SEAGRASS.LI

LONG ISLAND'S SEAGRASS CONSERVATION NEWSLETTER

Volume 2, Number 1 Spring 2008

Bay Scallop Restoration

The Suffolk County Bay Scallop Restoration Project

+ HOW TO
Transplanting Eelgrass Remotely with Frame System (**TERFS**)

>> **Plum Island Eelgrass**
A high-security meadow in the PE

>> **The Bay Scallop**
A look at Ol' Blue Eyes

>> **Natural Recovery!**
Rebound in Shinnecock Bay

Photo by: Kimberly Petersen

Cornell University Cooperative Extension of Suffolk County

CONTENTS
SPRING

Sea•grass \'sē-,'gras\ ***n*** **:** "Rooted, submerged marine or estuarine macrophytes of several species. Habitats created by seagrass meadows are among the most diverse and productive estuarine environments." National Oceanic and Atmospheric Administration

Finally!

I know, I know, it's been a year since we were supposed to get this issue out. When we're swamped with field work, proposals, reports and other "distractions" it is often hard to find time to sit at the desk and produce a newsletter. I will freely admit that everyone warned me, but no, it wouldn't be like that for me! I could pull it off. Obviously, I didn't. So we are now in the rethinking mode and figuring out what we can realistically produce while still getting all the field work done. Most of all, I want to improve the way we reach out to those interested in our work.

After some serious soul searching, we have decided to cut the newsletter down to two issues a year and fill in the rest of the time with a new subscription-based e-Newsletter tentatively called "**e-Grass**" that will highlight timely events, news and other aspects of our work. The large format newsletter is a great resource, but we really need a vehicle that is more responsive to our almost daily observations, discoveries and "progress." If you have corresponded with me via email in the past regarding eelgrass, expect to see the new newsletter in your inbox in mid April. If you don't want to receive any future issues, just unsubscribe.

As I write this, we are nearing the end of a major overhaul of the webpage. Winter is the season for office work and we have tried to do a little bit of this work every year as time allows. This time Kim Petersen has sent out an e-mail to our friends and colleagues to request their input and constructive criticism. Well, I'm happy to say that the response has been overwhelming and we are excited to make many of the suggested changes. Look forward to new information on basic ecology, management and a kid's section, among other significant improvements. The new site should be up and running in April. Any time you want to make suggestions on the web site just e-mail us at seagrassli@cornell.edu.

Although we obviously focus on eelgrass in our work, much of this issue is dedicated to work regarding the bay scallop. No other species is as identifiable with the waters of Long Island as the Bay Scallop. I just wish that eelgrass was half as well known! Mike Patricio's article on basic bay scallop biology tells the story of the plight of this species. Our feature article on the Suffolk County Bay Scallop Restoration Initiative details efforts underway to reverse the dramatic decline in the species through proactive restoration efforts. The shellfish crew has seen some amazing results over the last year and it is time to spread the word.

As always, don't be afraid to send along any comments, suggestions or ideas regarding the newsletter. We look forward to your input on this and any other aspect of our work.

Chris Pickerell, Editor
Email: cp26@cornell.edu

E-mail questions and comments to: SEAGRASSLI@cornell.edu

PARTNERS

NRCS

The Natural Resources Conservation Service (NRCS) is a federally funded agency under the U.S. Department of Agriculture. NRCS provides technical and financial assistance to help agricultural producers and others care for the land. One of the agency's six mission goals is healthy plant and animal communities. Through cooperative conservation, NRCS seeks and promotes cooperative efforts to achieve this and other conservation goals. Through its Wildlife Habitat Incentives Program (WHIP), NRCS is providing funding to the CCE Marine program for the restoration of eelgrass in the Peconic Estuary.

For more information about NRCS New York, please visit their website at: http://www.ny.nrcs.usda.gov

CCE of Suffolk County is a not-for-profit organization funded in part by Suffolk County through the office of Steve Levy, County Executive and the County Legislature.

Photographs By Chris Pickerell, Kim Tetrault and Gregg Rivara

NEW MEADOW

Plum Island

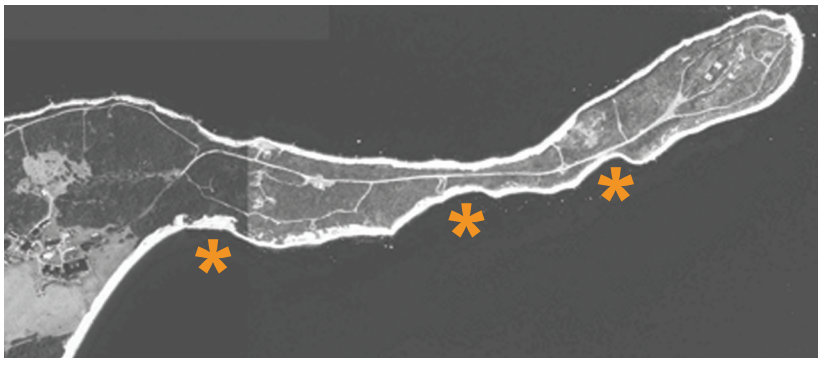
A first look at this amazing place where the grass grows big and security is high.

This past summer, we surveyed the southern shore of Plum Island looking for eelgrass. Discovery of a meadow by the USFWS on the western end of the Island near the "gut" and aerial photographs hinted at the potential, but we had no other evidence that eelgrass grew along this rocky shore. On June 19th, 2007, we set out to dive the easternmost cove on the south shore. No grass was found in the deep (~12ft) water where we anchored, but as we swam in very close to the shore, we found grass growing among the large rocks in 4-8ft of water. Unlike any other site we have found, we observed large dense patches of grass interspersed with large rocks and boulders. As we swam west, the pattern continued.

After swimming as far as we could, we decided to move the boat further down the shore to expand our search. As we dropped anchor, we noticed a Homeland Security guard onshore watching us very closely with binoculars. I hoped the guard could see the transom of our boat that clearly says "Cornell Marine Program" in large letters, but the wind was keeping us nose to shore. Although we never brought the boat in closer than 100ft from shore, we did swim in very close, making the guard a little uneasy. After a second dive in more grass we decided to call it a day and head back with a camera-full of great pictures.

Based on the aerial photographs, more grass was likely to be found further west along the shoreline so another visit was planned. This time I contacted the Department of Homeland Security on the island so that they would know who we were and what we were doing. Fortunately, they were very accommodating. On August 7th, we ventured to this site again and with the water calm and the tide low, I was able to get some great shots of the grass and macroalgae reaching the surface in the shallows. We have seen this at other sites, especially in Long Island Sound, but light and visibility that day were perfect.

