



FROG GOD GAMES ADVENTURES

HAZARDOUS HABITATS

Wetlands



SYSTEM
NEUTRAL

by Tom Knauss

PK

HAZARDOUS HABITATS

Wetlands

Author
Tom Knauss

Producer
Bill Webb

Project Manager
Zach Glazar

Editor
Jeff Harkness, Edwin Nagy,
Steven Wells, and Sean King

Layout and Graphic Design
Charles A. Wright

Cover Design
Jim Wampler

Front Cover Art
Terry Pavlet

Interior Art
Artem Shukaev

FROG GOD GAMES IS

CEO
Bill Webb

Creative Director
Matthew J. Finch

Chief of Operations
Zach Glazar

Production Director
Charles A. Wright

Special Projects Director
Jim Wampler

Customer Relations
Mike Badalato



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Wetlands

Geography is a series of segues connecting competing biomes to one another. On dry land, forests slowly transition to grasslands and then ultimately to deserts. The boundaries between each ecological system change over time as weather patterns shift, and the creatures dwelling in these habitats alter the environment to suit their specific needs. The same principle applies to the interplay between land and water. Without outside intervention, oceans, rivers, lakes, and streams are not surrounded by impenetrable stone walls or earthen dams distinctly separating aquatic and terrestrial neighbors.

Landmasses occupy fixed locations with varying topography of low-lying areas and extreme elevations, whereas the law of gravity governs their watery counterpart. Water sinks to its lowest point. It rushes in to submerge flat ground and depressions in the earth. Natural and manmade barriers such as higher ground and levees impede the liquid's progress and contain it. Elevated landmasses such as hills, plateaus, and mountains stand above the water level.

Yet over time, even the mightiest obstacles succumb to water's dogged determination. The relentless fluid slowly erodes all obstacles standing in its way and brings newfound territories under its dominion. The process is normally extremely slow, taking eons to come to fruition. However, rapid climate change, excessive rainfall over a compressed period, and violent storms can suddenly swell its ranks and vastly accelerate water's unstoppable march farther inland and to greater heights. In some instances, the water ultimately retreats when prevailing conditions stabilize. In other spots, the water irreversibly changes the surrounding landscape, turning formerly dry land into a morass of damp earth and stagnant pools.

By definition, wetlands are a natural community that is seasonally or permanently saturated by water. In this sense, natural is used to indicate that water normally overruns the landmass on a frequent and recurring basis rather than being caused by an extreme or infrequent event. Thus, a landmass alongside a riverbank that becomes submerged on an annual basis during the monsoon season fits the classification of a natural community, whereas a coastal region or a low-lying area that is flooded once every decade by a passing hurricane would not. To further distinguish wetlands from landmasses susceptible to sporadic flooding, wetlands must also display at least one of the following characteristics: They must support aquatic plant life for at least some portion of the year; their soil is predominately saturated with water, thus creating an anaerobic environment; or the sediment present at or near the surface is saturated with water or covered by shallow water during at least part of the growing season.

Wetlands act as a transition zone between bodies of water and landmasses. As such, they are substantially smaller in size than purely terrestrial biomes such as deserts and grasslands. The world's largest contiguous freshwater marsh, the Florida Everglades, encompasses roughly 4,200 square miles, whereas the world's largest wetland, the Pantanal in South America, encompasses a maximum area of 75,000 square miles. By comparison, the world's largest hot desert, the Sahara Desert, covers an area of 3.6 million square miles. There are many different wetlands throughout the world, but scholars generally classify all wetlands as belonging to one of the following four categories: swamps, marshes, bogs, and fens.

Although all wetlands have at least one of the properties discussed in the preceding paragraph, they differ greatly from one another in many respects. For instance, swamps and marshes can be saturated by saltwater, freshwater, or a combination of both depending upon their location. Bogs and fens always contain freshwater and can be found at elevations above sea level where swamps and marshes are extremely rare. Swamps, especially saltwater swamps, are usually found in tropical and subtropical regions adjacent to large bodies of water. Marshes typically occupy coastal areas in temperate regions, while bogs and fens usually form in colder environments where water remains in its liquid state, and it is still warm enough to support plant life. It is impossible for wetlands to develop in frozen lands, thus Antarctica is the only continent on Earth without

any wetlands. The depth of the water found in swamps and marshes is typically greater than that encountered in bogs and fens, so while it is possible to cross through a swamp or marsh on a boat, it is extremely challenging to do so atop their shallower counterparts.

Despite being saturated or completely submerged beneath standing water for at least some portion of the year, freshwater wetlands teem with life. They host a diverse array of fauna and flora specially adapted for this partially aquatic environment. Several species of trees, shrubs, grasses, and rushes thrive in the damp and often anaerobic soil. Likewise, amphibians, insects, reptiles, and mammals also make their mark on the land in their own way. Most habitats with an abundance of plants and animals attract humanoid settlers, yet wetlands are often an exception.

Virulent pests, particularly mosquitoes, breed in the stagnant waters covering the saturated soil, infecting unwary creatures with a multitude of deadly diseases. Large predators such as alligators and crocodiles swim through the murky waters, discouraging humanoid visitors from trespassing in their territory. Even the simple act of walking through the wetlands can be a laborious task of slogging through countless acres of deep, fetid mud and peat that can swallow an unwary passer-by with ease. It requires tremendous effort and immense resources to transform swamps, marshes, and mires into arable land. Water must be drained. Trees and shrubs have to be felled, and precautionary measures must be taken to prevent the dry land from reverting to wetlands during the next rainy season or cataclysmic weather event. Nonetheless innovative engineers have defied conventional thinking and fashioned marvelous cities from the saturated earth.

As with most massive civic projects, the reason for undertaking such an immense project boils down to the site's location. Wetlands are generally found close to vital waterways such as rivers, lakes, and oceans to facilitate commerce. Many settlements constructed in these regions serve as ports for ships and boats navigating the nearby trade arteries. For instance, the Aztecs built their grand capital city of Tenochtitlan atop a swampy island along the western shores of Lake Texcoco in central Mexico. Likewise, the magnificent city of Venice sprang up from the marshland that forms the Venetian Lagoon near the Adriatic Sea. Instead of building cobblestone streets within the metropolis, both civilizations relied upon causeways and boats to ferry people and goods throughout the city along its watery avenues.

However, humanity's intervention sometimes has unintended consequences. Wetlands serve a vital ecological role, especially in coastal regions. Draining swamps and marshes to eradicate breeding grounds for disease-carrying mosquitoes and to make more acreage available for farming seem to be in the public's best interests. Yet this biome plays a crucial role in protecting coastal regions from devastation, as best exemplified in modern times by the destruction Hurricane Katrina wrought during the storm's march through Louisiana in 2005. Ideally, wetlands function as immense sandbags. They absorb floodwaters from storm surges and prevent them from reaching settled areas farther inland. Manmade projects primarily during the last two centuries destroyed large swaths of the wetlands surrounding New Orleans, depriving the city of a significant portion of its natural defense against storms, which left it more vulnerable to flooding. Conversely, wetlands release their excessive stores of freshwater during periods of prolonged drought, replenishing vital aquifers and groundwater supplies that provide humanoid settlements the water they need for irrigation and drinking. In addition, wetlands naturally filter pollutants and other contaminants from the water. These unwanted particles settle at the bottom of the marshes where they become trapped beneath subsequent layers of silt and sediment. Some of the microorganisms inhabiting these murky depths feed on the phosphorous typically found in these toxic compounds further mitigating the damage they can cause.

