AQUANEWS

30th Anniversary of the AquaNews

Volume 30, No. 11 *November 2006*

Update

By: Marsha Freedman

We recently completed another successful dive season so I thought, for those of you who were unable to join us, I would bring you up to date. As you are aware, we had an expanded dive schedule with 7 dives at Hessian Lake, 3 at Lake Sebago and 1 at Lake Welch. For the most part Mother Nature smiled upon us and the weather was delightful.

We dived three different sites at Lake Sebago. The one near the canoe club always yields plenty of garbage, but at least Paul Galeazzi Jr. didn't have to try and bury the outflow pipe this year. The other side of the lake is much quieter and apparently the people who picnic and fish there don't litter as much. We met two interesting ladies who come from Manhattan to exercise their dogs. One dog was blind and deaf but seemed otherwise healthy. We also met a family from one of the eastern European countries who were collecting mushrooms. They assured us that they knew what they were doing but I don't think I would have eaten any of their mushroom soup ! We also had a new member join during this period, Mark Durney,Jr. He is a friend of Mike Hatala's. He is relatively new to diving but he seems to be very comfortable in the water. It turns out that he is also a good barbeque chef. It rained for one of the dives and the park maintenance people let us grill under cover. Mark was chef de jour that time.

Hessian Lake yielded its usually array of garbage and bottles. However, the viz was unusually clear this year until it got silted over. Ben Parker remains the Bottle King, only this year he did part with some of his prizes. Max and Rivka Estroff provided bagels for breakfast which was appreciated by all and after dive cuisine was of its usual caliber. We had three new members join during this period, Mark Durney Jr and Bill Holland who came with Mark Sr. Julio Atiles recently relocated to the area and found us through our website. Mark Jr. and Bill Holland are new to diving but under the watchful eye of Mark Sr and Mike Hatala they had a good and safe dive. Allan Block, Melissa Bogen and Les Parker joined us for most of the dives. Les and Melissa picked wild mushrooms, too ! Pete MacTaggart and Melissa Lansay also joined us. Steve Improte and Lauren and Patrick provided shore support.

Julio Atiles was able to outfit himself from some of the gear that was donated from Stingray Divers. He brought his family to the Annual Picnic on September 30 and although they were freezing that day, they had a good time. Mark Sr's wife, Linda also joined us and brought dessert. Fran Galeazzi provided much appreciated support for all dives but we didn't see much of Paulie this season. Mark Sr. discovered what he thought was a safe and the area was marked for the next dive. However, the safe turned out to be blocks of concrete, much to everyone's disappointment. For this dive and the last two, Ron Peters allowed us to park in the area just beyond the bathrooms. We have never been there before nor have we dived that area of the lake. These last three dives yielded huge amounts of garbage. On the last dive, Paul and Allan, with the aid of lift bags, removed at least two of the park's wire garbage cans.

While we all had a great dive season, we would certainly like to see more members next year. Even if you don't want to dive, we can always use more shore support and the after dive barbeques are fun. Have a safe winter !!!

Marsha Freedman

AquaNews

The official publication of the Rockland Aquanauts Organization. Written contributions & photographs are always welcomed & encouraged. Submit materials for publication by the 19th of the month

Contributing Editors

Peter Bein
Allan Block
Melissa Bogen
Max Estroff
Paul Galeazzi, Jr
Steve Improte
Les Parker

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Change of Address

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Next Meeting: Tuesday November 14th, 2006

7:00-9:30 pm at the **Palisades Mall**
Level 4, East End
The Besso Community Room
West Nyack, NY

This months meeting will start at 7:00 PM.

Pizza night

Speaker: Peggy Howland presenting slides from her various trips.

Directions:
The Palisades Mall is located on the New York Thruway (I87 and I287 at exit 12 West Nyack, Route 303). You can't miss it.
The Besso Community Meeting Room is located on the 4th level (top floor) at the east end of the Mall, directly above Macy's (formerly Filene's). The Besso Room - and other
meeting rooms - are in a hallway leading to the Ice Skating Rink (also above Filene's).
The best and easiest way to get into the mall is to drive into the underground parking area. Proceed to the east end of the parking garage to parking areas "M" or "N" near the "East Mall Entrance". Take the escalators in the East Mall Entrance all the way to level 4. When you come off the escalator, turn around and you are looking right at the Ice Rink.

