OBITUARIES

In Memoriam

In Loving Memory Of **RONNIE RAYMOND** 1951 - 2004



No birthday cards today A heartache, a tear, A memory so dear Every day of our lives, we wish you were here.

We love and miss you, Nancy; Mark, Lisa, Nick, Rachel; Judy, Stan, Dave, Marie, Mike; Rosie, Steve, Arielle, Shane, Harry; Linda, Laura, Jane; Nancy, Tom, Erin

Dad, Grampie remembering you on Father's Day - we love and miss you.

In Loving Memory Of **EUGENE J. RAYMOND** Feb 02, 1944 - May 06, 2015



When God was making fathers, he spent a lot of time on one, and saved that one for me. The greatest gift I ever had came from God, I

call him Dad. Loving you always Happy Father's Day JR, Jane, Sarah, AJ, and Amberlyn.

In Loving Memory Of **LEWIS and HELEN SMITH ERNIE LEGEZA BERDENA STROUT ORRIN WADE BRENDA BRYER AMARYL SMITH DONALD SMITH NEIL MERRILL ELDEN CLARK** LEWIS SMITH JR.

Still loved, still missed and very dear. You're in our thoughts today as we gather for the Smith family reunion. Love, the entire family

Committal Services

PHILIP A. SWETT

SEAL HARBOR - Committal services for Philip Swett will be held at Riverside Cemetery

Memorial service marks

South Carolina massacre

Newport at 11 a.m. on his birthday, June 21, 2016.

BY HARRIET MCLEOD

CHARLESTON, South Car-

olina — The city of Charleston

came together Friday for a

memorial and other events to

mark the anniversary of the

murders of nine members of a

Bible study group in what

prosecutors called a racially motivated hate crime.

more poignant coming less

than a week after a gunman

slaughtered 49 people at a gay

nightclub in Orlando, Florida,

marking the largest mass

shooting in modern U.S. his-

A stage at Charleston's TD

Arena was fronted by banner

portraits of each of the nine

victims from the rampage at

the Emanuel African Method-

ist Episcopal Church, includ-

ing its slain minister and state

Hymns were led by a

Senator Clementa Pinckney.

The events were made even

REUTERS

Ecologist who identified 'keystone' species dies

BY EMILY LANGER THE WASHINGTON POST

Bob Paine, an ecologist who conducted seminal experiments along the coast of Washington state in the 1960s, pulling starfish from the rocks and tossing them back into the ocean to dem-

onstrate the consequences of disrupting an ecosystem with the removal of a single "keystone" species, died June 13 at a hospital in Seattle. He was 83.

The cause was acute myeloid leukemia, according to Jennifer Ruesink, a biology professor at the University of Washington, where Paine trained younger ecologists from 1962 until, and well beyond, his official retirement in 1998.

Paine was regarded as one of the most significant ecologists of his era, a scientific adventurer who trekked across wave-battered shores of the Pacific Northwest to observe, document and explain the forces that govern and sometimes upset the complex network of creatures in an ecosystem.

His concept of "keystone" species, named after the stone explained, "is that it conat the apex of an arch that supports the other blocks in the structure, refers most strictly to predators such as sea otters, wolves and lions with outsize influence on their communities. A groundbreaking idea when Dr. Paine introduced it in the late 1960s, the "kevstone" species is today a fundamental of ecology textbooks.

He was a naturalist "in the tradition of Charles Darwin," Simon Levin, a Princeton University ecologist and recipient of the National Medal of Science, said in an interview.

Paine's fieldwork in Washington — first in Makah Bay, on the outer reaches of the Olympic Peninsula, and later on the nearby uninhabited Tatoosh Island — was "one of the most famous experiments in all of ecology," Levin said.

In a defined swath of rock, Paine manually removed each starfish of the species Pisaster ochraceus and tossed it to sea. He repeated the process several times a year, clearing the rock of all ochre sea stars, as the animals are commonly known.

The result was astonish ing: In short order, the rock scarcely resembled its former self. The population of mussels, on which the starfish feed, skyrocketed. Mussels took over the rock, eventually crowding out other species that competed for space, including barnacles, the aquatic snails known as limpets and chitons, a type of marine mollusk. Anemones and sponges also became less popu-

species disappeared, according to an account in the publication Nautilus. By a description in the journal Nature, "a diverse tidal wonderland became a black monoculture of mussels."

Paine published his findings of the event, which he called a "trophic cascade," in a now-classic article in the journal the American Naturalist, "Food Web Complexity and Species Diversity" (1966). Three years later, he introduced "keystone" species as an ecological term.

'These individual populations are the keystone of the community's structure," he observed, "and the integrity of the community and its unaltered persistence through time, that is, stability, are determined by their activities and abundances."

Along with competition between species, the notion of keystone predators helped shape modern understanding of ecology and was later revised to describe any species, not necessarily a predator, with disproportionate influence on its environment.

