



# RAFTING SPORTS ASSOCIATION

Pakistan

Promoting Rafting As Olympic Sport



***RAFTING/BOATING SAFETY CODE***

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## RAFTING SPORTS ASSOCIATION OF PAKISTAN

### JET SKI/POWER BAOTING (CODE OF PRACTICE)

We take this opportunity to introduce the RSA (Rafting Sports Association), an independent non-profit organization formed to promote rafting as Olympic sport and to restore, conserve and protect the rivers of the country through positive action and education along with maintaining the cultural integrity of local riverside communities. RSA is one of its kinds working with dedication for the promotion of Safe River rafting and the conservation of the Rivers of Pakistan. RSA is affiliated with (IRF) international rafting federation.

Rafting Sports Association (RSA) is the regulatory body in Pakistan promoting recreational River rafting in the country by identifying the safe zones on the rivers of the country for rafting and boating, training guides, trip leaders, instructors etc. It is observed that white water rafting and boating is a skill based industry, and it demands guides holding a range of technical skills, such as first aid, water reading, swift water training, tour guiding, kayaking, and other adventure related skills such as abseiling, and mountaineering.

RSA offers all kinds of people an opportunity to do things and travel the paths of adventure in the great outdoors. Close contact with nature builds up self-confidence through experience, brings high adventure through challenges and develops self-reliance through discovery. In order to promote adventure tourism in Neelum Valley RSA has conducted a detailed survey on dated **12-05-2021** regarding river marking for recreational river rafting and power boating on river Neelum (Krishan Ganga) at Sharda. Based on the technical survey followings areas are marked as safe zones for recreational rafting and power boating.

#### 1. ZONE-A

Kel Seri to Surgan Nalah Sharda is marked as safe zone-A for recreational river rafting Grade-II and Grade-III levels.

#### 2. ZONE-B

Surgan Nalah intersection Point to Benazir Palace Hotel Kharigam Sharda is marked as safe zone -B for recreational river rafting basic level.

#### 3. ZONE-C

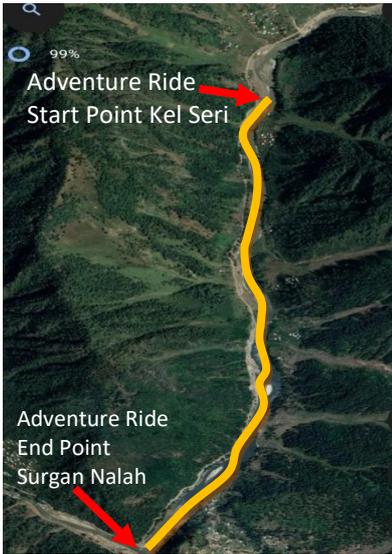
**800-1000** meters downstream from Sharda suspension bridge is marked as safe zone-C for power boating. As this area/river channel is narrow in width (**50-65 meters on average**) and it is already occupied by recreational rafting therefore, it is recommended that the number of power boat/family boat may not exceed **01** and number of Jet Ski may not exceed **02**.

#### 4. ZONE-D

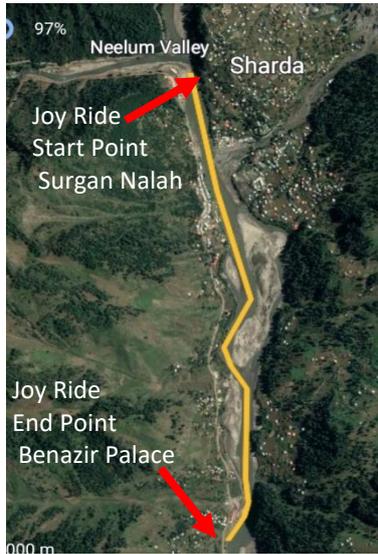
**1000-1400** meters upstream from Surgan Nalah intersection point is marked as safe zone-D for power boating, but due to narrow channel the number of power boat/family boat may not exceed **01** and number of Jet Ski may not exceed **02**.

### RIVER MARKING

**ZONE-A**



**ZONE-B**



**ZONE-C**



**ZONE-D**



**POWER BOATING ZONES C,D**



## 1. JET SKI INTRODUCTION

A Personal Watercraft (PWC) also known as Jet Ski, can be described as a powered vessel with a fully enclosed hull that does not retain water if capsized. It is designed to be operated by a person standing, crouching or kneeling on it or sitting astride, without the need to be inside it. A PWC may also be called a water bike, jet ski, power ski, a wave runner and can include other similar vessels.

