

The Monie Bay Water Trails

Somerset County, Maryland



PARTNERS INVOLVED:

CBNERR-MD
Maryland DNR
Deal Island WMA

Somerset County
Chesapeake Bay Trust
Chesapeake Conservation Corps

ART & PHOTOGRAPHY

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CBNERR-MD

Welcome to the **Monie Bay Water Trails**, a network of three trails offering paddlers a unique view into the wildlife, plants, and maritime history of Monie Bay. These trails were created by the **Chesapeake Bay National Estuarine Research Reserve Maryland** (CBNERR-MD), part of the Maryland Department of Natural Resources. CBNERR-MD protects and manages over 6,000 acres of natural lands and waters in Maryland. These areas serve as living laboratories and classrooms to address key Chesapeake Bay issues. CBNERR-MD motivates students, teachers, and decision-makers to restore the Bay, with the knowledge and tools needed to do so effectively. Public and volunteer programs provide opportunities for all Marylanders to enjoy and understand the Bay.

The Monie Bay Water Trails were created to increase public access to Somerset's ecological resources and to offer a unique view into Monie Bay's salt marsh habitat. Signs along the trail provide navigational aid and indicate points of interest on the trail. The trail map is available online via downloadable PDF, which can be printed or viewed on a smart phone.

THE MONIE BAY COMPONENT

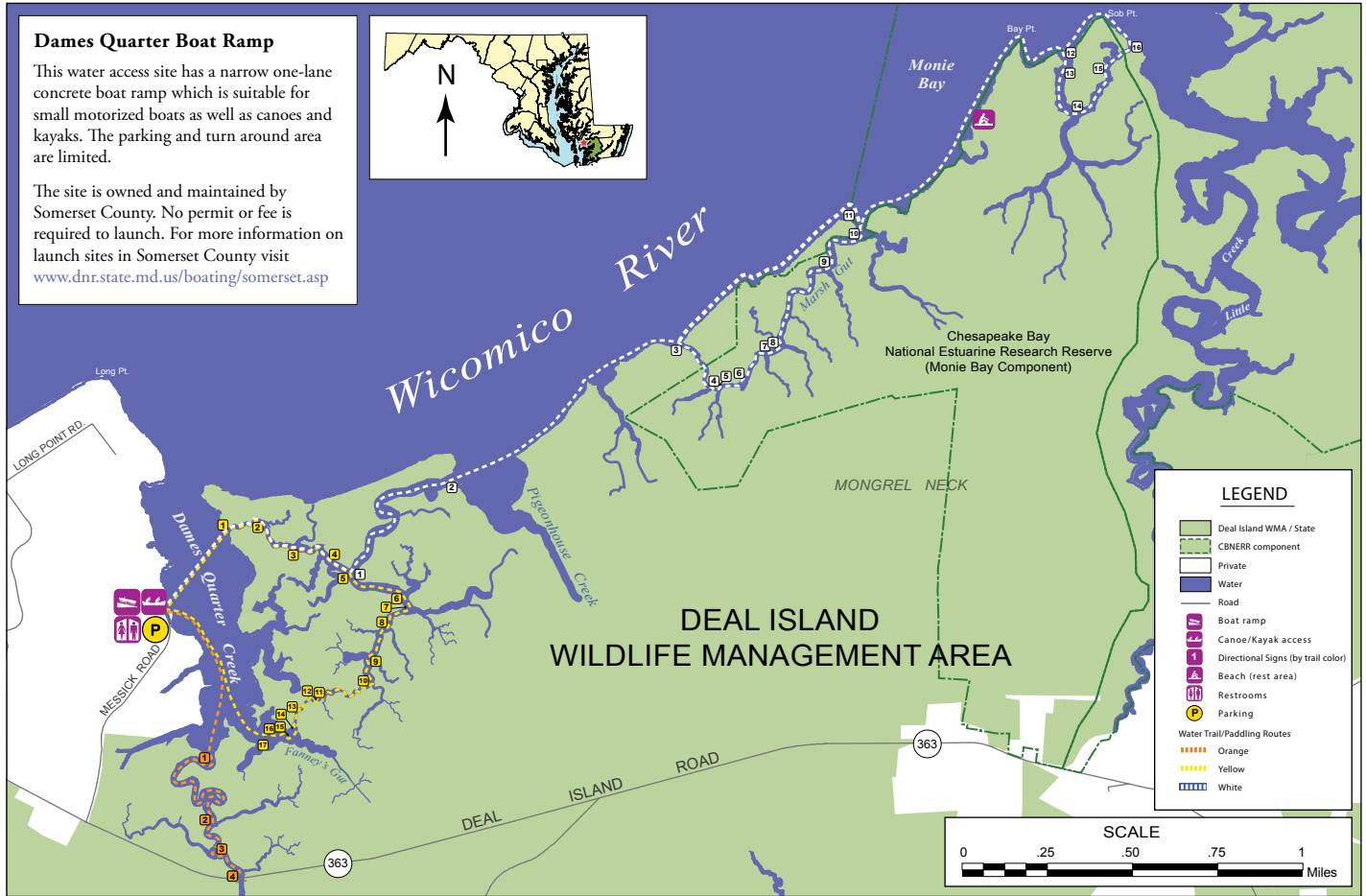
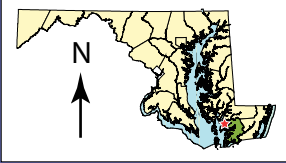
Monie Bay is a large and relatively undisturbed region which provides excellent habitat for wildlife and numerous opportunities for extensive wetland research. Tidal creeks including Monie Creek, Little Monie Creek, and Little Creek flow through the marsh and together constitute an **estuary**: a body of water where freshwater mixes with saltwater. The resulting marsh habitat is rich in natural resources, which numerous animals and plants rely on for food and shelter.