"Its importance," Paine vinced managers and conservationists alike that the ecological impact of single species matters.

Paine spent years conducting research on Tatoosh Island, a small piece of land off Cape Flattery, the northwesternmost point of the continental United States. It belonged to the Makah Indi an tribe and was home of a universe of creatures, including dozens of species of algae, peregrine falcons, eagles, puffins and sea lions.

To conduct his work, Paine received financial support from the National Science Foundation and permission from the tribe, whose only request was that he not "mess with the graves," the Seattle Times reported.

"Working on a remote island was not easy," Ruesink, who conducted research with Paine on Tatoosh Island, wrote in a tribute to faith across surge channels, slippery algae that could take down the most surefooted, boats overturned and scientists bodily moved by rogue waves, all supplies hefted from the beach to the top of the island via a hundred homemade steps.

"As each tide rose and chased ecologists from their intertidal studies," wrote, "Bob doled out a measure of box wine into a mug years old and watching ants PhD in zoology in 1961.

about what each had seen and learned.'

Robert Treat Paine was born April 13, 1933, in Cambridge, Massachusetts.

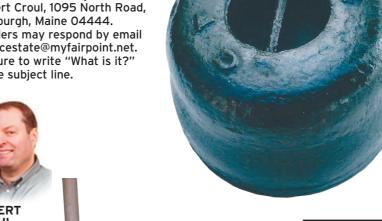
"All my early childhood memories involve biology,' he told an interviewer with the University of Washington. "I remember sitting in the dirt driveway when I was around two-and-a-half

In all, seven of 15 original him, recalling the "leaps of and sat down with his cur- — I was utterly fascinated rent scientific family to talk with nature from a very young age.'

> He received a bachelor's degree from Harvard University in 1954. At the University of Michigan, he began his graduate career studying fossils but was lured into the study of living animals by an inspiring class on freshwater invertebrates. He received a master's degree in 1959 and a

WHAT IS IT?

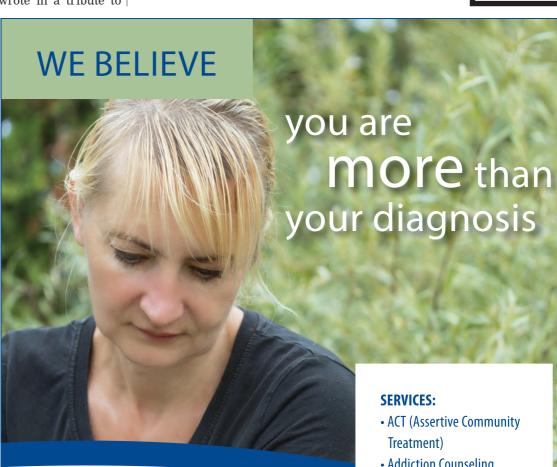
Send your answers for this week's What Is It (right) to: Robert Croul, 1095 North Road, Newburgh, Maine 04444. Readers may respond by email to recestate@myfairpoint.net. Be sure to write "What is it?" in the subject line.



ROBERT CROUL The "What Is It" in the June 4 edition of the Bangor Daily News was correctly identified as a stoneware butter churn (c. 1880 by Bangor Stoneware Co.) by O.K. and Lauretta Blackstone, Brenda Harrington, Rick and Wanda Wright, Mary Jo Sanger, Andrea Pelletier, Fred Otto, Stephen Dickinson, Phyllis Wiggin, John Hennesy, Erwin Flewelling, Julie Thomas, Rick Lauze, Larry Smith, Bob Hawes, Chuck Briggs, Lucille Bouchard, Mike and Della Gleason, Cris Cox, Jeff Orchard, Pete Lammert, Laura Riegelman, Frances Walker and Ella Walker.

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100-member choir and a minister prayed for the Charles-

ton and Orlando victims, as well as for the soul of the accused church shooter, Dylann Roof, 22, could face the death penalty on state murder

charges and federal hate

crime charges. Roof is white,

while his victims were Afri-

can-American and the federal

indictment against him said he acted out of racism.

Wilhelmina Jones, 74, a retired hospital worker who helped out as an usher at Friday's service, said the massacre had united the local community. "When this tragedy happened to us last year, we came together as one," Jones

South Carolina Gov. Nikki Haley showed the programs from nine funerals she has kept since last summer, and spoke about faith and each victim. She recalled how they welcomed Roof and prayed with him for an hour before they were killed.

"Tywanza Sanders stood in front of his 87-year-old aunt and looked the murderer in the eye and said, 'You don't have to do this. We mean you no harm," Haley told the congregation. "I will always talk about these people who changed my life."

The church has had many visitors in the past year, Emanuel's new pastor, The Rev. Dr. Betty Deas Clark, told Reuters during a recent Bible study meeting in the room where the massacre took place.

"I believe we're moving forward ... Forgiveness is the message of the hour," Clark

If you believe you or a loved one are ready for change, call us at 1-800-781-8550