The Jet-Ski was first invented by Mr. Clayton Jacobson from Arizona in USA. Bombardier was the first company who built the first model jet-ski "Sea doo" in 1968 for commercial purposes. The company known as "Kawasaki" then started building jet-ski, and over the years it has become the common name for the product.

Jet-Skis come in various sizes and power ranges. There are "stand up machines" which is for single persons and are mainly used for racing and performing various acts, like jumping, slaloming etc. The 'Sit Down' Jet-Skis are also known as 'Runabouts' are in various sizes up to three seaters. The Jet Skies are powered by two or four stroke petrol engines with horsepower vary from 60 HP to over 300 HP.



The engine provides power to the Jet-Pump which sucks in water through an open grate at the bottom of the jet-ski hull, pressurizes the water by an inner turbo system and then expels it out at high speed through the nozzle at the rear of the ski. This nozzle is directional and thereby provides the steering ability. The moment a jet-ski is started, the jet pump is functional and will start to propel the jet-ski forward or backwards according to the position of the gear lever.

## 2. BASIC OPERATING PROCEDURE / GUIDELINE OPERATIONS

### 2.1. OPERATIONS

- a) A detailed weather check has to be conducted & displayed before commencing any activity.
- b) All activities must begin with a detailed safety briefing. The briefing must highlight the equipment used, do's and don'ts, demarcation of the boundary for the activity, rescue and emergency procedures & current weather conditions.
- c) All participants must sign a liability waiver form prior to the commencement of the activity clearly highlighting the risk involvements.
- d) Participants with any medical condition making them unfit for participation in the activity must be informed prior to the commencement of the activity and not allowed to participate.
- e) The minimum age for most paddle sports is 8 years of age. Depending on the ocean and wild water condition, and the type of boat, this limit should be 12 years of age. In this event, the parent or guardian must sign a liability waiver form, clearly highlighting the risk involved prior to the commencement of the activity.

### 2.2. OPERATIONAL HOURS OF A PWC/POWER BOAT

- a) You may only operate your PWC during daylight hours, i.e. between sunrise and sunset. Any operation of a PWC outside these hours will be considered as an offence and may incur a penalty.
- b) No one under 14 years of age is allowed to operate a PWC/POWER BOAT and those have reached the age of 14 years are allowed to operate with an accompanying licensed trainer or operator who is over 18 years of age (Proof of age must be carried during operation of a PWC/POWER BOAT). The motor horsepower should not exceed CC 1800 and HP 360.

### 2.3. SPEED AND DISTANCE

Personal Watercrafts users must comply with the following:

- a) Not exceeding the set speed limits
- b) Avoiding travel at speeds that may cause water to splash on others
- c) Considering the density of traffic in the area of operation to determine the safe speed
- d) Not driving the JET SKI/POWER BOAT if weather conditions or visibility are bad

#### **2.4. BOARDING AND RE-BOARDING JET SKI**

Caution should always be taken when boarding or re-boarding a JET SKI. When getting on board a JET SKI, make sure it is always approached from behind. Swim to the rear of the JET SKI and place both hands on the back of the craft and pull yourself up. Then step over into the correct driving position to start – remember to reconnect the lanyard in order to start the engine. If your passenger falls into the water, slow down immediately, manoeuvre the JET SKI taking care not to hit the person and blow your whistle to warn others. Approach the person from downwind or into the current, and when picking up the passenger, place the engine in neutral.

#### **2.5. IF WEED OR DEBRIS GETS CAUGHT IN THE INTAKE/IMPELLER**

Engine cavitations may occur and they can decrease thrust and may cause your engine to overheat if the condition is not fixed. If there is any sign of this, or if your intake/impeller is clogged, return to the shore to clear. If at sea, turn the JET SKI/POWER BOAT off for at least 5 seconds and then restart the engine. If the intake is still clogged, place the JET SKI/POWER BOAT in reverse. If it is still clogged, stop the engine, remove the engine lanyard from the stop switch, dismount and reach under the JET SKI/POWER BOAT to remove the obstruction from the intake grate. If this fails, assistance will be required.