Part of the Monie Bay water trails are located within the **Deal Island Wildlife Management Area**, which provides public lands for hunting and fishing, as well as non-consumptive activities such as wildlife viewing and hiking. Due to its pristine conditions, Monie Bay is used for numerous CBNERR-MD-conducted research projects on marsh ecology. **SET's**, or surface elevation tables, are used to monitor sediment **accretion** or **erosion**. In other words, is the marsh growing or lowering? This is helpful in determining the resilience of the marsh, particularly in the context of climate change and sea-level rise. Other research conducted by staff and volunteers include water quality monitoring, vegetative studies, and barn owl banding. You may spot some of the **nest boxes** erected along the trail to provide roosting and nesting to this fascinating nocturnal bird.

Dames Quarter Boat Ramp

This water access site has a narrow one-lane concrete boat ramp which is suitable for small motorized boats as well as canoes and kayaks. The parking and turn around area are limited.

The site is owned and maintained by Somerset County. No permit or fee is required to launch. For more information on launch sites in Somerset County visit www.dnr.state.md.us/boating/somerset.asp



Monie Bay Water Trails at Deal Island Wildlife Management Area Somerset County, Maryland



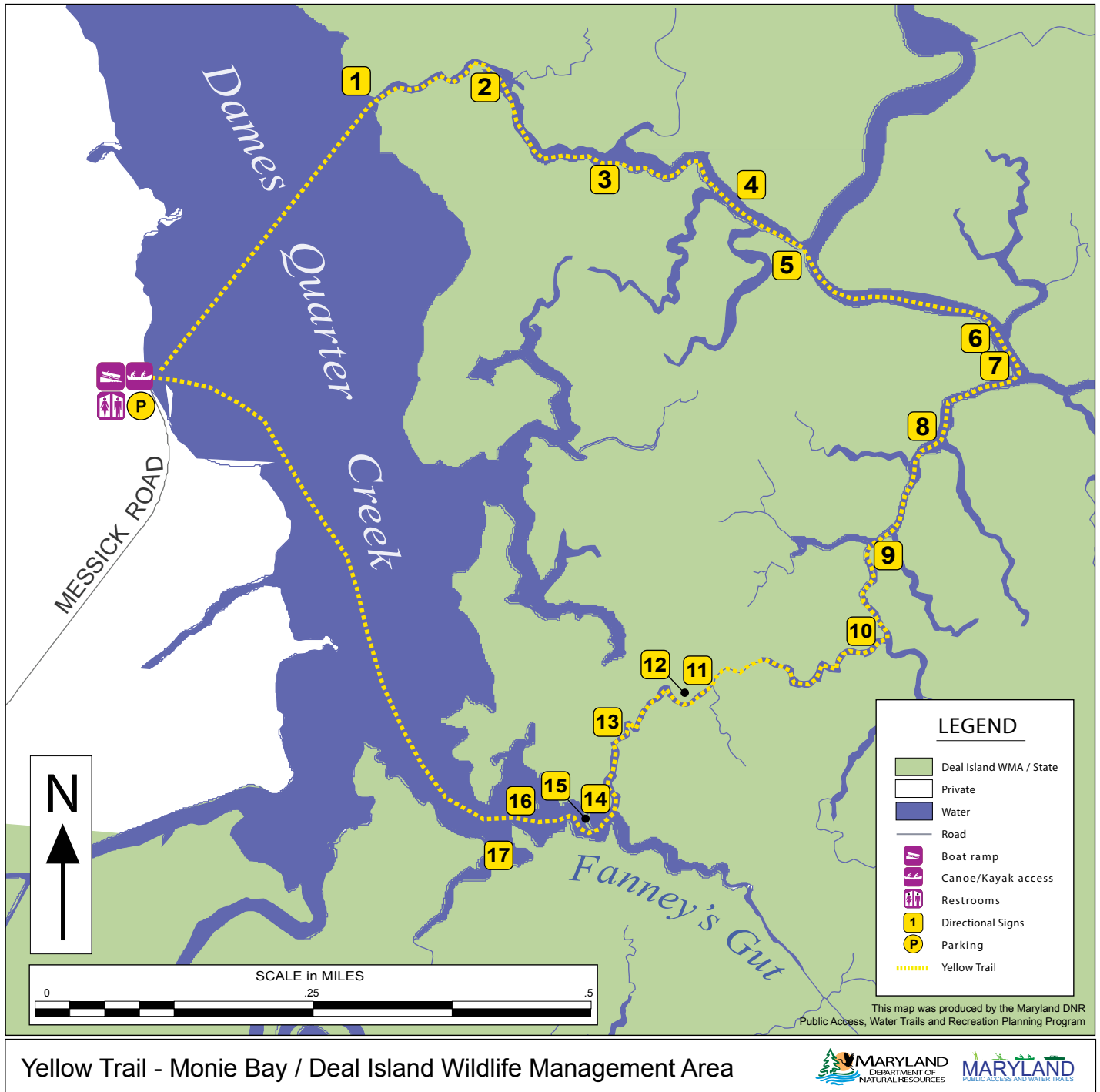
This map was produced by the Maryland Public Access, Water Trails and Recreation Planning Program - August 2014



The Monie Bay Water Trails includes three trails of varying difficulty. Each trail is equipped with signs indicating direction, trail color, and a number which can be used as a location reference with the trail map. Although signs can be used as navigational aid, a map or GPS-device is strongly recommended when paddling the trails. Signs also refer to points of interests discussed in the trail descriptions below. Wind conditions have a strong influence on the difficulty of all trails, as there is open water to cross in parts of these trails. Be mindful of weather and tidal conditions before undertaking a trail to ensure a safe and enjoyable paddling experience.

All trails begin at the Dames Quarter boat ramp, a no-fee public boat ramp open year-round. To get there take Deal Island Road (363) from Route 13, and follow for 10.8 miles until you reach Messick Road. Take this road until the end to find the ramp. The county provides a portable restrooms onsite from May 1st to November 30th.





