Volume 6, issue 11

November 3rd, 2010

Bottom Bunch Dive Club Sea Tales Newsletter
http://www.bottombunchdiveclub.com

Look Ma, No Compass!

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From your previous dive experience, you've probably already begun to learn natural navigation, even if you don't know it. Finding direction from patterns in the sand, following the slope of a reef, or swimming against the current are all forms of natural navigation. Any given dive site has features that you can use as navigational references. It's just a matter of paying attention to the small details and environmental features that tell you where you are.

Predive Observations

Natural navigation begins before you dive by looking at the environment for navigation references. From the surface, you can usually tell a great deal about what you'll encounter underwater, and you can use that information to determine where you are when you're diving.

Waves, currents and tidal movement.

The direction of waves, currents and tides, while changeable, usually remain consistent over the length of a dive (though they will change on you once in a while– especially tides). You can determine wave and current direction by watching floating debris, and in the case of tides, by consulting tide tables. Once you know which way the water flows, you can orient yourself by swimming relative to the flow. Knowing the tides avoids having to fight them on the way out and on the way back.

Sun angle.

Before getting in the water, check how shadow's fall and where the sun is in relation to your planned travel direction. Even in turbid water you can usually tell where the sun is and use it to orient yourself.

Offshore objects and formations.

It's useful to note the position of reefs, piers, kelp beds, buoys and other objects so that you know where you are when you encounter them underwater. Waves breaking offshore may indicate a shallow reef or sandbar, giving you reference even if the reef or sandbar does not reach the surface.

Depth Finder.

If you're diving from a boat with a depth finder, you'll be able to see a picture of the bottom. Depth finders can show you bottom contours, wrecks and reefs, and even schools of fish, all of which can be references that tell you where you are during a dive. Well, not schools of fish, because they move too fast.

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Casa Machado Restaurant 3750 John J Montgomery, Montgomery Airport field. 6PM meet & greet, 7PM presentation begins.

Descents and natural navigation. Natural navigation begins with your descent because how you descend can influence your ability to to navigate. Ideally, descend in a head-up orientation (feet below head level) to prevent vertigo and disorientation. Either you or your buddy should face the direction you intend to go and reach the bottom that way. Note the speed and direction of any current as you descend. These steps will ensure that you begin your dive properly oriented.

Natural References

Once underwater, you orient your self through a variety of natural references and cue you through sight, touch and sound. The six most common of these are light and shadows, water movement, bottom composition, and formations, bottom contours, plants and animals, and noise.

Light and shadows. Noting the sun's angle predive as mentioned, underwater you have a visual reference almost any time of day, but especially in early morning or late afternoon when the sun's lower on the horizon and casts distinct directional shadows. To use the sun and shadows for navigation, note their direction relative to your planned course. For example, at the start of a dive you note that the sun is on your right and / or underwater shadows are to the left. If you get disoriented during the dive, turn so the sun's on your right and shadows are to your left. This faces you in your original direction. If you turn so the sun's on your left, you face the direction you came from. Changes in light intensity can cue you to unnoticed depth changes.

Water movement. Currents provide one of the surest means of underwater navigation. If you're drift diving, or diving with the flow of a river, the current naturally navigates for you, carrying you where it will. In most cases, however, you swim against the current with the flow giving a constant bearing. Be aware that currents can shift direction during a dive, especially when tides change. Plan your dive with this in mind, so that current helps you return to your exit at the end of the dive. Pay attention to current and speed as you descend.

If you are boat diving, always go down the bow line. The bow points into the current and that is the direction that you want to go. Descend and take a heading into the current. The swim back to the boat will be much easier.

Surge is another reliable reference because the back-and-forth motion-swings to and from shore or shallow areas. Because waves passing overhead and flowing back to sea cause surge, you feel it most strongly in shallow water. However, large swells can make surge quite noticeable in even relatively deep water. When diving in surge, note the water movement to determine the direction toward shore. If you're disoriented to the point that you don't know which swing is shoreward, follow the surge in one direction and watch your depth gauge. In the majority of cases, shoreward will be shallower and seaward will be deeper, but it helps to know the dive site before hand.