Once ashore, immediately remove the lanyard, take out the intake grate to remove the foreign object. The following checklist can be used for post-use, although all operators should refer to the JET SKI/POWER BOAT user manual for more details.

#### **2.6. CAPSIZING**

If your JET SKI has capsized, turn off the engine and remove the engine safety switch lanyard. Swim to the rear of the JET SKI, and turn the JET SKI over by gripping the ride plate with your left hand and pushing down on the gunwale with your right hand or foot. Most manufacturers have placed a picture at the rear of the PWC to indicate the direction to roll your JET SKI to an upright position. If you roll your PWC in the wrong direction you could cause extreme damage to your JET SKI. If a picture does not exist, consult your manufacturer's manual to find out which is the best way to right your JET SKI before you use it on the water. Do not put your hand in the intake grill. Start the engine in the normal way then head to the shore to inspect for water damage.

#### **2.7. FUELING**

It is important to fuel your JET SKI/POWER BOAT only on land as fuel is dangerous and considered a significant source of water pollution. When you refuel your SKI/POWER BOAT, make sure you take every precaution to ensure that you do not spill the fuel. Avoid overfilling your tank and watch all vents and use any absorbent material to collect any overflow.

#### **2.7. INSPECTION AND MAINTENANCE PROCEDURE**

- a) To maintain Daily Pre-Operations and Post-Operation Check List and signed by the operator and the supervisor.
- b) The hull, jet pump and the steering nozzle should check and maintained daily. Engine, ski hull, deck and trailer should maintain annually.

#### **3. MINIMUM STANDARDS TO RECOGNITION OF OPERATORS**

- a) Before using a jet-ski the participant should be made to sign an indemnity form.
- b) The participant should also sign a registration form with relevant personal details including address, phone number, whom to inform in case of accident etc.

#### **4. MANDATORY EQUIPMENT**

- a) Jet-Skis with a proper kill-switch
- b) Suitable life jackets with
  - ✓ Adequate Buoyancy
  - ✓ Correct sizes
  - ✓ Straps and buckles in working order.
- c) Suitable floating, soft foam rubber inserted helmets.

## 5. SAFETY AND RISK MANAGEMENT

### 5.1. RISK MITIGATION

Adhere to Basic Navigation Rules

Follow weather reports

Safety instructions

Carry emergency flares, marine VHF Radio or Mobile and anchor

### 5.2. SAFETY BRIEFING

All instructors must have an in-depth knowledge of the Risk Assessment and Normal Operation Procedure (NOP) and Emergency Action Plan (EAP) and brief participants accordingly.

Rules and regulation for operation of Jet-Skis.

- A clear map of the area should be displayed at the water-sports center with following details.
- Any underwater obstruction that could pose a danger to jet-ski/family boat operations, eg. Rocks, pylons, sand banks, reefs etc.
- The special area demarcated where the jet-ski/family boat is allowed to operate, preferably visible from the water-sports center.
- Any other special places that a jet-skier/family boat operator should be aware of e.g. Areas demarcated for recreational river rafting.
- When two jet-skis are on a collision course, i.e., heading towards each other, both should change course to starboard or the right (green) side, so that they pass each other on their port (red) sides. This changing of course should be done leaving ample time and should be clearly visible to each other.

### 5.3. COLLISION REGULATIONS:



#### APPROACHING HEAD ON

Each PWC alters course to starboard (right) and passes port to port (left). This applies to both narrow channels and open waters.



#### OVERTAKING

As the overtaking PWC, you are responsible for keeping out of the way of the RAFT/BOAT being overtaken and passing safely on either side of the RAFT/BOAT.



#### CROSSING SITUATION

As a PWC is a powered vessel, you must give way to RAFT/BOAT approaching from your starboard side, as they are the stand on vessel.

#### **5.4. EMERGENCIES AND RESCURS**

- a) All instructors should hold a valid RSA guide certification as minimum requirement award for boating and RG-III certification as minimum requirement award for recreational river rafting.
- b) All instructors/guides and any employee involved in the activity must have an in depth knowledge of all Emergency Action Plans, Normal Operating Procedures and Risk Assessments.