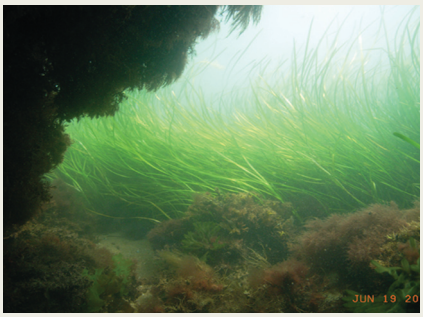
Hopefully, we will have more time to explore Plum Island this summer. This area can teach us much about how eelgrass can survive at very high-energy sites. Look for more photos of the Plum Island meadows in our meadow gallery at www.seagrassli.org. *CP*



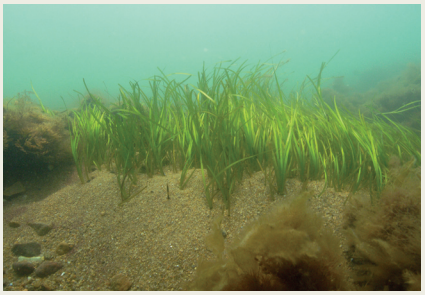
Photographs By Chris Pickerell

FIELD SHOTS

>> Few epiphytes can be seen on these blades that reach all the way to the water's surface. Although some patches of grass in deeper water had some epiphyte growth, most of the leaves looked clean like the ones above.



>> A huge boulder can be seen looming over a grass meadow, swaying with the waves breaking on shore. These rocks are not uncommon along the south shore of Plum Island making navigation challenging, to say the least. Boating here is definitely not for the timid.



>> Underwater "sand dunes" have formed as the grass grows and traps moving sediments. Some of these dunes are many feet long and appear to be "migrating" across the rocky bottom. At the bottom left of the photo you can see some of the exposed rock and gravel typical of the bottom here.

The Suffolk County Bay Scallop Restoraton Initiative

"We gained national recognition by reseeding the Peconic Bay with one million scallops..."

Steve Levy, Suffolk County Executive State of the County Address (2007)

By Chris Pickerell CCE

Beginning in 2005, CCE and several partners* began a 4-year project to undertake a "concentrated, large-scale effort to help restore bay scallop populations in the Peconic Estuary..." With funding from Suffolk County and the New York State Department of State, this project called for considerably increasing the capacity of CCE's existing shellfish hatchery, establishment of two spawner sanctuaries in the Peconic Estuary (PE) and construction of a dedicated work barge to serve the program.

Project Goals & Outcomes

PROJECT GOAL 1

To conduct large-scale plantings of hatchery-reared bay scallops at high densities in the Peconic Estuary

PROJECT GOAL 2

To monitor scallop survival, growth, reproduction, recruitment, food quality/quantity and the genetic contribution of planted stock

DESIRED OUTCOMES

To have a measurable increase in scallop recruitment, population size and fisheries landings

FACILITIES AND EQUIPMENT

The base of operations for this effort is the Suffolk County Marine Environmental Learning Center (SCMELC) located at Cedar Beach in Southold. To handle the greater production, an additional hatchery was constructed and a high-tech "bag" algae culture system was installed to allow for continuous algae production needed to feed the greater number of shellfish.

Spawner sanctuaries were created at two locations. The first site is located in the mouth of Goose Creek in Southold and served as the primary sanctuary in 2005. Although this site continues to be used for this and other CCE shellfish work, a second, much larger "long line" system was installed after receiving the necessary clearance from NYSDEC, the Town Trustees, the US Army Corp of Engineers and the U.S. Coast Guard. This site, in Orient Harbor, can hold up to 500,000 adult scallops while that in Goose Creek is limited to 100,000.

In order to effectively stock and maintain the large number of captive scallops at the long lines, it was necessary to construct a specially designed 36ft. work barge. The "ShellStar" (left) is equipped with a

2,000 pound crane and custom built "star wheel" hydraulic hauler to bring the nets along side the deck for servicing and restocking (see above). A skilled captain can run this vessel between the multiple long lines as the nets are tended by the crew.

STOCKING AND SEEDING EFFORTS

Stocking the lantern nets in the long line (sanctuaries) typically begins in June as the scallops raised in the hatchery reach sufficient size to be retained in larger-mesh nets. As with all types of shellfish aquaculture, it is important to move the young seed out into natural waters so that they can feed on natural algae blooms and are not reliant on cultured algae. Throughout the summer, the lines are regularly tended so that the fast growing scallops can be moved into larger mesh nets as needed. It is important to maintain an optimal stocking density in each net (picture on top of next page) to maintain maximum growth.

When the holding capacity of the long lines is reached in the fall, excess scallops are planted on the bottom, a process called seeding or free-planting. Sites are selected based on previous shellfish surveys and diver observations of bottom conditions. The best sites have some type of structure such as eelgrass, macroalgae or shell.

Photographs By Gregg Rivara and Kim Tetrault

COMMUNITY INVOLVEMENT

From the start, this project has had considerable community involvement. A major project partner has been CCE's Southold Project in Aquaculture Training (SPAT), involving hundreds of volunteers contributing thousands of hours of labor towards this effort. Some of the tasks completed by SPAT include construction of the barge, creation of hatchery and nursery systems at SCMELC, work at the long lines systems in Goose Creek and Orient Harbor and other general support efforts.

DATA COLLECTION

The success or failure of a shellfish restoration project can only be effectively assessed if adequate monitoring is undertaken. In this case, a baseline of existing bay scallop abundance and distribution was determined prior to establishment of any spawner sanctuary and before any seeding efforts. Data was collected through a combination of focused diver surveys as well as deploying a system of "spat collectors." Spat collectors are designed to catch any free-swimmng larval scallops that drift by in the currents. Using these methods, both the potential scallop yield (spat collectors) and the actual scallop recruitment (diver surveys) could be assessed for the region. Both types of monitoring were undertaken in the vicinity of the spawner sanctuaries as well as in two other sites in the PE where scallops historically occurred (Hallocks Bay and Northwest Harbor). If there was any meaningful natural set prior to or during this project, these surveys would have measured it.

RESULTS TO DATE

Although the project is not complete, there has been some very encouraging data collected to date. SCUBA surveys indicate that there were VERY few scallops in 2005 and almost none in 2006. However, in the 2007season following deployment of the large spawner sanctuary (long lines), there was a marked (8-80 fold) increase in scallops on the bottom near the sanctuary as compared to other areas. It appears that large numbers of larvae have been produced by the scallops in containment on the long lines in Orient Harbor and these animals have successfully recruited to the bottom in the area. Similar surveys in other areas (Hallocks Bay and Northwest Harbor) did not show the spike in scallop recruitment. Hopefully, the large numbers of juvenile scallops observed in the fall of 2007 will result in enhanced fishery landings during 2008-2009.

