

The Flipper

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About once or twice a day, the sea advances and retreats with a regular rhythm. The amplitude of this oscillation varies from fractions of a meter to as much as 15 meters in the Bay of Fundy. Since the tides in the Mediterranean Sea are imperceptible, the ancient Greeks and Romans were not concerned with this phenomenon until they ventured out into the Atlantic.

While coastal people developed an empirical knowledge of the tides, a scientific explanation had to await the development of the universal theory of gravitation. In 1687, Newton showed how the tides arise from the gravitational attraction of the moon and the sun on the earth; of the two the effect of the moon is stronger.

If the earth were entirely covered with water, the centrifugal and gravitational forces generated by the moon-sun system would cause the water to pile up at points closest and farthest away from the moon. The water would become depressed in areas at right angles to the line between the center of the moon and the center of the earth. The swellings are known as tidal bulges and rotate the earth every 24 hours. This results in two high tides occurring at any one place.

Tides which occur once a day are called diurnal, and twice a day, semidiurnal. In addition, there are longer period components, semimonthly, monthly and semiannual.

— submitted by Jan Ouellette

- 1) Thanks, Joanne, for the Fish Identification program you put on. I suspect John had some input also. It was timely and informative.
- 2) Our San Salvador trip was great. Everything went off without a hitch. Wish you all could have come to share the diving and the fun.
- 3) MAY 21, ROBERT MCGREEVEY will make a presentation at our general meeting. His artwork is nothing short of spectacular! Don't miss this meeting.
- 4) The dive season goes into full gear this month with the Portage Quarry dive on Sunday,

May 18. GLA will supply hot dogs and buns. You might want to bring some chips or snacks to share. Hope to see you there.

- 5) We plan on opening some of our presentations to the public. This month will have a press release in the Observer & Essentric regarding Rober McGreevey. Our hope is that we will pick up some new members. The is a good opportunity to do this with the new library facility. We'll try it this month and see how it goes.

- 6) Get your email address to Jan to receive the Flipper. We hope communication between members and the club will service everyone better.

SAN SALVADOR 2003

In April, 15 GLA members flew from Detroit to San Salvador in the Bahamas for a week: 6 wonderful days of 3 dives a day. Riding Rock Inn was very comfortable; the food was fabulous and the staff was very friendly. The island is small but offers a lot of history.



Spectacular diving, yielded a unique experience at each site. Marine life was abundant including a dolphin, turtles, sharks and fish. GLA members welcomed Scott and Lynn from Wyoming, who want to be our Wyoming contingent, and Joanne and Russ from Illinois who want to join us too. Everyone had a great time, despite the no-see-ums! -- Jan Ouellette

PROGRAMS

Mark your calendars!

- May 21 Robert McGreevey, Artist and Marine Historian**
This program will begin with a number of Bob's works on display followed by two presentations: *Great Lakes Passenger Ships* and *Discovery of the Wexford*. Learn how a famous marine artist researches the material for this work and renders the stories on canvas. You will have the opportunity to discuss the art works on display with Bob, and to purchase a few. Anyone with a McGreevey is welcome to bring artwork to display.
- June 18 Diving in Hawaii**
Scott Campbell of Diver's Inc. will take us to an exotic dive destination via slides. Scott recently traveled to Hawaii and Fiji and will share his adventures in one of these exciting locations.
- July 16 GLA San Salvador Trip**
GLA members will present slides of the April trip to San Salvador. Since this is a little known destination and features lots of wall diving, it should make for an interesting show.
- August 20 TBA**
- September 17 Storm of the Century**
Ric Mixter, creator of this video, is a PBS producer whose weekly program, *Great Lakes Indepth*, chronicles Great Lakes shipwrecks. Ric's documentary work includes the Edmund Fitzgerald and the Carl D. Bradley.
- October 15 Marine Ecology** (Presentation coordinated by Sandy Prochazka)

2003 GLA DIVE SCHEDULE

Mark your calendars!

May 18 (Sunday)	Portage Quarry
June 14 (Saturday)	Gilboa Quarry
June 21-22 (weekend)	Eastern Lake Erie (tentative)
July 13 (Sunday)	Blue Water Bridge (tentative)
July 26-27 (weekend)	Straits of Mackinac (Dave Albright's)
August 16 (Saturday)	White Star Quarry
August 30-31 (Weekend)	Tobermory
September 13 (Saturday)	Gull Lake, Kalamazoo, Rescue Dive class included
September 28 (Sunday)	Monarch
October 12 (Sunday)	Pumpkin Carving, Silver Lake Potluck, Westmans'
December 13 (Saturday)	Annual Awards Banquet

SAFETY AND ED

DAN O₂ Courses

For the course nearest you, check out DAN's website: www.DanAlertNetwork.org. Look under "Training and Education".

