

# South End Rowing Club Pilot Training Syllabus.

## Welcome

This course goal is to train members new to the SERC piloting program. The information here is meant to give you a head start and an over view of what it is to be a South End Pilot. At the end of this course you will be ready to become a Co-Pilot for the Club. As you gain more Co-pilot experience and gain more confidence, you will become a Pilot.

There is no replacement for time on the water with advanced pilots when it comes to learning these skills, and no matter your skill level, you will never stop learning. So good luck, ask questions and keep this syllabus as a reference as you partake in what we hope is the best preparation for our South End Pilots.

For the purpose of this course, we will be using the term “Powerboat/inflatable” to also mean Zodiac,

## Course overview

- Piloting categories overview
- Organization overview
- Chart work/ currents/ Shipping lanes
- Basic terminology
- Pilots responsibility
- Swim Briefing
- Items to bring to the swim
- Prepping the boat
- Radio use
- Boat handling
- During the swim/ Piloting strategies
- Pulling swimmers
- Rules of the road

## **SERC Organizational flow chart (Read left to right)**

<b>SERC Board</b>	Swim Commissioner	Swim Director	Lead Pilot	Zodiac Pilot	Co-Pilot	Monday Morning Quarter Backs
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## Chart work/ currents/ Shipping lanes /knots (appendixes)

- Local names and landmarks
- Shipping lanes.
- Bay currents/Boat positioning
- Knots

## Basic boat terminology

- Bow – The front end of the boat.
- Stern/Transom – The back end of the boat where the engine is mounted.
- Beam – The widest point in a boat from one side to the other.
- Port – The left side of the boat when looking forward from the helm.
- Starboard – Not the Port side.
- Bow Line - Line that is attached to the front of the boat for tying up the boat.
- Planing - describes the state in which the hull of a waterborne craft is lifting up higher up to the point where it merely skims across the water, rather than moving through it.

## Pilot's responsibility

For purposes of brevity, we will only be covering basic piloting techniques and only briefly explain the role of the lead pilot.

### **Safety is solely the operator's responsibility.**

- The pilot is responsible for being familiar with the safe operation of the boat, its equipment and the Rules of Navigation.
- Neglecting any precaution in the safe operation of a boat—including its equipment—is a violation of California boating law and of Coast Guard regulations. This could spill over into the Civil Courts.
- The General Rule of Responsibility: In the event of a collision, both parties are considered at fault by the Coast Guard (“No boat has the right of way ‘through’ another boat!”)

## Swim Briefing

**This is for the Swim Director and Head Pilot to do, but good things to keep in mind:**

- Count swimmers. Count swimmers at briefing, count again just before the jump via radio and at end of swim. As swimmers enter the cove, place a pilot at the opening to count swimmers.
- If you can pod the swimmers who swim at the same speed, this is better
- Pair swimmers/pods with pilots.
- Ask the swimmer which side they breathe on so you can stay in their vision.
- Kayak pilots, a raised paddle means there is an immediate need for a zodiac pilot. Waving to someone looks like just that. You are saying “Hi”. Do not call over a pilot by waving.
- Inform swimmers that they may be pulled for any number of reasons. The pilots have the ultimate say. Please report swimmers that do not abide by pilots direction to the Swim Commissioner.

## Items to bring to the swim

Taking a cell phone allows you to contact the Coast Guard or Vessel Traffic without a radio upon encountering an emergency, or a “hazard to navigation”. You will need a waterproof device for the phone.

### **Program these numbers in your cell phone prior to the swim:**

- Coast Guard Emergency: 415-556-2103 (20 min response time)
- CG non-emergency: 415-399-3451
- Vessel Traffic: 415-556-2760
- SF Police Dept, Marine Division: 415-850-7440
- Weather and current updates: 1.866.727.6787 ex 010

**Prepping the boat Item** (Items marked in **Blue** are in the SERC Dry bag on every Zodiac. If they need to be replaced, please contact the Swim Commissioner)

It's required by law each boat carry:

- A Type I-II or III life vest for each person (Confirm it is in good condition.)
- At least one Type IV “throwable flotation device” (the “seat cushion”).
- An “audible signaling device”, a horn and/or a whistle
- A single 360 degree white light for use dusk to dawn, and in foggy conditions. Be sure these lights are in working order.