Members of the Rockland Aquanauts Organization Inc.
We need articles for our newsletter! Any help is appreciated.
Contact our webmaster webmaster@rocklandaquanauts.org

Rockland Aquanauts Organization Inc.
Mission Statement:

To provide, promote, and advance environmental protection, care, and voluntary clean-up of waterways by any and all lawful means; to promote the importance and care in every manner possible by environmental awareness and otherwise; to purchase, print, publish, and circulate literature to promote the importance and care of the waterways and the work of the Corporation. To perform all acts the Corporation may deem appropriate or advisable in such operation; to establish, provide, and voluntary clean-up waterways, to encourage, support and subsidize the cleaning and protection from pollution.

Jellyfish-Like Creatures May Play Major Role in Fate of Carbon Dioxide in the Ocean

— By Woods Hole Oceanographic Institution

FALMOUTH, MA. — Transparent jellyfish-like creatures known as a salps, considered by many a low member in the ocean food web, may be more important to the fate of the greenhouse gas carbon dioxide in the ocean than previously thought.

In the May issue of *Deep Sea Research*, scientists report that salps, about the size of a human thumb, swarming by the billions in "hot spots" may be transporting tons of carbon per day from the ocean surface to the deep sea and keep it from re-entering the atmosphere.

Salps are semi-transparent, barrel-shaped marine animals that move through the water by drawing water in the front end and propelling it out the rear in a sort of jet propulsion. The water passes over a mucus membrane that vacuums it clean of all edible material.

The oceans absorb excess carbon dioxide from the atmosphere, including some from the burning of fossil fuels. In sunlit surface waters, tiny marine plants called phytoplankton use the carbon dioxide, $C0_2$, to grow. Animals then consume the phytoplankton and incorporate the carbon, but most of it dissolves back into the oceans when the animals defecate or die. The carbon can be used again by bacteria and plants, or can return to the atmosphere as heat-trapping carbon dioxide when it is consumed and respired by animals.

Biologists Laurence Madin of Woods Hole Oceanographic Institution (WHOI) and Patricia Kremer of the University of Connecticut and colleagues have conducted four summer expeditions to the Mid-Atlantic Bight region, between Cape Hatteras and Georges Bank, in the North Atlantic, since 1975. Each time the researchers found that one particular salp species, *Salpa aspera*, multiplied into dense swarms that lasted for months.

One swarm covered 100,000 square kilometers (38,600 square miles) of the sea surface. The scientists estimated that the swarm consumed up to 74 percent of microscopic carbon-containing plants from the surface water per day, and their sinking fecal pellets transported up to 4,000 tons of carbon a day to deep water.

"Salps swim, feed, and produce waste continuously," Madin said. "They take in small packages of carbon and make them into big packages that sink fast."

In previous work, Madin and WHOI biologist Richard Harbison found that salp fecal pellets sink as much as 1,000 meters (3,280 feet) a day. The scientists also showed that when salps die, their bodies also sink fast-up to 475 meters (1,575 feet) a day, far faster than most pellets.. If salps are really a dead-end in the food web and remain uneaten on the way down, they could send even more carbon to the deep.

Salpa aspera swims long distances down in daylight and back up at night in what is known as vertical migration. Madin, Kremer and colleagues Peter Wiebe and Erich Horgan of WHOI and Jennifer Purcell and David Nemazie of the University of Maryland found that the salps stay at depths of 600 to 800 meters (1,970 to 2,625 feet) during the day, coming to the surface only at night.

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Jellyfish-Like Creatures May Play Major Role in Fate of Carbon Dioxide in the Ocean

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"At the surface," Madin said, "salps can feed on phytoplankton. They may swim down in the day to avoid predators or damaging sunlight. And swimming up at night allows them to aggregate to reproduce and multiply quickly when food is abundant."

