

Remsen at Mill Pond, Merrick Road, Wantagh/Bellmore at 5:45 A.M. Please try to notify me or Doreen before the Birdathon if you plan to go with one of these groups, so they will know how many people to expect.

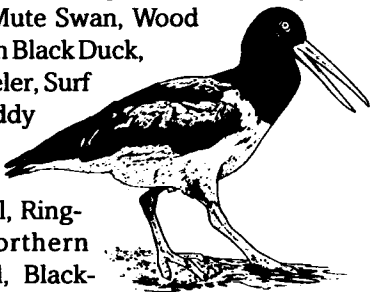
If you aren't going with a team, why not try your own Birdathon? Do a variation on the usual theme of seeing as many species as you can during the count period. Use your imagination. Limit yourself to your backyard, a favorite park or preserve, or even a "couch potato" Birdathon. (For this one, you count as many bird species as you can on television during the 24 hours. Yes, people have really done it, but we suggest you make it clear to your sponsors if you decide to give it a try!)

Sponsors are the heart of the Birdathon. These are people who agree to give you 25¢, \$1, or any amount for each species you see (they may also give you a flat pledge not based on number of species). Ask anyone you know, and don't forget yourself!

Pledges are due no later than Monday, June 10 to be eligible for prizes. You can submit pledges on bird walks or mail them to me (address below). If you have questions, call me or speak to me at meetings. If you need pledge forms, I can supply them. Let's make our 2002 Birdathon special by raising more funds than ever! Good luck!

Birdathon Chairperson: James Remsen, Jr., 8 Venetian Blvd., Lindenhurst NY 11757.

Last Year's SSAS List: Red-throated Loon, Horned Grebe, Great Cormorant, Double-crested Cormorant, Great Blue Heron, Great Egret, Snowy Egret, Little Blue Heron, Tricolored Heron, Green Heron, Black-crowned Night-Heron, Yellow-crowned Night-Heron, Glossy Ibis, Canada Goose, Brant, Mute Swan, Wood Duck, Gadwall, American Black Duck, Mallard, Northern Shoveler, Surf Scoter, Bufflehead, Ruddy Duck, Osprey, Northern Harrier, Red-tailed Hawk, American Kestrel, Ring-necked Pheasant, Northern Bobwhite, Clapper Rail, Black-bellied Plover, Semipalmated Plover, Piping Plover, Killdeer, American Oystercatcher (pictured), Greater Yellowlegs, Lesser Yellowlegs, Willet, Spotted Sandpiper, Ruddy Turnstone, Sanderling, Semipalmated Sandpiper, Least Sandpiper, Dunlin, Short-billed Dowitcher, American Woodcock, Laughing Gull, Ring-billed Gull, Herring Gull, Great Black-backed Gull, Gull-billed Tern, Common Tern, Forster's Tern, Least Tern,



Rock Dove, Mourning Dove, Yellow-billed Cuckoo, Ruby-throated Hummingbird, Belted Kingfisher, Red-bellied Woodpecker, Downy Woodpecker, Hairy Woodpecker, Northern Flicker,

Eastern Wood-Pewee, Eastern Phoebe, Great Crested Flycatcher, Eastern Kingbird, Tree Swallow, Northern Rough-winged Swallow, Barn Swallow, Blue Jay, American Crow, Fish Crow, Black-capped Chickadee, Tufted

Titmouse, White-breasted Nuthatch, Carolina Wren, House Wren, Ruby-crowned Kinglet, Blue-gray Gnatcatcher, Eastern Bluebird, Veery, Swainson's Thrush, Hermit Thrush, Wood Thrush, American Robin, Gray Catbird, Northern Mockingbird, Brown Thrasher, Cedar Waxwing, European Starling, White-eyed Vireo, Blue-headed (Solitary) Vireo, Yellow-throated Vireo, Warbling Vireo, Philadelphia Vireo, Red-eyed Vireo,

Blue-winged Warbler, Tennessee Warbler, Northern Parula, Yellow Warbler, Chestnut-sided Warbler, Magnolia Warbler, Cape May Warbler, Black-throated Blue Warbler, Yellow-rumped Warbler, Black-throated Green Warbler, Blackburnian Warbler, Prairie Warbler, Bay-breasted Warbler, Blackpoll Warbler, Black-and-white Warbler, American Redstart, Ovenbird, Northern Waterthrush, Common Yellowthroat, Hooded Warbler, Canada Warbler,