Still, these benefits are not enough to eliminate the negative stereotypes surrounding this essential ecosystem. By and large, humanoids view wetlands

— swamps and bogs in particular — as foreboding, inhospitable hellholes plagued by rampant pestilence, voracious beasts, dark magic, oppressive humidity, and the foul stench of decay. Fortunately, adventurers are a different breed than the common man. Inquisitive minds and brave souls never allow commonly held perceptions and old wives' tales to stop them from venturing into this hybrid domain of land and water in search of the answers to age-old mysteries and wondrous treasures long forgotten beneath the brackish waters. Those who succeed in their endeavor emerge wealthy and triumphant, while those who fail meet their end in a watery grave.

Location, Location, Location

As the old real estate adage goes, geography plays a critical role in the creation and continued survival of any wetland. The landmass's proximity to water, its elevation in relationship to the surrounding topography, and rainfall are the three key components in determining whether the area remains dry or becomes a wetland. The land must receive enough rainfall or have enough stored water to saturate the soil and also support plant life. In the vast majority of cases, several processes work in tandem. Frequent downpours overflow the banks of swollen rivers, lakes, and streams,

causing their excess water to spill into the wetlands. However, regions that receive little to no rainfall, such as a hot and dry desert, can support wetlands under the right conditions. Reeds, grasses, and grains may take root along the banks of an oasis or a river carving a path through the arid sands. Still, these examples are a rarity, as most wetlands conform to the conventional model of experiencing high humidity and ample rainfall.

The most prevalent types of wetlands, swamps, and marshes are found only in areas adjacent to large bodies of water such as oceans, rivers, seas, and lakes. Furthermore, these wetlands are just slightly above sea level, which prevents the water from completely draining out of these wetlands, and also ensures the water level does not reach a height that would prevent all aquatic plants from growing in the region. As an example, no point in the Florida Everglades, the world's largest sawgrass swamp bordering the Atlantic Ocean and Gulf of Mexico, is higher than seven feet in elevation. Likewise, the swamps dominating large swaths of Louisiana are slightly above sea level and are also near the Mississippi River and the Gulf of Mexico. Swamps and marshes are not found in coastal regions where the elevation is substantially higher than sea level. For instance, in the United States, swamps and marshes are predominant along the low-lying Southeastern and Mid-Atlantic coastlines bordering the Atlantic Ocean along with the Gulf Coast, but there are significantly fewer marshes and



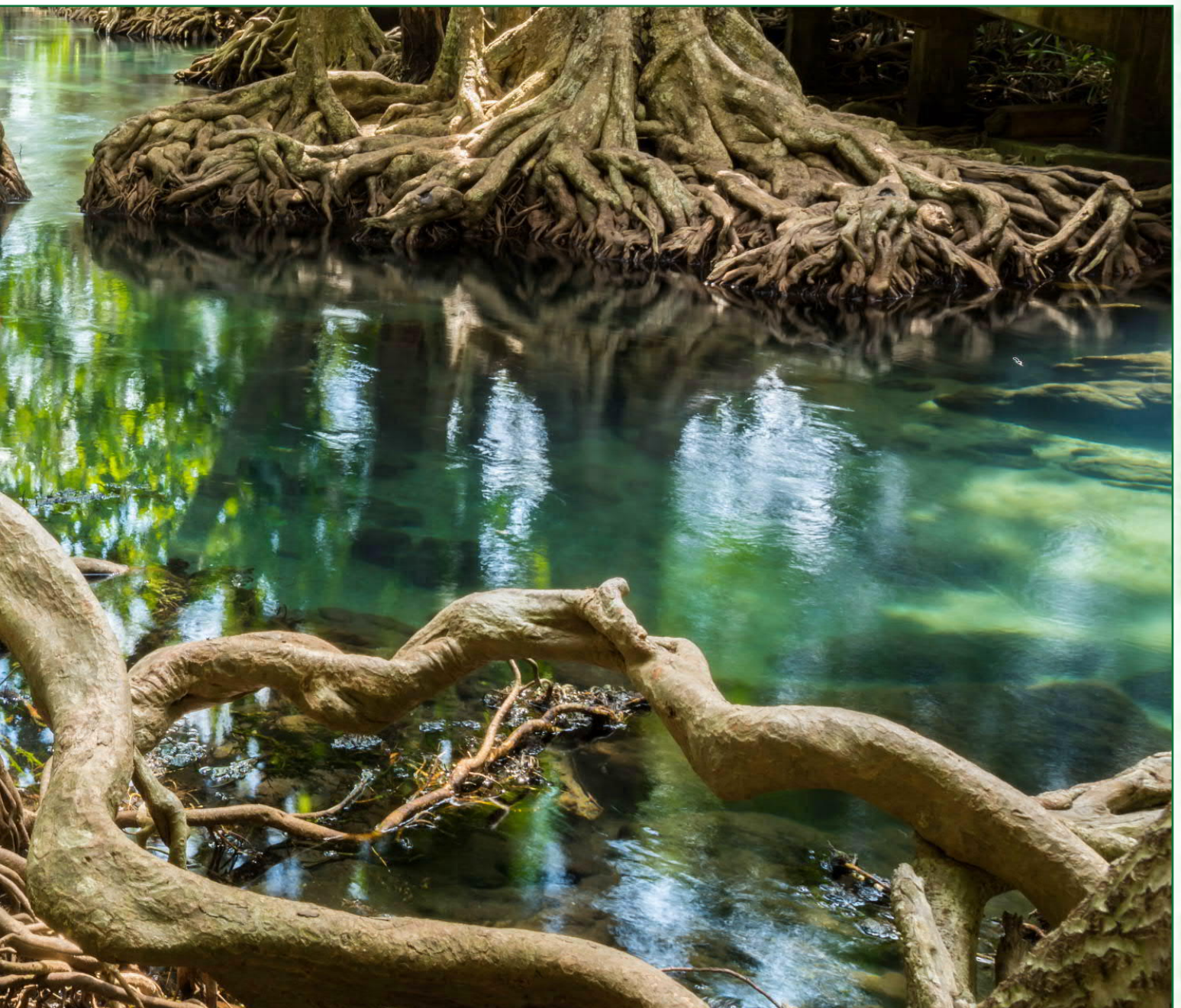
swamps along the hilly and mountainous western United States adjacent to the Pacific Ocean.

Bogs and fens differ from swamps and marshes in the respect that their existence is more dependent upon their elevation in relation to the surrounding landscape than their actual height above sea level. In fact, it is not uncommon to encounter bogs and fens at elevations in excess of 1,000 feet. Like a desert oasis, bogs and fens are depressions in the earth akin to basins. Instead of being fed by adjacent large bodies of water, these two wetlands collect copious amounts of rainfall, water runoff from nearby higher elevations, and groundwater to fill their reservoirs. While they do not directly rely upon large bodies of water for moisture, these wetlands can exist only in a chilly, humid climate subjected to ample quantities of precipitation. Deserts and other semi-arid regions are too warm and dry to support these particular types of wetlands. Bogs and fens need cool temperatures because they rely upon decaying organic matter that falls into the basin to absorb and retain moisture just like a sponge. If the area is too hot and dry, the sunlight and heat rapidly evaporate any standing water and quickly desiccate the rotting plant material, making it too brittle to serve its necessary purpose.

Game Applications

Wetlands serve as a bridge connecting the cities and towns found on dry land to the vital waterways linking settlements to the rest of the world. Marshes and swamps surround most major ports as well as the nearby riverbanks, coastal regions, and lakebeds. It is not uncommon for wetlands' residents — humanoids, animals, and monsters alike — to prey on explorers and commercial traffic passing through this rugged domain. Inexperienced boat captains navigating these shallow and confusing channels sometimes run aground on the mud or become hopelessly lost amid the tangle of watery arteries crisscrossing the wetlands. The treasures resting within these sunken vessels often remain undisturbed for years beneath the cloudy waters. Some bold creatures take matters into their own hands and venture outside the safety of wetlands to ply their nefarious crafts in neighboring communities. When they complete their intended mission or face superior opposition, the cunning predators slink back to the murky depths of their semi-aquatic abode.