Bottom Composition and formations. Changes in bottom composition are something else to note during a dive. You may find that various areas have distinctly different bottoms, ranging from rock, to sand, mud or reef, depending upon the environment. Plant life can vary with the bottom type.

Even when the bottom composition is the same, water movement may create patterns you use for navigation. Sand ripples are a good example; they form perpendicular to the water flow. In the ocean near shore, sand ripples always parallel shore; by swimming perpendicular to the ripples you'll head toward or away from shore.

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Bottom contour. The bottom almost has notable contours suitable for navigation. You can follow a natural slope toward deeper water, rock ridges, coral reefs, kelp beds and in man-made lakes, ven lines of felled trees form natural pathes you can swim along. To follow contour, simply keep the slope or other reference on your right or left. To reverse your course, turn around and keep the contour on the opposite side.

Plants and animals. Aquatic plants and animals often have specific natural niches or characteristics that provide clues you can use for navigation. Some organisms live only at specific depths, cuing you to deeper or shallower water nearby. Other examples include sea fans, which always grow perpendicular to prevailing currents, and sand dollars which typically orient themselves perpendicular to shore. Finding fish in open sand may suggest a reef or habitat near by.

Through careful observation and training, you recognize the different organisms that provide information about your location underwater. Note how these organisms lie relative to your position and travel direction at the start of your dive, and you can use them as a reference to maintain your direction or reorient yourself.

Natural navigation 90 degree turns.

It's easy to make a 90 degree underwater turn, even without using your compass for reference.

1. Swim in a straight line until you're ready to turn. Stop at your turn point, but keep facing your original travel direction.
2. Point your arm straight out to your side, right or left so that it points along your new travel direction.
3. Keeping your arm stationary relative to the new direction, turn so that you face straight ahead. Your arm should point directly ahead of you, and you should be facing your new direction and ready to continue swimming.

A compass helps you swim in a straight line, but currents and surge can carry you off course. If currents are common in your local area, you need to learn to compensate and use natural navigational aids.

Align yourself along the edge of the sand dollars for La Jolla Shores navigation. By following the edges, you either go east to shallower water, or west into canyon.

The Round Stingray

The Round stingray, ***Urolophus halleri***, are really very harmless creatures if left alone, but they are responsible for most wounds to beach bathers, surfers and divers. If you can just remember to shuffle your feet when walking in the surf zone, then you will not step on one. It is important to remember that rays do not attack humans, their spine is used for defense purposes only.

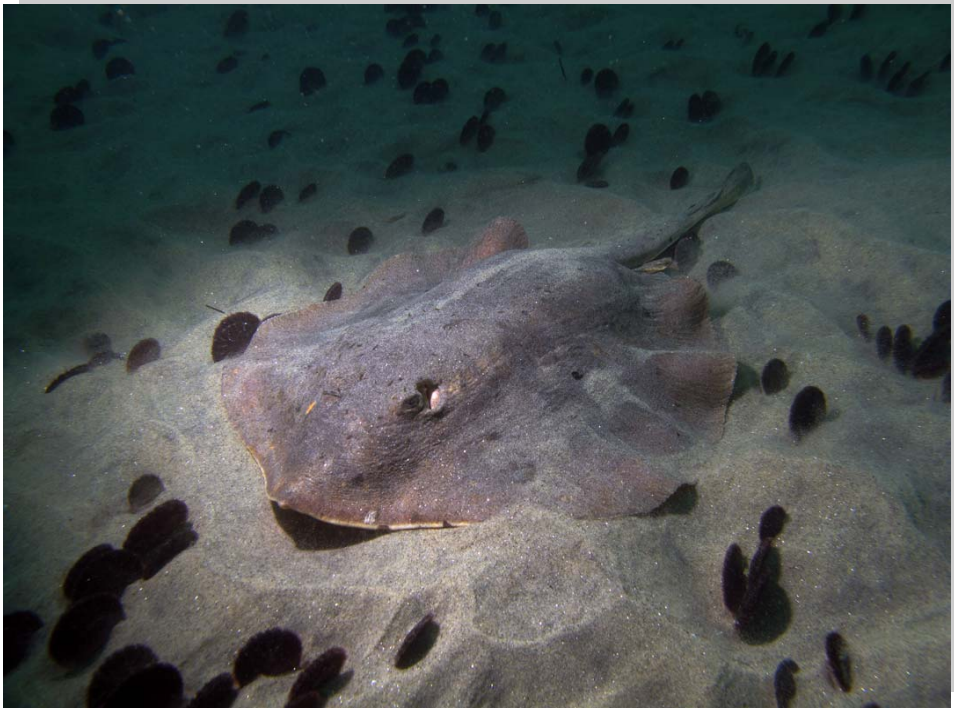
The species name, *halleri*, is actually named after Mr Haller, who, as a boy, was stung by a round stingray in San Diego in 1862. But I think they are cute and I love to watch them swim over the sand. Round rays reach 22 inches in length and they mature at 10-10.5 inches.