Scarlet Tanager, Northern Cardinal, Rose-breasted Grosbeak, Indigo Bunting, Eastern Towhee, Chipping Sparrow, Field Sparrow, Savannah Sparrow, Seaside Sparrow, Song Sparrow, Swamp Sparrow, White-throated Sparrow, White-crowned Sparrow, Dark-eyed Junco, Red-winged Blackbird, Common Grackle, Boat-tailed Grackle, Brown-headed Cowbird, Orchard Oriole, Baltimore Oriole, House Finch, American Goldfinch, House Sparrow

NOMINATIONS FOR 2002-2003 OFFICERS

At South Shore Audubon Society's general meeting on May 14th, officers will be elected for our next fiscal year. All members attending that meeting may nominate candidates from the floor and vote. The SSAS Nominating Committee, chaired by Elliott Kutner, has recommended the following candidates:

- President — George Peters
- Vice President — Scott Oglesby
- Treasurer — Nancy Frame
- Recording Secretary — Sal Navasajtis
- Corresponding Secretary — Alice Blaustein
- Director (to June 2005) — Louis P. Paolillo
- Director (to June 2005) — Ann Marie Pozzini



BROOKSIDE PRESERVE CLEANUP TIME!

SSAS's annual Brookside Preserve spring cleanup will take place on **Sunday, May 19**, starting at 1 P.M. Brookside is a 20-acre freshwater wetland, woodland, and upland area owned by Nassau County and managed (and rescued from oblivion) by SSAS. With help from a state grant, we published a trail guide, educational freshwater wetland guide, and video; we continue to add plantings for wildlife.

The Preserve is located on the Freeport-Baldwin border, along Milburn Creek; park at the main entrance on Brookside Avenue just north of Sunrise Highway (turn north at the traffic light that's just east of Freeport High School). Bring gloves, rakes, bags, and/or friends (young and old).

HORSESHOE CRABS: ANCIENT WONDERS

Don Riepe

Editor's note: This article originally appeared in 1998 in *Underwater Naturalist*, the bulletin of the American Littoral Society. Horseshoe crab shells are frequently seen during our Jones Beach bird walks; see Don's ad in this *Skimmer* for free horseshoe crab walks at Jamaica Bay Wildlife Refuge.

Each spring, between mid-May and mid-June, thousands of fierce-looking sea creatures crawl from the sea to mate and lay eggs along the sandy shorelines and mudflats of New York City. These harmless animals called horseshoe crabs are not really crabs at all, but more closely related to arachnids (spiders and scorpions). A living fossil, the horseshoe crab evolved long before the dinosaurs, with an ancestral heritage dating back to the Triassic Period, two hundred million years ago.

Currently, four species exist worldwide. One species populates the Atlantic coast from Maine to Mexico, with the largest concentrations found in Delaware Bay. Named *Limulus polyphemus* after the one-eyed giant of Greek mythology, this horseshoe crab actually has nine eyes: one large compound eye on each side of its shell, two small ones in the front center, and five light-receptive organs underneath. The other three species of horseshoe crabs are found in the Indian and Pacific Oceans. During high tides, especially at new and full moons, these "crabs" emerge from the water to spawn. The larger females are usually accompanied by one or more smaller males that attach themselves to her back by specially adapted clasper claws. At the high tide line, the female will dig a nest in the wet sand and lay tiny greenish eggs. The attached male fertilizes the eggs as they are laid and then both move back to deeper waters to feed on benthic animals such as marine worms, crustaceans, and mollusks.

About a month later, the eggs hatch out, each one containing a tiny, though tailless, replica of the adult crab. The little crabs will molt their shells several times yearly during the first few years of life and then once yearly thereafter. They reach adult size in about 10–13 years and may live another 7–10 years. Before molting takes place, a new skin forms under the existing shell. The old shell splits open along the front and the crab walks out. The crab then takes in water and digs into the sand. This new skin is stretched larger and hardens around the crab to form a new shell. The molted shells can be found along beaches at any time of year and make nice coffee table or shelf decorations.