Just as with the diver surveys, the spat collector results have also been very encouraging. There was a similar trend of increased recruitment to the spat collectors during the 2007 season. This increase represented an approximately 2-3 fold increase over the previous season. The good news is that the spat collector and actual recruitment numbers (diver surveys) indicate that animals are successfully recruiting to the bottom, showing that there is not a significant impairment to this process at this time.

THE FUTURE

It is too early to call the Suffolk County Bay Scallop Restoration project a complete success, but all indications are that this effort is having a meaningful impact on scallop recruitment in the PE near the sanctuaries. This year will be a big test for the program to find out whether the large numbers of young recruits will translate into a stronger fishery in the Fall of 2008. For now, the crew is gearing up for the hard work ahead.

The proof is in the data

DIVER SURVEYS

Diver surveys near the sanctuary (Orient Harbor) revealed that scallop concentrations were **8 to 80 times greater** than in other parts of the PE (Hallocks Bay and Northwest Harbor) where there was no sanctuary.

SPAT COLLECTORS

Results for the spat collectors were similar to the diver surveys in that they showed a **2-3 fold increase** in spat density in the vicinity of the sanctuary relative to other parts of the PE.

ANECDOTAL REPORTS

In addition to the quantitative data collected above, we have also had reports of **large numbers of scallops** setting on lines, cages and anchors near the spawner sanctuaries, adding further support to the positive benefits of the long lines.

"Since 1985, we have been committed to bringing back the bay scallop to its former glory in the Peconic Bay system...Recent breakthroughs have scallop populations poised to make an important step forward in making the comeback a reality..."

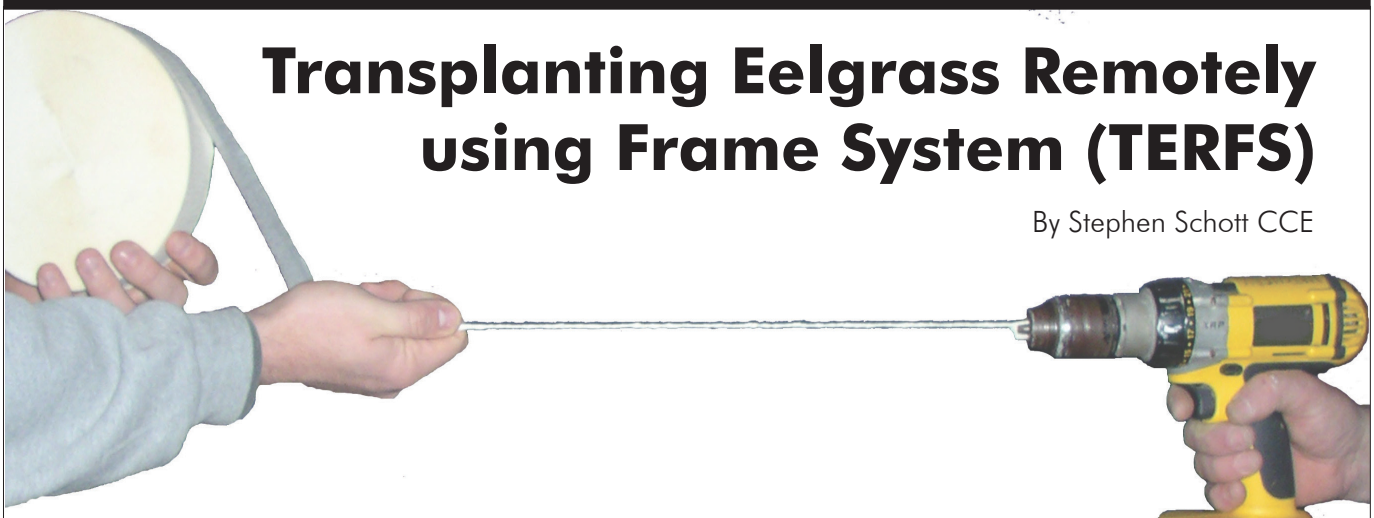
Chris Smith, Marine Program Director, CCE

*This project is being led by Cornell Cooperative Extension Marine Program with assistance from Long Island University (LIU) and Stony Brook University (SBU). Key staff at those institutions are: Project Leads Chris Smith (CCE), Dr. Steve Tettelbach (LIU), Dr. Brad Peterson (SBU) and Dr. Chris Gobler (SBU). Funding was acquired from Suffolk County's Water Quality Protection and Restoration Program as well as the New York State Department of State, Division of Coastal Programs. Additional support has been provided by students from CCE, SBU and LIU.

Photograph By Rory MacNish

Transplanting Eelgrass Remotely using Frame System (TERFS)

By Stephen Schott CCE



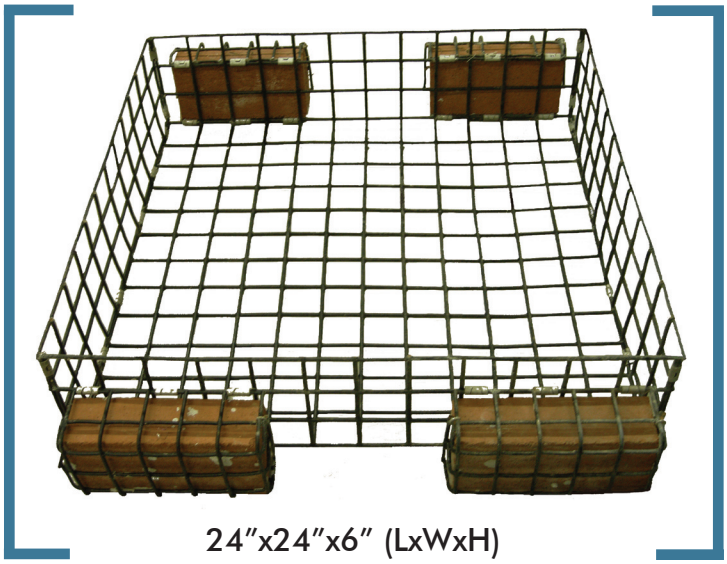
Cordless drill, bricks, and white party streamers? Sounds like the ingredients for decorating a wedding tent! Well, that's not what we had in mind. The "Transplanting Eelgrass Remotely with Frame System," or TERFS, is an eelgrass restoration methodology developed in the mid 1990s by a group from the University of New Hampshire led by Dr. Fred Short. Although the TERFS method is similar in principle to other restoration methods, it provides a means to hold shoots on the sediment until they can root themselves, it is the first adult shoot restoration method that did not require the use of SCUBA divers, making it the first method that can be easily employed for community-based restoration.