### **Additional items to have in the Zodiac for every swim:**

- Each Zodiac has a throwable float on a 30-foot leash attached to the Zodiac.
- **Registration** for the boat
- The Oscar “man-overboard” flag.
- A bailer and sponge
- Blankets
- A weight to help manage balancing the boat.
- Plastic bags
- **Silver warming blanket**

### **Personal Items**

- A headlamp and/or **flashlight**
- **A compass**. Bay fog can drop down in minutes.
- Chemical hot packs to warm hypothermic swimmers
- Honey
- GU packets
- **Whistle**
- Warm tea or water to warm up the swimmer. No alcohol or caffeine.
- Binoculars
- A “Leatherman” type tool/**knife**
- An extra cap and scarf for swimmers if they are pulled because of the cold.
- **Flares/Orange distress flag**.

**Sign boats out in log book.** This will be helpful if we need to account for missing boats or pilots and may save your life someday.

## Radios

- Radio Room location- This has the radios, manuals, foul weather jackets and peripherals.
- The Lead pilot will carry two radios, one for the swim and one for VTS.
- "Over and Out" The most commonly misused procedure words are "Over and Out." "Over" means that you expect a reply. "Out" means you are finished and do not expect a reply. It is contradictory to say "Over and Out." Also, Police numbered codes are not used in the marine environment. No "10-4"s.
- When giving positions to Vessel Traffic Services Use "SF" in front of pier numbers. Example "Traffic, our lead swimmer is abeam of SF39, over". The reason for this is that there could also be a pier 39 in Oakland.
- *The "Don't drink coffee before piloting" rule:* Shouting into the microphone with the microphone near your mouth will "over modulate" the electronics, making your words unintelligible on the receiving radios.
- Hailing: say the name of the boat (or station: "Vessel Traffic", "Coast Guard") you wish to contact, then say the name of your boat, then say "Over".
- All communications with Vessel Traffic Services should be as **brief and professional as possible**. There are many users on this channel and the channel needs to be kept clear.
- Radios can be used in 1 watt or 5 watt mode.
- Squelch – limits the amount of radio static.

## Channels

- **Channel 16** –Is the distress and safety frequency and is used for hailing only. The Coast Guard monitors 16 continuously.
- **Channel 14** - Vessel Traffic Services.
- **Channel 10** - is used by commercial pilot vessels.
- **Channel 12** - Vessel Traffic transmissions with *offshore* vessels.
- **Channel 13** - Is called the bridge-to-bridge channel and is used for conversations limited to safety communications between vessels.
- **Channel 22A** - The USCG reserves use of this channel for communications that pass between the agency and boaters. If you call the Coast Guard on 16, they are likely to move the conversation to channel 22A.
- **Channel 68:** Charter boats from Fisherman's Wharf
- **Channel 69** – Primary "Working" channel for SERC
- **Channel 71**– Primary "Working" channel for the Dolphin Club

## Club Procedure Words:

When using the radio between club boats:

- A fast motor boats are called “High Speeds”
- Directions can be given from a point on the compass or a land mark.  
Example: ”High speed coming from the East” or “High speed coming from Sausalito/Treasure Island/ Gas House Cove”

## Terminology in the general marine environment:

- **Over:** You have ended your transmission but expect a reply.
- **Out:** You have completed your communication.
- **Copy:** You have understood the transmission.
- **Roger:** Acknowledges that the message was understood and agreed with (and you'll follow through).
- **Affirmative:** Alternatively, say “Yes”.
- **Negative:** Alternatively, say “No”.
- **Say again:** Please repeat
- **Wait:** You must pause, but want the other station to continue to listen. **Wait out:** resuming
- **Break:** marks a change in the message: for instance, in temporarily responding to another station.

**Mayday:** (spoken three times): reserved for situations involving risk of life and/or grave and immediate danger.

**Pan-Pan** (“pahn-pahn”; spoken three times) announces an emergency when the safety of a boat and/or person is not life threatening but has the potential to become so.

**Securite** (“say-cur-i-tay”; spoken three times) signals information regarding navigation safety. The Coast Guard encourages all mariners to transmit safety messages when they spot a hazard to navigation (floating log, buoy off-station; *and* that “marine event”: swimmers in the water!)

