



NCEM Swiftwater/Flood Search and Rescue Resource Typing Overview



DESCRIPTION	The Swiftwater/Flood Search and Rescue (SAR) Team Conducts search, rescue, and recovery for humans and animals in swiftwater, swiftwater/flood, stillwater, and stillwater/flood environments.		
RESOURCE CATEGORY	Search and Rescue	RESOURCE KIND	Team
OVERALL FUNCTION	<p>The Swiftwater/Flood SAR team:</p> <ol style="list-style-type: none"> 1. Searches for and rescues individuals who may be injured or in need of medical attention 2. Provides emergency medical care including Basic Life Support (BLS) 3. Transports humans and animals to the nearest location for secondary air or land transport 4. Provides shore-based and boat-based water rescue 5. Provides animal rescue 6. Supports helicopter rescue operations and urban SAR in water environments 7. Operates in environments with or without infrastructure, including those with compromised access to roadways, utilities, transportation, and medical facilities, and with limited availability of shelter, food, and water 	COMPOSITION AND ORDERING SPECIFICATIONS	<ol style="list-style-type: none"> 1. Discuss the following items prior to deployment: <ol style="list-style-type: none"> a. Intra-team communications, such as programmable inter-operable communications with Command, General Staff, and other supporting resources b. Presence of contaminated environments and need for related personal protective equipment (PPE), respiratory protection, clothing, and equipment c. Security and force protection needed upon arrival d. Logistics support, such as lodging, transportation, and meals for sustained operations beyond 72 hours 2. This team works up to 12 hours per shift, is self-sustainable for 72 hours (beyond need for security and force protection), and is deployable for up to 14 days 3. The requestor should specify the mission location and operational environment, such as shore, water or boat based, stillwater, swiftwater, or hazardous materials contamination 4. The requestor should discuss any additional equipment (such as thermal imager, litter wheel, night vision goggles) and make arrangements with provider 5. The requestor should specify the type of animal rescue, such as livestock and equine, companion, avian, non-domestic, and exotic animals 6. The requestor should specify additional specialized equipment, such as hardware, software, ropes, and survivor evacuation devices 7. The requestor should specify or separately acquire additional vehicles, trailers, equipment or supplies such as fuel 8. Transport of rescued humans and animals is limited to water-based means, acquire secondary land or air transport of rescues separately 9. Operations in SAR environments may be immediately dangerous to life and health (IDLH), per ASTM International (ASTM) F2890 Standard Guide for Hazard Awareness for Search and Rescue Personnel. The requestor should consider the need for additional recognized capability or endorsements



NCEM Swiftwater/Flood Search and Rescue Resource Typing Capabilities & Team Member Requirements



RESOURCE TYPES			TYPE 1	TYPE 2	TYPE 3	TYPE 4
COMPONENT	METRIC/ MEASURE	CAPABILITY				
Environment	Per Mission	Minimum	Swiftwater/Flood	Swiftwater/Flood	Swiftwater/Flood	Stillwater/Flood
			"Hot Zone"	"Hot Zone"	"Warm Zone"	"Cold Zone"
Personnel	Per Team	Minimum	14	12	6	3
Personnel	Per Team	Management and Oversight	2 – Strike Team/Task Force Leader who are also qualified as a Swiftwater/Flood SAR Leader	1 – Strike Team/Task Force Leader who is also qualified as a Swiftwater/Flood SAR Team Leader 1 – Swiftwater/Flood SAR Team Leader	Same as Type 4	1 – Swiftwater/Flood SAR Team Leader
Personnel	Per Team	Operations and Support	4 – Swiftwater/Flood SAR Technician - Boat Operator 4 – Swiftwater/Flood SAR Boat Bowman 1 – Swiftwater/Flood SAR Technician with the following skill set: Animal Rescue Specialist 1 – Swiftwater/Flood SAR Technician with the following skill set: Logistics Specialist 1 – Swiftwater/Flood SAR Technician with the following skill set: Communications 1 – Swiftwater/Flood SAR Technician with the following skill set: NIMS Type 1 Medical Specialist	3 – Swiftwater/Flood SAR Technician - Boat Operator 3 – Swiftwater/Flood SAR Boat Bowman 1 – Swiftwater/Flood SAR Technician - Logistics Specialist 1 – Swiftwater/Flood SAR Technician with the following skill set: Communications 2 – Swiftwater/Flood SAR Technician with the following skill set: NIMS Type 1 Medical Specialist	2 – Swiftwater/Flood SAR Technician - Boat Operator 2 – Swiftwater/Flood SAR Boat Bowman 1 – Swiftwater/Flood SAR Technician	1 – Swiftwater/Flood SAR Technician - Boat Operator 1 – Swiftwater/Flood SAR Technician - Boat Bowman
NOTES: For Type 3, one team member should also hold a qualification as a Emergency Medical Technician (EMT).						
Capability	Per Team	Operations	Same as Type 2, PLUS: 1. Capable of boat based support for helicopter water rescue operations in conjunction with NIMS typed SAR Aircraft – Helicopter/Rotor Wing	Same as Type 3, PLUS: 1. Performs technical rope rescue using technical rope systems to include high line 2. Performs medical care to include Advanced Life Support (ALS)	Same as Type 4, PLUS: 1. Operates in hazardous materials contaminated environments 2. Manages search operations 3. Performs medical care to include BLS 4. Performs low angle rope rescue	1. Performs Class 3 water operations, per American Whitewater (AW) Section VI Safety Code, specific to: a. Paddle and powerboat operations b. Offensive water rescue c. Flood response operations 2. Performs first aid to include cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) 3. Requests rope rescue and aviation resources as needed
Capability	Per Team	Operations	24hr Operation	24hr Operations	12hr Operation	12hr Operation