The TERFS method uses a weighted, metal-mesh cage that eelgrass shoots are tied to with a biodegradable paper tie. The ties are made out of white crepe paper (colored crepe paper won't degrade) that was put into a power drill and twisted to make a cord-like tie. When dry, the ties are relatively strong and can be used to tie the shoots to the frame. The ties generally break down over the 2 to 4 weeks that the frames are deployed, allowing the frames to be lifted off of the sediment without removing the anchored eelgrass shoots. Follow the step-by-step guide to using the TERFS method for restoring eelgrass.

"WHERE DO I GET FRAMES?" Frames like the one below can be made by any commercial trap maker accustomed to building lobster pots and the like. See the reference below for details on construction. You can also contact other groups that may have extras that can be borrowed.

A FRAME

A typical TERFS frame looks something like this one. Others may incorporate cement weights for lobster pots or some other weights. Some have attempted, somewhat unsuccessfully, to use less structurally sound materials such as plastic mesh or similar. These materials are not suggested as they result in a less reliable frame.



24"x24"x6" (LxWxH)

When to Plant

SPRING

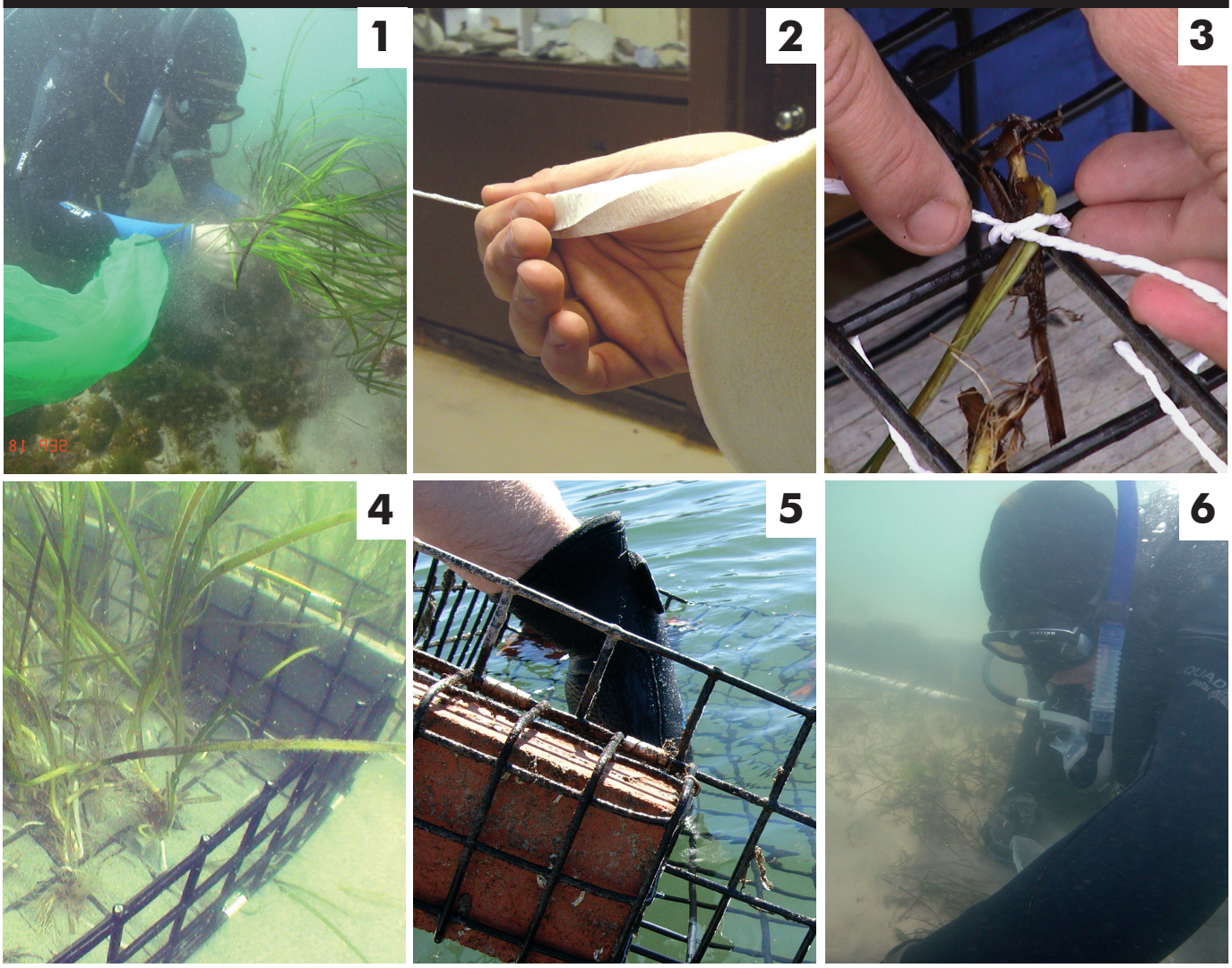
Although it is difficult to obtain transplant stock in the spring as the water is COLD and the plants are small, plantings can begin in April and run into May.

FALL/WINTER

Fall is a better time for planting as the plants are larger and the water is not as cold. We prefer to do our plantings from October to January. CAUTION: Cold water can prevent the paper ties from breaking down!

For more information on the TERFS method see: **"A Manual for Community-Based Eelgrass Restoration"** http://marine.unh.edu/jel/seagrass_ecology/communityeelgrassrestoration/commeelgrassrestor2002.pdf

Photographs By Chris Pickerell and Stephen Schott



TERFS STEP BY STEP

1. Plant Collection and Processing. Although various methods can be used, on Long Island, we prefer to collect uprooted shoots from the eroded edges of existing meadows over digging rooted plants. The shoots are then transferred to a facility where they are processed (removal of excess rhizome and dead/damaged plants) and held in flowing seawater until needed. See SEAGRASS.LI Issue I, Volume I, pg. 7 for more details.

2. Biodegradable Ties. Shoots are attached to the TERFS frames using 4-6" biodegradable ties created from white crepe paper streamer material. This material is used as it breaks down once immersed in water, but, when twisted, is durable enough to hold the eelgrass shoots to the frame for the time it takes the eelgrass to root. Note: The colder the water and the tighter the wind, the longer it takes the ties to break down.