**Silence** (“see-lonce”; 3 times) spoken by the Coast Guard to keep routine traffic off an emergency frequency.

## Distress Procedures, or dealing with the Coast Guard in an emergency situation

When hailing the Coast Guard, be prepared to give this information. The Coast Guard will ask you these questions.:

- WHO you are (your vessel’s call sign and name).
- WHERE you are. Your vessel’s position in latitude/longitude if you can, or bearing and distance in nautical miles from a widely known geographical point; local names known only in immediate vicinity are confusing (i.e. “Coughlin Beach” is only our club reference. A beam of Saint Frances Yacht Club would be a better indicator of your position) Indicate which information you are certain of and which position information may be doubtful.

- WHAT is wrong (nature of distress or difficulty). Kind of assistance needed.
- Number of persons aboard and the condition of any injury. i.e. “Sector San Francisco, we have 4 adults and one child aboard”.
- Present seaworthiness of your vessel.
- Description of your vessel; length, type, cabin, masts, power, color of hull, superstructure and trim.
- Your listening frequency and schedule.

## **Boat handling**

“Go slow, look like a pro. Go fast look like a . . . person of ill breeding”

- Attach the red “motor kill switch” to your person in case you fall out. This will turn the engine off.
- While swimmers are entering or exiting your boat, put transmission in neutral.
- We’ve deemed it mandatory that the powerboat pilots and co-pilots wear life vests: if you get thrown out at speed, you may be knocked unconscious /dissociated: a life vest can keep you face-up (*breathing*) in the water.
- Stop-engine lanyards should be used (attached to you).
- The throttle’s friction ring should be off. The steering friction device set to your preference.
- Practice steering from both sides of the boat (facing each way). In a tense situation you might mistakenly accelerate when you need to stop, Only practice will make these motions automatic.
- Practice maneuvering the boat by picking up trash floating in the bay.
- Pull the bailer’s plug only when you’re going fairly fast, and replace it when you’re back at idle speed. This helps drain the boat while underway.
- Quick acceleration will pop the bow up in the air, which may flip the boat in high head winds. Let the boat crawl up on plane.
- A quick stop will bring water over the transom.
- Use a weight plate in the bow of the inflatable in rough weather to help with planning. Also, shifting passengers forward or back will help with getting on a plain.
- Don’t motor near the shore: sand in the water will destroy the motor’s water pump . If you need to approach a shore, turn off and lift the motor and coast in. Shove off as far as you can before lowering and starting the motor again.
- Head (power) *into* waves, *diagonally*, not head-on.
- Don’t wake the swimmers.
- To track position use “Range markers”.
- Engaging oncoming traffic.

## During the swim/ Piloting strategies

- Form a PERIMETER around the swimmers; ensure all swimmers have pilot boats nearby. Position boats next to the first and the last swimmers, to direct oncoming traffic around the swim.
- Keep swimmers grouped if possible.
- Keeping track of all swimmers during the swim. Wind chop can come up in 15 minutes: the swimmers become invisible to our boats, and to oncoming traffic
- Keep, preferably, downwind. You can be blown into a swimmer in a couple of seconds while you're distracted. But more importantly stay on swimmer's breathing side, in their sight. When they get tired and cold, they start feeling alone, frightened; they can become irrational and paranoid (and combative!)
- Watch the swimmer for signs of hypothermia:
  1. Has their swimming style fallen apart; their swimming become erratic; he/she can't keep direction?
  2. Ask the swimmer questions (*Name/Place/Time* questions) "Where are you (...swimming to)?"
- A swimmer feels safer seeing you.
- Talk to your cold swimmer, calmly and cheerfully.
- Keep an eye out for on coming boats.
- As the swim enters the ending point, the opening of Aquatic Park, place a pilot, either Zodiac or row boat, at the opening to count the swimmers.

## Pulling swimmers

- Rowboats: lean on the side of the boat to bring the gunwale down to water level; balance the boat as the swimmer crawls over the side.
- Zodiac pilots: ask the swimmer to kick flat in the water, so you are pulling the swimmer in sideways, not lifting up (against gravity). For a firm grasp, a life vest can be put under the swimmer's arms and then falling (yourself) backwards. Get help from another boat if needed. Remember, your legs are stronger than your arms.
- Swimmers in the water never can be allowed to hold on to a power boat while it is moving (say, to be relocated). The boat will pull sideways and the flow of water will force the swimmer's legs/feet to the propeller.
- In the event that you have lost track of a swimmer, **after no more than 5 minutes**, contact the Coast Guard Emergency Line. We do this because it takes 15 to 20 minutes just for them to input the data we give them so they can plan a rescue strategy. Also, throw a personal floatation device in the water at the last know position of the swimmer. The Coast Guard can use this to track and predict currents and possible positions of the swimmer.

