an enclosed or physically confining space when there is a significant entanglement hazard.

**10.12 How do I get authorization to dive?**

**A.** The need for the applicant's diving skills is a line management decision. Applicants must submit a request for diver authorization through their project leader to the RDO. [FWS Form 3-2223](#) is a checklist of requirements for the initial authorization. Applicants:

**(1)** Must take and pass a drug test administered in accordance with 370 DM 792.9 and 792.10. Once authorized, divers are subject to the Department's "random" drug testing program.

**(2)** Must provide evidence of having successfully completed an open water diving certification, conducted by a national or international certifying agency (i.e., YMCA, NAUI, PADI, etc.).

**(3)** Must provide copies of diving logs ([FWS Form 3-2221](#)) or other materials that indicate their diving experience. If at initial authorization, the diver has not performed 12 dives within the previous 12 months with at least 1 dive within the previous 6-month period, he/she will be considered a conditional diver.

**(4)** Must successfully complete a physical fitness and diving skills evaluation (Exhibit 2).

**(5)** Must undergo an initial diving medical examination upon entry into the program and every 5 years for divers up to age

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40, every 3 years for divers over the age of 40 and up to age 60, and every 2 years for divers older than 60. Divers must use and provide [FWS Form 3-2224](#) (U.S. Fish and Wildlife Service Scuba Diving Medical Examination Form) and [FWS Form 3-2224-A](#) (Physician's Qualification Statement) to the examining physician.

(a) Once examination is complete, the examining physician will return both forms to the employee who will, in turn, forward the forms to the RDO. The RDO will forward both forms to the reviewing physician.

(b) The reviewing physician must be either board certified in occupational medicine or limited to practice in occupational medicine, and be trained in hyperbaric medicine. The reviewing physician will review baseline and periodic physicals. The reviewing physician must complete both forms and return them to the RDO as part of the authorization package.

(c) The RDO will place a copy of [FWS Form 3-2224-A](#) in the diver's individual file and forward a copy to the applicant. The RDO will forward the entire package to the servicing human resources office for filing in the employee's medical folder (SF-66D).

(6) As well as authorized divers, must provide current evidence of having completed a CPR course, comparable to American Red Cross or American Heart Association Adult CPR. All applicants and authorized divers must provide current evidence of having completed a basic first aid course, comparable to American Red Cross Multi-Media. Advanced first aid training is highly recommended. All authorized divers will complete an oxygen administration course, comparable to the course developed by the Divers Alert Network, as soon as practicable following initial diving authorization.

**B.** Following receipt of all required application materials and successful completion of a diving skills evaluation, the RDO may issue the diving authorization ([FWS Form 3-2225](#)). The authorization must include any conditions or special authorizations for the diver.

**C.** If the RDO denies authorization, applicants may appeal the denial to the NDCB. Refusal to authorize a diver must be in writing within an explanation as to why.

**D.** The RDO will annually review each diver's authorization status and issue annual reauthorization. Diving reauthorization is contingent upon receipt by the RDO of evidence of the following:

- (1) Current medical examination form.
- (2) Current CPR certification.
- (3) Current first aid certification.

(4) Current oxygen administration certification.

(5) Diving log for the past year.

(6) Evidence of required supplemental training (paragraph 10.13A).

(7) Successful completion of an annual physical fitness and diving skills evaluation (Exhibit 2).

**E.** The project leader or the RDO may suspend a diver's authorization for cause. Violation of any requirement in this chapter or exercising poor judgment may be sufficient cause for suspension. The project leader or RDO will inform the diver in writing of the reason for the suspension. The diver may appeal the suspension to the NDCB through his/her line management.

**10.13 Are there training requirements for divers?**

**A.** The appropriate project leader will develop a continuing education plan for each diver. Service divers must complete a minimum of 40 hours of diving-related training every 3 years. Experienced divers may substitute instructing for the 40-hour training requirement. This training is in addition to the first aid, CPR, and oxygen administration training required in this chapter (paragraph 10.12A(6)) and may be completed through in-Service, interagency, or open market training opportunities. Divers must provide evidence of training to the RDO and FDO.