The eggs provide a bonanza for migrating shorebirds arriving in New York City from their winter homes in Central and South America. Some birds, such as Black-



bellied Plovers and Red Knots, may have traveled several thousand miles across the ocean, making their first landfall in the estuaries of New York and New Jersey. Peak shorebird migration coincides with the peak horseshoe crab egg-laying period. The horseshoe crab eggs provide critical nourishment for many shorebird species as they head to their Arctic breeding grounds. At the Jamaica Bay Wildlife Refuge in Broad Channel, Queens, I have observed these mating rituals and feeding frenzies for many years and still am amazed by the abundance and diversity of participants. Besides Red Knots, Sanderlings, Ruddy Turnstones, and about 20 other species of shorebirds, the egg feast attracts many Laughing Gulls, Glossy Ibis, and even Canada Geese, whose goslings feed on animal matter as well as vegetation.

Snowy Egrets join in, not to feed on eggs, but on the mummichogs, silversides, and other small fish that are taking part in the bountiful melee. Larger predators, such as Herring and Black-backed Gulls, will frequently take advantage of overturned horseshoe crabs and peck out their gills, leaving a beachfront strewn with dead and dying crabs. Despite this heavy onslaught, the crabs keep coming ashore, determined to carry out the reproductive urge as they have done for millions of years, long before the advent of *Homo sapiens*.

It is man, however, that poses the greatest threat. In earlier times, Native Americans used the horseshoe crab for food and the shell for bailing water out of their canoes. They also used the long pointed tail, or telson, for spearing fish. None of these uses threatened the crab's existence. Today, however, using more efficient trawling techniques, fishermen harvest great numbers of horseshoe crabs for bait and many biologists are seriously concerned for their future.

Shoreline development is another problem. As sea level rises and people continue their migration to live in coastal areas, available shoreline habitats are becoming changed by bulkheading and dredging. Even though most coastal states have laws protecting these wetland areas, there is a continued nibbling away of shoreline habitat from use of legal loopholes and variances, as well as degradation of habitat from other disturbances, including offshore dredging and water pollution from increased boating. Sewage outflows and untreated runoff further exacerbate the situation. As our coastal population swells, there will be increased pressure to build groins, seawalls, and other shoreline stabilizing methods used to protect coastal property — all of which impact natural shoreline habitats.

Another human-related problem is the tide of floatable debris littering many shorelines, thus impeding the crab's access or entangling the animal with monofilament or other plastic.

Fortunately, there is a growing public awareness about this issue. Many volunteer groups routinely clean beaches in all coastal states, and cities are seeking ways to keep trash from entering waterways. In New York City, the

Department of Environmental Protection has purchased several skimmer boats that remove debris from the surface.

Often overlooked in the equation is that the horseshoe crab has great medical value to humans. The large compound eye and accessible optic nerve have been used in scientific research for over 50 years. The *Limulus* lateral eye is one of the most thoroughly understood of all sensory receptor systems today. The copper-based blood contains a clotting factor that can detect minute amounts of pathogens. At Woods Hole and other research centers, crabs are routinely bled and then released unharmed back into the water. Unlike the red color of human blood, horseshoe crab blood turns bluish when exposed to air. This color comes from hemocyanin, a copper-based molecule that carries oxygen through the circulatory system. An extract of blood cells from the horseshoe crab is used to detect the presence of endotoxins in human blood serum. Chitin, the substance that makes up the horseshoe crab's shell, is used in surgical sutures and bandages that promote healing. One can only imagine what other beneficial secrets are yet to be discovered from studying this living fossil.

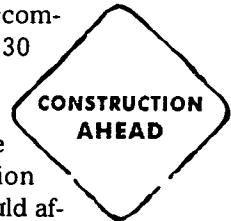
There is still much to be done through education, as these crabs still suffer from a maligned superstition passed down through generations. Horseshoe crab programs are becoming more popular and each spring both Urban and National Park Rangers, as well as school groups, visit NYC shorelines to tell the fascinating story of this prehistoric wonder, the ageless horseshoe crab.

RETHINK LITP2000!

Michael Sperling

In January, SSAS joined a coalition of organizations opposed to the preliminary preferred alternative that's been chosen by the NYS Department of Transportation's LITP2000 Study Team. Their proposed Long Island Transportation Plan would cost a projected \$4.8 billion and take 20 years to complete.