Swiftwater/Flood Rescue Search and Rescue Resource Typing Team Training



CAPABILITY		Metric/Measure: Per Team			
		TYPE 1	TYPE 2	TYPE 3	TYPE 4
1	Annual skills proficiency demonstration (by AHJ)	X	X	X	X
2	Annual swim demonstrtation (by AHJ)	X	X	X	X
3a	EMS-Advanced 1st Aid & CPR	X	X	X	X
3b	EMS-Emergency Medical Technician/BLS	X	X		
4	HazMat- Level 1	X	X	X	
5	Helicopter Operations Awareness	X	X	X	
6a	ICS-100	X	X	X	X
6b	ICS-200	X	X	X	
6c	ICS-300	2	2	1	1
7	Powercraft Operators Training (per type of craft on team)	4	2	1	1
8	Swiftwater/Flood Rescue Technician	X	X	X	X
9	Rope Rescue Technician	X	X	X	
10	Technical Animal Rescue or equivalent	1			
11a	Communications-Awareness Level (by AHJ)	X	X	X	X
11b	Communications-Operations Level (by AHJ)	1	1		
11c	Communications- Technician Level	1			

X =Minimum for all team members
=Minimum-number team members



Swiftwater/Flood Search and Rescue Resource Typing Equipment List



CAPABILITY	Metric/Measure: Minimum Per Team			
	TYPE 1	TYPE 2	TYPE 3	TYPE 4
COMMUNICATIONS				
800mhz (Viper) Radio (w/waterproof bag)	2	2	1	1
Phone, cellular	4	4	2	2
Radio, portable (waterproof) (internal communications)	14	12	6	3
MEDICAL (equipment per protocol of responding agency)				
Medical Kit	2	1	1	1
Spine Stabilization Board (flotation back board)	2	2	1	1
Stokes-type litter (with float kits)	2	2	1	0
PERSONAL EQUIPMENT				
Aerial flares	14	12	6	3
Chemical Light Sticks (cyalume) (4 various colors)	50/ea	50/ea	25/ea	25/ea
Dry Gear Bags	14	12	6	3
Dry suit with liner	14	12	6	3
Fins, Pair	6	6	3	0
Flashlight (waterproof)	14	12	6	3
Gloves-water	14	12	6	3
Gloves-work/rope	14	12	6	3
Handheld flares	14	12	6	3
Handheld survival strobe light	14	12	6	3
Headlamps, waterproof	14	12	6	3
Helmet, Swiftwater	14	12	6	3
PFD, Type V Tethered Swimmer (USCG Approved)	14	12	6	3
Rescue knives	14	12	6	3
Water Rescue Boots	14	12	6	3
Whistles	14	12	6	3



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CAPABILITY	Metric/Measure: Minimum Per Team			
	TYPE 1	TYPE 2	TYPE 3	TYPE 4
TEAM EQUIPMENT				
Admin. Kit/ ICS Agency Forms	1	1	1	1
Air Monitors	2	2	0	0
Axe, Pick head or Flat Head	2	2	1	1
Body Bag	4	4	2	2
Brake bar rack	2	2	1	0
Carabiner, locking "D", General Rated	20	20	10	10
Chain Saw with Kit (Minimum 14 inch bar)	2	2	1	1
Collection ring, rope rescue	2	2	1	0
Compressed Air Cylinder and Hose as required for IRB Inflation	6	6	2	0
Dust Mask, N95, disposable	2 Boxes	2 Boxes	1 Box	1 Box
Edge Protection	2	2	2	0
Figure Eight Plate	2	2	1	0
Forcible Entry Tool, Haligan	2	2	1	1
GPS, hand held	4	4	2	1
Hammer, Sledge	2	2	1	1
Hand Held Spot Light	2	2	1	1
Harness, Full Body	6	6	2	0
Helmet, Victim	4	4	2	2
Knot Passing Pulley	2	2	1	0
Line Thrower	2	2	1	0
Mask, Dive, Snorkel	4	4	2	0
PFD, Victim, Type III, various	4	4	2	2
Picket (P=Picket /S=Spinner)	4P/2S	4P/2S	4P/2S	0
Pole, reaching	2	2	1	1
Prusiks, tandem	12	12	12	0
Pulley	8	8	4	0
Rope, 200' with bag	2	2	1	0
Rope, 300' with bag	2	2	1	0
Spare fuel (gallons)	20	20	10	10
Swimmer Rescue Board	2	2	1	0
Throw Bags	14	12	6	3
Throwable Flotation Device	2	2	1	1
Victim Harness	2	2	1	0
Webbing 1" x 12' Nylon Tubular	6	6	3	0
Webbing 1" x 15' Nylon Tubular	6	6	3	0
Webbing 1" x 20' Nylon Tubular	6	6	3	0
Webbing 1" x 5' Nylon Tubular	6	6	3	0