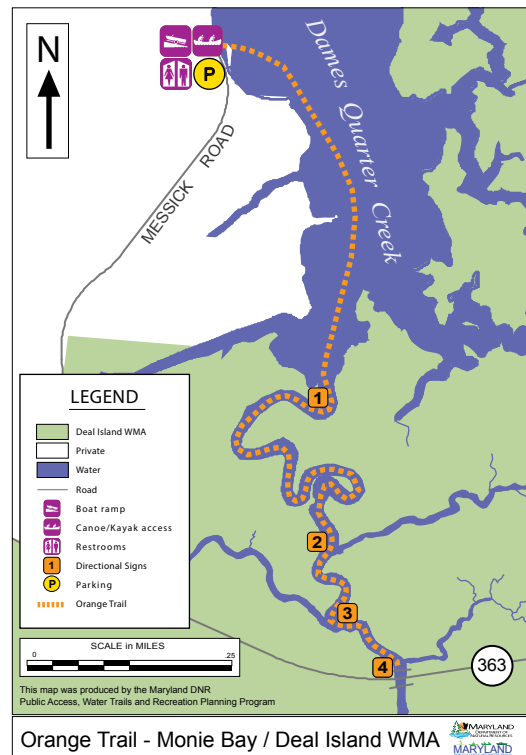
Fanneys Gut Trail: All Levels (Yellow, 2.3 mi., 2 hrs + to explore)

Head across Dames Quarter Creek to one of the entrances of this loop that takes you deep into the marsh. Find yourself secluded in calm narrow creek, with nothing but the marsh grass and the blue crabs to disturb you. This narrow zigzagging trail is great for sighting elusive wildlife: if you paddle stealthily around the trail's numerous bends, you are bound to encounter unsuspecting fauna. Find the muskrat lodge located around sign 3, and view the patch of salt meadow hay by sign 7, a grass once used by local farmers to graze cattle. Visit at the right time and you might spot black-crowned night herons from the rookery near sign 10. Notice the barn owl box near sign 17. Be respectful to any nesting birds and admire them from afar. Make sure the wind is in your favor at the exit of the trail if you take it North to South, it can be difficult to make the trek back across open water if the wind is blowing against you.



Marsh Gut & Bay Point Trail: Intermediate/ Advanced
(White, 5.56 mi. roundtrip 1st loop, 8.64 mi. 1st & 2nd loop, plan all day trip)

Looking for a challenge? Test your endurance with this long distance trail across Monie Bay. Along the way are multiple white sand beaches ideal for lunch breaks. Beginning with the northern section of the yellow trail, take a left to follow the white trail. You will pass a peregrine falcon tower. Paddle to the first loop for a half-a-day trip, or push to the Bay Point loop for a whole day trip. If the weather is friendly and the wind is tame, you will get to view a wide variety of landscapes formed by the meandering creeks. Look out for shorebirds such as sanderlings and willets along the beaches and sandbars you pass.



Dames Quarter Creek Trail: All Levels
(Orange, 2.7 mi. round-trip, 1 hr + to explore)

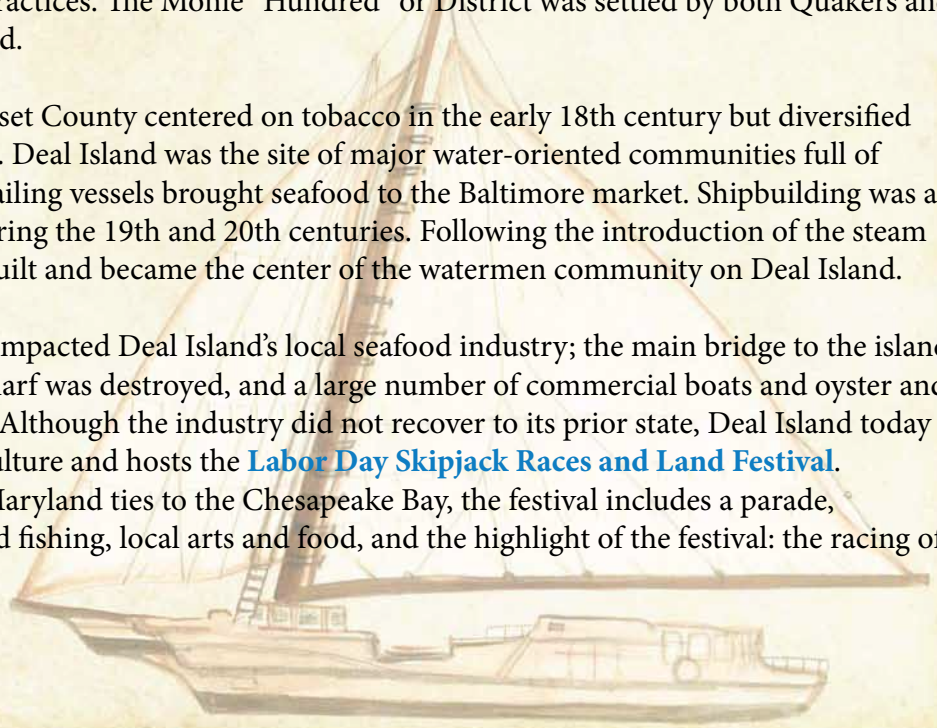
A friendly trail for novice paddlers, Dames Quarter Creek meanders widely across the marsh; in early summer when the vegetation is still low the paddler can see past the switchbacks to the trail ahead. Although short, this trail is a great introduction to the local wildlife: loud clapper rails call but stay hidden; marsh wrens and seaside sparrows dash among the grasses. The trail ends at the Deal Island Road Bridge; underneath are nesting barn swallows that will boldly swoop over your head. Past the bridge stands a water control structure installed by the Wildlife Administration in the 60's to control the flooding of the man-built impoundment south of the bridge.