Mastery and knowledge of the terrain give the wetlands' inhabitants a decided tactical advantage over tenderfoots making their first foray into this uncharted world. Nonetheless, the frenetic drone of insects, eerie flickers of pulsating light, the sight of glowing eyes atop the water's



surface, and the unnerving sound of splashing water cannot dissuade seasoned adventurers from delving into the muck and mire in pursuit of wayward mariners, evildoers, and fantastic riches.

Types of Wetlands

To the novice outdoorsman, all wetlands look, and unfortunately, smell alike. Dirty water, moss-covered plants, and malodorous mud are the only features visible to the untrained eyes and nose. Closer scrutiny and some expertise in the science of botany unearth the finer details that distinguish one variety of wetlands from its counterparts. No one can tell whether a particular wetland contains saltwater, freshwater, or a combination of both by looking at the water itself, but an onlooker familiar with the types of plants that flourish in these semi-aquatic environments can easily make the important distinction. Flora is the defining factor when classifying wetlands. In simplest terms, swamps are wetlands dominated by woody plants, whereas marshes are wetlands where soft-stemmed vegetation such as grasses and rushes are most prevalent. Both varieties can support a saltwater or freshwater system. Mires, which include bogs and fens, are exclusively freshwater wetlands. Correctly classifying bogs and fens requires closer examination than swamps and marshes. In the preceding case, the mire's water source generally determines whether a particular tract of land is a bog or a fen. When a character learns the basic characteristics of the various wetlands, proper identification of such becomes considerably easier.

It is not unusual for people to use alternate names for a particular type of wetland. For instance, swamps are often referred to as bayous in Louisiana. The following table lists some of the alternate names used to describe several wetlands.

Table 3-1: Alternate Wetland Names

Type of Wetland	Alternate Name
Swamp	bayou ^a , morass, slough
Marsh	delta ^a , morass, moor
Bog	mire, muskeg, swamp, quagmire
Fen	moor

^a It is important to note that bayous and deltas refer to bodies of water rather than landmasses. Although they are often mistakenly used as synonyms for swamps and marshes, they are not actual wetlands.

Swamps

In the minds of most casual observers, the terms wetlands and swamp are synonymous. Indeed, all swamps are wetlands, but the reverse statement that all wetlands are swamps is wholly inaccurate. As previously mentioned, swamps are wetlands dominated by woody plants, whereas marshes are wetlands where soft-stemmed vegetation is the most prevalent type of flora. In a basic sense, swamps are flooded forests where the floodwaters never completely recede back to their former banks for an extended period of time. They are further subdivided into tree and shrub swamps, as well as being classified based upon the salinity of the water. Swamps are the only variety of wetlands that may be covered by a tree canopy, a trait that partially or in some cases totally blocks the sun for much of the daytime hours and then plunges the area into total darkness when dusk falls. The wetlands' green roof roughly duplicates an artificially built ceiling, giving explorers the false sense that they are traveling through an enclosed, claustrophobic tunnel. It is perhaps this feature, above all others, that explains why swamps are often considered dark mysterious places teeming with savage beasts and wicked monsters.

Swamps are almost always found adjacent to the ocean, sea, gulf, river, lake, pond, or stream providing their water supply. The vast majority of swamps are found at elevations slightly above sea level in coastal regions bordering bodies of water. However, swamps can exist at altitudes well above sea level under the right conditions. These swamps are typically encountered in ravines, where water runoff from rain and snowmelt creates streams and brooks that feed a partially submerged forested region. Still, these exceptions

are rare and pale in size and diversity to the considerably more common low-lying swamps bordering significantly larger bodies of water.

The type of water in the adjacent body of water determines whether saltwater or freshwater saturates the land. Saltwater swamps spring up in coastal regions bordering a large saline body of water such as an ocean, sea, or lake. The iconic mangrove, a shrub with a high tolerance for salt, dominates these wetlands. Unlike conventional plants, this shrub's roots protrude above the soil but also extend above the surface of the water, making it appear the mangrove is a tightly bunched cluster of smaller shrubs rather than a lone individual. This plant serves a crucial purpose in saltwater swamps. Its tangled web of roots, which resembles a wooden cage, traps sand and other organic material washed ashore by the tides. In this way, the mangrove literally builds land. Mangroves that collect enough sand and debris create small islands known as hummocks. These makeshift landmasses turn the swamp into an expanse of twisting, watery corridors winding around the mangroves. Yet the roots also serve another vital use for this delicate ecosystem. Shrimp, barnacles, oysters, worms, and protozoa — the creatures occupying the bottom rung of the saltwater swamp's food chain — feed on the rotting plant matter captured in the tendrils of the mangrove's roots. The abundant supply of prey attracts birds, fish, and other animals to the region, including the saltwater swamp's apex predators, the crocodile and the tiger. While the mangrove can thrive in saline environments where few other woody plants could endure, the shrub's weakness lies in its inability to withstand cooler weather. Thus, saltwater swamps are exclusively confined to tropical and subtropical regions where warm temperatures and frequent rainfall are the norm throughout the year.

Characters trekking through the saltwater swamp encounter different terrain depending upon the season. During the rainy season, the ground turns into a muddy quagmire ensnaring vehicles and slowing overland movement to crawl. The rising water table also submerges large swaths of territory under the cresting waters, though it may facilitate waterborne travel in areas where it would be otherwise impossible. The dry season offers moderate relief, but the earth usually remains soft and yielding. The following table describes the vegetation and ground conditions found within the surrounding 2d4 miles in the saltwater swamp based upon the season. When consulting this table, the GM rolls percentile dice for each feature to determine if it is present in the area. One or more types of terrain and/or vegetation may coexist in the same general area, though certain features negate the effects of others as described in the following table. Difficult terrain, as described in this table, only applies to determining the actions a character can take when moving through an area containing this feature rather than its effect on the creature's speed.

Table 3-2: Saltwater Swamp Vegetation and Terrain Type by Season

Vegetation and Terrain	Rainy Season	Dry Season
Mud ^a	95%	60%
Mangroves ^b	40%	30%
Shrubs ^c	20%	50%
Shallow water ^d	20%	10%
Deep water ^e	40%	20%

^a Mud reduces overland speed by half and halts all wheeled vehicles in their tracks. If there is no mud, the ground is soft and yielding during the rainy season and firm soil during the dry season. Soft and yielding earth reduces overland speed by half and wheeled vehicle speed by three-quarters. Firm soil has no effect on overland speed or wheeled vehicles. Areas containing shallow water or deep water completely cover the mud and negate its effects on movement. Areas containing mud are treated as difficult terrain, if applicable.

^b If mangroves are present, the plants reduce overland speed by half, halt all wheeled vehicles in their tracks, and prohibit all other shrubs from growing in the area. Areas containing mangroves are treated as difficult terrain, if applicable.

^c Shrubs cannot cohabitate areas with mangroves or deep water. They have no effect on overland speed, but areas containing shrubs are treated as difficult terrain, if applicable.

^d Shallow water is one foot or less in depth. It reduces overland speed by half and halts all wheeled vehicles in their tracks. Watercraft with a draft greater than the water's depth automatically run aground while those with a draft greater

than 1d4 inches have a 50% chance of running aground per 100 feet traveled. If shallow water is present, the area cannot also contain deep water. Areas containing shallow water are treated as difficult terrain, if applicable.