**B.** Authorized Service divers must make a minimum of 12 logged dives in a 12-month period with at least 1 dive in a 6-month period. The minimum requirements for a dive are use of an underwater breathing system by the diver and at least a 10-minute surface interval since the previous dive. Consecutive no-decompression dives with less than a 10-minute surface interval will be considered as a single dive. Failure to comply with this requirement will cause the diver to revert to conditional status.

**C.** Line management supervisors are responsible for authorizing the time, resources, and hazard duty payment necessary for divers to meet minimum proficiency standards. Service diving equipment may be made available during non-duty hours for the purpose of maintaining diver proficiency. Divers who are not authorized to dive by the Service may not use Service equipment.

**D.** Since diving is a physically demanding activity, all divers must maintain an appropriate level of physical conditioning. We encourage divers to participate in strength building and aerobic conditioning (paragraph 10.6G(3)).

**10.14 Are divers eligible for hazardous duty pay?** Divers conducting underwater work activities may be eligible for

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hazard duty pay differential (see 5 U.S.C. 5545(d), 5548(b); 5 CFR 550.901-906; and 225 FW 2).

**A. General Schedule Employees.**

(1) Service divers in the GS series will receive hazard pay when diving while in pay status, except when diving work has been taken into account in the classification of his or her position; i.e., professional diver. Hazard pay is not discretionary and must be paid to qualifying divers. Dives subject to hazard pay include those involving either:

- (a) Depths of 6 meters (20 feet) or more below the surface.
- (b) Restricted visibility.
- (c) Rapidly flowing or cold water.
- (d) Restriction of vertical access to the surface due to overhead structure.
- (e) Testing or working with hardware that presents special hazards.

(2) The hazard pay differential is 25 percent of the basic hourly rate, which is applied to all hours in a pay status for the day in which the diving is performed. Document and compute hazard pay on FWS Form 3-212 (Hazardous Duty/Environment Claim).

**B. Wage Grade Employees.**

(1) Service divers in the WG series also receive hazard pay, but the differential is computed differently than for GS employees. WG employees who perform diving duties will be paid 175 percent of the locality WG-10, step 2, rate for all payable hours of the shift. Claim hazard pay differential for WG divers on FWS Form 3-212.

(2) WG divers who are performing the duties of a diver tender are entitled to hazard pay, which is 100 percent of the locality WG-10, step 2 rate. For purposes of this chapter, a diver tender is a trained diver (Service authorized) whose surface responsibilities are essential to the conduct of the dive, such as operating surface supply air systems, maintaining diver retrieval lines, or maintaining direct communications with submerged divers. Also, a diver who is fully suited and prepared to immediately enter the water in case of emergency (i.e., standby diver) is considered a diver tender. Standby divers are required only as specified in a project diving safety plan, or as required under commercial diving regulations (29 CFR 1910).

**10.15 Do diving activities require written plans?**

**A.** Each diving activity must have a written diving safety plan (DSP) (Exhibit 1) that addresses safety, logistics, and special equipment. Prior to engaging in each new diving procedure or when using a new type of equipment for which a DSP does not exist, the dive team will prepare the DSP and submit it to the RDO for review and approval. In situations needing a quick approval, the dive team may function on a verbal approval with written approval to follow. The DSP will contain a hazard analysis relevant to the type of diving being performed (e.g. transect surveys, suction dredging, ice diving, etc.), and the surface support vessel. The FDO and project leader will ensure preparation of the DSP. The RDO will retain approved DSPs. Routine dive activities can be covered by one plan and updated annually. A DSP is not a substitute for a daily dive plan.

**B.** Each dive will require a daily dive plan ([FWS Form 3-2222](#)), that addresses safety aspects of the dive. The dive team will prepare the daily dive plan and the FDO will review it prior to approval by the project leader. The plan must contain a list of contacts, evacuation procedures, and locations of professional emergency assistance and decompression chamber.