OTHER DIVE RELATED INFO

Great Lakes Indepth

Watch Ric Mixter on public TV. Check your local listings for days and times. For more information, "dive" into the web at www.moreindepth.com or write to Ric in care of:

ISE
2302 US Hwy 41 W
Marquette, MI 49855
906-228-7800.

FOR SALE

Call, fax or email Jan Ouellette to place your ad. This is a free service to GLA members.

- **Contour weights**, any size, call Mike Sitko.
- **Underwater Metal Detector**, Garret Sea Hunt XL500VLF, \$500. Call Frank Klepadlo.
- **Wetsuit**, medium, women's with farmerjohn pants and tunic top, hot pink/black. Contact Andrea Ouellette.
- **(2) Dacor regulators** plus 1st stage (console) pressure/depth gauge and compass, **(1) Dacor BC** (adult med). Call Dave Albright.
- **Miscellaneous scuba gear**: fins (\$15 & \$25), mask/snorkel (\$10), Dacor BC (small) \$40, gloves (\$10), knife (\$10). Call Sandy Prochazka.

BIG RED

(National Geographic Today, May 5, 2003)

In the Monterey Submarine Canyon at depths of 2,100 feet (645 meters) and more, is a cold, dark world inhabited by strange creatures including vampire squid and football fish. But now researchers have identified one of the strangest of all, a new species of jellyfish.

They named the new species *granrojo*, Spanish for "big red." It's a predator—a gelatinous blood-red cannonball between two and three feet (60 and 90 centimeters) across that floats through the deep ocean waters quietly devouring prey.

The creature is described as the first member of a new subfamily of jellyfish.

The massive jelly is particularly unusual because it lacks tentacles. From its giant, red, bell-shaped body protrude between four and seven short, thick arms.

"The discovery of Big Red is a little like finding the first member of the cat family," says Larry Madin, a marine biologist at the Woods Hole Oceanographic Institution in Massachusetts. "It is a pretty interesting find."

"We know almost nothing about it. What it does. What it eats. What eats it," says George Matsumoto, a jelly specialist at the Monterey Bay Aquarium Research Institute in California, who named the species.

"It's very large, it's a predator, and we assume that it must play an important role in the deep sea," says Matsumoto. It's also pretty common. It has been spotted more than two dozen times off the coasts of California, Oregon, Washington and Hawaii.

"When I first saw a picture of Big Red, it was just a matter of seconds before I realized that this was something very different," says Matsumoto. He and his colleagues have published their discovery and description of the new species online in the journal *Marine Biology*.

New Life Forms

In the last 20 years, using scuba, manned and unmanned submersibles, scientists have discovered more than 50 new species of jellies. Madin, an expert on jellies, has discovered more than half a dozen species.

But more differences imply that a new specimen may belong to a new category altogether. "Big Red is not only a new species, but it represents a new genus and a new sub-family", Matsumoto says. In the scientific literature, Big Red is now known as *Tiburonia granrojo*. The genus *Tiburonia* is named for the remotely operated submersible, *Tiburon*, that captured Big Red on video in 1998. The

name of the subfamily is *Tiburoninae*.

Like a Human with Four Arms

The most obvious sign that Big Red was really new was that it lacked tentacles; whereas most jellies use a net of fine tentacles to catch their food.

Only about three species of jelly identified to date do without these appendages—these are wispy, very delicate creatures that are all closely related. By contrast, Big Red is robust.

The jelly first came to the attention of Matsumoto in 1998 when a geologist colleague showed him a video and photographs taken during an exploratory mission around the underwater Gumdrop seamount, northwest of Monterey and about 75 miles west of the San Francisco coastline. Going back through video footage from the institute the scientists found sightings of the creature dating back to 1993.

The video was taken by the remotely operated sub called *Tiburon*—vehicles of its type are now becoming the mainstay of underwater exploration.

But it was almost another three years before scientists could collect a specimen of the creature. Big Red is so large that Matsumoto and his colleagues have only found one specimen that was small enough to collect—a little jelly about six inches (15 centimeters) long.

Tracking Big Red

The specimen was caught literally in Matsumoto's backyard—the Monterey Submarine Canyon, which at 13,000 feet

(4000 meters) is the deepest canyon on the West Coast.

The world of Big Red is cold and dark—all sightings to date have been between 2,100 and 4,900 feet (645 and 1,497 meters) where the water temperature hovers between a chilly 37 to 40 degrees Fahrenheit (2.6 and 4.9 degrees Celsius).

At this depth the last rays of sunlight fail to penetrate the water and the only lights comes from life forms that produce twinkles and sparkles of primarily blue and green bioluminescence. Much basic research remains to be done to solve mysteries surrounding the life of Big Red. How long do these jellies live? When and where do they feed?

