



U.S. Department
of Transportation
**Federal Aviation
Administration**

Advisory Circular

Subject: WATER RESCUE PLANS, FACILITIES,
AND EQUIPMENT

Date: 4/15/04
Initiated by: AAS-300

AC No: 150/5210-13B
Change:

- 1. PURPOSE.** This Advisory Circular (AC) provides guidance to assist airport operators in preparing for water rescue operations.
- 2. CANCELLATION.** This AC cancels AC 150/5210-13A, Water Rescue Plans, Facilities, and Equipment, dated May 31, 1991.
- 3. APPLICABILITY.** The material contained in this AC applies to the operation of civil airports where aeronautical activity is conducted near a significant body of water. Certificated airport operators may use these recommendations and guidelines to satisfy certain portions of the requirements of 14 Code of Federal Regulations (CFR), Part 139, section 139.325.
- 4. RELATED READING MATERIAL.** AC 150/5200-31, Airport Emergency Plan, and AC 150/5210-7, Aircraft Fire and Rescue Communications, provide related guidance.

A handwritten signature in black ink, appearing to read 'DLB', written in a cursive style.

David L. Bennett
Director, Office of Airport Safety and Standards

1. INTRODUCTION. The following paragraphs provide guidance on the special considerations that airport operators must think about when preparing for water rescue operations in the vicinity of an airport. These include preplanning issues, such as delineation of responsibilities, the planning process, training, and equipment.

2. BACKGROUND.

a. Input from Other Agencies. We have incorporated into this AC lessons learned during National Transportation Safety Board (NTSB) investigations. This AC also contains updated sources of information about water rescue training from the United States Coast Guard and offered by Maritime Universities.

(1) Domestic Operations. While aircraft involved in domestic operations carry "slide raft/flotation devices," they do not typically carry rafts or inflatable life vests unless they are over 50 miles from shore.

(2) Overseas Operations. In contrast, aircraft engaged in overseas operations carry inflatable life vests, large rafts, and other flotation devices capable of getting a large number of passengers out of the water. This equipment is most useful in a ditching where there is time to preplan and brief the passengers about what they should do when the plane lands in the water.

(3) Approach and Departure. Accidents around airport environs will most likely take place during the approach to or departure from the airport. A 1985 in-house study by the NTSB entitled, "Air Carrier Over Water Emergency Equipment and Procedures (NTSB Report SS-85/02) found "Current procedures and equipment are designed on the assumption that air carrier water contact accidents are primarily ditching, a water accident characterized by at least some preparation time and relatively little aircraft damage. In fact, a review of air carrier water contact accidents between 1959 and 1984 shows that such accidents are typically inadvertent, with no preparation time, substantial aircraft damage and a high chance of occupant injury. Typically, these accidents do not occur on [extended over water flight]...but close to an airport, during approach and departure..."

b. Water Rescue Preparedness. Airport officials responsible for emergency preparedness should develop an airport emergency plan that includes a section on water rescue (as detailed in AC 150/5200-31). It should specify any specialized rescue training and equipment needed to provide safe water rescue services given by the airport's proximity to bodies of water. In addition the plan should address the unique character or "type" of water around the airport, as it may be a critical factor in emergency planning. For example, in Hawaii, coral reefs close to the shoreline demand unique approaches to water rescue.

3. SPECIAL CONSIDERATIONS.

a. Major Survival Factors. Survivors of aircraft accidents in water may be subjected to post impact fires, fuel/vapor inhalation, ingestion, hypothermia, further injury from debris, drowning, freezing, and/or attack by marine life.

The NTSB Aircraft Accident Report AAR-82-8 states that aircraft survivability depends on certain factors:

- ✓ That the deceleration forces do not exceed the known tolerable limits of the human body.
- ✓ That the restraint system-seatbelts, seat structure, and seat anchorage points remain intact.
- ✓ That the occupied areas remain relatively intact to prevent ejection and to provide living space for the occupants.