**C.** Both plans must be readily available at the dive site and field station.

**10.16 Are there any equipment requirements?**

**A.** You must maintain all SCUBA diving gear and accessory equipment in a good and safe operating condition. At a minimum, the Service will provide each diver with the following:

- (1) Regulator equipped with submersible pressure gauge and alternate second stage. A qualified specialist must check, service, and document all diving regulators at least annually.
- (2) Buoyancy compensator with a minimum amount of 20 pounds of buoyancy. Inspect the power inflator annually.
- (3) Quick release weight system. Tied on or otherwise anchored systems will not be authorized.
- (4) Exposure/environmental suit that provides adequate thermal and abrasion protection.
- (5) Depth gauge or dive computer.
- (6) Dive timing device or dive computer.
- (7) Mask with corrective lenses, if required.
- (8) Snorkel.

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(9) Fins.

(10) Dive knife with a sharp edge, a serrated edge and a line cutter.

(11) Compass.

(12) Dive gear transportation case/bag.

(13) SCUBA cylinders. A qualified specialist must perform an annual internal visual inspection of all air cylinders. External inspections must also be done to identify exterior damage/wear before each use. Hydrostatically test air cylinders every 5 years. Do not fill cylinders beyond their rated pressures.

(14) Signaling device, such as a whistle, air horn, smoke flare, etc.

(15) Oxygen administration and first aid kit. Maintain the oxygen administration kit in a good, functional condition in accordance with the manufacturer's recommendations. Ensure that both kits are available at the dive site.

**B.** A diver may use non-Service dive equipment provided that both of the following parameters are met. The Government will not be financially liable for personal equipment that is lost or damaged due to not meeting equipment requirements set forth in this policy.

(1) Equipment must meet policy standards and be maintained in accordance with this policy.

(2) Equipment is used only with the written permission of the supervisor or project leader.

**C.** If a Service air compressor is used, all air compressor operators must be thoroughly trained and familiar with operation of the compressor. The output of air compressor systems used or air bottles provided for use must meet Grade E air quality parameters set forth in CGA G-7.1. For Service air compressors, testing can be accomplished by taking samples at the connection to the distribution system. Check with air bottle providers to ensure that air meets the Grade E parameters. Change filters and lubricants in accordance with the manufacturer's recommendations. Operators will keep a log of compressor operation and repairs. Each dive unit that operates a compressor will appoint an individual within the unit to be responsible for maintenance and operation of the compressor.

**10.17 Can divers from outside a Region or the Service participate in dives?**

**A.** Divers from all Service Regions and other Department of the Interior bureaus are eligible to participate in mutual dive activities provided:

(1) The diver from the visiting Region or bureau provides evidence to the RDO/FDO of authorization to dive from their home program and verifies that they have approval for the Service activity from their line management.

(2) The RDO, FDO, or diver in charge of the dive operation gives the visiting diver a pre-dive briefing, including orientation dives, as needed, to the dive activity and environment.

**B.** Divers from other Federal, State, and local government agencies, and academia are eligible to participate in Service dive activities provided:

(1) The visiting diver provides documentation to the RDO/FDO that their dive program meets the minimum requirements of this chapter, such as those described in paragraph 10.12D.

(2) The visiting diver provides evidence of authorization to dive from their home program and verifies that they have approval for the Service activity from their sponsoring organization.

(3) The RDO, FDO, or diver in charge of the dive operation gives the visiting diver a pre-dive briefing, including orientation dives, as needed, to the dive activity and environment.

**C.** Contractors participating as members of a Service dive team will comply with all Federal, State, and local regulations and be approved by the RDO.

**D.** Volunteers covered by a current Service volunteer agreement may participate in Service diving activities provided they meet all requirements of a Service diver. Volunteers authorized under another DOI diving program may participate in Service diving activities with approval of their sponsoring bureau and the Service RDO.