## Rules of the road Inland Collision Regulations (COL REGS)

### Right-Of-Way

There is a larger hierarchy, but these are the rules that apply to us. The boat with the right of way (stand on) shall maintain its course, the Give Way vessel shall alter course. (see rule 8)

**A boat displaying the Oscar “O” or Man Overboard flag.** A boat shall not approach a vessel displaying the Oscar Flag and shall reduce speed within 150 meters (498 feet).

### Rule 7 - RISK OF COLLISION

- Every vessel shall use all available means appropriate to the prevailing circumstances and conditions to determine if risk of collision exists. If there is any doubt such risk shall be deemed to exist.

### Rule 8 - ACTION TO AVOID COLLISION (Synopsis)

- Any action taken to avoid collision shall be positive, made in ample time and with due regard to the observance of good seamanship. Any alteration of course and/or speed to avoid collision shall be large enough to be readily apparent to another vessel observing visually or by radar; a succession of small alterations of course and/or speed should be avoided.

### RULE 9 - NARROW CHANNELS

- A vessel of less than 20 (65.5 feet) meters in length or a sailing vessel shall not impede the passage of a vessel which can safely navigate only within a narrow channel or fairway.

**Relevant Sound Signals** (horn/whistle, A short "blast" means a duration of about one second, and a long (or "prolonged") blast lasts four to six seconds.)

- **FIVE (or more) short blasts - Emergency (Danger) Signal.** This means “There is DANGER in what you intend to do or “I do NOT AGREE with your intended maneuver or “I am in DOUBT as to your intentions.”
- **Three Short Blasts – I am operating astern propulsion –** Most likely heard as ferries are leaving the dock
- **One long blast - I am leaving the dock –** Also most likely heard as ferries leave the dock. May be in place of 3 short blasts.
- **One long blast not more than two minutes apart –** Power Driven Vessel under power making way in reduced visibility.



## Hypothermia

### **Recognize the signs of Hypothermia**

**Mild:** Ask the affected person how he or she feels: If he or she expresses feeling chilled and manifests goose bumps, a slight lack of coordination in the fingers, mild shivering and slight mental impairment, mild hypothermia is probably the cause.

Treat immediately

**Intermediate:** Check for more serious symptoms: severe muscular coordination problems (inability to use hands, stumbling, falling), violent and uncontrollable shivering, impaired judgment and irritability. These are most likely indicative of moderate hypothermia. Treat immediately

**Severe:** Assess for yet more severe symptoms: cessation of shivering, almost complete lack of muscular coordination, muscular rigidity, unconsciousness, lowered heart and respiratory rate, dilated pupils. These symptoms likely indicate severe hypothermia. Treat immediately

### **Treatment**

- Remove the affected person from the cold, wet and/or windy environment
- Dry the person off, replacing wet clothing with dry clothing.
- Insulate the person from the surrounding cold by having him or her wear a swim parka, blanket, plastic bag, etc.
- Make sure the person is wearing a dry hat: A large percentage of body-heat loss occurs through the head.
- Cover the neck with something dry: A lot of heat is also lost through the neck.
- Prepare a warm (not hot) beverage and have the hypothermic person drink it.
- Encourage the person to eat carbohydrate-rich foods.
- Place hot water bottles (filled with hot water) and/or chemical heat packs inside a sleeping bag and against the clothing of the hypothermic person.
- Monitor closely for changes in level of consciousness: A worsening condition may indicate severe hypothermia
- The best rewarming item we have is our sauna. This will gently warm the person from the inside by taking in warm air. **ALWAYS accompany the person from the zodiac to the sauna. If you cannot do this, find a person who can. This is crucial as the hypothermic person will be prone to falling and losing balance. This will also allow you to monitor their condition.**
- In severe cases, it is very important, if the person has to be moved, that it is done with extreme caution.
- If the person becomes critical or unconscious, use your best judgment as to whether it is best to try to make it back to the sauna or if you need to find a place for an ambulance to meet you.