If any of the above is absent, the likelihood of a successful rescue is significantly diminished.

b. Water Temperature. Survivors of water crashes must depend more on rescue personnel than survivors of similar incidents on dry land because of exposure related issues. Not only will the passengers be unprepared to be in water, but they will also experience increased body-cooling rates due to

evaporating fuel. We recommend that rescue personnel consider all survivors to suffer from hypothermia until medical personnel determine otherwise.

c. Duration of Exposure. Rescue plans must also take into account the proper treatment of survivors after their rescue. The rescue craft should hold materials for removing fuel from survivors and the proper number of blankets, which will keep survivors from experiencing hypothermia or even death while in transit to medical facilities. The blankets on rescue craft should be made of wool and not polartec, fleece, space blanket material, or other fabrics.

d. Evacuation. Water rescue planning must account for problems transporting survivors from the water to pre-determined triage, decontamination, and transportation zones.

e. Nature of Injuries. Passengers in aircraft accidents may sustain substantial cardiac injuries that result in significant internal bleeding. As a result, rescue personnel should place all survivors in a supine position until medical personnel can evaluate them.

4. WATER RESCUE RESPONSIBILITIES.

a. Certificated Airports. In accordance with 14 CFR Part 139, certificated airport operators are to include in their airport emergency plans provisions for the rescue of aircraft accident victims from significant bodies of water or marsh lands situated adjacent to the airports and beneath the approach and departure flight paths of air carriers.

(1) Significant Body of Water. A body of water or marshland is significant if the area exceeds one-quarter square mile (0.6 sq km) and cannot be traversed by conventional land rescue vehicles. The emergency plan should include significant bodies of water located within at least 2 miles (3.2 km) of the end of an airport runway.

(2) Identification of Responders. The airport emergency plan should include the name, address, and telephone number of each water rescue squad, service, or government agency (i.e., Coast Guard, Harbor Patrol or specially trained marine law enforcement and fire department units) responsible for conducting water rescue operations in the significant body of water.

b. Primary Response Agency Other Than Airport. Even when the airport operator is not the primary response agency, it has responsibility for implementing the airport emergency plan and ensuring that the appropriate rescue agency/agencies are formally notified of the possibility of an aircraft accident where there is a significant body of water.

(1) Mutual Aid. Because of jurisdictional or logistical reasons, an airport operator may need to develop a water rescue plan that consists of a written mutual aid agreement identifying an entity other than the airport to act as the primary response agency. Such agreements are typically signed with the local fire/rescue department, Coast Guard, Marine Police, Harbor Patrol, or National Guard. A water rescue plan may also contain additional signed agreements with private entities, such as tug operators, ferries, marina facilities, medical helicopter services, crane operators, and construction or recovery crews.

(2) Responders Identified and Involved in Exercises. At certificated airports, where another entity will assume the role of the primary response agency, the airport operator should specify the responsibilities and duties in a written mutual aid agreement. In accordance with 14 CFR Part 139, the airport's emergency plan (including responders identified and involved in exercises) must be thoroughly reviewed periodically, (i.e., an annual tabletop and a full-scale exercise every 3 years). The airport operator should also periodically evaluate the airport water rescue component as part of either the annual tabletop or tri-annual, full-scale emergency exercise.

5. WATER RESCUE PLANNING.

a. Response Assignments. The water rescue plan should state what equipment and personnel actions participating agencies will be expected to provide and establish what agency will assume the primary response role. If the airport will not serve as the primary response agency, the airport operator should ensure this is specified in a mutual aid agreement as well as in the emergency plan. It should also clearly define in writing what it will provide to the primary support agency.

b. Support Inventory. The water rescue plan should include an inventory of what services, equipment capabilities, and facilities each agency will provide, and locations and plans for mobilizing personnel and equipment. The airport operator should maintain an inventory list and update it regularly to ensure that the necessary equipment and personnel are available. To the extent practicable, the plan should provide for the use of rescue vessels with enough combined capacity to accommodate the maximum number of persons that can be carried on board the largest air carrier aircraft that the airport reasonably can be expected to serve.