#### **6. GENERAL INFORMATION**

##### **6.1. TRAINED MANPOWER**

- a) It is imperative that personnel responsible for conducting Jet Ski/family boat lessons are certified Jet Ski/family boat operators with water awareness skills.
- b) Instructions with high level of skills in conducting lessons rescue and life saving techniques power boat handling and First Aid/Cardio Pulmonary Resuscitation (CPR) is important.
- c) Before hiring out a jet-ski there should be a detail briefing where markings on the area map clearly.
- d) Before hiring out a jet-ski it should be checked that the user is wearing a suitable life-jacket and a jet-skiing helmet with straps secured with buckles in working order.

##### **6.2. GUIDES/INSTRUCTORS**

Instructors for Jet Skiing should, hold the following minimum qualifications.

- a) Qualification from a Recognized National or International body for Jet Skiing/power boat and a certificate from the operator that the individual "has experience of 3 years in assisting in the particular activity and is independently capable of teaching, assisting, leading trips and carrying out rescue operations".
- b) A logbook/e-book containing authenticated records of Jet Skiing/power boat lessons.
- c) A valid first aid/ Cardio Pulmonary Resuscitation (CPR) certificate provided by a recognized and qualified provider.
- d) A powerboat license certificate provided by a recognized and qualified provider.
- e) An open water lifeguard certificate provided by a recognized and qualified provider.

##### **6.3. MEDICAL CONCERNS**

- a) Instructor must ensure that the participant can swim in open waters comfortably.
- b) Instructor must ensure that the participant is medically fit to learn or participate in the activity.
- c) A signed declaration from the participant is essential, if there is any suspicion of prior injuries or medical concerns.
- d) Participant with a weak heart condition, epilepsy, spinal issues, recent surgery, or any other medical condition of concern should not be taken for Jet Skiing/river rafting.
- e) Expecting mothers should avoid Jet Skiing/river rafting.



## RAFTING SPORTS ASSOCIATION OF PAKISTAN

### RIVER RAFTING (CODE OF PRACTICE)

Rafting sports association of Pakistan has been established to provide an introduction to safe River Rafting, with a view to promote Rafting as an Olympics sports & thrill exposure to tourist visiting the and exploring rivers of the country. Since the event will impact on the natural environment, management will follow standard RSA practices to minimize impacts on the local landscape in use, and set a model for other user groups to follow. The code of practice will cover all relevant aspects of employing rafts including training of crews to operate them. This will be considered under the following heads;

1. Land use of River banks.
2. Rafting Operational Procedures.
3. Rafting Safety Code.
4. Training Schedule of Rafting Crew.
5. River Rescue Practice.
6. First Aid and Emergency Procedures.

#### **RAFTING SAFETY CODE: (Adopted 1959 revised 2005)**

This code is based on the safety code of the American White Water Affiliation as adopted for recreational Rafting on the Rivers of Pakistan. It consists of guidelines to minimize risks in the handling of rafts and inexperienced passengers. Practical experience may make it necessary to adopt alternative procedures which will modify or amend the set of rules suggested in the code that follows.