## Pertinent web sights

<http://www.sailflow.com/>

<http://sfports.wr.usgs.gov/>

<http://www.animatedknots.com/>

<http://www.iwindsurf.com/>

<http://www.wunderground.com/MAR/buoy/46026.html?graphtype=2>

<http://tbone.biol.sc.edu/tide/tideshow.cgi?site=Alcatraz+Island+W%2C+San+Francisco+Bay%2C+California+Current>

<http://www.sfgate.com/weather/fog/fogtopclose.shtml>

<http://xpda.com/nauticalcharts/> (chart number 18652)

Chart of the San Francisco Bay, Chart #18652



Figure 1: Flood at Alcatraz

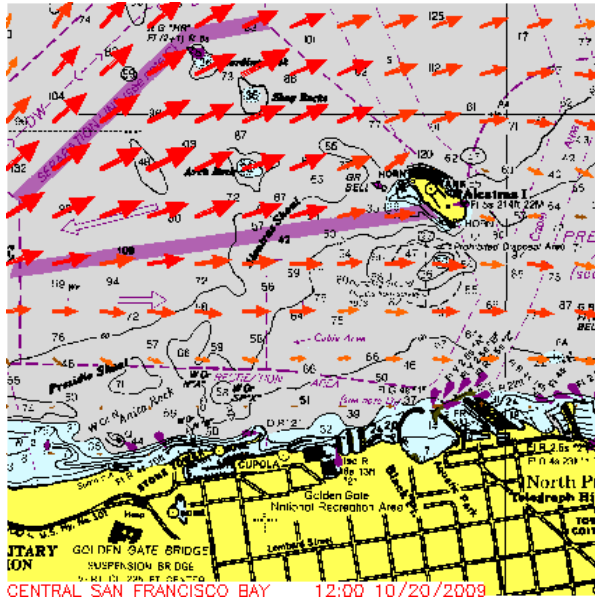


Figure 2: Ebb at Alcatraz

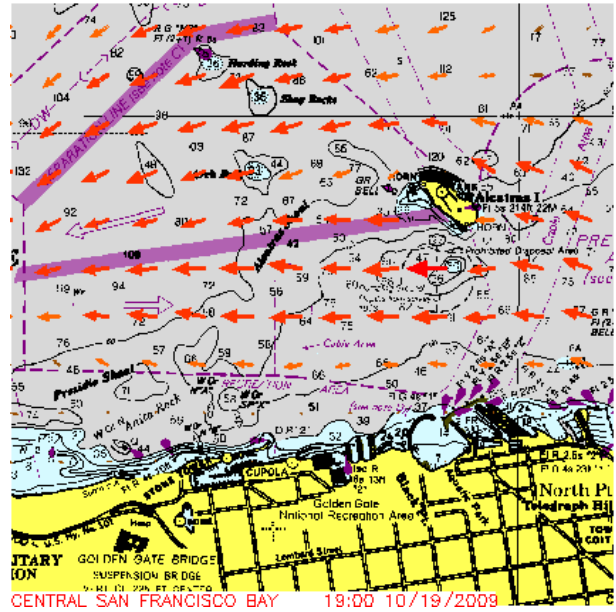


Figure 3: Flood at Golden Gate Bridge

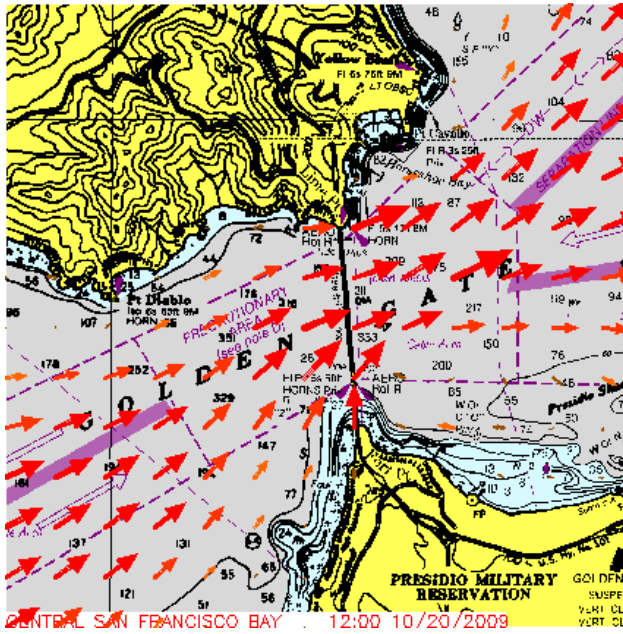
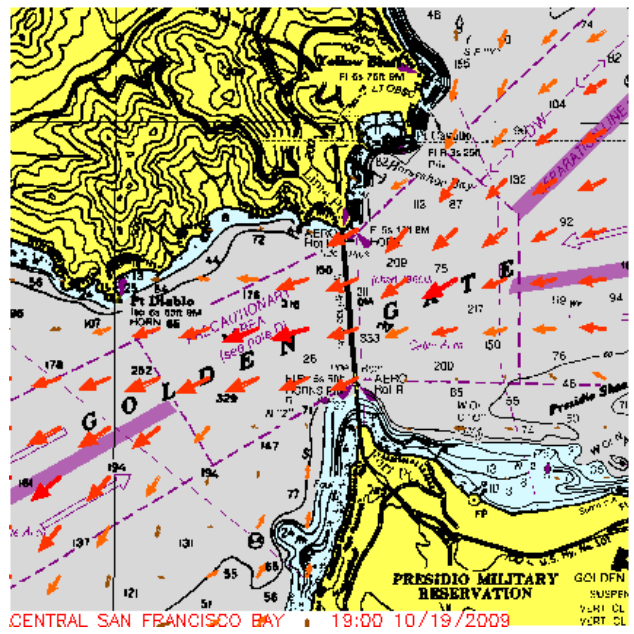
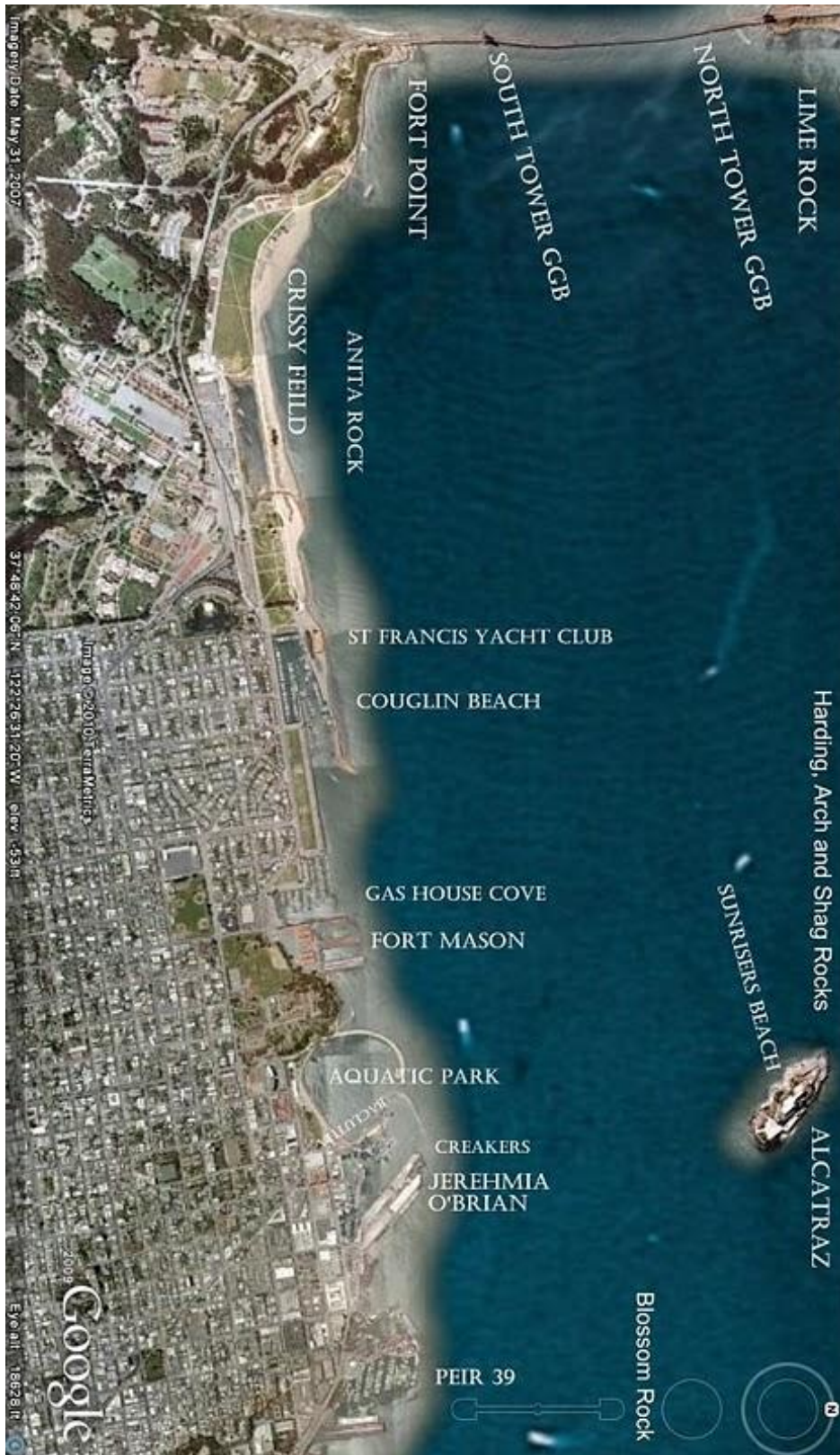