Because of this behavior, salps release fecal pellets in deep water, where few animals eat them. This enhances the transport of carbon away from the atmosphere.

In 2004 and 2006, Madin and Kremer studied salp swarms in a different ecosystem, the Southern Ocean near Antarctica. Some scientists have reported larger salp populations there in warmer years with less sea ice. If this proves true, and if Antarctica's climate warms, salp swarms could have a greater effect on phytoplankton and carbon in the Southern Ocean ecosystem.

Funding for this study was provided by the National Science Foundation, National Oceanic and Atmospheric Administration, and the Access to the Sea program at Woods Hole Oceanographic Institution.

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A sea of debris

By MEGGAN CLARK Health/Science Writer,
The Press of Atlantic City, NJ

If you had wanted to have a wild party at the beach last year, you could have found everything you needed just lying on the sand.

During just two days of a beach cleanup along the New Jersey shore in 2005, volunteers picked up a bar stool, 25 full cans of beer and three full packs of cigars, not to mention all the cosmetics and clothing you could possibly need for a night out: two wigs, a complete makeup kit, a perfume bottle, 98 socks, 31 pairs of underwear, a bath robe and a raincoat.

You could even have had a seasonal theme: There were eight Easter eggs, five artificial Christmas trees, a Halloween mask and a spider ring to choose from.

“The more that you look for it, you will find it,” said Kari Jermansen, outreach director for Clean Ocean Action, which led the two cleanups, one in the spring and one in the fall.

Sure, the beach appears clean when you head to the shore for a day in the sun.

Thank the sweeping machines that comb the sand each morning in many shore communities, picking up all the detritus of human sloppiness.

Occasional beach cleanups provide a better picture of what's out there. Late last week, the advocacy group Ocean Conservancy released the results of its 2005 international cleanup, which involved 450,000 volunteers who removed 8.2 million pounds of debris from 18,000 miles of coasts in 74 different nations. In New Jersey, 789 volunteers covered about 30 miles of shore — less than one-fourth of the state's 127 miles of coastline — and snagged some 24,566 trash items weighing a total of 14,285 pounds.

The most common item? Cigarettes, accounting for about 30 percent of the trash items picked up in New Jersey during the international cleanup. Food wrappers came in second, at 14 percent.

Only about 6 percent of the debris originated from marine-related activities, such as fishing. The vast majority came from humans on land, in many cases, probably far from the beach, as inland trash is washed down storm drains to the ocean.

“Much of what we find on our beaches is the result of stormwater runoff,” Jermansen says.

It takes a cigarette butt about 200 years to break down completely, according to Long Beach Island's Alliance for a Living Ocean. An aluminum soda can takes 100 years, fishing line 600 years or more, a six-pack ring 400 years, and a disposable diaper 450 years.

Environmentalists say New Jersey's beaches are cleaner than in the 1980s, when medical waste and dead marine animals were washing up. Since then, eight off-shore dumps have been closed and chemicals, sludge and medical waste are no longer dumped in huge quantities offshore.

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A sea of debris

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But the litterbugs of the world keep right on tossing.

“People don't realize just how much stuff does end up out in the ocean,” says Jason Koralja, cleanup coordinator for the Alliance for a Living Ocean. “They can be at home, several miles inland, and if they let a piece of trash and debris go there, that stuff does make its way out into the ocean.”

There is some good news, though. Vickie Matter, the Ocean Conservancy's director of international coastal cleanup, says the amount of trash picked up per mile of beaches internationally has actually decreased over the event's 20 years, and the number of volunteers has increased — by a whopping 47 percent last year.

“We still have a long way to go as far as education and asking people to change behaviors and thinking about what is litter,” she said. “Many aren't even aware that their actions (such as tossing a cigarette butt) are littering.”

Storm blows up over shipwreck's £279m gold treasure hoard

From Graham Keeley in Barcelona

A SIMMERING row over an expedition to recover treasure worth millions of pounds from the wreck of a 17th-century British galleon erupted into a full-scale diplomatic confrontation yesterday.
HMS Sussex sank in a storm in 1694 off Gibraltar, carrying ten tons of gold and a hundred silver ingots, valued today at up to £279 million.