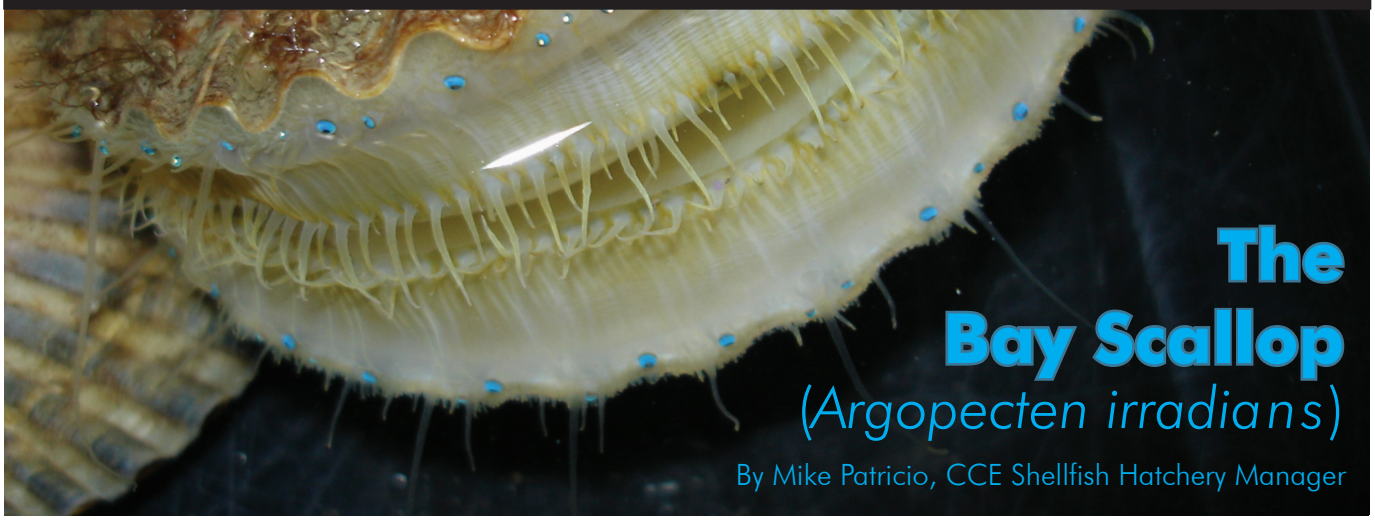
3. Tying Eelgrass Shoots to TERFS. Attaching the eelgrass shoots to the TERFS frame begins by placing the frame upside down on a work surface. With the frame in this position, shoots are passed through the mesh openings until the individual rhizomes rest on one of the intersections in the mesh. The number of shoots per frame can be adjusted to achieve most target shoot densities.

4. TERFS Deployment. Completed TERFS frames can be deployed immediately, if on site, or transported to the restoration area. If TERFS are being transported to the site, it is important to keep the shoots moist and cool until they can be deployed. Although, in theory, the whole operation can be run from a boat with no divers, it is often helpful to check the frames once deployed to ensure that they are in firm contact with the sediment.

5. TERFS Retrieval. Deployment length of TERFS frames has been found to be correlated with water temperature. Typical deployment of the frames is 2-4 weeks, but during periods when the water is cold and growth is slowed (early spring or winter), the frames may need to remain in place for longer periods to allow the plants to root adequately. If the frames are left too long, there is a risk that the rhizomes will grow up and over the mesh causing the shoots to be uprooted when the frame is retrieved.

6. Monitoring. As with all restoration efforts, the plantings should be followed up with regular monitoring visits to determine success of plantings. Only in this way can the project be properly assessed.

Photographs By Chris Pickerell, Steve Schott and Kimberly Petersen



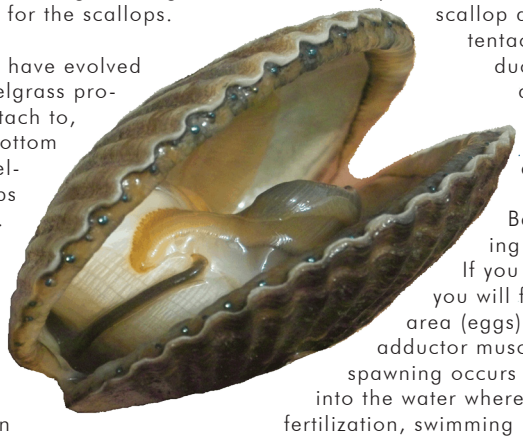
The Bay Scallop (*Argopecten irradians*)

By Mike Patricio, CCE Shellfish Hatchery Manager

The bay scallop (*Argopecten irradians*) is probably the most well known animal on the East End. Renowned for their sweet and delicate flavor, Peconic Bay Scallops were known the world over and are still sought after by many locals on opening day of scallop season (usually the first Monday in November).

Up until the mid 1980's scallops were abundant enough in local waters to keep baymen and recreational harvesters busy throughout the winter. However, in 1985 the "brown tide" turned the waters a coffee color, starving many types of filter feeding shellfish, including scallops, and shading out eelgrass beds, which provided the primary habitat for the scallops.

It appears that eelgrass and bay scallops have evolved together, one relying on the other. The eelgrass provides a structure for young scallops to attach to, which helps them avoid being eaten by bottom predators such as sea stars and crabs. Eelgrass meadows also prevent adult scallops from being washed ashore during storms. Scallops help eelgrass by filtering out algae and particles that cloud the water and also leave behind "fertilizer" in the form of feces.



In the span of three years, landings of bay scallops dropped from ~175,000 lbs of meat in 1985 to just 250 pounds in 1988. Restoration efforts are currently underway (See Suffolk County Bay Scallop Restoration Initiative, pg. 4) to help bring back the scallop population to pre-brown tide levels.

The bay scallop was designated the state shell of New York in 1988. Our scallop is one of more than 400 species that exist around the world, some of which are harvested commercially. Although most are mottled brown color, shells range from shades of yellows and oranges to pink. Many of these are collected for their beauty. In some cases, shells can have prominent white stripes. Scallops with distinct shells produce offspring with the same unique patterns and coloration (phenotypic characteristics). Cultivation of juveniles with these markings helps to distinguish hatchery raised animals from natural set. This is one method to measure the success of stock enhancement projects. Our 2008 spawning incorporates this method.

For a shelled animal to swim in the water it needs to be light. A scallop has a thin shell with alternating ridges and grooves to provide strength without the additional weight, similar to corrugated cardboard.

Lightweight and swift on its shell, this bivalve can leap a hungry crab in a single clap. The scallop uses water propulsion to evade any creature that happens to come too close. When the scallop detects trouble is near with its sensory tentacles and bright blue eyes, it flexes its adductor muscle (the part we east) and swims away by sending a jet of water out of small openings below each of its wings, or ears, at the hinge (dorsal exhalent apertures).

Bay scallops are hermaphrodites, meaning they produce both eggs and sperm. If you open a ripe (ready to spawn) scallop, you will find the gonad including an orange area (eggs) and a white line (sperm) in front of the adductor muscle. When the time is right (June/July) spawning occurs as both eggs and sperm are released into the water where fertilization takes place. Following fertilization, swimming larvae develop for 10-14 days until they metamorphose into juveniles and settle to the bottom. Juvenile scallops use a foot to crawl and produce byssal threads to attach to any available structure such as an eelgrass shoot.