#### **1. PREPAREDNESS AND RESPONSIBILITY OF RAFTING CREW.**

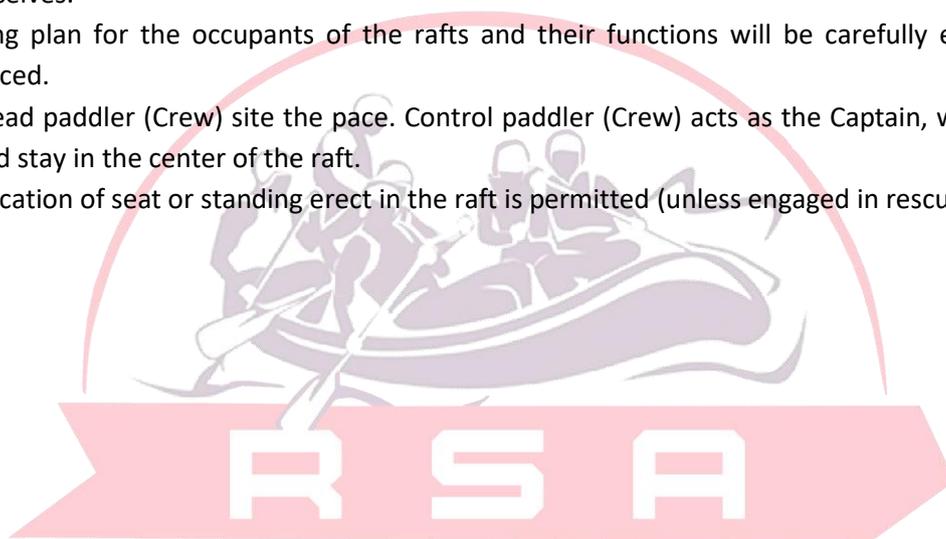
- a. To carry untrained passengers, the crew of the raft must qualify to whitewater Class (iii) standards on the water difficulty scale, and be able to swim.
- b. When over the water wear a life jacket (PFD), correctly fitted helmet.
- c. Always maintain control of the raft and have a frank knowledge of your rafting ability. Develop paddling skills required for the river conditions in use.
- d. Be in good physical and mental condition consistent with the difficulties which are expected. Any health limitations must exclude rafting as member of the crew.
- e. Be practical in self-rescue, including escape from beneath an overturned raft.
- f. Be trained in rescue skills, CPR and first aid with special emphasis on recognizing and treating hypothermia.
- g. Carry equipment needed for unexpected emergencies.
- h. Be familiar with the stretch of the river in use so as to maintain paddling drill on the part of unskilled passengers.
- i. Constantly evaluate their own and the passengers safety.
- j. Be prepared to assume any role given by the Crew Master and apply themselves accordingly.

**2. RAFT AND EQUIPMENT PREPAREDNESS:**

- a. Be sure of the good condition and inflation of the raft and its equipment before commencing a river run. Inspect the raft and its equipment after river run.
- b. Ensure raft safety over the water by stowing away equipment carried to avoid entrapment in case of upset raft.
- c. Know the carrying capacity of the raft and the size of crew plus passengers that may be permitted for the water conditions encountered.
- d. For class-II and class-III the raft in use to carry two crew members and six passengers as a maximum. In rough conditions passengers may be reduced to four.

**3. PASSENGERS PREPAREDNESS AND RESPONSIBILITY:**

- a. All the participants in a raft share responsibility over the water under the guidance of the crew. Some preparatory instructions will be imparted by the crew prior putting the raft afloat.
- b. Participants will wear a well fitted life jacket (PFD) helmet, and beach sandals are recommended.
- c. Participants must be in good health and aged between 08-65 years.
- d. Basic of paddling and raft control will be practiced over the water (eddies) prior to the specified run. During the run on the river the crew will ensure that the passengers do not over exert themselves.
- e. Seating plan for the occupants of the rafts and their functions will be carefully explained and practiced.
- f. The lead paddler (Crew) sets the pace. Control paddler (Crew) acts as the Captain, weak paddlers should stay in the center of the raft.
- g. No vacation of seat or standing erect in the raft is permitted (unless engaged in rescue work)



#### 4. DEFINITIONS:

**Standard Raft:** inflatable multi-passenger self-draining craft specially design for whitewater. Always operated by a trained guide on commercial trips.

**Trainee Guides** must complete a Guide Training Program (GTP) that equips them with the necessary skills and knowledge to competently guide a raft in a safety conscious manner. A GTP must include the following topics:

- (a) **skills-** rafting techniques, crew training and management, emergency and rescue techniques;
- (b) **knowledge-** equipment, safety and emergency procedures, rapid theory, leadership, signals.

**Raft Guide** must have the skills and knowledge to competently guide a raft in a safety conscious manner and operate as a member of the guide crew knowing standard whitewater rescue techniques as well as have a current standard first aid certificate.

**Raft Trip Leader** (senior guide) must have a high level of Raft Guide skills and knowledge as well as a thorough knowledge of trip planning, whitewater rescue techniques, emergency procedures and have a current advanced first aid certificate.

**Raft Instructor** (trainer) must have a high level of Trip Leader skills and knowledge; also must have a current advanced first aid certificate. Instructor must have high level of skills and experience in training and assessing Guides and Trip Leaders. He/She must be physically capable of demonstrating all Raft Guide skills.

**Assessor** (instructor trainer) must have a high level of Instructor skills and knowledge; also must have a current advanced first aid certificate. Assessor must have skills and experience in organizing Instructor Workshops. He/She must be physically capable of demonstrating all Raft Guide skills.