But the Spanish Government yesterday demanded that an American company trying to recover the bullion must halt operations immediately.
The 80-gun Sussex, which led a fleet of 12 ships, was carrying the treasure to persuade the Duke of Savoy to side with England, Spain, the Netherlands, Sweden and the Holy Roman Empire against the French in what was known as the War of the League of Augsburg.
It was a day out of Gibraltar when it foundered. Only two of the 500 crew survived and the body of its commander, Admiral Francis Wheeler, still in his nightshirt, was washed ashore several days later.
Under international law, the remains of sunken ships belong to the nation under which they sailed. But after offshore surveys, Odyssey Marine Explorations, based in Florida, claimed to have identified the wreck in 1998.
In 2002, the British Government gave it permission to search for the treasure for its “archaeological value”.
The regional government of Andalusia has also staked its claim to part of the treasure, arguing that the remains include archaeological riches belonging to the region. It set strict conditions for the search.
In a letter to Eduardo Aguirre, the US Ambassador in Madrid, the Spanish Foreign Ministry said that the company had breached those conditions.
If Odyssey finds the missing gold and silver, it would mean a huge payout for the company and Britain. Some archaeologists say it could be the greatest underwater fortune found.
Odyssey would get half of anything it found between £25million and £279 million, less if the value was greater.
Ecologists In Action, a Spanish group, called Odyssey “treasure hunters” with no interest in archaeological artefacts.
Odyssey says that it respects international law and that the project is based on communications between the relevant governments and transmitted to the company. The US Embassy declined to comment. The Ministry of Defence in London said the matter was “between the United States and Spain”.

Researchers Say Discovery Shows Titanic Sank Faster

By JAY LINDSAY, AP

FALMOUTH, Mass. (Dec. 6) - The discovery of two large pieces of the Titanic's hull on the ocean floor indicates that the fabled luxury liner sank faster than previously thought, researchers said Monday. The hull pieces were a crucial part of the ship's structure and make up a bottom section of the vessel that was missing when the wreck was first located in 1985, the researchers said.

After the bottom section of the hull broke free, the bow and stern split, said Roger Long, a naval architect who analyzed the find. The stern, which was still buoyant and filled with survivors, likely plunged toward the ocean floor about five minutes later.

"It would have been immediately terrifying," he said. Previous researchers believed the ship broke in just two major pieces, the bow and stern, which was how the sinking was depicted in the 1997 film version of the catastrophe. David Brown, a Titanic historian, estimated before the latest find that the stern took 20 minutes to slide into the water.

"It turns out the Titanic was more merciful. It was over more quickly," Brown said.

The newly found hull sections, located about a third of a mile from the stern of the wreck, were examined during an expedition in August sponsored by The History Channel. On Monday, Titanic experts met at Woods Hole Oceanographic Institution to discuss their analysis of the find for a documentary to be aired on the cable channel on Feb. 26.

The sections, both about 40 feet by 90 feet, were once a single section and were found in good condition, with red bottom paint still visible. The missing sections had been believed to have fragmented into hundreds of small pieces.

"The breakup and sinking of the Titanic has never been accurately depicted," said Parks Stephenson, a Titanic historian who took part in Monday's conference. The 46,000-ton ocean liner was billed as "practically unsinkable" by the publicity magazines of the period. But it struck an iceberg on its maiden voyage just before midnight on April 14, 1912, and sank the following day. About 1,500 people died.

Explorer Robert Ballard found the bulk of the wreck in 1985, at a depth of 13,000 feet and about 380 miles southeast of Newfoundland. Ballard was not impressed with the expedition's find.

"They found a fragment, big deal," he said. "Am I surprised? No. When you go down there, there's stuff all over the place. It hit an iceberg and it sank. Get over it."

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November 2006

Jellyfish, Treasure Hoard, Titanic Sank Faster than thought, A Sea of Debris, Aquanauts Update

****Next Meeting****
Tuesday November 14, 2006
At 7:00PM
The Besso Room
Palisades Center, West Nyack
(directions inside)