c. Incident Command. An Incident Command System (ICS) should be clearly defined in the airport water rescue plan and used throughout the incident.

d. Additional or Unplanned Assistance. The plan should recognize that boaters who see the accident will want to rescue passengers in the water. In addition once news of the accident spreads, other members of the public might want to assist. Because they are not likely to be familiar with aircraft or experienced in emergency response, they may inadvertently increase the danger to survivors in the water and to themselves. It is very important to establish effective "absolute" control procedures to prevent their involvement in the rescue. When possible, ask the Coast Guard to issue a marine broadcast to keep boaters out of the area once the ICS has been established.

e. Handling of Survivors. The plan should set forth practices and procedures for rescue of survivors from floating and/or submerged sections of fuselage. The airport operator or primary response agency should establish specific docking/landing areas (both primary and alternate sites) onshore where survivors can be brought for triage, fuel decontamination, and transportation to hospital facilities. The selection of docking/landing areas should take into account that routes through the airport proper might not provide the most direct access to hospitals with facilities appropriate for treating survivors.

f. Other Considerations. In addition to the items outlined above, the plan should address the following issues:

- ✓ notification of the incident or accident
- ✓ jurisdictional authority
- ✓ alarms
- ✓ response times
- ✓ hazardous material, and/or other special considerations
- ✓ personnel recall
- ✓ security
- ✓ traffic control
- ✓ medical, rescue, firefighting services
- ✓ an inventory of specialized services and equipment
- ✓ training
- ✓ drills
- ✓ triage
- ✓ services for uninjured passengers
- ✓ airline support
- ✓ removal of the deceased
- ✓ and the resumption of normal operations

6. TRAINING.

a. Designated Personnel. At airports that plan to provide water rescue, the rescue personnel are generally selected from among trained aircraft rescue and fire fighting and/or airport police personnel. Rescue personnel should receive additional training in rescue boat handling in the specific rescue craft used at the airport. Training must be provided by competent, experienced personnel. To ensure cost effectiveness of training, the airport operator or primary response agency should assign these specially trained personnel to the airport water rescue team for as long a time as is practical. Training should include victim recognition, hazard recognition, and the proper use of personal protective equipment. Personal protective equipment includes floatation devices, thermal protection, and blood borne pathogen protection.

b. Topics for Training. The airport operator should ensure that its rescue personnel, mutual aid personnel, and any others expected to engage in water rescue activities are familiar with airport and water rescue planning, techniques, rescue boat handling skills, and victim handling procedures. The airport operator should also ensure that all airport rescue personnel or mutual aid personnel that may engage in any rescue swimming activities should be trained in rescue swimming. (Note: Because of the potential danger involved, rescue swimmers should only be deployed as a last resort [i.e., row, throw and go (RTG)] by a competently trained person.)

This training should address the subjects in the basic outlines provided below.

Boat Training

- (1) **Construction and Characteristics of Rescue Boats**
- (2) **Propulsion Systems**
- (3) **Vessel Dynamics**
- (4) **Search Patterns**
- (5) **Rescue Planning**
- (6) **Ocean Dynamics**
- (7) **Limited Visibility**
- (8) **Recovery of Persons in Water/Extrication Skills**
- (9) **Towing Procedures**
- (10) **Rescue Swimmer Deployment**
- (11) **Pre-hospital Emergency Medical Care**

Rescue Swimming

- (1) **Safety Fundamentals**
 - a. Deployment considerations; tethering and tending of swimmers
 - b. Confined space and submerged space prohibitions
 - c. Environmental hazards/aircraft hazards
- (2) **Rescue Swimmer Equipment**
 - a. Thermal protection and floatation aids
 - b. Mask, snorkel, and fins
 - c. Tethering systems
 - d. Signaling/identification aids
- (3) **Communications**
 - a. Hand, whistle, and line signals
- (4) **Immersion Hypothermia and Cold Water Drowning**
 - a. Recognition and treatment