Figure 4: Ebb at Golden Gate Bridge



Local names and land marks



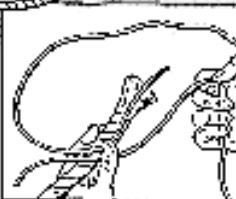
# KNOW YOUR KNOTS

## AND HOW TO USE THEM

YOU CAN TELL AN OUTDOORSMAN BY HIS ABILITY TO TIE THE RIGHT KNOT AT THE RIGHT TIME. A SCOUT KNOWS SEVERAL KNOTS AND THE PURPOSE OF EACH. HE CAN TIE THEM IN THE DARK OR IN THE DAYLIGHT... HERE ARE THE TESTS OF A GOOD KNOT: 1. STAYS ITS PURPOSE. 2. HOLDS UNTIL UNTIED. 3. EASILY TIED. 4. EASILY UNTIED... TIPS ON KNOT-TYING: USE A SIX-FOOT PIECE OF  $\frac{3}{8}$  OR  $\frac{1}{2}$  INCH ROPE—NOT TWINE OR STRING! PRACTICE TYING EACH KNOT IN THE SITUATION IN WHICH IT WILL BE USED.



BEFORE TYING KNOTS  
LEARN HOW TO  
**WHIP**  
A ROPE TO KEEP IT  
FROM UNRAVELING



MAKE A LOOP OF TWINE AND PLACE AT END OF ROPE.



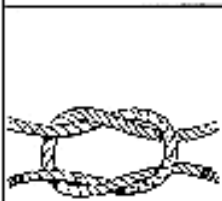
TWIST TWINE TIGHTLY AROUND ROPE'S ENDING  $\frac{3}{8}$  INCH FROM ROPE END.



WHEN WHIPPING IS AS WIDE AS LOOPS OF TWINE, PULL OUT FINGERS HARD, TIGHTEN TWINE CLOSE TO WHIPPING.



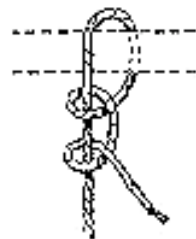
### THESE ARE SOME USEFUL KNOTS



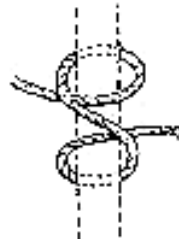
**SQUARE KNOT**  
FOR TYING ROPES OF EQUAL THICKNESS. VERY USEFUL IN FIRST AID.



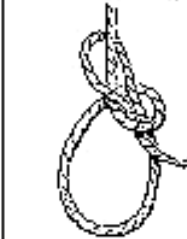
**SHEET BEND**  
FOR JOINING TWO ROPES TOGETHER OF DIFFERENT THICKNESS.



**TWO HALF HITCHES**  
FOR TYING A ROPE TO A POLE OR RING.



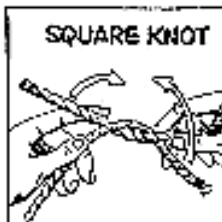
**CLOVE HITCH**  
FOR SECURING BOATS—FOR LASHINGS.



**BOWLINE**  
FOR FORMING A LOOP THAT WON'T SLIP UNDER STRAIN. EASILY UNTIED.

**TAUTLINE HITCH**  
FORMS A LOOP WHICH WILL NOT SLIP WHEN ROPE IS TIGHT.

### HERE'S HOW TO TIE THEM



TWIST LEFTHAND ROPE END OVER, BEHIND, UNDER RIGHT HAND ROPE.