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	TYPE 1	TYPE 2	TYPE 3	TYPE 4
DECONTAMINATION EQUIPMENT				
Decontamination Equip. Kit				
2.5 gallon pressure sprayer				
5 gallon bucket				
40 gallon plastic work box				
110 volt submersible pump	2	2	1	1
(2) 25' garden hose				
Garden hose wye				
110 volt power washer				
Soap and Bleach Solution				
1.5" Female to .75" Male Garden hose adapter				
INFLATABLE RESCUE BOAT (IRB)				
Air, electric pump	2	2	1	0
Air, manual inflation pump	2	2	1	1
Fuel, bladder, non venting	4	4	2	2
IRB, 4meter minimum	2	2	1	1
Lanyard, wrist, kill switch	14	12	6	3
Motor Flush Kit	2	2	1	1
Paddles	6	6	3	3
Pump Jet Motor, 30HP - 4.2meter boat/ 40HP - 4.7meter boat	3	3	2	1
Repair Kit, IRB (i.e. Clam Shells, Patch Kit, Dewatering Tools)	2	2	1	1
Rotor/Prop, spare	2	2	1	1
*** Type 4 Teams a Jon Boat is a suitable substitution, Only appropriate for Stillwater Operations ***				



Swiftwater/Flood Search and Rescue Resource Typing Equipment List



CAPABILITY	Metric/Measure: Minimum Per Team			
	TYPE 1	TYPE 2	TYPE 3	TYPE 4
LOGISTICS EQUIPMENT				
Air Horn	2	2	1	1
Bar Oil, 2 gal	1	1	1	1
Battery, Spare	As Required	As Required	As Required	As Required
Bolt Cutter, 24"	2	2	1	1
Center Punch	4	4	2	2
Chain Saw Bar, Spare	As Required	As Required	As Required	As Required
Chain Saw Chain, Spare	As Required	As Required	As Required	As Required
Chain Saw Fuel/Oil	As Required	As Required	As Required	As Required
Cots	14	12	6	3
Drop Cord & Accessories	2	2	1	1
Drysuit Repair Kit	14	12	6	3
Funnel kit, various sizes	2	2	2	2
Generator 2K with portable lights	2	2	1	1
Generator Fuel (in gallons)	As Required	As Required	As Required	As Required
Hand Disinfectant Bottles (Minimum 2 oz)	10	10	5	5
Hearing Protection, case	1	1	1	1
Hot Knife	1	1	1	0
Ice Chest	2	2	1	1
Katadyn Pump Kit, Water filtration	1	1	1	1
Ladder, 10'	1	1	1	1
Meals Ready to Eat	126	108	54	27
Pads, Sleeping	14	12	6	3
Porta Toilet	2	2	1	1
Roll of Paper Towels	As Required	As Required	As Required	As Required
Roll of Toilet Paper	As Required	As Required	As Required	As Required
Shovel, Spade	1	1	1	1
Sleeping Bags	14	12	6	3
Solar Shower	1	1	1	1
Stakes, For Tent	As Required	As Required	As Required	As Required
Tent, Privacy for Restroom	2	2	1	1
Tents/Shelter (Rapidly Deployable & appropriate for weather conditions)	To accommodate 14 person team	To accommodate 12 person team	To accommodate 6 person team	To accommodate 3 person team
Water, Bottle (cases)	14	14	8	3
Wire Cutter, 8"	4	4	2	2
Zip Tie/Wire Tie (minimum 6")	As Required	As Required	As Required	As Required



Swiftwater/Flood Search and Rescue Resource Typing Equipment List



CAPABILITY	Metric/Measure: Minimum Per Team			
	TYPE 1	TYPE 2	TYPE 3	TYPE 4
VEHICLE/TRANSPORTATION				
Vehicle(s) capable of transporting team members and equipment in the field environment in the area of operations	As Required	As Required	As Required	As Required
Vehicle(s) must adequately support three day operations such as fuel, tires, and maintenance requirements	As Required	As Required	As Required	As Required