- (5) **Ocean Dynamics and Operating Near Aircraft**
 - a. Waves, swells, and currents
- (6) **Physiological Aspects of Rescue Swimming**
 - a. Respiration and circulation
 - b. Alterations in breathing patterns
 - c. Muscle cramps
 - d. Importance of conditioning
- (7) **Swimmer Operations**
 - a. Dressing and deployment skills
 - b. Swim training
 - c. Victim handling
 - d. Recovery of conscious, unconscious, and panicking survivors
 - e. Line system
 - f. Multiple victims

7. INITIAL AND RECURRENT TRAINING. It is important that the airport operator or primary response agency should establish a recurrent training schedule for personnel involved in water rescue soon after they complete their initial training. Rescuers should conduct frequent marine-related exercises including use of the rescue craft and other equipment during different weather conditions and seasons. At least half of the exercises should occur at night or during seasonal inclement weather and/or winter conditions. This training and recurrent training should be documented.

8. SOURCES FOR WATER RESCUE INFORMATION AND TRAINING. A partial list of sources, both public and private, for information and training related to various aspects of water rescue is given below. This list is not represented to be complete nor does it indicate the only sources for such training. It is provided only as starting point for information for emergency preparedness officials and does not represent an endorsement by the FAA. The information was current on the date of publication of this advisory circular.

Massachusetts Maritime Academy

101 Academy Drive
 Buzzards Bay, MA 02432
 Contact: Ed O'Brien
 Ph: 508-830-5091
 E-mail: obrien@mma.mass.edu
 Website: <http://www.maritime.edu>

Lake Superior College

Fire Technology and Administration Courses
 2101 Trinity Road
 Duluth, MN 55811
 Ph: 800-432-2884 (toll free)
 Ph: 218-733-7600
 Website: <http://www.lsc.cc.mn.us>

University of Missouri–Columbia

Fire and Rescue Training Institute
 240 Heinkel Building
 Columbia, MO 65211
 Ph: 800-869-3476 (toll free)
 Ph: 573-882-4735
 Fax: 573- 882-0678
 E-mail: frti@missouri.edu

Website: <http://www.mufrti.org/about.htm>

United States Power Squadron

1504 Blue Ridge Road
PO Box 30423
Raleigh, NC 27622
Ph: 800-367-8777 (toll free)
Ph: 1-919-821-0281
Website: <http://www.usps.org>

Marine Rescue Consultants

2043 Westcliff Drive
Suite 108
Newport Beach, CA 92660
Ph: 714-966-6455
Website: <http://www.marinerescue.com>

Florida Public Safety

PO Box 1905
Sebring, FL 33871
Ph: 863-385-3888
E-mail: phcolby@FL-PS.org
Website: <http://www.fl-ps.org/ioc.html>

Ocean Rescue Systems

PO Box 3423
Portland, ME 04104
Ph: 207-799-3299
Website: <http://www.oceanrescue.com/page3.html>

United States Coast Guards

The National Maritime Center Website

4200 Wilson Boulevard
Suite 630
Arlington, VA
Ph: 703-235-0002
E-mail: ksmith@ballston.uscg.mil
Website: <http://www.uscg.mil/hq/g-m/nmc/web/index.htm>

- ✓ USCG Approved Fast Rescue Boats courses
Link: <http://www.uscg.mil/hq/g-m/marpers/examques/frb.pdf>

**National Association of
State Boating Law Administrators**

1500 Leestown Road, Suite 330
Lexington, KY 40511
Ph: 859-225-9487
Fax: 859-231-6403
E-mail: info@nasbla.org (for general information)
Website: <http://www.nasbla.org>

- ✓ NASBLA Approved Boating Safety Courses
Link: http://www.nasbla.org/state_courses.htm
- ✓ NASBLA Approved Non-State Boating Safety Courses
Link: http://www.nasbla.org/nonstate_courses.htm

American Red Cross

Contact your local Red Cross office and ask for the Health and Safety Services Office for a full listing of swimming, water rescue, and boating courses.