Females spawn in protected, quiet backwaters, giving birth to as many as 8 pups which measure about 4 inches at birth. The small rays eat worms, shrimps, and small crabs. The adult rays rather eat clams than the worms and crustaceans. Round rays are found from Eureka in northern California to Panama, but are rare north of central California.

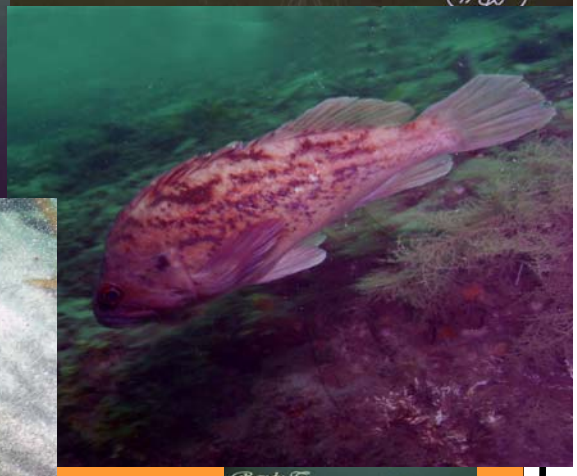
They like the soft sand or mud and the females tend to live in deeper waters then the males do. The barbed stinger is located at the base of the tail and is about a half-inch to an inch long and one-eighth of an inch wide. We've seen grown men crying and sobbing," California state lifeguard supervisor Karl Tallman said. "(The sting is described as) red hot, shooting, throbbing "pain that progressively seems to radiate from the injury site up the leg." The only relief is immediate soaking in hot water for 30 minutes to an hour to eliminate or reduce the pain, Tallman said. Mark Akins at the Birch Aquarium in La Jolla said the stingray toxin is basically a water-soluble protein, and that's why it breaks down in hot water

The injury is not usually life-threatening, but the wound needs to be cleaned by a doctor. This ray needs a little space and respect from people. They are only using instinct they have learned over millions of years to protect themselves from harm.

In the late summer, when the water gets warm and clear in the shallows in the best time to try to get a photograph of one. The only other time is during night-time dives when it is easier to get close. The trick is to see them first before they see you. Most of time we swim over them as they dart away.



Mark Pidcoe U/W Photography Album



Mark Pidcoe Rules of

1. No alcohol before or between dives. Drinking and Diving do not mix.

2. Safety stops for dives past 30' are mandatory.

3. I am a photographer, and that is why I dive! Understand that I will not be ignoring you, rather I focus on my photography first. I will show the subject to you after I get my photo.

4. Because of 2 above, any one of you may end up being the subject of my pictures, and they may end up in the newsletter. This can be negotiated at any time before or after the dive.

5. I prefer to spend my air at the target location, not on getting there. As a result, surface swims of 1/4 mile or more are common for me. I am not in a hurry to get to the destination, or back to the beach.