Unlike many other jellyfish, which are transparent, the red pigment of this jelly prevents the researchers from peering into the creature's gut to see what it had for lunch.

Matsumoto is developing a

transponder that could be implanted in the jelly and used to track it with an unmanned sub.



Big Red (*Tiburonia granrojo*) can reach up to a meter (three feet) across. The jelly was "discovered" and named by researchers at the Monterey Bay Aquarium Research Institute (MBARI). These photographs were taken by a remotely operated submersible during an exploratory mission around the Gumdrop Seamount. Photographs copyright 2002 MBARI

GLA-WEAR



T-Shirts	\$15 (S-XL)
Hats	\$10
Sweatshirts	\$30 (S-XL)
Jackets	\$70 (S-XL)

(add \$3 for sizes over XL)

Plus 6% sales tax

Add \$5 for names/monograms
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Hats and T-shirts are available at the General Meetings.

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Jan Ouellette at 248-685-9505, jano1999@msn.com or
Nadeen Ouellette at 734-421-5890 or fcebd@earthlink.net

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PORTAGE QUARRY

The first scheduled dive of the 2003 season (other than the recent trip to San Salvador) will be to Bowling Green, Ohio, to Portage Quarry in the Portage Quarry Recreation Club, Inc.



years with the dive instructor and student classes in mind so that students and divers can enter the quarry at any point. Three-quarters of the quarry can be entered on a stone ledge in knee deep water. Thus we

cater to all instructors and classes. (Instructors are admitted free with proof of insurance.)

“The Scuba diver will experience some of the best recreational diving in Ohio with clear water visibility, wreck diving, and plenty of fish.”
-- www.PortageQuarry.com.

Nitrox (custom fills) are available.

For overnight stays

This park offers diving on a seasonal basis, along with other activities for non-diving family members such as volley ball and swimming.

Various lodging sites are available. Camping ranges from trailer sites, with hookups on a first-come-first-served basis, to primitive camping.

This weekend the park’s hours are Saturday, 9:00 AM till 5:00 PM. They are open from Memorial Day until Labor Day (and open prior to and after that if weather permits on weekends only). Night dives are available during the season on Fridays and Saturdays by reservation.

Hotels are also available nearby.

- Best Western Falcon Plaza
419-352-4671
- Buckeye Inn
419-352-1520
- Days Inn
419-352-5211
- Country Hearth (Findley, OH)
800-672-7935

Diving information

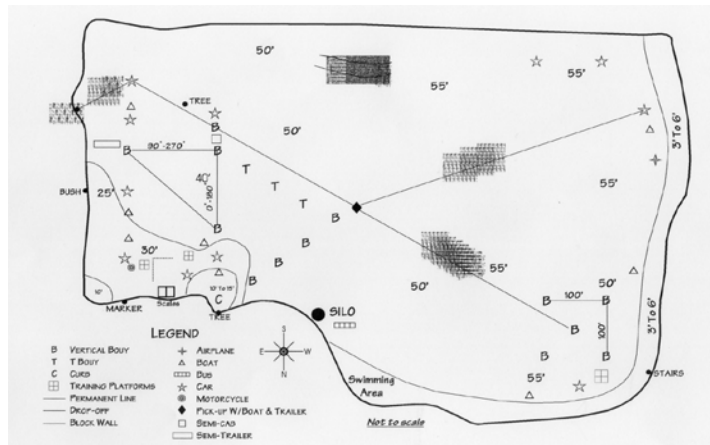
- Admission: \$8.00.
- Maximum Depth: 70 feet
- Maximum Visibility: 50 feet plus
- Equipment is available for sale or rent.
- There are five training platforms.

Air fills:

- \$6 (3000 psi)
- \$7 (3300 psi)

You must show your proof of certification or be with an instructor.

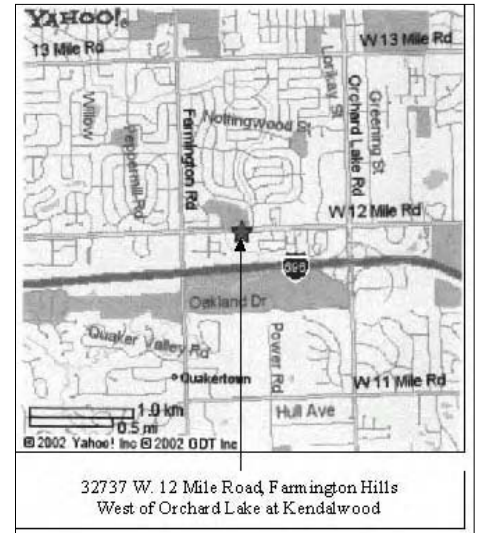
Portage Quarry has been built through the