° Deep water reaches a depth of 2d4 feet. It reduces overland speed by three-quarters and halts all wheeled vehicles in their tracks. Charging and running are impossible for creatures whose height is less than five times the water's depth. Creatures not tall enough to keep their heads above water risk drowning, though they benefit from cover, if applicable. Watercraft with a draft equal to or less than half the water's depth can safely navigate through deep water. Watercraft with a draft greater than half the water's depth but less than its depth have a 50% chance of running aground for every 100 feet traveled, while vessels with a draft equal to or greater than the water's depth automatically run aground. Areas containing deep water are treated as difficult terrain, if applicable.

The GM may consult the following table to determine the fauna, flora, and random events the characters may encounter during their journey across the saltwater swamp. These items may be used solely as wilderness dressing, to plant the seeds for an upcoming adventure, or as an interesting side trek.

Table 3-3: Saltwater Swamp Flora, Fauna, and Random Events

d20	Encounter
1	Barnacles cling to the roots of a tightly packed cluster of mangroves.
2	Discarded oyster shells litter the mud in an overgrown hummock.
3	Two crabs fight over what looks like a human finger.
4	A conical conch shell lies on the ground, a good distance from the closest body of water.
5	A broken oar floats on the water's surface.
6	Shrimp swim near the surface, where they feed on some invisible food source.
7	A school of fish appears to be spawning in an inlet.
8	Several species of mangrove trees cohabitate the same patch of submerged land.
9	Mangrove roots captured a necklace made from black mussel shells.
10	A baby crocodile playfully rolls around on its back while kicking its stubby feet in the air.
11	Several herons perched atop the mangrove trees try to crack the shell of a large mussel they presumably dragged out of the water.
12	A baby shark swims around a mangrove shrub's stilted roots.
13	Numerous molted snail shells litter the shoreline.
14	Jellyfish infest the waters separating the hummocks.
15	A fiddler crab carries a rival's severed claw in its pincer.
16	Knots of snapped fishing lines are tangled in a mangrove tree's root structure.
17	A kingfisher soars overhead, scanning the shallows and branches for potential prey.
18	An ibis wading in the shallow water wears a hieroglyphed collar around its neck.
19	The needle of a broken compass partially buried in the mud points to the southeast.
20	A sea trout leaps out of the water and catches a flying insect in its mouth.

Freshwater swamps are typically encountered farther inland where cresting rivers, lakes, and streams inundate the soil with floodwaters. A more diverse collection of water-resistant trees and shrubs make up the flora found in a freshwater swamp. Cypress, red maple, water tupelo, willow, and several varieties of oak, including the pin oak and the overcup oak, are some trees that grow in the soaked earth. Moss also clings to these arboreal giants' overhanging branches, while tiny plants known as duckweed bob atop the water's surface. In addition to withstanding the ravages of near-constant exposure to water, many of these trees can endure colder temperatures. Thus, freshwater swamps can exist in tropical, semitropical, temperate, and boreal climates. Shrubs such as buttonbush, dogwood, cabbage palm, and swamp rose may coexist with their larger woody cousins, or they may be the dominant plant species in the swamp. Scholars sometimes classify such wetlands as a shrub swamp to distinguish it from the more prevalent tree swamp. Other types of flora, such as water lilies and arrowroot, are also common in this environment. As in the case of saltwater swamps, numerous small shellfish, insects, rodents, birds, frogs, and other animals make their abode in this damp, muddy terrain. Humanoids often associate one voracious predator with this soggy environment: the fearsome alligator. These creatures are right at home in the murky waters and filthy earth. However, they are not the freshwater swamp's only terrifying hunter. Panthers, snakes, bears, and foxes also prowl on the land and in the water.

Characters trudging through the freshwater swamp encounter different obstacles than those present in the saltwater swamp. The following table describes the vegetation and ground conditions found within the surrounding 2d4 miles in the freshwater swamp based upon the season. When consulting this table, the GM rolls percentile dice for each feature to determine if it is present in the area. One or more types of terrain and/or vegetation may coexist in the same general area, though certain features negate the effects of others as described in the following table. Difficult terrain, as described in this table, only applies to determining the actions a character can take when moving through an area containing this feature rather than its effect on the creature's speed.

Table 3-4: Freshwater Swamp Vegetation and Terrain Type by Season

Vegetation and Terrain	Rainy Season	Dry Season
Mud^a	90%	50%
Trees^b	40%	40%
Shrubs^c	10%	10%
Undergrowth^d	20%	30%
Shallow water^e	40%	20%
Deep water^f	20%	05%

^a Mud reduces overland speed by half and halts all wheeled vehicles in their tracks. If there is no mud, the ground is soft and yielding during the rainy season and firm soil during the dry season. Soft and yielding earth reduces overland speed by half and wheeled vehicle speed by three-quarters. Firm soil has no effect on overland speed or wheeled vehicles. Areas containing shallow water or deep water completely cover the mud and negate its effects on movement. Areas containing mud are treated as difficult terrain, if applicable.

^b Trees found in freshwater swamps include the cypress, poplar, and oak. The tree's trunk provides cover, if applicable, to any creature behind them. When trees are present, each individual tree is 1d4+1 x 5 feet away from the its closest neighbor. Trees have no effect on overland speed, but they reduce the speed of wheeled vehicles and waterborne vehicles in half.

^c Shrubs cannot cohabitate areas with deep water. They have no effect on overland speed, but areas containing shrubs are treated as difficult terrain, if applicable.

^d Undergrowth includes vines, roots, and soft-stemmed vegetation covering the swamp floor. These plants cannot cohabitate areas with deep water. Undergrowth has no effect on overland speed, but areas containing vegetation are treated as difficult terrain.

^e Shallow water is one foot or less in depth. It reduces overland speed by half and halts all wheeled vehicles in their tracks. Watercraft with a draft

greater than the water's depth automatically run aground while those with a draft greater than 1d4 inches have a 50% chance of running aground per 100 feet traveled. If shallow water is present, the area cannot also contain deep water. Areas containing shallow water are treated as difficult terrain, if applicable.

^f Deep water reaches a depth of 1d3+1 feet. It reduces overland speed by three-quarters and halts all wheeled vehicles in their tracks. Charging and running are impossible for creatures whose height is less than five times the water's depth. Creatures not tall enough to keep their heads above water risk drowning, though they benefit from cover, if applicable. Watercraft with a draft equal to or less than half the water's depth can safely navigate through deep water. Watercraft with a draft greater than half the water's depth but less than its depth have a 50% chance of running aground for every 100 feet traveled, while vessels with a draft equal to or greater than the water's depth automatically run aground. Areas containing deep water are treated as difficult terrain, if applicable.

The GM may consult the following table to determine the fauna, flora, and random events the characters may encounter during their journey across the freshwater swamp. These items may be used solely as wilderness dressing, to plant the seeds for an upcoming adventure, or as an interesting side trek.

Table 3-5: Freshwater Swamp Flora, Fauna, and Random Events

d20	Encounter
1	An opossum wears a strand of beads around its neck.
2	An abnormally long strand of moss shaped into the likeness of a noose clings to an overhanging cypress limb.
3	A massive cypress knee protrudes four feet above the ground.
4	Black mud teeming with decaying roots and plant material exudes an unbearable stench.
5	Two frogs sitting on rotting stumps incessantly croak at each other.
6	A tupelo tree stands alone amid its cypress brethren.
7	An alligator impaled one of its teeth into the eyelet of a waterlogged, leather shoe still stuck in its mouth.
8	Flecks of silvery material embedded in a lump of coal reflect the sunlight peeking through the swamp's canopy.
9	Pieces of a sundered raft bob on the water's surface.
10	Torn strips of linen lie on a riverbank.
11	Duckweed floating on the surface forms the likeness of a large flower petal.
12	A panther cub frolics in the water.
13	Leeches cling onto flotsam floating in the water.
14	A black bear scales the trunk of a cypress tree and sticks its furry paw into a beehive.
15	Pieces of a sundered crate lie in the mud. The carved image of a winged fish is visible on one of the planks of warped wood.
16	Someone nailed a mummified ear onto a nearby tree trunk.
17	Someone arranged mussel shells into a semicircle glued onto a nearby tree trunk.

d20	Encounter
18	A bubble seeps up from below the ground, releasing green vapors bearing a horrid stench.
19	Lizards gather around a mound of decaying vegetation.
20	An abandoned fishing pole and tackle box rest at the water's edge.