AGAIN TWIST SAME END AS BEFORE... OVER, BEHIND, UNDER. LEFT OVER RIGHT—RIGHT OVER LEFT!



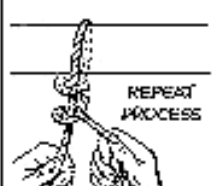
FORM A BIGHT (LOOP) ON THE HEAVIER ROPE. BRING OTHER LINE END THROUGH LOOP TWIST IT OVER AND UNDER LOOP.



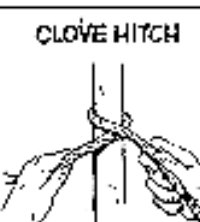
THEN BRING SMALL LINE IN UNDER ITSELF.



PASS ROPE AROUND POLE. CARRY ROPE END OVER AND UNDER AND THROUGH LOOP THIS FORMED.



REPEAT PROCESS



BRING ROPE END AROUND POLE, LAY IT OVER THE ROPE ITSELF.



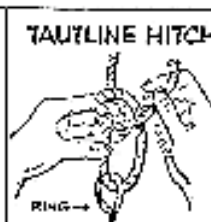
BRING END ONCE AROUND POLE. CARRY END UNDER THE ROPE ITSELF.



HOLDING ROPE WITH FINGERS ON TOP, PLACE END ON STANDING PART. TWIST YOUR HAND, CARRYING END AROUND TO FORM LOOP.



BRING END AROUND ROPE DOWN THROUGH LOOP.



PASS ROPE THROUGH RING. CARRY ROPE END AROUND STANDING PART TWICE AND THROUGH LOOP THIS FORMED.



REPEAT PROCESS ONCE AND PULL TIGHT.

## SERC Piloting Quiz

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There will be a strict 120 minute time limit given for this test.

1) The **cement column on the Bay Bridge is called the:**

- A) Alpha tower
- B) Bravo tower
- C) Charlie tower
- D) The Chi Chi Rodriguez Tower for a mariner that dug the Bay out with his bare hands in 1952.

2) **The Boat House Captain:**

- A) Is called that because he likes to wear pirate hats with giant feathers in them because he/she thinks it makes him/her look precious.
- B) Is not in charge of Zodiac maintenance or scheduling
- C) To qualify, must be a direct blood descendant of Captain Barbossa (who is the new Bly)
- D) All of the above.

3) **Bringing a cell phone with you as a pilot is important because:**

- A) You wouldn't be caught dead without your accessories and it goes with all your Bling.
- B) You never know when Scorsese is going to call to put you in that movie. . . Excuse me, Film.
- C) It can be used if the radio is not functioning in case of emergency.
- D) Swimmers sometimes get a mean hankering for Chinese food during a long swim.

4) **Radio usage:**

- A) It is best to scream into the mic with it right up against your mouth because it helps with the transmission quality and proves you are the most important person on the Bay.
- B) A Priest, a Rabi and a pipe layer walk into a bar.
- C) Keeping the mic 3-4 inches away from your mouth makes you look and sound like a total pro.
- D) Bee keeper.

5) **Swimmers take direction from the pilots because:**

- A) Not true, swimmers have a better sense about the swim because of their viewing advantage of 3 inches above the water.
- B) Because if they do not, they could be pulled and banned from future swims.
- C) Because their Mother raised them right.
- D) We don't need no stinkin' Pilots. I have been doing this swim since you were a twinkle in your Father's eye.

6) **You should walk a mildly to medium hypothermic swimmer to the Sauna because:**

- A) Boobies!!!!!! Boobies!!!!!! Boobies!!!!!!
- B) They are very likely to be disoriented and this way you can monitor their condition.
- C) Back Hair!!!! Back Hair!!!! Back Hair!!!
- D) The answer is "B" (OH!!! An enigma, wrapped in a quandary wrapped in a conundrum)

7) **When approaching an oncoming boat it is best to:**

- A) Wet yourself, walk around like Columbo and talk to yourself like a crazy person so they know you are not stable and could "Go off" at any time.
- B) Greet the skipper with a polite and customary "Good morning Captain" and then state your business. "Good Morning Captain" can be replaced with "Good morrow fine sir. Prithy thee be aware of our station in these murky waters and please do avoid our goodly swimmers on this fine morn.