Scallops grow quickly and can reach 1-2 inches in size by the end of the first summer. The following spring, 1yr old scallops are mature enough to spawn. However, their life span is short (20-26 months), so many only have one chance to contribute back to the population.

Only time will tell if current restoration efforts will lead to full recovery of the bay scallop. Until that time, we'll keep planting eelgrass and scallops in the hope that these old friends can some day reunite.

For more information on CCE scallop restoration efforts go to:

http://counties.cce.cornell.edu/suffolk/MARprograms/Aquaculturemain.htm

A new site for the Suffolk County Bay Scallop Restoration Initiative is currently under constructon

www.spatcornell.org

Photographs By Mike Patricio and Kim Tetrault

"CLEAR FOR TAKE-OFF!"

One day two summers ago while swimming from the boat to our restoration site at Cornelius Point, Shelter Island, I came across something that at first didn't necessarily strike me as odd. A surf clam (*Spisula solidissima*) was resting on its side in the clean sand. Since we come across clams of all types out of the bottom frequently, I didn't think much of it. One thing, however, caught my interest this time. Not only was there a clam on the bottom, but nearby, there was a large knobbed whelk. Little did I know the life and death struggle that was about to reveal itself right before my eyes. Since I did have things to do, I swam over to the plots that I had come to photograph. It took about 15 minutes for me to finish what I had come for and, after getting my photos, I headed back to the boat. On my way back I came across the same clam, but this time the two were just about touching. I thought this would be a pretty cool marine still life, so I decided to take a picture.

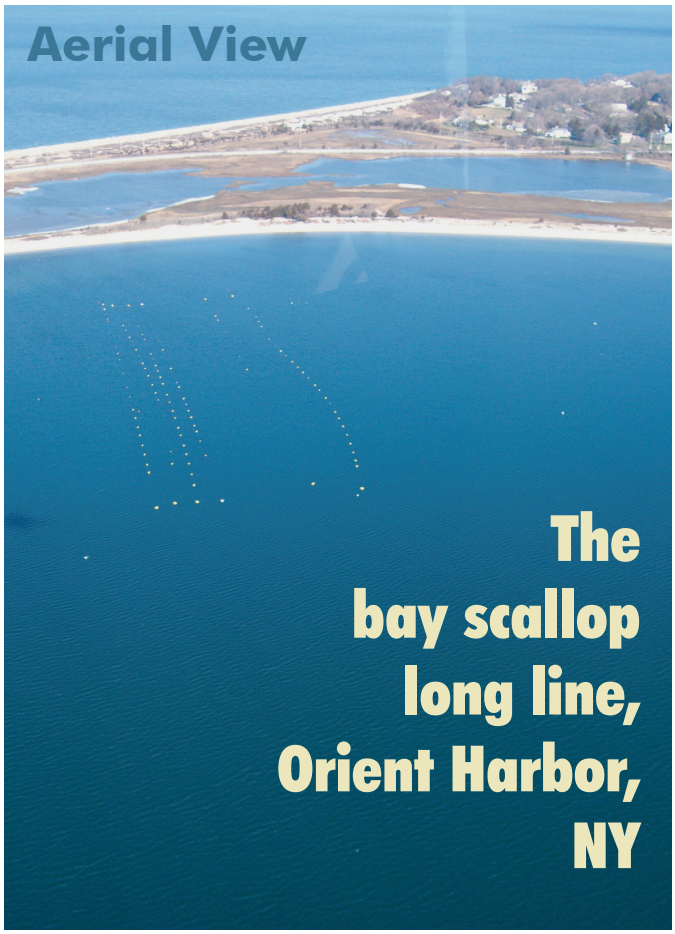
At the moment I was about to take the photo, the whelk had come in contact with the clam. The clam then did something I had never witnessed before. It actually extended its long foot out from between the shells, placed in on the bottom and pushed straight up. It pushed so quickly that the clam shot up into the water column and actually left a wake of swirling sand. I got the first shot off, but it wasn't that clear, so luckily, the clam took another "step" resulting in the photo seen here. *CP*

JUN 13 2006

LIGHTS CAMERA....ACTION!

This past summer we had the pleasure of working with gradutate students of Evamaria Koch from the Univerisity of Maryland, Horn Point Lab. One of those students, Katie Mckone, a masters student, wanted to study the effect of water movement on light availabilty and plant spacing. Fortunately, we had the perfect site at Fishers Island where she could compare high, medium and low energy sites in relatively close proximity (around the island). We provided the transportation, dive support and camera work and Katie will share her results when her project is complete. This type of collaborative effort benefits everyone as the researcher is provided with suitable sites and logistical support while we receive the benefits of their research.

This spring we will be collecting a small number of shoots from Katie's sites so that she can complete her lab work. During the summer she will be up again to finish her field work. If you have an interest in conducting research in the region, let us know as we may be able to assist you. It's a win win situation for everyone! *CP*