The swamp's reputation as an inhospitable land teeming with dangers is so pervasive that even the most desperate refugees travel miles out of their way to circumvent this dark, godforsaken, stifling realm. Indeed, the biome's wild animals, contagions, and intense heat have felled countless explorers throughout the course of history. Yet despite the numerous hazards, many intrepid humanoids successfully make a go at life in this semi-aquatic environment. The wealthiest and most-advanced civilizations possess the engineering skills and financial resources to hew trees, drain water, and reclaim arable land on a grand scale as the Aztecs did when they built Tenochtitlan. On the other hand, a strategically placed dam or a bulwark of levees placed around a slightly elevated tract of land may be sufficient to transform acres of saturated dirt into arable land able to support wooden homes in addition to crops and livestock.

However, the vast majority of swamp communities lack the money, manpower, and materials to undertake civic projects of massive proportions. Floodwaters and storm surges are a constant danger to these settlements' long-term survival, especially in coastal areas that feel the recurring wrath of hurricanes and regions vulnerable to recurrent flash floods. Erecting permanent structures on hummocks and parcels of land that are periodically dry is an extremely risky proposition even without the potential for violent storms. The low water table makes excavating underground complexes impossible without powerful magic. Instead, architects must look up for solutions to these complex design problems.

The swamp's numerous trees tower over the water, allowing construction crews to use their water-resistant trunks to create arboreal communities. Crude bridges and hanging vines then connect the residences to one another. Stilts offer another ingenious alternative to this dilemma. These incredibly long poles carved from water-resistant wood are pounded deep into the wet ground and serve as the foundation for the elevated structures they support. These support beams reach an average height of 10 feet above the water. A permanent dock affixed to wooden stairs, a ladder, or a knotted rope links the elevated structure and the surface. Crude bridges sometimes connect neighboring buildings to one another and a shared pier. These aboveground spans can evolve into a sophisticated network of highways similar to a conventional city grid.

When adventurers encounter humanoids in a predetermined location or in a randomly generated community near a body of water or a road (see **Tables 3-35 through 3-45** inclusive), the population size affects its demographic makeup as reflected in the following table.

Table 3-6: Population Effect on Demographics

Population	Modifier
Fewer than 50	-4d10
51-200	-2d10
201-2,000	none
2,001-5,000	+2d10
5,001-15,000	+4d10
15,001-30,000	+6d10
31,000+	+8d10

After determining the modifier based upon the population size, the GM may then apply that modifier to the following table to determine the demographics of a saltwater or freshwater swamp community.

Table 3-7: Humanoid Demographics

d100	Racial Makeup
<31	Exclusively Homogenous: Everyone is a member of the same humanoid race, religion, or ethnicity, if applicable.
31–50	Predominately Homogenous: Almost everyone is a member of the same humanoid race, religion, or ethnicity, if applicable.
51–70	Largely Homogenous: The majority are members of the same humanoid race, religion, or ethnicity, if applicable.
71–85	Neutral: One race, religion, or ethnicity, if applicable, outnumbers all others but does not comprise a majority. Nonetheless, their culture, traditions, and beliefs define society, though other peoples exert lesser degrees of influence as well.
86–95	Moderately Diverse: Some races, faiths, and ethnicities, if applicable, are more prevalent than others, but none greatly outnumbers all others. The traditions of several races, religions, and ethnicities combine forces to determine society's overall cultural makeup.
96–100	Largely Diverse: A multitude of races, religions, and ethnicities make up the largely integrated population. The fusion of backgrounds creates a unique society embodying traits borrowed from numerous traditions, though some perspectives influence the community more than others.
>100	Completely Diverse: Nearly every race, faith, and ethnicity imaginable can be found among the population. Most citizens are multicultural and multilingual, embracing their own customs as well as adopting those acquired from neighboring peoples.

The following table modifies the results on **Table 3-9** based upon the community's demographics.

Table 3-8: Demographics Effect on Humanoid Attitudes

Demographic	Modifier
Exclusively homogenous	–5d10
Predominately homogenous	–3d10
Largely homogenous	–1d10
Neutral	none
Moderately diverse	+1d10
Largely diverse	+3d10
Completely diverse	+5d10

Most humanoids generally avoid swamps whenever possible. Therefore, swamp residents rarely encounter strangers. Despite their lack of exposure to different people and cultures, their curiosity and innate hospitality override their fear and trepidation of outsiders. The GM may use the following table to determine the prevailing attitudes toward others within and outside the community.

Table 3-9: Humanoid Attitudes

d100	Attitude
<11	Segregated: Society is strictly divided along racial, religious, or ethnic lines with the more populous groups assuming a dominant role. They treat minorities as inferiors, relegating them to subservient status. Civil or religious authorities strictly enforce boundaries between divergent populations through threats, intimidation, and if necessary violence.
11–25	Prejudiced: Although some integration takes place, racial, religious, or ethnic tension hangs heavy in the air. Many people hold persistent, deep-seated opinions sowing mistrust between members of different groups. Residents keep a wary eye on those different than themselves, perceiving them as second-class citizens who pose a constant threat to their supposedly superior way of life.
26–40	Biased: Few individuals publicly express their misgivings about other people, yet it is difficult to ignore the undercurrent of bias bubbling beneath the surface. Although people can move freely about without restriction, subtle acts of discrimination still permeate society. Interactions between different sets of people may seem courteous and polite on the surface, yet words, gestures, and body language belie the person's compartmentalized suspicions.
41–55	Indifferent: An indifferent society strives to maintain the society's <i>status quo</i> , sweeping any pervasive prejudices under the proverbial rug. Gradual modification of existing attitudes can occur, though some find its pace too plodding for their liking. Residents rarely let their biases govern their actions and perceptions of other people, yet few go out of their way to welcome those different than themselves.
56–75	Tolerant: Multiple languages, religions, and cultures mingle together, though members of the same race, religion, or ethnicity feel more comfortable with others of their kind than outsiders. A live-and-let-live attitude best summarizes a tolerant society's outlook toward the community at large, though some innate biases linger in certain circles.
76–95	Accepting: Members of different races, religions, and ethnicities live side by side in almost completely integrated communities. Familiarity forms the cornerstone of an accepting society. However, those hailing from unfamiliar places or arriving with previously unseen customs encounter some misgivings and suspicion from startled observers.
>95	Welcoming: Society welcomes immigrants and visitors, regardless of race, religion, or ethnicity into the fold. Newcomers are encouraged to quickly assimilate into their surroundings as they adapt to their neighbors' customs and traditions while adding their uniqueness to the mix. Indeed, most members perceive themselves as citizens first and foremost relegating association with their race, religion, or ethnicity to a secondary status. Prejudice persists in some isolated corners, but the overwhelming majority strongly condemn such viewpoints and celebrate diversity.

Despite the residents' deliberate efforts to avoid destructive flooding and unwanted incursions by the swamp's native wildlife, life revolves around the water sitting beneath their front door. Humanoids either sink or swim in these hardscrabble communities. Soon after taking their first steps, young children learn to hunt, fish, boat, and, of course, swim within these fickle waters. Mastery of these skills is essential for survival in this hostile environment. Although traditional farming is possible in some areas, most humanoid populations hunt wild game on the scattered patches of dry land and troll these productive waters for tasty bass, perches, and other indigenous species.