LOCAL HISTORY AND CULTURE

Early human history in Monie Bay began about 13,000 years ago, when the Monie chiefdom of the **Nanticoke tribe** occupied the region. Colonial settlement began about 1665 with the movement of Quaker groups from the eastern shore of Virginia across the state line to Maryland seeking refuge from Virginia laws which prohibited their religious practices. The Monie “Hundred” or District was settled by both Quakers and members of the Church of England.

The plantation economy of Somerset County centered on tobacco in the early 18th century but diversified and prospered later in the century. Deal Island was the site of major water-oriented communities full of small businesses and watermen; sailing vessels brought seafood to the Baltimore market. Shipbuilding was an important supportive industry during the 19th and 20th centuries. Following the introduction of the steam boats, the **steamship wharf** was built and became the center of the watermen community on Deal Island.

A hurricane in 1933 significantly impacted Deal Island’s local seafood industry; the main bridge to the island was washed out, the steamship wharf was destroyed, and a large number of commercial boats and oyster and crab houses were badly damaged. Although the industry did not recover to its prior state, Deal Island today still supports a strong maritime culture and hosts the **Labor Day Skipjack Races and Land Festival**. A celebration local heritage and Maryland ties to the Chesapeake Bay, the festival includes a parade, competitions for boat-docking and fishing, local arts and food, and the highlight of the festival: the racing of the graceful historic skipjacks.



SALT WATER MARSHES

Saltwater marshes are recognized as incredibly productive ecosystems which are crucial to the health of the bay. As **transitional zones** between land and sea, marshes are frequently flooded by the variations of tide and rainfall, and thus experience rapid changes in salinity, water depth, and temperature. Salinity and tidal flooding determines which plants and animals thrive in the marsh. The tolerance of animals and plants to these changes determines whether they live in drier high marsh or the wet environment of the lower marsh. Many wildlife residents of the marsh have developed **adaptations** that make them particularly suited to wetland conditions.

Smooth cordgrass (*Spartina alterniflora*), is a great example of a plant exhibiting wetland-specific adaptations. The most common plant in the lower marsh, cordgrass leaves are narrow, thick, and resistant to the excess heat in summer marshes. Special glands enable it to secrete excess salts absorbed. The roots and stalks of cordgrass and other wetland grasses hold together the soil that composes the marsh ecosystem.

If you are an amateur botanist, try finding other plants you can identify in the Monie Bay marsh. Look for widgeon grass (*Ruppia maritima*, a type of submerged aquatic vegetation), salt marsh hay (*Spartina patens*), saltgrass (*Distichlis spicata*), and black needlerush (*Juncus roemerianus*).