GENERAL MEETINGS

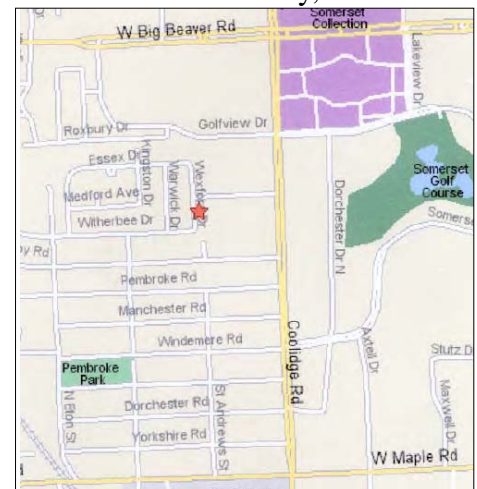
NOTE: NEW EARLIER TIME

The **May** general meeting will be held at:
 Place: Farmington Hills Library
 Date: Wednesday, May 20, 2003
 Time: **7:00 PM (sharp)**
 Program: **Robert McGreevey**, Artist and Maritime Historian



BOARD MEETINGS

The **June 2003** board meeting will be held at:
 David Albright’s
 Time: **7:00 PM**
 Date: **Monday, June 2**



Dave Albright
2448 Wexford, Troy
248-649-1318

The **July 2003** board meeting will be held at:
 Tim Ouellette’s
 Time: **7:00 PM**
 Date: **Monday, July 7**

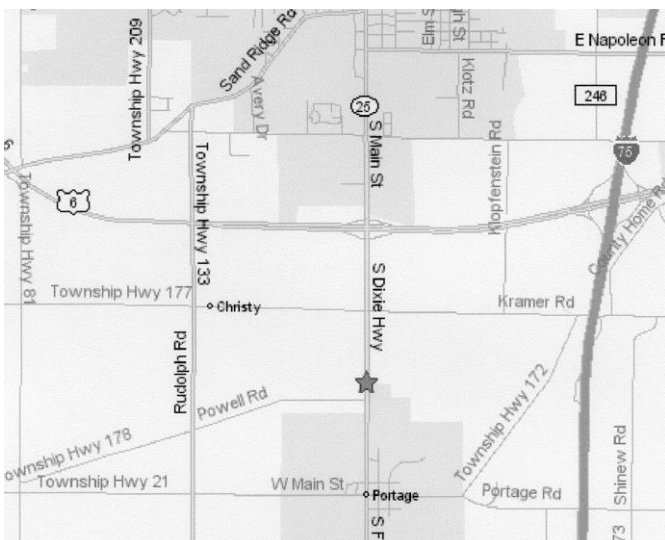
GREAT LAKES AQUANAUTS Dive Planner

Dive Site:	Portage Quarry	Date:	Sunday, May 18, 2003
Type of Dive:	Quarry	Time of Dive:	11:00 AM
Dive Coordinator:	Ken Anderson	Arrive at Location:	10:00 AM
Contact Number:	Alternate:		Chris Price

Directions:	South on US 23 (or I 75 to US 6) to US 25. South one mile past Bowling Green. Quarry on your right.
Meeting Place:	Parking lot at north side of quarry.
Equipment:	Standard dive gear, tanks, etc.
Entry:	Easy access, 3-foot ledge to stand on to gear up
Facilities/Fees:	Admission charge, \$8 per diver, \$4 general admission, \$3 for children 12 and under
Depth:	Maximum depth is 70 feet; average depth: 35-40 feet
Visibility:	Spring visibility averages 20-50 feet, depending upon amount of diving activity. Summer is more active and visibility may go to 10-30 feet. Fall has the best visibility.
Temperature:	Spring--65 degrees from 10 to 15 feet Summer--72 degrees.
Restrictions:	Admission charge and proof of certification is required.
Dive Support:	Services are available two miles north on Dixie Highway.

Spring-fed Portage Quarry is easily accessible from I 75. It is a 17-acre lake in a 22-acre park setting. Originally mined for limestone and although a spring was struck in the mid-40s, pumping kept the mining going until the late 1950s. An ideal site for underwater photographers, the fish in the quarry can be very cooperative models. They include blue gills, sunfish, large mouth bass, carp, and walleye. Some heavy pieces of equipment had to be abandoned and these are favorite dive areas. Camping and picnic areas are available.

Emergency Assistance:		On Site Assistance:	
DAN:	919-684-8111	Oxygen	YES
EMT:	911	Back Board	YES
		First Aid	YES



There is a Portage Quarry liability form on the back. This (or a copy thereof) will need to be completed prior to diving in Portage Quarry.

Hungry after diving? Join GLA in a picnic. The club will provide hotdogs and buns. You may bring a dish to pass or snacks to share, and your beverage.