The plan includes a Rapid Commute system that "would be capable of serving at least 50,000 people during peak commuting hours. But in order to accomplish this... we will need to improve 130 miles of the roadway system" (by adding lanes to the roads) and "build 60 new miles of Priority Lanes." These 190 miles include 42 construction projects, of which the following would affect SSAS's territory:



- ⊗ adding RCV (Rapid Commute Vehicle) Priority Lanes to the Meadowbrook State Parkway from the Southern State Parkway (Exit M6) to its end at the Northern State Parkway;
- ⊗ adding RCV Priority Lanes to the Southern State from the Meadowbrook (Exit 22) to Sunrise Highway (Exit 44);
- ⊗ adding one lane in each direction on Hicksville Road (Rt. 107) from Merrick Road to Boundary Avenue;
- ⊗ extending the Bethpage State Parkway from Central Avenue to the Seaford-Oyster Bay Expressway at Broadway (i.e., through Bethpage State Park).

Other targeted roads include the Northern State Parkway, Sunrise Highway (in Suffolk County), Sagtikos and Sunken Meadow State Parkways, Nicolls Road, Route 109, Route 110, Montauk Highway, the L.I.E. (in Suffolk), Route 347, Route 454, William Floyd Parkway, and lots more.

There are other aspects to the proposed plan (see www.LITP2000.com), but obviously all this road widening will mean the elimination of a substantial amount of wildlife habitat. The opposition to NYS DOT's preliminary preferred alternative, led by the Long Island Progressive Coalition, provides information and ideas at www.rethink2000.com.

There are several ways to provide the LITP Study Team with your comments and questions or obtain documents. You can call 1-888-670-LITP (5487), give feedback at their web site, or write to LITP2000, P.O. Box 222262, Great Neck, NY 11022-2262.

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Explore the coast
with the
**AMERICAN
LITTORAL SOCIETY**

ASSATEAGUE SPRING WEEKEND (May 16-19). Visit Chincoteague Refuge and Assateague National Seashore during peak spring bird migration. See lots of shorebirds & passerines, plus river otter, Sika deer, endangered Delmarva fox squirrel, and wild ponies. Cost: \$295 includes 3 nights at Refuge Motor Inn, boat tour of marshes, guided hikes, buffet.

FIRE ISLAND HIKE (Sat., May 25). Hike through "Sunken Forest" and along beaches with marine ecologist Steve Finn. Cost: \$20 includes birding, butterflies, seining, ferry & guide.

HORSESHOE CRAB WALKS (Sun., May 26 & Mon., June 10). Meet at Jamaica Bay refuge 7:30 P.M. for slide program & walk to see mating crabs. Contact Don for reservations. Free.

JAMAICA BAY SUNSET CRUISE (Sun., June 2, 5-8 P.M.). Learn about birds, fish, management issues & general ecology, aboard 96 ft "Dorothy B VIII." See nesting Osprey, Oystercatcher, egrets, Peregrine Falcon, many shorebirds. Cost: \$35 incl. wine & cheese, snacks. Leader: Don (refuge mgr.).

MONTAUK (June 7-9). Cost: \$285 incl. 2 nights at luxurious Manor House, 5 meals, 5 guided hikes, 2 evening programs, and star watch.

ICELAND (Aug. 2-12); **MOROCCO** (Oct. 24 to Nov. 7).

For information and free field trip brochure, call/write Don Riepe, (718) 634-6467, donriep@aol.com, 28 West 9th Road, Broad Channel, NY 11693; www.alsnyc.org

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**BECOME A MEMBER OF SSAS
Think Globally, but Join Locally!**

Option 1. You can help SSAS survive NAS's major dues share cutbacks by joining Audubon through us for the same price that it costs if you join through NAS (we get a first-year bonus for recruiting you). If you'd like to become a member of National Audubon and your all-volunteer local chapter, please mail the following form and your check payable to **National Audubon Society** to us at South Shore Audubon Society, P.O. Box 31, Freeport, NY 11520-0031. The special rate for the first year is \$20 per household; \$15 for students and seniors. Gift memberships help too; we will ask that non-local recipients be assigned to their own local chapter if you prefer.

Option 2. You can subscribe to the *Skimmer* for a year by sending \$10 payable to **South Shore Audubon Society** to us at the address above.

Renewing? Please send NAS renewals directly to NAS.



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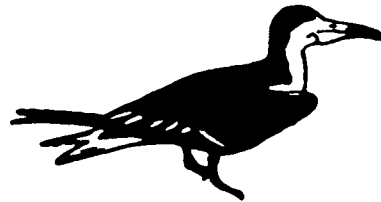
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**South Shore Audubon Society
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