Coastlines

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Handling Your Catch: Tips for Saltwater Anglers

by Ken Gall, Plainview

Most anglers would agree that a successful fishing trip requires planning. Equipment such as rods and reels, tackle and bait must be assembled and tested. Unfortunately, many successful anglers often find that they've forgotten to bring other important items such as ice, an insulated cooler (for fish) and fillet knives needed to properly handle and dress their catch. Without the tools necessary to preserve fish quality, an angler's fresh "catch of the day" might be quite disappointing at the dinner table. Smart anglers will include plans for fish handling in their overall plans for a complete fishing experience.

Why worry about fish handling? Fish is a highly perishable food!

Fish quality deteriorates rapidly if they are left at temperatures of 80 to 90 degrees; common in the summer. Studies have shown that lean white-flesh fish such as cod will be unacceptable in 1 day at 90 degrees F. (Fattier species and fish that are feeding heavily can deteriorate even faster.) A fish left in the summer sun for several hours will undergo a rapid deterioration in quality as normal spoilage processes take their course. To effectively slow this process down, fish should be cooled as quickly as possible! In most fishing situations, a cooler packed with ice provides the least expensive and easiest way to cool fish. Fish should be packed in ice both to cool it and keep it from drying out. Flake ice or a chilled seawater slush is best since they provide the greatest amount of surface area of ice in contact with the fish — resulting in maximum cooling. Pack the cooler with alternating layers of fish and ice as soon as possible after you catch and clean them. Fishing situations will vary, but anglers should make every effort to cool their catch rapidly.

While rapid cooling is the most important factor to control, other handling techniques can also be used to preserve the quality of your catch. Fish should be landed carefully and stunned as soon as possible to prevent cuts and bruises in the flesh. Fish can be stunned with a blow to the head with a wooden mallet or bat to prevent them from beating themselves on the boat or dock. Don't use excessive force, and hit only the head to prevent breaking the internal organs in the gut or damaging the edible flesh, both of which can greatly reduce fish quality. Punctures caused by gaffs or cuts in the flesh also provide a route for bacteria to enter and multiply in the fish muscle which can reduce its quality. Gaffs or fish picks should only be used in the mouth or head to avoid damaging the edible part of a fish.

Once a fish is landed, you should consider bleeding and gutting it as soon as it's practical. Bleeding fish can help to maintain quality in several ways. As a fish bleeds it loses heat, which can help it to cool faster. Bled fish also tend to have lighter colored fillets with fewer bruises and bloody spots. Fatty fish that have been bled may also remain in good quality condition longer during frozen storage since oxygen and other waste products that can promote the development of the rancid odors and flavors associated with fat oxidation are removed. Fish can be bled by making a throat cut to sever the main artery that runs from the heart to the gills without damaging the heart which must continue to pump blood for maximum bleeding. Fish can also be bled with a tail cut. Gutting fish will also cause a significant amount of bleeding and should be done as soon as possible. Removing the entrails reduces the risk of spoilage around the gut cavity caused by bacteria and enzymes in the gut. Large fish can also be cooled faster when the gut cavity is packed with ice.

Every fishing trip is different. Many things can vary — fishing locations, the species sought, and the weather. It may not be possible to handle fish in the same way on every fishing trip. However, with a basic understanding of the importance of temperature control and the quality maintenance advantages that careful handling techniques can provide, you should get more enjoyment from the

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Coastal Living

A Guide to Coastal Erosion Processes Available

The coast is a dynamic place in which erosion and deposition are constantly taking place. In many parts of New York's coast, particularly where there are homes, businesses, and other structures, erosion is considered a problem. The forces that cause coastal erosion and deposition are natural phenomena that have been taking place for centuries and will continue to do so indefinitely. Viewed in this manner, it is not the erosion, but its impact upon humanmade coastal features, that is the problem.

Often these natural processes are poorly understood and are ignored when shoreline development is being planned and implemented in erosion-prone areas. Many actions to deal with the ensuing problems may either fail to work as planned, do not last long enough to recoup the developer's costs, or may even compound the problem for that site or pass it on to a neighboring area of the coast.