Photographs By Chris Pickerell

GOOD NEWS/BAD NEWS

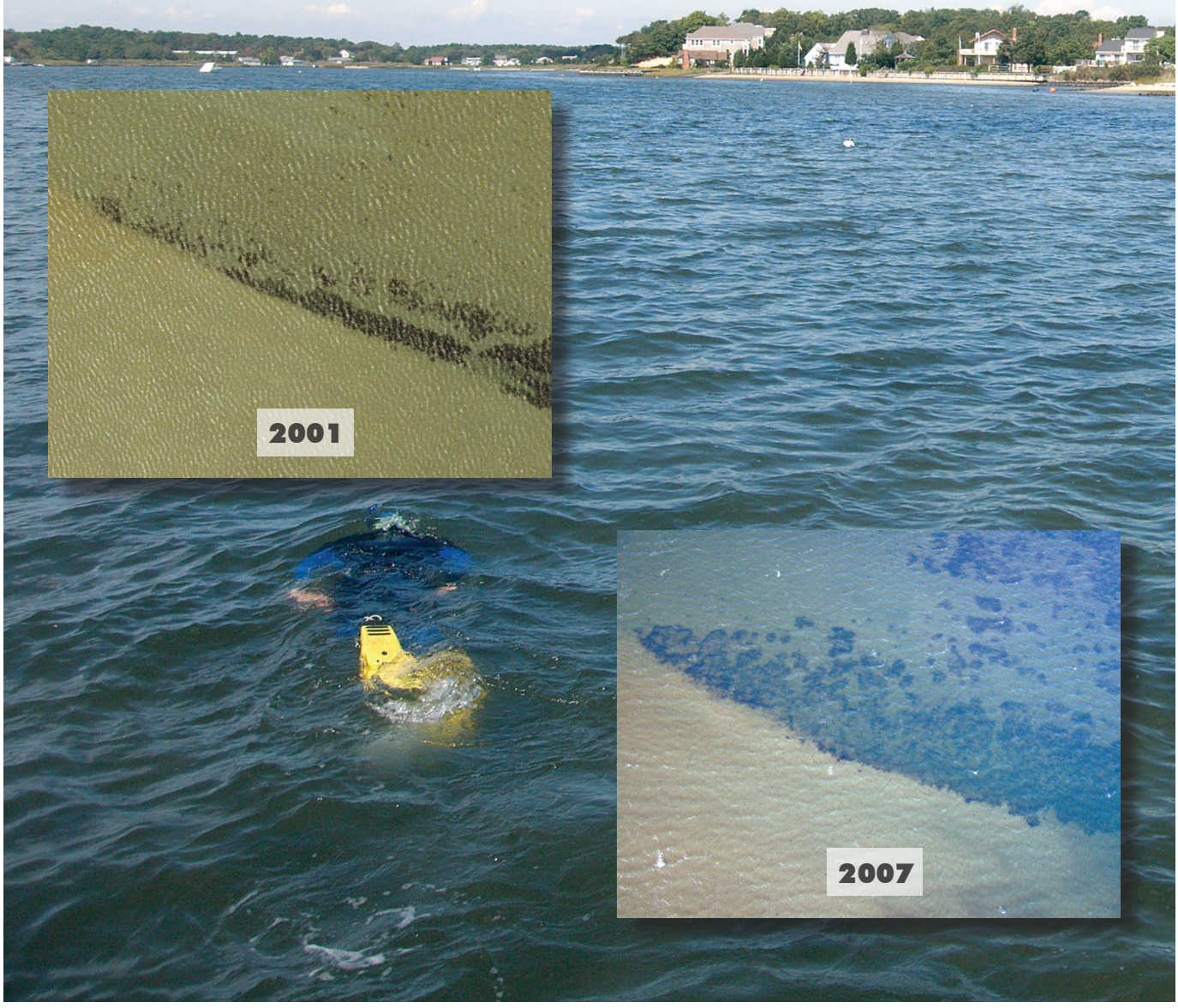
A Meadow Expands!

By Chris Pickerell

While meadows in one area of Shinnecock Bay retreat, another area expands...

A closer look at recent aerial photographs reveals that one meadow in southeastern Shinnecock Bay is expanding at a considerable rate while meadows along the Bay's north shore have retreated. Comparisons between photos taken in winter 2001 and January 2007 indicate that a meadow along the barrier beach, east of the inlet, is expanding into nearby unvegetated bottom. This spread is taking place through rhizome expansion from the existing patches combined with the release of seeds into unvegetated sand in the surrounding waters. Rhizome spread is a relatively slow but effective way of colonizing open bottom immediately adjacent to the parent meadow while seed release allows for a wider distribution of propagules. Survival of rhizomes is usually very good (unless the area is physically disturbed), while seedling recruitment is typically not good, even in the best of situations. However, release of seeds allows for existing meadows to spread farther into new areas that would otherwise take several decades to reach via rhizome expansion. Once a new patch becomes established, the process begins again until the area is fully colonized. Although it is encouraging to see the grass expanding into this area of Shinnecock, it is also interesting to note that it has taken nearly ten years for the eelgrass to build up to this level.

In addition to highlighting the resilience of eelgrass meadows, these observations help to define restoration scenarios. Natural recovery can be enhanced through planting and seeding efforts that take advantage of these natural processes. In this case, both seeds and adult shoots can be used to expand meadows in this area. Experimental trials are currently underway in Shinnecock Bay to test the most appropriate planting densities and methods.



Photographs By Stephen Schott and Chris Pickerell

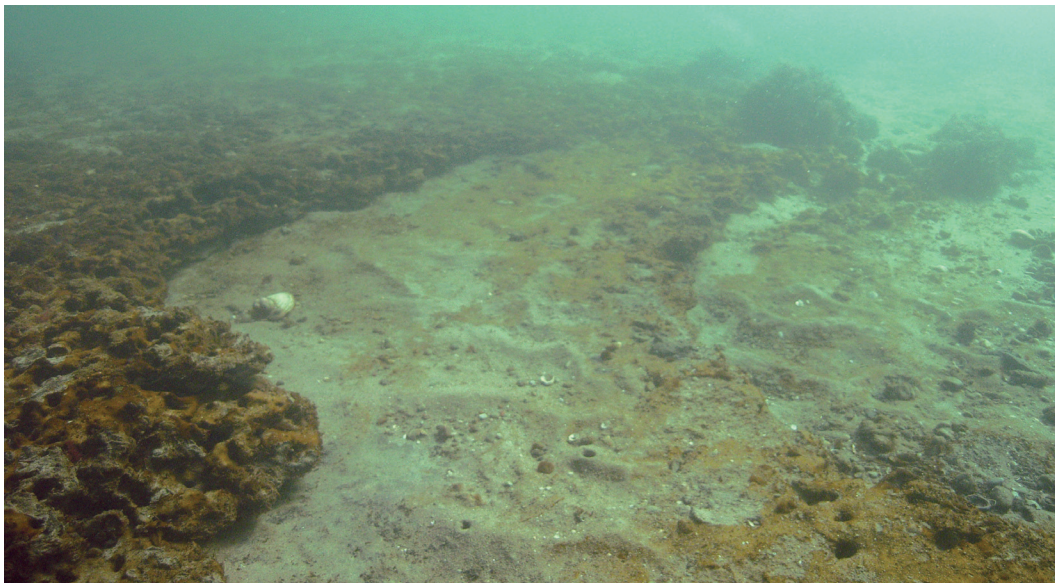
LEARN MORE...

NOT ON THE MAILING LIST?

If you want to receive future issues of SEAGRASS.LI drop us an e-mail with your address at seagrassli@cornell.edu.

SCAVENGER!