Those who excel at these crucial tasks can also parlay their success into a commercial enterprise. The bounties of the swamp fetch a handsome price in distant markets. Shellfish such as shrimp and crawfish are culinary delicacies in some cultures. Oysters are reputed to be an aphrodisiac, and under the right conditions, they can produce wondrous pearls. Crocodiles and alligators are prized for their durable and aesthetically appealing leather. The cunning men and women who live off the land in this difficult environment can make an extremely lucrative living selling their wares to countless others in far-flung cities, towns, and villages.

Swamp residents value self-reliance and independence, yet they also recognize that society needs order. Nature can wipe away their hard work in a matter of seconds. People who occupy their days squabbling with their neighbors over territorial rights and property waste energy better spent adapting to the difficult world around them. They may undertake the preceding endeavor by working cooperatively with others or placing their implacable faith in divine powers presiding over their domain. For them, simple and effective overrides all other concerns. Based upon these premises, the GM may consult the following table to ascertain the system of government presiding over the people.

Table 3-10: Political System

d100	Political System
01-05	Autocracy: A single individual, who seized control of the state through bloodless or violent means, wields absolute power over his people. This individual may have attained this position from their predecessor who was a family member or who handpicked this person as their successor. An autocrat often targets one or more segments of society as their sworn enemies, encouraging their subjects to take some punitive actions against the autocrat's real or imaginary foes.
06-10	Gerontocracy: While birthright, wealth, or political connections normally determine membership in the ruling class, this political system grants supreme authority to the community's eldest residents regardless of their gender or social status. Age is a relative term based upon the person's longevity for their race rather than their age measured in years. Because these individuals cannot bequeath their station to a designated heir or successor, they often rule in a just manner, relying upon their extensive life experiences to better the lives of their subjects. Nonetheless exceptions exist, especially for those who fear death and pursue every avenue to defy their own mortality.

d100	Political System
11-30	Monarchy (Absolute): A group of blood relatives rules the land with ultimate authority vested in one or two persons known as the monarch. This individual's power is absolute, though the crown may vest some jurisdiction in others. In patriarchal societies, the eldest male descendent of the previous leader functions as the monarch, assuming the title of chieftain, elder, or another suitable designation. In a matriarchy, the oldest female descendent performs the same role as the state's queen, empress, or other lofty heading. The monarch's spouse, typically hailing from a neighboring royal family or a distant relative, functions solely as a consort, preventing the surviving spouse from inheriting the throne when the monarch dies. Younger siblings, living parents, and children undertake other civic and religious duties within the state, while extended family members also enjoy the trappings of nobility.
31-35	Oligarchy: A group of individuals determined by birthright, military might, or personal wealth oversee all matters of state and economic development. The oligarchy's views towards personal freedoms range from moderately tolerant to oppressive with most examples skewing closer to the latter option than the former. The oligarchy's members along with their family and friends, if they choose, act with impunity while those outside the inner circle must abide by the oligarchy's edicts. On some occasions, individuals outside the elite group who are fortunate enough to amass wealth under this system may be granted membership into the oligarchy.
36-55	Theocracy (God Figure): All civil authority derives from a divine source. In the case of a god figure, political power rests in the hands of one individual who may be a living deity, a demigod, or a representative chosen by one or more gods. The god figure wields absolute authority over all matters of state including serving as the head of its church.
56-60	Theocracy (Clerical State): In a clerical state, the clergy interprets the deity's or deities' commands and codifies them as law. Priests enforce the gods' edicts, allowing them to preside over all religious and secular matters. Unlike the god state, the priests may select one of its members to serve as its high priest, a role granting the individual supreme authority but not divinity.
61-90	Tribal: This society lacks any formal government. Instead, a familial patriarch, matriarch, or a family council usually consisting of the group's elders presides over their individual clans who may live cooperatively or competitively with other bloodlines in a shared community or as parts of smaller, rival communities dwelling close together. Military might, more than lineage, frequently determines an individual's status within the tribe.

d100	Political System
91–00	Warrior State: Incorporating elements of tribalism and autocracy, the community's warriors enjoy an exalted status within society, gaining civic rights and privileges denied to average citizens. Military commanders or celebrated heroes may assume rulership over the state, though these individuals usually defer daily oversight of civic and religious matters to others.

Swamp inhabitants typically take up residence alongside one or more of the waterways carving a path through the swamp. In addition to supplying residents with ample quantities of the life-sustaining fluid, these bodies of water also facilitate travel through their semi-aquatic environment and provide a steady source of food from the marine creatures dwelling within the waters. Therefore, humanoids generally build permanent settlements upon a desirable tract of dry land protected from the floodwaters or in elevated structures constructed atop stilts or in the existing trees. Although humanoids still hunt game on the land and troll the waters around them for seafood, they almost always return home afterward. In contrast to most largely sedentary populations, swamp residents almost never subsist solely on farming the land. With these factors in mind, the GM may consult the following table to determine the people's lifestyle.

Table 3–11: Lifestyle

<06	Nomadic: The people live exclusively off the land and are constantly on the move, never staying in the same location for more than one night. They are exclusively hunter-gatherers. To cover more ground in a single day, most nomadic peoples ride atop domesticated animals and frequently travel with large herds of livestock. Most share common lineage with their fellow travelers.
06–20	Semi-nomadic: These individuals have no permanent home, though they may settle down in one location for several days, weeks, or even a few months under the right conditions. Their movements usually coincide with seasonal changes, though they rarely revisit the same exact locale. Although they are predominately hunter-gatherers, they may engage in limited agricultural activities before moving on to their next destination. These individuals typically reside in mobile, temporary shelters they erect soon after their arrival.
21–40	Semi-sedentary: Although they construct permanent settlements, these people divide their time among a few predetermined locations based upon the seasons. They may spend several months in one favorable spot to raise crops, fish its bountiful waters, or hunt a herd of game animals traveling along a migratory route. While they may still be classified as hunter-gatherers, they spend a roughly equal amount of their time raising domesticated livestock, growing agricultural products, and engaging in commercial activities.
>41	Sedentary: The residents live in the same location year-round, where they farm the land, tend to their domesticated flocks, hunt game in the surrounding wilderness, and develop commercial enterprises. Trade routes, civic engineering projects, and a reliable water source can be typically found in a sedentary society.

Swamp Campaigns

The swamp's high water table makes it nearly impossible to delve into subterranean complexes without being completely immersed in water. Amphibious and aquatic creatures are well aware of this reality. They frequently reside in murky, underwater caves where surface dwellers are at a decided disadvantage attempting to see and breathe in this dark, airless realm. Humanoid adventurers exploring this dismal world must successfully adapt to this challenging environment if they hope to survive and emerge triumphant. At a minimum, characters venturing into the swamp need to be at least adequate swimmers. Although the swamp's slow-moving and often stagnant waters lack the dangerous currents, crashing waves, and riptides encountered in large bodies of water, all it takes is one wrong step or a capsized boat to plunge an unsuspecting character into the brackish depths. Mangrove roots, cypress knees, and other plant material can ensnare any creature who accidentally slips into the water. This can be extremely problematic for adventurers wearing heavy or bulky armor, especially if the equipment is forged from ferrous metals. In addition to weighing the adventurer down, iron and iron alloys are susceptible to rust after prolonged contact with oxygen, humidity, and water. Seasoned explorers opt for lightweight gear that does not inhibit their range of motion or act as the equivalent of a ballast stone. More experienced adventurers actively seek magical items and spells that allow them and their allies to see, move, and breathe underwater without impediment.