Cornell Cooperative Extension Information Bulletin 199 will give coastal landowners, developers, and government officials a better understanding of natural coastal processes that cause shoreline erosion. Natural erosion control features of the coast, such as barrier beaches and dunes, are also discussed. Finally, the impacts of various human activities upon shoreline erosion are examined. The reader will be able to use this information to make better decisions when planning and permitting new development along New York's eroding shoreline. See **"I WANT MORE"** for ordering information.

Coastal Plantings:

"Atlantic" Coastal Panicgrass

by Jay Tanski, Stony Brook

Increasing awareness of the beneficial role of dunes in coastal erosion control and flood protection has prompted many shoreline homeowners, community groups, and government agencies to initiate dune maintenance and rehabilitation projects. These projects often involve planting vegetation to maintain or stabilize a dune system.

In most cases, American beachgrass *(Ammophila breviligulata)* is selected for dune stabilization. While its growth characteristics and availability make it an excellent choice, those involved in developing dune vegetation programs should also consider the use of other plants in conjunction with the more traditional beachgrass.

One plant that deserves consideration is "Atlantic" coastal panicgrass *(Panicum Amarum* var. *amarulum).* This strain was developed by the USDA Soil Conservation Service to provide long term stabilization of critical erosion areas and is suitable for dune planting from Texas to Massachusetts.

Unlike other dune grasses, which must be established by transplanting, panicgrass is unique in that it can be planted from seed. As a result, the use of panicgrass can mean considerable savings in plant material costs and planting time. Presently the cost of enough panicgrass seed needed to cover an acre is approximately $80 (compared to approximately $1,000 to $2,000 for beachgrass for the same area) and can be planted in 1/3 to 1/5 the time needed to transplant beachgrass.

Panicgrass is only suitable for the backdune area and should not be used on the foredune. For this reason, a planting project might incorporate American beachgrass on the active seaward dune face and panicgrass in the more sheltered areas behind the dune. Research has shown that panicgrass — because of its drought resistance and heartiness — tends to do better than beachgrass in these areas.

Because panicgrass is started from seed, it is slower growing than beachgrass. The plant does ultimately grow to a height of three to four feet and has the appearance of a bunchgrass, providing good winter cover for wildlife.

Planting can be done by direct seeding or broadcast seeding. For plantings to be successful, however, seeds must be buried to a depth of 2 inches which requires the use of a seed drill or raking. For drilled plantings 10 to 15 pounds of seed per acre is required while broadcast seeding requires 20 pounds per acre. Planting time should be limited to early spring (mid-March to mid-April). Because dune sands are usually low in nutrients, fertilization is recommended.

The use of panicgrass in conjunction with American beachgrass can result in a successful dune vegetation project with considerable savings in time and money. Since panicgrass is relatively new, however, availability of seed might be limited at this time. For more information on panicgrass seed sources and planting recommendations, contact your local Sea Grant Extension Program or USDA Soil Conservation Service Office.

Waterfront Access to the Lower Hudson River

by Stephen H. Lopez

Though the Hudson River and its valley are often used to define a geographic region, the river itself seems remote and inaccessible to many, if not most, of the citizens in the region. The irony of this situation is further underscored by the associations potential visitors have of an historic area with deep roots in the rich lore and history of the river from Henry Hudson, to the American Revolution, to the *Legend of Sleepy Hollow* and beyond. What has happened to the waterfront access so idyllically pictured as an unspoiled and readily accessible resource? And what can be done to restore a sense of ownership and control over access to the region's citizens? Two recent planning initiatives give insight into the current progress toward recapturing waterfront access through the involvement of NYS agencies. The local land use decision making process is also examined as the basic physical access planning mechanism.

In the *Hudson River Valley Study* prepared for the NYS Department of Environmental Conservation in 1979, by the private consulting firm of Raymond, Parish, Pine, Weiner, Inc., the primary river resource identified was the scenic quality. The authors state "the central thesis of this study . . . is that the entire viewshed of the Hudson River Valley is a scenic resource and worthy of protection." (p. 28). The study goes on to identify nodes of distinction and prioritizes improvements based on these nodes.