6. Surface intervals are determined by max depth, not tank change time.

For every foot we descend, I will spend 1 min on the beach! This means for a 90' dive, I will not gear back up for the 2nd dive till I have been gear off in the parking lot for 90 minutes.

7. 1st diver to reach one-half tank pressure determines dive duration. This is the turn around point, when we will head back towards the beach. Do not worry about cutting the dive short because you go thru air at a different rate. I have never dropped a dive buddy from my list due to high air consumption. I have removed them for repeatedly misreporting remaining air pressure.

All divers are welcome, dry, wet, photographer, collector, high or low air consumption, experienced or beginner.

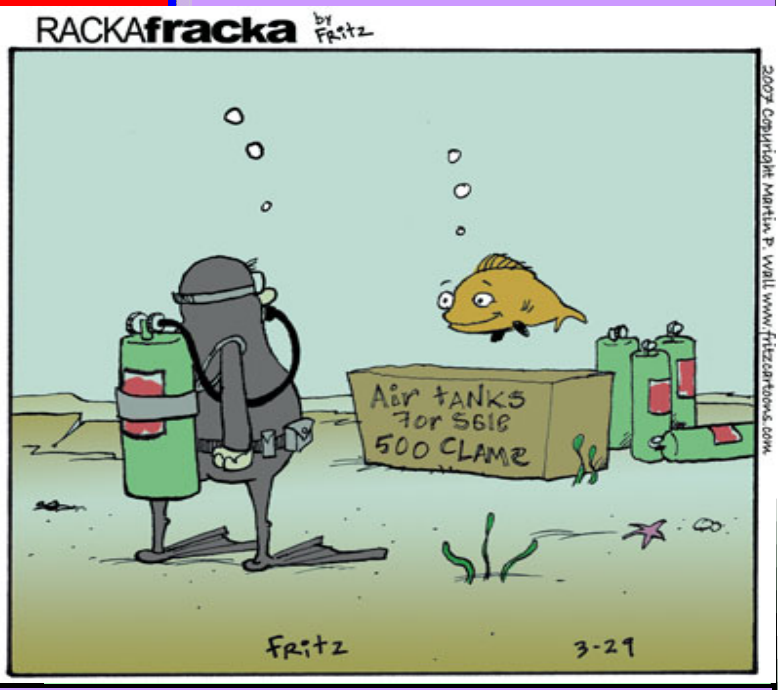
2010 Officers:

President: Mark Pidcoe
Vice Pres: Karin Filijan
Treasurer: Jamie Morales
Secretary: Sharon Brooks
Dive Coord: Shanda Magill

Committee Members:

Dive Boats: Steve Preddy
Blackbeards: Jessica Busk
AV/Sales: Al Barnes
Speaker Coord: Greg Morris
Club Greeter: Shanda Magill
Entertainment: Jessica Busk & Sharon Brooks
BB Editor: Herb Gruenhagen

The Club motto is safety first then fun. The club loves to dive and loves to be safe too. Weekly dives are planned as well as monthly local boat trips, beach picnics, yearly Holiday party and many other activities. Please come and join the Bottom Bunch Dive Club. We meet the 1st Wednesday of each month at the Casa Machado on the Montgomery Air-field in Kearny Mesa. Bottom Bunch Dive Club yearly dues are only $24 per person.



Bottom Bunch Membership
www.bottombunchdiveclub.com

Dues are payable at the time of application. Make checks payable to:

THE BOTTOM BUNCH DIVE CLUB. Checks can be mailed to:

1050 E. Ohio Avenue
Escondido, CA 92025-4615

INDIVIDUAL

$24.00 membership fee. Dues are due each year in the month of June for the following year for $24.

FAMILY

Annual dues are $24 for the first member and $12 for each additional family member. Dues will be due each year in the month June.

GENERAL MEMBERSHIP

If a member joins during the year the dues are pro-rated for the year so that their annual membership dues will be due in the month of June.

Please bring both the membership and liability form all filled out to the June meeting. Please RENEW and enjoy diving another year with all your Bottom Bunch friends.