Still, many swamp denizens dwell in aboveground shelters in the trees, atop the hummocks, and on the scattered patches of solid ground that emerge during extended dry spells. As discussed, humanoid communities are commonly found in these areas. Smaller settlements typically incorporate the surrounding terrain into their design plans, thus hummocks and tightly packed copses of trees usually serve as the foundations for homes, businesses, and administrative buildings. On the other hand, advanced civilizations with the wherewithal and resources to build on a grand scale may drain the swamp and construct massive levees, dams, walls, and other structures to keep the omnipresent floodwaters at bay.

However, nature, unlike humanity, is a tireless and eternal foe. All manmade buildings and societies eventually crumble, and the swamp patiently stands at the ready to take back the land humanoids stole from it. The vestiges of these bygone people remain behind as dilapidated, moss-covered ruins concealing long-forgotten riches, mysterious wonders, and forbidden secrets. The allure of what lies beneath the mud attracts treasure seekers to the swamp's dankest corners and foulest recesses. Subsequent generations relay tales of bizarre arcane experiments, strange, glowing objects, and items of great necromantic power hidden somewhere in the rubble. Yet not all the former inhabitants abandoned their homes or went gently into that good night. Some restless spirits still haunt their old stomping grounds, while others devolved over the centuries into mockeries of their past existence. Nonetheless, these lost souls covetously guard their earthly possessions.

With these considerations in mind, the GM may use the following table to sow the seeds of adventure in a saltwater or freshwater swamp. These ideas may be used as a side quest or form the basis for an intriguing plotline. In addition, the GM may combine these elements with the adventure settings found in the subsequent table.

Table 3–12: Freshwater and Saltwater Swamp Adventure Ideas

d10	Event
1	Aphrodisiac: According to popular legend, oysters can act as a powerful aphrodisiac. On the night before their wedding, men from the village engage in a local custom. They dive into the waters of a murky inlet where they search the watery bottom for an oyster with an unusual blue-gray shell reputed to make a man virile for life. Although several young lovers have drowned in their quest to retrieve one of these treasured morsels from the muddy riverbank, the testosterone coursing through their veins and those of their male companions compels them to undertake the dangerous endeavor and find one of these rare specimens.

d10	Event
2	Banjo: A skeleton propped against the base of a bald cypress tree still holds an exquisite banjo in its bony hands. Despite the heat and humidity, the wooden stringed instrument remains in nearly pristine condition. It shows no signs of warping or water damage, the strings are still taut, and the neck is intact. The banjo's durability and longevity suggest it has an unusual quality — a suspicion verified when someone tries to pry it loose from its owner's skeletal hands or plucks one of its strings. As if on cue, the indigenous wildlife aggressively protests the act by squawking loudly and hurling berries, nuts, and other debris at the offender. When a living creature grasps the banjo, musical inspiration floods the being's mind blocking out all thoughts other than the desire to hear the banjo play.
3	Crab Pot: A red buoy tied to a fraying rope bobs on the water's surface. The fragile tether is attached to a rusty, dilapidated crab pot filled with caked mud, a leather boot with a skeletal foot inside of it, and a severed fish head. After picking through the mud and debris, the old crab pot reveals one surprising gem — an oyster containing a blue pearl.
4	Crocodile: A pair of sinister, callous eyes rise above the murky water's surface followed shortly thereafter by a massive V-shaped head, an armored torso, and a thick, reptilian tail. The beast reaches a staggering length of 25 feet from snout to tail. Despite its immense size and an accompanying appetite, the enormous crocodile makes no effort to hunt prey literally swimming past it. Instead, the animal fixes its gaze exclusively on a curious patch of rotting vegetation within a circle of nine gnarled trees.
5	Cypress Trees: The pneumatophores from a nearby cluster of cypress trees pierce the bloated, waterlogged flesh of a humanoid corpse lying face down in the mud. Decomposition and ravenous scavengers make visual identification impossible. Furthermore, it is impossible to tell if the individual died from the injuries caused by the pneumatophores or if the person was placed onto or fell onto the woody needles postmortem. The only clue to the person's identity is an ill-fitting set of wooden dentures affixed to the decedent's upper jaw.
6	Flood: Torrential downpours, changing tides, high winds, or potent storm surges are the primary causes of catastrophic floods, but for the last several years, an isolated, slightly elevated tract of land has been periodically inundated by water coming from an unknown source. On bright sunny days, the deluge washes over the land and then mysteriously recedes as suddenly as it arrived. Some residents suspect a spiteful spirit or fey creates these floods as retribution for an unidentified slight. Others believe subterranean movement displaces the water above it, duplicating the effects of a tsunami.

d10	Event
7	Gumbo: Swamp residents take great pride in their cooking. Families closely guard their time-honored recipes and go to extensive length to procure the finest ingredients. Crawfish are the most sought-after ingredient and a key component in Grandma's legendary gumbo. Every year, the family's matriarch makes the delicious stew to celebrate the winter solstice, but on this occasion, there is a major problem. For generations, her family caught the crustaceans in a secret fishing hole, yet the shellfish are nowhere to be found. It seems they moved elsewhere or disappeared entirely, sending her sons and daughters into a panic. They suspect an outside force caused the animals' departure, especially in light of the rekindling of an ancient feud involving the elderly patriarch and her long-time rival.
8	Honey: Produced by bees and other pollinating insects, this sweet syrupy food substance adds flavor to many dishes and never spoils. Its quality varies based upon the flowering plant used to create the honey. In the minds and mouths of many swamp dwellers, the tupelo tree yields the tastiest honey. It boasts the best texture and the perfect amount of sweetness. Last week, a local man extracting honeycombs from a hive nestled in the branches of a tupelo tree came upon an unusual discovery. Instead of its traditional amber coloration, this batch of honey was so dark, he dubbed it black honey. The new variety proved so addictive, he spent the next several days doing nothing but consume it. Indeed, his obsession with the honey prevented him from noticing the swarm of bees gathering outside his door to reclaim their stolen treasure. When he finally fell asleep, the enraged insects slinked through the crevices and stung him to death. When his neighbors discovered his dead body the next morning, the bees and their black honey both mysteriously vanished.
9	Leeches: Although most humanoids view leeches as disgusting parasites, these animals have been used for medicinal purposes for centuries, none more than a unique species inhabiting a hard-to-reach section of the swamp. Local healers have been using these leeches for years to treat skin infections and to reduce swelling, but instead of curing these ailments, the leeches' bites are now spreading a previously unseen disease to patients. Many believe something contaminates the water where the leeches live, causing them to transmit an almost always fatal contagion to their victims. Medical practitioners have stopped using the leeches on their patients. However, they now fear the animals may leave their isolated quarters and migrate elsewhere.
10	Mosquitoes: Pests are an inescapable hazard in the swamp. The voracious bugs sting, bite, and poke any living or even dead flesh they encounter. The hungry mosquitoes in this patch of swamp suck their victim's warm blood with added fervor, leaving their trademark welts as a painful reminder of their brief exchange. However, the wounds rapidly swell into bulbous blisters oozing blue pus. Moments after feeding, the engorged insect spontaneously explodes in midair, spewing the sickening, discolored blood meal in every direction.

Of course, humanoids are not the only beings adventurers may encounter on their trek into this forested wetland. Wild beasts stalk the dirty waters and muddy shores searching for their next kill. Crocodiles and alligators are perhaps the most iconic and feared of the swamp's apex predators, but they are not the only hunters. Large mammals such as bears and tigers also inhabit this heavily camouflaged environment. For unknown reasons, some of these ferocious predators forego their usual prey and set their sights on man instead. When this occurs, frightened swamp dwellers turn to adventurers for aid to eradicate these deadly menaces from their territory.