The study does briefly examine recreation which it finds hampered by access and water quality. Though boating, fishing and hiking are discussed, no mention is made of swimming or passive waterfront parkland uses other than scenic enjoyment. The study concludes that physical access will for all practical purposes be forever hampered by the presence of railroad tracks along the shore. The *Hudson River Valley Study* has spawned state action (The Heritage Task Force for the Hudson River Valley, Inc.) on preserving and enhancing scenic quality as that resource was targeted as the most important.

The NYS Coastal Management Program was in development at the time the *Hudson River Valley Study* was being prepared and has subsequently been enacted into law. The CMP seems to have come to the same conclusions as the earlier study in its description of the Hudson River estuary in the environmental impact statement. Outstanding scenery is again underscored as very important but lack of physical access is given scant mention and is characterized as a lost resource due to the essential economic importance of the railroad.

However, state CMP support of

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I Want More!

Please check the items which interest you and send to the Sea Grant Extension Program office **nearest** you (unless otherwise indicated). Checks should be made payable to **Cornell University.**

_____ ***Seafood: The Healthy Catch.*** 1985. Ken Gall, 2 pp. 1 Copy Free. (Order from the Sea Grant Extension Program in Plainview.)

_____ ***Handling Your Catch: A Guide for Saltwater Anglers.*** Information Bulletin #203. 1986. Ken Gall, 49 pp. $6.75. (Order from the Distribution Center, Research Park, Bldg. 7, Cornell University, Ithaca, N.Y.)

_____ ***Buying Hard Clams.*** 1985. Ken Gall, 3 pp. Single copy free. (Order from the Sea Grant Extension Program in Plainview.).

_____ ***Our Lake Ontario Sand Dunes: Their Value and Protection.*** 1985. The Ontario Dune Coalition. Free. (Order from the Sea Grant Extension Program in Oswego.)

_____ ***Stabilizing Sand Dunes with Beach Grass.*** 1981. R.B. Buerger. 15 minute video tape. 3/4" rental, $16.00. (Order from A-V Resource Center, Research Park, Bldg. 7, Cornell University, Ithaca, N.Y.)

_____ ***Managing Coastal Erosion Through Community Action.*** 1985. J. Tanski and D. Newton. 8 pp. $.50. (Order from the Sea Grant Extension Program in Stony Brook.)

_____ ***1985 Annual Report of Program Accomplishments.*** New York Sea Grant Extension Program. 1986. 24 pp., illustrated. Free.

_____ ***A Guide To Coastal Erosion Processes.*** Introduction Bulletin #199. 1986. C.R. O'Neill, Jr., 14 pp. $2.25. (Order from the Sea Grant Distribution Center, Research Park, Bldg. 7, Cornell University, Ithaca, N.Y.)

coastal access is stated in the coastal policy section of the environment impact statement. Here, policies 9 and 19 through 22 address various aspects of waterfront access. Policy 9 refers to fishing access, policy 19 to public recreation resource access, policy 20 to the publically owned foreshore access, policy 21 to encouragement of water dependent or enhanced recreation and policy 22 to access through new development. Though the CMP apparently did not forsee heavy utilization of policies 9 and 19 through 22 in the Hudson Valley, the framework established under the statewide plan did allow it.

The waterfront revitalization program component of the state CMP allows local communities to develop local management plans for future development of their coastlines. To date, 27 WRP grants have been awarded in the Hudson River Valley. As these 27 individual communities have developed their coastal management guidelines, many have addressed the state CMP access policies in meeting local concerns. In a very real sense, then, the future of physical waterfront access has been elevated by becoming a mandated public concern in local land use decisions.