Website: <http://redcross.org>

9. COMMUNICATIONS. The planning and implementation of proper and effective communications for water rescue operations is complex. In an accident on an airport, it is the airport operator's responsibility to respond. However, in an aircraft accident in the water another governmental agency might provide incident command. In such cases the airport operator must quickly communicate to the primary response agency that an accident has taken place and dispatch airport representatives to the Incident Command Post.

a. Notification of Airport Rescue Personnel. Airport rescue personnel in the aircraft rescue and fire fighting station or water rescue substation should be notified of an aircraft in the water. Cross-trained personnel located in the terminal building or elsewhere on the airport should be notified by a reliable means of communication (i.e., pager, radio, or cell phone).

b. Notification of Mutual Aid Partners. A reliable voice and electronic communications system should be available between the airport and other official agencies or parties specified in the mutual aid agreement. The system may make use of telephone and/or radio technology. However, since some cellular phone systems may become overloaded, we recommend the use of a mobile communications post.

(1) All emergency communications make use of Marine VHF-FM channel 16 frequency. If an airport operator has one or more vessels, it should ensure these vessels use this frequency. The Coast Guard normally conducts all communication during an emergency rescue operation on VHF-FM channel 22. Other Marine VHF-FM channels may be used in emergency situations in different areas and jurisdictions.

(2) The emergency plan should address the establishment and location of a command post to direct rescue operations, as well as the method(s) of communication to be used.

c. Command and Control During the Rescue Operation. If other agencies, particularly the Coast Guard or Harbor Police, perform rescue operations the airport operator will need to establish communications on a marine radio frequency with the primary response agency. This may require the airport operator to purchase marine radios or install marine radio channels in airport radios. In addition, the designation of a command post may be the prerogative of the primary response agency, and the airport operator should ensure that it is able to communicate with the designated post.

d. Coordination. Rescue operations between rescue personnel on the water and on land must be coordinated to ensure that survivors are brought to the previously designated areas on shore for triage, decontamination, and surface transportation.

10. RESCUE VEHICLES AND EQUIPMENT.**a. Types of Vehicles.**

(1) Vehicles used in conducting water rescue operations must be appropriate for the particular water environment involved. Collectively, they should have enough capacity to accommodate the maximum number of passengers carried by the largest type of aircraft serving the airport. To ensure the appropriate selection of water rescue vehicles for the specific airport, people responsible for acquiring these vehicles must consider seasonal weather variations and daily tide conditions (e.g., ice, wave height, surf conditions, water temperature, hours of daylight, prevailing winds, etc.)

(2) Normally, various types of boats will be the primary water rescue vehicles. Other vehicles may include helicopters, air cushion vehicles, and shallow draft "air boats." All rescue craft may have advantages and disadvantages. For example, water jet drive boats operate well in shallow water; but tend to intake floating debris. Amphibious and track vehicles may have some utility in swamp rescue operations.

b. Use of Vehicles and Equipment.

(1) Conventional Boats. These vessels are useful for transporting rescue personnel and equipment, deploying flotation equipment, picking up survivors, firefighting, securing the scene, communications, etc. Some boats are designed for and may be used in the same manner as rapid intervention vehicles in conventional aircraft rescue and fire fighting responses.

(2) Amphibious Firefighting Vehicles. An amphibious firefighting vehicle capable of 25 to 30 mph (40-48 kph) on land and 8 mph (13 kph) in water can be useful for rough terrain, steep slopes, flooded areas, as well as for permanent, significant bodies of water.