**Inline-Raft:** inflatable whitewater craft, with 1, 2 or 3 person seated inline. (croc, ducky, whitewater-canoe, outsider, inflatable kayak, inline miniraft, etc...) On commercial trips, inline-rafts not necessarily have Inline-Raft Guides on board; they can operate from different crafts covering multiple inline-rafts at the same time.

**Inline-Raft Trainee Guides** must complete a Guide Training Program (GTP) that equips them with the necessary skills and knowledge to competently guide an inline raft in a safety conscious manner. A GTP must include the following topics:

- (a) **skills** - rafting techniques, crew training and management, emergency and rescue techniques;
- (b) **knowledge** - equipment, safety and emergency procedures, rapid theory, leadership, signals.

**Inline-Raft Guide** must have the skills and knowledge to competently guide an inline-raft in a safety conscious manner and operate as a member of the guide crew knowing standard whitewater rescue techniques as well as have a current standard first aid certificate.

**Inline-Raft Trip Leader** must have a high level of Inline-Raft Guide skills and knowledge as well as a thorough knowledge of trip planning, whitewater rescue techniques, emergency procedures and have a current advanced first aid certificate.

**Raft Guides and Raft Trip Leaders** with inline-raft experience; can guide on inline-raft trips according to the same competency level they have their Standard Raft Guide or Trip Leader certificate for.

*Raft Instructors aiming to train and/or assess Inline-Raft Guides or Inline-Raft Trip Leaders; need to prove their inline-raft competency and experience to the GT&E Committee prior the assessments.*

**Renewal:** bi-annual renewal of certification requires proof that the requirements listed in Annex-A have been satisfied.

**GT&E Committee** retains the right to withdraw a persons certification or to refuse renewal if deemed necessary to maintain the standards and integrity of the scheme.

The **category awarded** will be determined by the examining Instructor according to guidelines determined by the GT&E Committee.

## 5. TRAINING OF RAFTING CREW:

Raft Guides, Inline Raft Guides, and Safety Crafters must:

- ✓ Be at least 18 years old, trainees must be at least 16 years old;
- ✓ Be able to swim;
- ✓ Hold a current (not older than 2 years) Red Cross First Aid Certificate (FAC) or equivalent with cardiopulmonary resuscitation (CPR);
- ✓ Trip Leaders, Instructors and Assessors must hold advanced certification such as Wilderness First Aid (WFA) or Responder (WFR) or Red Cross FAC level 2.
- ✓ Maintain a log book recording each run, signed by the crew master or Operations Manager of the company, as proof of experience. This is to be presented as proof of experience before an assessment;
- ✓ Complete a familiarization run and know the evacuation routes and procedures on any new stretch of whitewater they intend to Guide or Trip Lead on. (Note that an exception to this requirement is made in the case of highly experienced guides running exploratory or infrequently run expedition-style trips where a familiarization run may be impractical.)

### COMPANIES ARE RESPONSIBLE FOR:

- ✓ Checking river levels before trips and ensuring guides allocated to the trip are appropriately qualified and experienced.

Training of personnel for operating Rafts on placid as well as white water is designed to cater for recreational as well as adventure operating activities. Training follows the precepts of the American White water Affiliation practice and standards.

No course can replace on-the-river application to gain experience. When sound judgment and finely developed skills white water rafting will provide an endless source of thrilling pleasure. Professional aptitude, when acquired will further develop one's market value as a Rafter.

The basic course of 6 days duration is introductory in nature. The advance course with duration on two months will provide adequate level of skills to be graded Class 2 in the water level of difficulty. However, to carry untrained passengers, the crew of the raft must qualify to class 3 on the water difficulty scale. The advance course of introduction must be followed by a repeat extendable by short refresher intervals. Certification in any grade will be ratified by qualified personal of RSA. To qualify for Class 3 in rafting scale the rafter must:

- a. Be able to swim in swift water.
- b. Qualify in First Aid-Certified Red Crescent/RSA Course.
- c. Qualify Advance course in Rafting (RSA)
- d. Have river guide logbook (RGLB) showing 3 years experience in Rafting on White Water-Class ii.