From this review of two of the most influential planning initiatives in recent years addressing access to the Hudson River, it is clear that visual access has been identified as the major priority. However, many local communities and private businesses are finding ways to improve physical access as well. New private proposals are bringing the spector of dense residential development of the shoreline, sometimes in the form of high rises. Local communities, strapped for public funding for access, are exploring trade-offs with developers to achieve public access with private investments. The key issues in improving access have become how much, at what cost in aesthetic degradation, crowding, and social upheaval. Unfortunately, there are no fool proof charts for these treacherous waters. Emotions run high in local land issues. The needs communities face are often more in the arena of conflict resolution than technical design or aesthetic analysis.

In summary, NYS planning initiatives have paved the way for visual and physical access planning. However, it is the local communities with control over local land use decision making that are empowered to make the actual decisions on developing access to the Hudson River. There are many resources to assist local officials in this decision making role.

Eastern Lake Ontario Dunes

by David G. White

When many people visualize the shoreline of Lake Ontario, they conjure up scenes of high bluffs, drumlins, wetlands, marshes, estuaries and barrier bars, often omitting the coastal dunes of eastern Lake Ontario. One of the few sand dune systems of the Great Lakes is found along the eastern shore of Lake Ontario, stretching from Port Ontario north to the Black Pond Outlet.

Formed nearly 4000 years ago, the sand that has been deposited creating this coastal dune system provides protection to the coastal bays, ponds and marshes behind them. This important breeding area for many species of fish, waterfowl and wildlife provides habitat for some rare animals and plants including the common tern, black tern, piping plover and sand dune willow.

This magnificent geological area also provides excellent recreational opportunities for visitors. With nearly 50% of the dune system in public ownership, this area is available for our enjoyment. However, we need to be concerned with its preservation. With both nature and man impacting on the dune area, we need to minimize damage to this region.

As with most dune systems, those on eastern Lake Ontario are inherently unstable formations continually exposed to harsh environmental conditions. When damage is inflicted upon established dune vegetation by erosion or man, a dune can become quickly unstable and blow inland or adrift. Both public and private sector owners are continuing efforts to work with natural processes in stabilizing the dunes by planting beachgrass, putting up snow fences and using other means to preserve their property.

As mentioned, man's impact on the ecosystem of the dunes can be quite severe, whether caused by off-road vehicles, foot traffic, construction or mining. To minimize our impact when visiting the dune area of Lake Ontario, there are many things that can be done to help maintain the integrity of the dunes. Whether you're at the Deer Creek Wildlife Management area, Lakeview Wildlife Management area or Southwick's Beach State Park, you should:

- stay on marked trails and avoid climbing on the dunes
- do not remove any vegetation
- stay a safe distance from wildlife
- respect closed or posted areas
- keep vehicles off dunes

Also please note, the present state regulations on the 2 wildlife management areas allow hiking, birding, fishing, hunting, trapping and picnicking (not allowed on Lakeview) but do not allow swimming, camping, fires, or pets.

(Author's note: The information in this article was taken from a brochure developed by the Ontario Dune Coalition; a group of 25 state, county and private organizations concerned with the future of the eastern Lake Ontario dune system. For further information, see **"I WANT MORE."**)

Handling Your Catch *(continued from pg. 1)*
fish you catch.

A new N.Y. Sea Grant-Cornell Cooperative Extension Bulletin, **Handling Your Catch: A Guide for Saltwater Anglers,** is now available. Detailed information on basic fish handling, home storage and edibility characteristics for 25 marine finfish species, common along the northern and middle Atlantic coast, is included in this comprehensive guide for fish handling. Photographs and step by step instructions for bleeding fish, gutting round fish and flatfish, filleting fish and dressing common but underutilized species such as skates, dogfish, eels and blowfish (sea squab) are also included. Intended for use by all anglers — from the novice to the serious sport angler — this 50 page publication will serve as a valuable reference to anyone who enjoys sportfishing. For more information on ordering this new bulletin see the **"I WANT MORE"** section.

Annual Report Available

"Enhanced seafood production and harvesting . . ., improved marketing of fish and shellfish . . ., better informed decisions on seafood use . . ., a two million dollar new seafood industry," these are just a few of the many impacts and accomplishments found in the New York Sea Grant Extension 1985 Annual Report. Six areas of major emphasis, some additional and traditional efforts and a few new programs are highlighted. Organizational growth and change rounds out the report. See **"I WANT MORE"** for ordering information.