(3) Rescue Boats. These fiberglass or aluminum-hulled boats may have inboard or outboard engines capable of speeds up to 60 mph (95 kph). Some of the boats are designed to allow for the removal of a section of the hull (freeboard) to provide easy access into and out of the water. The boats can vary in length from 17 to over 40 feet (5–12 m). Depending upon the size of the vessel, enclosed or at least sheltered accommodations may be available to protect survivors from the environment. It is important that the boat have easy access around most of the topsides to allow rescue personnel to deploy raft canisters or to assist survivors out of the water. Rescue boats should have 2 engines so if one becomes inoperable, the other becomes the back up.

(4) Rafts/Flotation Platforms. These platforms are simply large, inflatable rafts with netting draped over the side and all unnecessary equipment removed. They provide a highly buoyant means of keeping 10 to 45 people afloat until rescue craft arrive. The platforms should be provided with appropriate fittings to allow safe towing to shore. Care should be taken in attempting to tow aviation-type rafts because of their design. Rescue personnel will need to practice assisting victims into the platform because victims may be unable to board the platforms unassisted. Consideration should be given to deploying sufficient inflatable platforms.

(5) Inflatable Boats. Normally, these boats are very shallow draft vessels. They may be a rigid or a true inflatable boat with a diesel/gasoline powered propeller and/or water jet propulsion capable of traveling 30 to 50 mph (48–80 kph). Boats of 22 to 28 feet (6.6–8.5 m) will accommodate approximately 15 people. Inflatable boats provide the best ratio of vessel weight to passenger capacity. They can be swamped and still support survivors. Consideration should be given to deploying sufficient inflatable boats.

(6) Shallow Draft "Air Boat." These boats can be 7 to 8 feet wide (2.1–2.4 m) and 13 to 20 feet long (3.8–6 m) and are propelled by aircraft or auto engines driving aircraft-like propellers. Larger models can carry approximately 2,200 pounds (1,000 kg) of people and/or water rescue and medical equipment. They can operate at speeds up to 50 mph (80 kph) in extremely shallow water, tidal flats, marshes, and snow. Shallow draft airboats, however, will sink if swamped. Also, these boats cannot go in reverse and never can be fully stopped.

(7) Air Cushion Vehicles or "Hovercraft." Rescue personnel can use hovercraft in the same manner as conventional boats. In addition, the hovercraft is an amphibious vehicle that can be used on ground, water, mud and any kind of service /and or floating obstacle. Larger models can carry 18 survivors. These vessels will usually have a higher response speed in calm waters. They are especially useful in very shallow water as well as on mud flats. However they can push jet fuel out from the vessel, which can cause an explosive mixture.

(8) Helicopters. Helicopters, and fixed wing aircraft in some cases, are most useful for transporting and deploying rescue personnel and equipment because they are faster than any surface vehicle. They are particularly useful for shuttling additional personnel and equipment to the scene providing weather conditions are acceptable. Helicopters can also act as a light source and assist communications and secondary command post activities. Helicopters with infra-red capability can be particularly useful for night activities. However, they can disorient and frighten survivors in the water because of rotor noise and downwash, which can cause debris to become airborne. Helicopter operations in narrow rivers may be constrained by obstructions, trees, bridges, power lines, etc. If helicopters are to be used in water rescue operations, functions they can safely perform should be determined early in the planning process. Planners should not rely solely on helicopters for rescuing survivors.

(9) Other Equipment that Should Be Available. Area maps and navigation charts, bailing buckets, water pumps, blankets, bull horns, communications equipment, emergency lights, flares, forcible entry tools, marine night vision binoculars, life rafts (with oars or paddles), medical kits, navigational equipment, portable resuscitation equipment, portable 500-watt or greater floodlights, rescue nets, stretchers/litters, rescue throwing bags, and anchors should be available and readily accessible.

c. Specific Applications.

(1) Oceans or Large Lakes. Coastal airport operators or their primary response agencies should consider boats to be their primary response vehicles. Helicopters that can be dispatched by the airport or secured from other agencies for the transportation of rescue personnel and/or flotation equipment are also of prime importance. Such airport operators should consider a fast boat capable of carrying the appropriate amount of flotation gear, plus having some firefighting capability and also a larger boat capable of taking survivors on board and providing other support such as medical, communications, etc.