**10.18 Can Service divers participate in non-Service dives?** Service divers may participate in non-Service dive activities on work time provided:

**A.** RDO has reviewed the non-Service diving program for compliance with this chapter, such as described in paragraph 10.12D.

**B.** The diver has permission from his/her line management to participate.

**C.** The diver acts within the authority of this chapter and the sponsor agency/organization requirements for the diving activity.

**10.19 What should I do in case of an accident?**

**A.** Divers must immediately report to their supervisor/project leader, FDO, and RDO, all diving-related injuries, accidents,

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near accidents, and equipment failures. If the accident results in hospitalization of three or more persons or involves a fatality, divers must notify the Regional Safety Manager immediately. The employee's supervisor is responsible for completing an accident report using the [SMIS](#). The report must describe the nature of operations, existing conditions, personnel involved, type of equipment used, nature of the injury or equipment failure, and recommendations for prevention of similar accidents in the future. The Regional Safety Manager will provide the RDO a copy of the SMIS report. The RDO will confer with the NDCB as needed.

**B.** To facilitate accident investigations, the diver in charge of a dive operation must secure the accident site to the extent practicable and leave all equipment in the original configuration as at the time of the accident until further guidance from the RDO.

**C.** If a diver is involved in a diving accident or near accident, he/she may be subject to a drug test.

**10.20 How are accidents investigated?** Upon notification of a diving related accident or near accident, the diver's supervisor/project leader must consult with the FDO and/or RDO to determine the need and scope of an investigation. If the accident/incident meets the definition of a serious accident as outlined in 485 DM 7, the Assistant Director - Business Management and Operations, in consultation with the Chief, Division of Safety and Health, will appoint a serious accident investigation team. For all other accidents/incidents, the Regional Safety Manager must provide guidance and support to the supervisor/project leader, FDO, and RDO in the conduct of an adequately scaled investigation.

**10.21 What records are required and how are they maintained?** The collection and maintenance of records containing personal information (i.e., medical exam form, drug testing results, etc.) will be consistent with the provisions of 5 U.S.C. 552a (The Privacy Act of 1974). This information is sensitive and protected by The Privacy Act. It is only available to staff on a need-to-know basis. Password protect electronic material and only use in accordance with routine uses identified in "OPM/GOVT-10, Employee Medical File System Records." Use paper records similarly and protect them in a locked file and locked room that is available only to staff who have a need to know this information in accordance with OPM/GOVT-10. Those employees tasked with storing and maintaining such records must read and be familiar with OPM/GOVT-10.

**A.** In accordance with 29 CFR 440, the RDO will maintain a file of all authorization information for all active divers within his/her geographic area. These records will be kept for a minimum of 5 years after the diver ceases to dive for the Service.

**B.** The FDO (in the absence of an FDO, the RDO will perform all of the requirements of the FDO) will maintain:

(1) Records of all dive logs conducted in their area of responsibility.

(2) A log of all equipment inspection records for regulators, tanks, and other equipment as required.

(3) All dive-related training records (CPR, first aid, oxygen administration, etc).

**C.** Divers will maintain:

(1) Dive logs for all Service dives.

(2) Equipment maintenance records required by this manual chapter.

(3) A file of his/her dive authorization records.

## DIVING SAFETY PLAN

### Introduction

A Diving Safety Plan (DSP) documents the planning and hazard analysis for a specific type of diving operation (i.e., suction dredging, transect survey, rebreathers, etc.). Prior to engaging in each new diving procedure or when utilizing a new type of equipment for which a DSP does not currently exist, the dive team conducting the dive operation must complete a DSP and the Regional Diving Officer must approve the plan. Once approved, future dives of a similar nature may reference the existing DSP. The DSP is not intended to supplant the Daily Dive Plan ([FWS Form 3-2222](#)). At a minimum, include the following information in the DSP:

#### I. Objective

- Describe objective(s) of using the particular equipment or procedure.