MONIE BAY'S WILDLIFE

Traveling silently on water may be your best way to see the elusive but diverse wildlife that inhabits the salt marsh. The leaves and roots of wetland plants provide protection for crustaceans, fish, and birds. In the water and on the edge of the coast, you will easily find small invertebrates such as fiddler crabs, periwinkle snails, grass shrimp, blue crab and the American oyster. Many fish species, such as the white perch, menhaden and striped bass utilize the marsh as a **nursery**. The protection and food the marsh grasses provides help juveniles survive to adulthood. Other small fish which live in the Monie Bay site year round include killifish, skilletfish, and gobies.

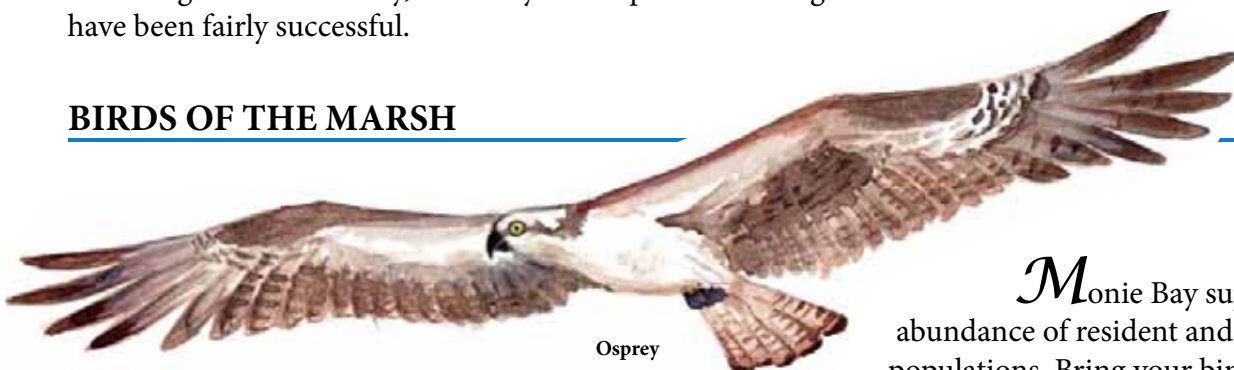
Reptiles and amphibians are often considered good indicators of ecosystem health due to their close association with aquatic habitats and their sensitivity to different stressors. At Monie Bay paddlers may see **diamond back terrapins** which lay their eggs at the marsh edge and forage at high tide, or the **northern water snake**, a large but non-venomous native snake.

Mammals are a rarer sight in the marsh. Small rodents such as marsh mice and voles remain in hiding for the most part but are important source of food for birds of prey. Larger rodents such as semi-aquatic river otters, muskrats and nutrias can be seen swimming, their heads skimming the surface of the water. **River Otters** are abundant in the nearby impoundment, and you can spot their tracks and slides on muddy banks. **Muskrats** build lodges from mud and vegetation, and in the winter they will feed on the insides of their lodges. **Nutria** can be easily recognized by their bright orange front teeth. Introduced from South America in the 1930's for fur ranching, this rodent is capable of inflicting significant damage to the marsh by digging up and eating the roots of vegetation and loosening soil. Fortunately, efforts by the Department of Agriculture to control nutria populations have been fairly successful.



Muskrat in lodge

BIRDS OF THE MARSH



Osprey

Monie Bay supports an abundance of resident and migratory bird populations. Bring your binoculars to be able to better observe these winged creatures without flushing them.

Most visible to the paddler are species like the great blue heron, the great egret, and the red-winged black bird, all year-long residents of the marsh. Depending on the time of the year, paddlers may spot various waterfowl species frequenting the marsh, such as Canada geese, mallards, black ducks and green-winged teal and **hooded mergansers**. Mergansers have a distinctive head crest, and hunt prey underwater by sight: the refractive properties of their eyes are able to change to improve their underwater vision.