Sea Grant Sponsors New Research Projects in 1986/87

Part 1

New York Sea Grant Institute (NYSGI) is sponsoring 18 new research projects in 1986 and 1987, many of which are already well underway, according to Elissa Brown, NYSGI's Assistant Director for Research.

In the important field of fisheries development, NYSGI is sponsoring no fewer than four new research projects, involving eight investigators — four from the Marine Sciences Resource Center and four from Cornell University.

One of these projects involves the development of a behavioral model of Lake Ontario boat angling. It will be conducted by Tom L. Brown, Daniel J. Decker, and Harian B. Brumsted, all of the Department of Natural Resources at Cornell University.

"These researchers are testing and refining a model of angling that incorporates the anglers' motivations, attitudes, and expectations," Ms. Brown explained.

"Fishery managers need this information so that they can provide an angling experience that meets the needs and expectations of their customers."

The other Cornell-related fisheries project will be conducted by Paul R. Bowser, Associate Professor at the New York State College of Veterinary Medicine at Cornell. Dr. Bowser will be working to improve the diagnostic methodology for diseases of salmonids.

"The aim of this project is to produce a specific, sensitive diagnostic procedure for bacterial kidney disease in salmonids," Ms. Brown said.

"This may be a useful tool in further research on this type of disease and will be helpful in reducing losses experienced in hatcheries by salmon culturists."

In another area of fishery research, Robert Malouf and Glenn Lopez of MSRC are investigating behavior and behavior modifiers of crabs that are important shellfish predators.

"By advancing our understanding of the behavior of certain types of crabs that prey on shellfish, the research of Dr. Malouf and Dr. Lopez may help develop cost-efficient ways to reduce predation mortalities," said Ms. Brown.

This is especially important at a time when the hard-clam fishery in Long Island is under severe strain, she added. The two investigators have already started work on this project.

The other fishery research sponsored by Sea Grant at MSRC will be on the subject of the relation between oceanic spawning and the recruitment of juvenile bluefish to the U.S. Atlantic coast.

Conducted by D.O. Conover and R.M. Cerrato, this research will be useful to fishery managers concerned with controlling fishing and forecasting recruitment in the popular recreational and commercial fisheries for this species.

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Buying Hard Clams

Hard clams are well known for their role in the economic, culinary and historic traditions of Long Island. The hard clam fishery is the largest commercial fishery on Long Island, and locally harvested clams are a popular menu item at family and social gatherings, local restaurants and similar establishments across the country. Clams are popular because they taste good, and they are also nutritious. Clams supply approximately 10 grams of protein, less than 1 gram of fat, and average about 60 calories for a typical 3.5 ounce serving. Clams can also supply important vitamins such as B6, B12, biotin and niacin and are a good source of minerals such as phosphorus, potassium, iodine and fluoride. While no one food supplies all the necessary nutrients, clams and other shellfish can contribute important nutrients to the diet.

Hard clams can be prepared in many ways. Eating raw clams on the halfshell continues to be a popular way to consume them despite safety concerns that have been raised in recent years. As industry and commerce has grown on Long Island along with its resident and tourist populations, the quality of the water in some of Long Island's bays has deteriorated. The quality of water from which shellfish can be harvested is monitored. Harvesting clams from waters determined to be unsafe for shellfish harvesting is illegal. Those involved in harvesting, packing, shipping and selling clams must obtain a permit and keep records that help to further ensure that clams sold to the public are harvested from certified waters and handled properly. Despite these precautions incidences of shellfish-related illness have been traced to the consumption of raw clams. As a result, the New York State Department of Health has issued an advisory against the consumption of all raw shellfish. Certain risks are associated with the consumption of any raw food. For clams, these risks are associated with the potential for contamination from their environment. Consumers who are aware of the potential for illness and who know how to buy clams can help to minimize risks that may be associated with the consumption of raw clams. (For bibliographical and ordering details, see **"I WANT MORE".)**

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