#### II. Description of Equipment and Techniques

- Provide references for equipment and techniques if available.
- Describe the equipment to be used and the proposed sequence of operations including required tasks and communications in detail.
- Describe the proposed sequence of operations including required tasks and communications.
- Describe the support vessel, if applicable.

#### III. Diving Plan Hazard Analysis

- Describe hazards associated with the proposed operation and equipment that the diver may experience, and what preventative actions will be employed to alleviate the hazard. The following table format is suggested:

Hazard	Preventative Action
1.	
2.	

## DIVING SKILLS AND PHYSICAL FITNESS EVALUATIONS

### DIVING SKILLS EVALUATION (INITIAL AUTHORIZATION ONLY):

1. Enter the water in full gear demonstrating the various entry methods that are pertinent to the environment being dived (boat or shore).
2. Demonstrate mask clearing.
3. Breathe with an alternative air source with a buddy.
4. Use underwater hand signals.
5. Equipment removal/replacement.
6. Demonstrate buoyancy control by hovering or some other predetermined method.
7. Exit water using methods pertinent to the environment being dived (boat or shore).

**PHYSICAL FITNESS EVALUATION ( ANNUALLY):** There are four stamina exercises, requiring a combined score of 12 or better to pass. Note: These exercises are based on recognized Recreational Dive Master standards developed by the Professional Association of Dive Instructors (PADI).

1. **400-YARD SWIM:** The swimmer must swim 400 yards without stopping using no swimming aids and using any stroke or combination of strokes desired. (If a swimmer stops, the exercise is incomplete and must be repeated.)

under 6 minutes	5 pts.
6 - 8 minutes	4 pts.
8 - 10 minutes	3 pts.
10 - 12 minutes	2 pts.
12+minutes	1 pt.
stopped	incomplete

2. **15-MINUTE TREAD:** Using no aids and wearing only a swimsuit, the swimmer will stay afloat by treading water, drown proofing, bobbing or floating for 15 minutes, with hands (not arms) out of the water during the last 2 minutes. A swimmer with a physical challenge that makes it difficult/impossible to hold hands out of the water is exempt from that portion of the exercise with no effect on the score.

Performed satisfactorily	5 pts.
Stayed afloat, but hands not out of water entire 2 minutes	3 pts.
Used side/bottom for momentary support no more than twice	1 pt.
Used side/bottom for support more than twice	incomplete

3. **800-YARD SNORKEL SWIM:** Using a mask, fins, snorkel and swimsuit only (no BCD or flotation aids) and swimming with face in the water, the swimmer must swim nonstop for 800 yards. The swimmer may not use arms to swim, unless the swimmer has a physical challenge that limits leg use and arm-swimming is the individual's normal swimming method while diving. (If a swimmer stops, the exercise is incomplete and must be stopped.)

under 13 minutes	5 pts.
13 - 15 minutes	4 pts.
15 - 17 minutes	3 pts.
17 - 19 minutes	2 pts.
19+ minutes	1 pt.

4. **100-YARD INERT DIVER TOW:** Wearing full scuba equipment, the swimmer must push or tow an inert diver in full scuba at the surface 100 yards nonstop without assistance. (Note: This is a swimming power evaluation (speed-against-drag) not a rescue evaluation.) If a swimmer stops, the exercise is incomplete and must be repeated.

under 2 minutes	5 pts.
2 - 3 minutes	4 pts.
3 - 4 minutes	3 pts.
4 - 5 minutes	2 pts.
5+ minutes	1 pt.
stopped	incomplete

**Notes:**

(1) Environmental conditions and specialized equipment requirements (e.g., dry suits) may interfere with completion of these exercises.

(2) The above fitness skills will be used as a tool in evaluating a diver's competency. However, failure of the diver to complete any one or more of these skills does not preclude the RDO/FDO from approving that diver for diving, if in the judgment of the RDO/FDO the diver is otherwise fit to dive.