(2) Inland Waters. Boats, inflatable, and/or air cushion vehicles may be the primary response vehicle at airports located adjacent to rivers and small lakes. Boats of appropriate size and capability should be available for immediate response. Airport operators should consider a relatively small, fast boat(s) capable of carrying the appropriate amount of flotation gear, plus having some firefighting capability and also a larger boat capable of taking survivors on board and providing other support such as medical, communications, etc.

(3) Wetlands/Swamps. Water rescue operations in swamps may call for shallow draft boats, "air boats," air cushion vehicles, helicopters, various track vehicles, and "high flotation" and/or amphibious vehicles. The swamp should be traversed or examined by air prior to selecting the appropriate rescue equipment.

11. EQUIPMENT SOURCES. A partial list of sources for equipment related to water rescue is given below. This list is not represented to be complete nor does it indicate the only sources for such equipment. It is provided only as starting point information for emergency preparedness officials and does not represent an endorsement by the FAA. The information was current on the date of publication of this advisory circular.

Boston Whaler Commercial and Government Products, Inc.

420 Megan Z. Avenue

Edgewater, FL 32132

Website: <http://www.whaler.com/cgp/default>

Federal Non-Military, State, County and Municipal

AZ, CA, ID, KS, MO, ND, NE, NM,

NV, OK, OR, SD, TX, UT, WA, WY

Contact: Jeff Gayer

Ph: 386-423-2916

Fax: 386-423-9187

E-mail: jgayer@whaler.com

AL, AR, CT, DE, GA, IA, IL, IN, KY, LA, MA,

ME, MD, MI, MN, MO, MS, NC, NH, NJ,

NY, OH, PA, RI, SC, TN, VI, WV, VT, WI

Contact: Jeremy Davis

Ph: 386-423-2914

Fax: 386-423-9187

E-mail: jdavis@whaler.com

FL
Contact: Dana White
Ph: 386-423-2917
Fax: 386-423-9187
E-mail: dana.white@whaler.com

Griffon Hovercraft Ltd.

P.O. Box 7
Sarisbury Green
Southampton
SO31 8YS
UK
Ph: +44-23-8040-3547
Fax: +44-23-8040-6747
E-mail: sales@griffonhovercraft.com
Website: <http://www.griffonhovercraft.com>

Avon Marine

Dafen, Llanelli
Carmarthenshire
SA14 8NA
UK
E-mail: info-avon@avon-inflatable.com
Website: http://www.avoninflatables.co.uk/page/fs_us_dealers

Willard Marine, Inc.

1250 N. Grove St.
Anaheim, CA 92806
Ph: 714-666-2150
Fax: 714-632-8136
Website: <http://willardmarine.com>

Zodiac of North America.

540 Thompson Creek Road
Stevensville, MD 21666
Ph: 410-643-4141
Fax: 410-643-4491
Website: <http://www.zodiacmarineusa.com>

MARSARS Water Rescue Systems

155 Myrtle Street
Shelton, CT 06484
Ph: 866-426-2423 (toll free)
Fax: 203-924-4198
E-Mail: robert.davis02@snet.net
Website: <http://www.marsars.com>

ZUMRO®, Inc.

P.O. Box 696
Hatboro, PA 19040
Ph: 800-932-6003 (toll free)
Fax: 215-957-6501
E-mail: info@zumro.com
Website: <http://www.zumro.com/zumro%20dive%20thru%20rescue%20boats.html>

12. UNITED STATES COAST GUARD RESCUE COORDINATION CENTERS

1. Go to the [USCG Home Page](http://www.uscg.mil/USCG.shtm), Website address: <http://www.uscg.mil/USCG.shtm>.
2. Search the Coast Guard website for: USCG Rescue Coordination Centers.
3. The results of your query should provide you with a link for USGC [Points of Contact](#).
4. Click on [Points of Contact](#) link for the USCG regional centers 24-hour contacts for emergencies.