Raptors are important predators in the marsh, preying on rodents, fish, and small birds. **Bald eagles** are often seen in Somerset County, and although enlisted as endangered in 1973, their population has recovered significantly enough to be delisted. **Ospreys** return to the marsh each spring from their wintering grounds in South America. Seeing them hunt for live fish by “dive-bombing” is quite a treat. If you are fortunate, you may even see a **northern harrier** gliding low above the marsh and listening for sounds of small mammals, its favorite prey. This hawk sports exceptional hearing due to its owl-like facial disk that amplifies sounds. **Barn owls** share similar hunting methods and prey with harriers, but hunt at night instead. The barn owl boxes set up around the Monie Bay marsh may enhance the chance of you seeing these nocturnal hunters, as owls will hunt more frequently to feed hungry chicks.



Barn Owl

Of particular importance are **wetlands breeding birds**, which depend on marsh communities for their reproduction and continued success. Common ones in Monie Bay include the clapper rail, the Virginia rail, the least bittern, and the pied-billed grebe. The **clapper rail** and **Virginia rail** probe for food in the water and mud with their long beaks. The **least bittern** is a small heron; its light weight allows it to straddle reeds to hunt prey above water otherwise too deep for it to wade in. The **pied-billed grebe** dives for prey, and when threatened it will quickly plunge out of sight. During breeding season, these birds flatten, collect, and anchor marsh grasses to create nesting structures, usually with a canopy, on the marsh floor or on top of floating vegetation. The **marsh wren**, another wetland breeder, weaves its nest higher above the marsh floor, but it is well hidden amongst dense vegetation and usually protected by a multitude of dummy nests.



Least Bittern

Many of these fascinating birds are unfortunately threatened by the destruction of coastal marshland habitat, and some populations are already decreasing. In 2008, the CBNERR-MD’s research and monitoring program began surveying secretive marsh birds within the three Reserve components, including Monie Bay. Volunteers visit eight surveying stations and play a recording of the breeding call of these birds, and wait to hear for a response. The main goal of this project is to document the current status and potential changes of these bird populations as indicators of marsh health.



ECOLOGICAL FUNCTIONS OF WETLANDS

Wetlands all over the world provide important ecological services to animals and humans alike. In addition to their role as a nursery ground for a large number of aquatic species, wetlands provide a **buffer** to coastal zones by absorbing some of the impacts from storm surges and erosion. Wetlands also offer protection from sea level rise, and many studies have been done that suggest **accretion** by wetland plants can balance the rise in sea level in certain coastal regions.

Wetlands are also **natural filters** for pollution: tidal marshes serve as major sinks of suspended sediments and nutrients derived from nearby watershed sources, as well as carbon dioxide. Marsh plants have the capacity to absorb and break up excess nutrients such as nitrogen and phosphorus which would otherwise pollute and increase the possibility of **dead zones**, areas too deplete of oxygen to support most marine life.

However, wetlands have a threshold in which they can no longer adjust to the cumulative impact of physical and chemical disturbances. Coastal wetlands are particularly at risk when development in or around its edges inhibit its expansion inland, and the rate of sea level rise may be too high for wetlands to adjust. Other disturbances include **non-point pollution** such as run-off, ditching and development nearby which alters surface water levels, and invasive species such as **Phragmites australis**. Phragmites, also known as the common reed, is an invasive non-native reed species which can out-compete native wetland plants. Characterized by a long towering stem ending in a grayish silky seed-head, phragmites form dense beds that contribute very little to the marsh food web.

It is important to maintain the health of our wetlands and reduce the amount of disturbances that increase wetland vulnerability to degradation. Fortunately, as wetlands are increasingly recognized as valuable habitat in coastal zones, protection of these ecosystems is on the rise.