We see some pretty interesting sites while we are on the bottom, but this was a first for me. Something actually eating a jellyfish! Sea turtles are known to eat jellyfish, but I didn't really think much else would have these on their menu. Not surprisingly, it's our old friend the spider crab who will apparently eat anything. Now before you think that the lowly crab snatched this jellyfish out of mid-water, I don't think that was the case. My best guess is that the jelly had died some time earlier and the crab was in the right place at the right time to make a meal of it. *CP*



Beware rising water: While diving off of Orient Point State Park during January 2007 to observe the existing eelgrass and look for potential restoration sites for the 2008 season, we came across a very interesting site indeed! In about 9-10 feet of water, we found a large area of exposed marsh peat. What's the big deal you ask? Well, given the depth of the water, the last time there was marsh grass growing here would have been several thousand years ago! There is no question that this is salt marsh peat and if you look closely, you can even see the fiddler crab holes on the bottom left. We dove this site often when there was a dense covering of eelgrass, but since being lost a few winters ago to what we think may have been ice scour, the sandy sediments have been washed away to reveal the ancient peat. We're in the process of trying to figure out if we can get the grass growing back here since water quality is not a concern. Hopefully in a future issue, we will report on how we were able to revegetate the site. *CP*

SUPPORT US: If you like what you've read, consider supporting the costs of producing SEAGRASS.LI or some other aspect of our work. CCE is a 501-c-3 not for profit organization and any donations of money or equipment are tax deductible.
We would like to acknowledge the support of:
The Jessica E. Smith and Kevin R. Brine Charitable Trust
Thank You!

CALENDAR SPRING

After a long and not very cold winter of office work including proposal writing , number crunching and other desk jockeying, it is time to get back in the water! It's not that we haven't been in the water at all as we do get in a couple times over the winter, but spring is when we really get down to business. April is when it all really ramps up as all our fleet of vessels hits the water.

MARCH

We plan to get in a few recon dives at a couple of our planting sites to see how things fared over the winter. We may also start to collect transplant stock for planting in April.

APRIL

This is when our "spring" really begins. Water is cold and clear, perfect for a spring dive. All boats are in the water and it's time to visit all pilot and large-scale restoration sites to document over-winter survival.

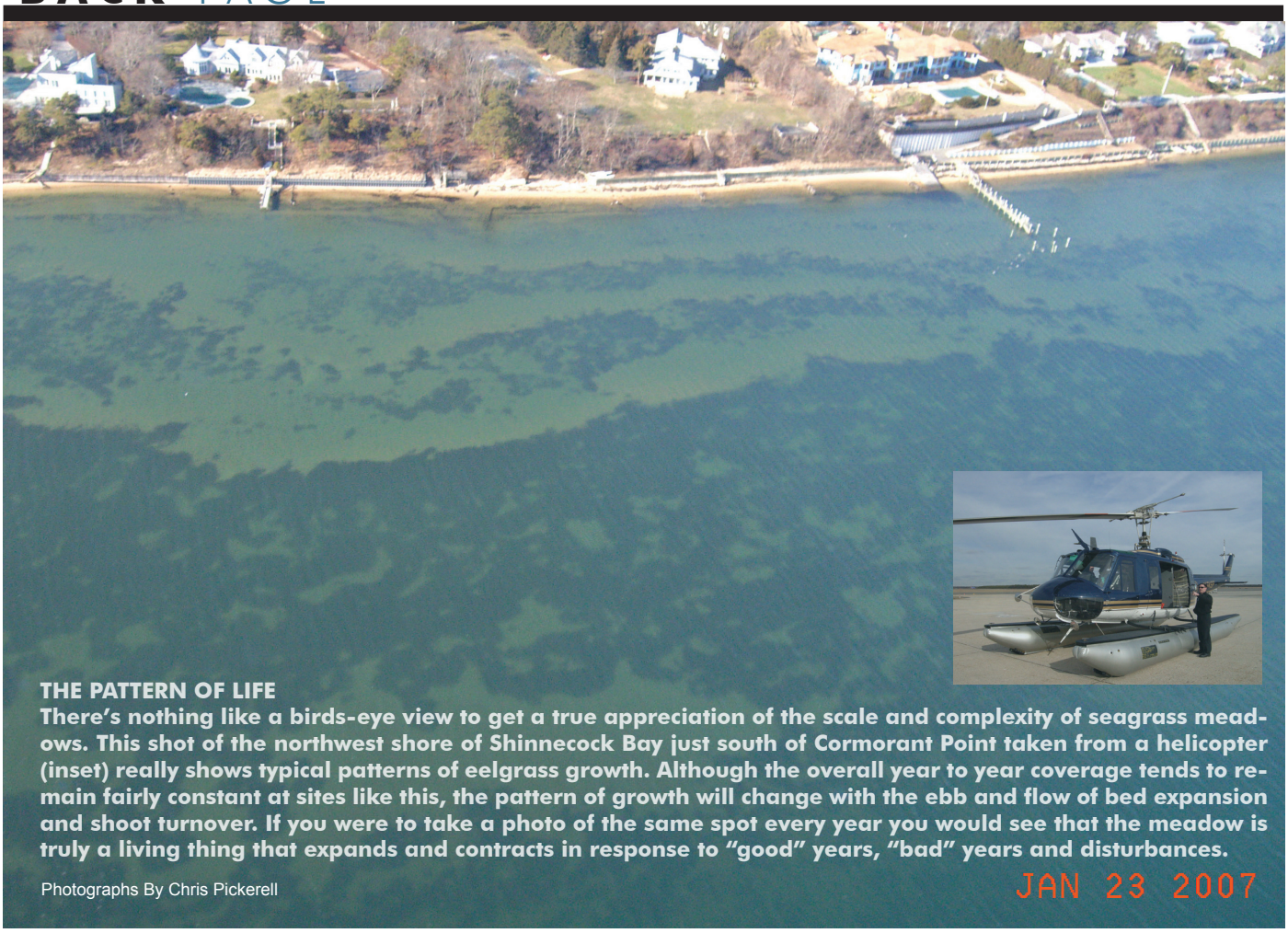
MAY

May is the time when we really see things begin to change in local meadows. Growth increases almost exponentially as the water temperature rises. We also see waters begin to cloud with blooms of algae so important to our filter feeding shellfish.

SUMMER!

Photographs By Chris Pickerell

BACK PAGE



THE PATTERN OF LIFE

There's nothing like a birds-eye view to get a true appreciation of the scale and complexity of seagrass meadows. This shot of the northwest shore of Shinnecock Bay just south of Cormorant Point taken from a helicopter (inset) really shows typical patterns of eelgrass growth. Although the overall year to year coverage tends to remain fairly constant at sites like this, the pattern of growth will change with the ebb and flow of bed expansion and shoot turnover. If you were to take a photo of the same spot every year you would see that the meadow is truly a living thing that expands and contracts in response to "good" years, "bad" years and disturbances.

Photographs By Chris Pickerell

JAN 23 2007

SEAGRASS.LI
Cornell Cooperative Extension of Suffolk County
423 Griffing Avenue, Suite 100
Riverhead, NY 11901-3071

NonProfit Org.
U.S. Postage
PAID
Riverhead, NY
Permit No. 21

Visit our website at WWW.SEAGRASSLI.ORG