**SYLLABUS: TRAINING OF RAFTING CREW (PERIOD: 320)+**

<u>Topic</u>	<u>Mode</u>
1. Rafting its Equipment	L/D
2. Setting up the Raft for operation	D/P
3. River Morphology	L/D
4. Propulsion Basics	D/P
5. Raft Control over Water	D/P
6. Running the Rapids	D/P
7. Safety and Basics of Rescue	D/P
8. Maintenance & Repair	D/P
9. River Camping and Site Management	D/P
10. Conservation of River Resources	L
11. Becoming a Professional Guide	L

**Note:**

1. Opening, evaluation, tests and closing of course excluded.
2. Rescue operations and First Aid covered in full in separate courses of 6 days duration.

**6. RIVER RAFTING RESCUE PRACTICE:**

Whitewater rafting involves many risks and to keep clear of them is the constant concern of the paddlers of varying abilities. It becomes even more of a concern for trained crew members responsible for recreational rafting. Training follows the precepts of the American White Water affiliation standards.

To stay out of trouble the rafter must.

- a. Develop judgment- individual judgment is the most important component of river safety.
- b. Accept personal limits- never exceed the limits of their skill.
- c. River classification- the six point international scale of river difficulty.
- d. Paddling within a group- is usually done as part of self sufficient group. Except when novices are present, few members (crew) adopt a defined leadership or command structure. However, the actions of each individual affect the well being of the entire group.
- e. Group management- when experienced paddler is leading novice, LEAD and SWEEP rafters are designated.
- f. Importance of Rescue- When skill and judgment fail, rescue skills must fill the group. Teamwork involves making the best use of the available people and gear.

**SYLLABUS: RIVER RESCUE TRAINING (PERIODS: 160)****Topics:****Mode**

1. Rescue Equipment	L/D
2. Swimming and wading	L/D
3. River sense	L/D
4. Self rescue	L/D
5. Rescue by rope	L/D
6. Raft based rescue	L/D
7. Recovering pinned raft	L/D
8. Organizing rescue	L/D
9. First aid and evacuation	L/D

**NOTE:** Opening, evaluation, test and closing of course excluded.

**THE FIRST AID KIT:**

All the operators must carry below listed first aid kit when they head out on the water. Like all things, the contents of a first aid kit vary from paddler to paddler, so think of this list as a general outline. Depending on the size of your group, the distance you'll be traveling, your group's first aid experience, and other variables, you'll need more or less of certain items.

Item	Why?
Small First Aid Book	Knowledge is power!
Band Aids (10)	Small wounds
Pyodine	Small wounds
Steri Strips (5)	Closing deep wounds
4x4 Gauze Pads (2)	To help cover wounds
First Aid Tape (1-2 rolls)	Everything
Gloves (3 pair)	Body Substance Isolation (BSI) - keep yourself stay safe!
Chap-stick	Chapped lips are no fun
Small Sunscreen	Emergency backup
Aloe Vera/Sun block	Sunburn
Lighter	Accidental overnights or to sterilize the tip of a safety pin
Small Irrigation Syringe	Cleaning deep wounds
Ace Bandage	To help with splinting or a quick immobilization of a joint
Triangular Bandages (1-3)	To create a sling
Safety Pins (3)	Great for splinting, but also great for getting splinters out
Pencil	Keeping notes

## RIVER GRADING

### BASED ON THE INTERNATIONAL RIVER GRADING SYSTEM

**Grade 1:**

Slow flowing rivers, pebble races and small rapids with a few riffles or low regular waves. Channels are wide and clear with little or no maneuvering require avoiding obstacles.

**Grade 2:**

Easy Rapids with waves up to 1 meter. Clear channels obvious without scouting, some maneuvering maybe required avoiding obstacles.

**Grade 3:**

Semi-complex sections of rapids with high or irregular waves, broken water, eddies and stoppers. Maneuvering will be required to follow the correct path which may be technical in nature and which is not easily recognizable. Inspection from the bank often required.

**Grade 4:**

Long and extended stretches of rapids with high irregular waves, stoppers and eddies. The path must be inspected from the bank and it is often very technical.

**Grade 5:**

Very difficult, long and violent rapids. Close inspection is mandatory. Definite risks in the event of a mishap. Requires a series of controlled, precise, 'must make' moves to navigate successfully.

**Grade 6:**

All the above features increased to a level where the river cannot be paddled without severe risk to life.