paddling and Boating Safety Tips

- Always wear a properly-fitted, U.S. Coast Guard approved, lifejacket while on the water. (See Maryland Boating Regulations www.dnr.state.md.us/boating)
- Boating safety increases with numbers. Boat with others and carry a spare paddle.
- Know your route and any potential hazards along it. Review maps, navigation aids, and weather conditions or marine forecasts before launching. Be aware of obstacles you may encounter along the trails such as trees or sandbars.
- Dress appropriately for weather and/or water conditions, including air and water temperature. Wear protective footwear if you plan to wade.
- Never paddle farther from shore than you are prepared to swim and stay at least 100 yards away from all moving vessels, piers and other restricted areas.
- Carry a supply of food and water adequate for the length of your trip. Stay well-hydrated and protected from the sun year-round to minimize the danger of dehydration and heat exhaustion.
- Keep your weight centered and as low as possible at all times, especially when entering and exiting a boat. When paddling in wind, stay low. If your boat flips over, remain calm. Hold onto your paddles and the boat if possible. Try to reach a calm, shallow spot or the shoreline, then empty the boat and re-enter.
- Be alert to possible weather changes. Squalls and thunderstorms are common during the warm months, usually accompanied by temperature drops, increased winds and dark clouds. Get off the water immediately if you see lightning.

Maryland Boating and Fishing Regulations

Personal Flotation Devices: Boats propelled by oars or paddles are required to carry one PFD of either Type I, II, III, or V, for each person on board, regardless of length. All motorized craft 16 – 65 feet must carry a Type I, II, III, or V, for each person on board, plus one extra Type IV. Children under age 13 must wear a US Coast Guard approved PFD at all times in any boat under 21 feet. (MD State Law).

Boat Registration: All boats, whether commercial or recreational, must be registered in Maryland if it is equipped with any kind of primary or auxiliary mechanical propulsion; not currently registered with the U.S. Coast Guard (documented); and is being used principally in Maryland. Registering your vessel in Maryland involves applying for a Certificate of Title as well as a registration. For more information visit www.dnr.state.md.us/boating/registration.

Fishing Licenses: A Tidal Fishing License is required for both residents and non-residents to fish in the Chesapeake Bay and its tributaries. License holders are allowed to fish from January 1 through December 31. For more information on Maryland Sport Fishing and Crabbing Licenses visit http://www.dnr.state.md.us/service/fishing_license.asp.



Leave No Trace



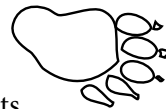
Please practice the following stewardship principles of Leave No Trace:

1) Plan Ahead and Prepare

- Know your route and the limitations of yourself and your group.
- Carry the proper equipment and clothing.
- Notify someone of the time you intend to return.

2) Stay in Designated Areas

- Keep to designated trails and public areas.
- Keep groups small and avoid trampling plants.
- Protect wildlife and your food - store rations securely.
- Leave recreation areas and picnic sites cleaner than you found them.



3) Properly Dispose of All Waste

- Clean fish at designated areas.
- Pick up litter and dispose of all waste in proper receptacles.



4) Leave What You Find and Be Considerate of Other Visitors

- Respect our natural and cultural heritage - leave all items as you found them.
- Keep noise to a minimum - enjoy the music of nature.
- Respect private property and the privacy of others.

For more information on Leave No Trace ethics visit www.lnt.org, call 1-800-332-4100, or contact your local resource managers for additional guidance.



Wildlife Viewing Ethics

- **Act responsibly** - Stay clear of nests, dens and rookeries. Do not touch or feed wild animals. Do not allow pets to interfere with wild animals.
- **Avoid getting too close** - View wild birds and other animals from an appropriate distance. If animals change their behavior, appear nervous, keep looking at you with head up and ears pointing toward you, or if the animal doesn't resume its normal activity, then you are too close.
- **Make your observation brief, then move on** - If you are looking at baby birds in a nest, fish in a pond, etc., remember that they can't leave and that you are interrupting normal behavior.
- **Don't chase an animal trying to get a better glimpse or photo** - Don't follow animals or behave in any way that might be seen as "harassment." And don't allow your pets to do it either.

- **Move quietly and slowly and use a blind if one has been provided** - Blinds, or hiding places for viewers, are sometimes built at popular viewing sites so that the movement of people does not distract the wildlife. Loud noises, sudden movements or an unannounced approach startles animals.
- **Do not use calls or whistles, or try to rouse animals in any way** - This can interrupt breeding cycles, drive birds from their territories, or make animals "call shy" so they don't respond to the real thing.
- **Divide large groups of people into small groups** - Small groups of people are less disturbing, usually talk more quietly, and tend to act in a more responsible way than big groups do.