Man-eaters primarily pose a danger to weaker humanoids such as children and the elderly, whereas the eerie domain's wicked monsters can decimate even the best-prepared veteran explorers in practically no time at all. Rogue wild animals can pick off one or possibly two victims in a single attack. A malevolent, monstrous foe such as a will-o'-wisp can mow through a seasoned adventuring party in less than a minute. When such dangers rear their ugly heads, humanoid residents living within the swamp as well as those in surrounding areas recruit and handsomely pay adventurers to eliminate these unwelcome creatures. It is not unusual for an indigenous swamp monster to temporarily leave the security of its wetland habitat to ply its nefarious trade elsewhere and then return to the sanctuary of the swamp after committing its misdeeds against innocent victims. On those occasions, the cries for help ring far and wide beyond the swamp's border.

Swamps may seem inhospitable for adventuring, but these treacherous lands offer opportunities for those willing to seek them out. The GM may consult the following table to randomly determine an intriguing adventuring locale in the freshwater or saltwater swamp.

Table 3-13: Freshwater and Saltwater Adventuring Sites

d10	Location
1	Canal: Civic engineers attempted to cut a channel through the swamp to connect two navigable bodies of water but apparently abandoned the effort long ago. The remnants of their labor — a partially dug canal, mounds of displaced earth, and rusting tools — still litter the landscape. While it is safe to say lack of money and manpower may account for the aborted effort, an ominous stone slab apparently unearthed during construction may also yield a frightening explanation. Carved images of humanoid skulls and dismembered limbs adorn what could pass as a sarcophagus lid or an overturned stele. Progress also halted at the exact spot where the stone was discovered, adding credence to the preceding theory.
2	Ferry Station: A teenage girl sleeps on top a wooden raft tethered to a ferry station. The deaf and mute woman uses hand gestures and facial expressions to communicate with potential customers. When she successfully negotiates a price, she pushes her raft away from shore and stops in the middle of the water as if she has no recollection of where she is going or why she went there. Any attempts to rouse her from her delirium fail. After one minute of awkward silence, she inexplicably pushes the raft back to the originating ferry station. In her mind, she believes she completed the trip and picked up new passengers on the opposite shore.
3	Hummock: Residents generally presume an unknown supernatural force shaped the mangrove trees and shrubs growing on this makeshift island built from sediment and vegetation in the likeness of a predatory cat. Few visit the mysterious tract of wood and mud, though offerings of fresh meat and gnawed bones periodically appear on its unwelcoming shores. On quiet, moonlit evenings, many people claim to hear a mighty roar emanate from the strange locale.
4	Levee: Engineers used the land's natural contours to fortify this earthwork levee presumably constructed to hold back floodwaters during the rainy season. The barrier towers 15 feet above the adjacent water level. The levee looks structurally sound and well-maintained, yet the levee periodically creaks when trickles of water seep through it. Every now and then, the ground adjacent to the levee feels as if it shifted slightly. A ripple appearing in the water on the opposite side of the levee may confirm the observer's suspicion.
5	Lighthouse: Eerie, phosphorescent flashes of light dimly illuminate the lantern room atop a 40-foot-tall lighthouse precariously standing on the edge of a muddy riverbank near a confusing artery of tributary rivers and streams. The oppressive humidity swelled the wooden door shut, and no one appears to occupy or even stir within the lantern room. Thick layers of dust coat the tower's shattered lens, which makes any rational explanation for the odd glow implausible. Local folklore claims a vengeful captain murdered the lighthouse's negligent caretaker after his ship ran aground because the caretaker drank himself into a stupor and forgot to illuminate the lantern.
6	Manchineel Tree: The mangrove is the undisputed king of flora in brackish and saltwater swamps, but this plant is undoubtedly the most feared of its kin. It grows side by side with its distant cousins atop a makeshift island crafted from sediment and fibrous material. Although it shares the same soil with these plants, the soil beneath its canopy is barren except for empty crustacean shells littering the ground. Despite the visual warning, mariners with dubious backgrounds say a notorious pirate used the poisoned tree to his advantage by concealing a watertight treasure chest in the murky waters beneath the tree. While most scoff at the legend, the recent discovery of a peg leg caught in the surrounding mangrove's roots lends some plausibility to the story.
7	Mausoleum: The swamp's saturated soil and vulnerability to flooding generally preclude underground burials, even in locales where civil engineering projects dredge the surrounding wilderness. Therefore, aboveground mausoleums are the norm here, though this monument stands apart from all others around it. The stone crypt bears no markings or inscriptions. It contains a single, granite encasement protecting the remains of an unidentified occupant. In addition, this mausoleum obviously predates its neighbors by several centuries based upon its extensive wear and architectural style. Its age and the use of imported stone imply someone went to great lengths to construct this anomalous mausoleum for some unknown reason.
8	Pier: Water-resistant wooden pilings sunk into the swamp floor support a pier protruding into the water. Barnacles and other forms of marine life cling to the pier and its supports, yet there are no signs of any recent humanoid activity on the pier, even though the area boasts a stellar reputation as a fishing spot. The reason for its neglect may be linked to the stories of the drowned maiden who reportedly wrapped herself in a fishing net and threw herself over the side when her family objected to her choice of suitors. Although no one has ever seen the Drowned Maiden or vanished after visiting the pier, the rumors of her existence nonetheless keep people away from the pier.

- Shrimp Boat:** Waves gently rock an abandoned shrimping vessel bobbing on the water. Marine organisms and debris cling to the watercraft's hull. Tangled ropes and nets cover the deck, but there are no signs of any crew or activity onboard.
- 9 Personal belongings and provisions can be found below deck in the galley and crew's quarters. Searching the boat yields only one troubling clue — a severed hand holding a leather bag containing small bones wrapped within the twisted mass of ropes and net covering the deck.

- 10 **Trail:** Manmade paths rarely last long in any wilderness setting, yet nothing swallows up or washes away trails faster than a swamp. However, this trail refuses to cede its dominance to the surrounding vegetation, implying someone or a group of people maintain the trail or frequently use it for an unknown purpose. Footprints imbedded in the mud further support this theory. The trail, however, seems to have no beginning or end point. Instead, it meanders a circuitous route throughout the swamp for an unknown yet presumably clandestine purpose.

Marsh

In many circles, the words swamp and marsh are interchangeable. In fact, from a geographical standpoint, they are identical. Both are saturated, low-lying landmasses bordering coastal regions and bodies of water. They each support aquatic plant life and may contain saltwater, freshwater, or a mixture of both. In many cases, swamps and marshes can be found side by side, and each plays a critical role filtering pollutants and impurities from the water passing through them. Despite the overwhelming similarities shared by the competing types of wetlands, marshes have a decidedly less negative connotation than their swampy cousins. Even the name marsh sounds far less ominous than the term swamp. The only true difference between the two is the dominant flora found in each. As mentioned earlier, woody plants, i.e. trees and shrubs, lord over the swamps, whereas soft-stemmed vegetation such as grasses, reeds, and rushes rule over the marsh. This factor may help explain why marshes enjoy a better reputation than swamps. Trees and large shrubs are tall enough to create a canopy that cloaks the land beneath it in darkness and gives the impression that the terrain is an enclosed space. Soft-stemmed plants cannot block out or lessen sunlight, thus marshes are as well-lit during daylight hours as any other commonly encountered biome.

Marshes are subdivided into tidal and non-tidal marshes. As the name suggests, tidal marshes are found in coastal regions affected by ocean tides even if the marsh is not adjacent to an ocean or a sea. Hence, the water that inundates these marshes may be saline, brackish, or freshwater depending upon its source. Seawater covers large tracts of this particular wetland when the tide flows inland and are then later completely uncovered when the waters recede several hours later. This cycle of wet and dry repeats on a daily basis. The lower-lying land areas adjacent to the channel that overflow during high tide are referred to as the low marsh or the mud flats, depending upon the composition of their soil and the presence of plants. The high marsh is the more elevated parcels of land beyond the low marsh that become saturated during the rainy season when the water table rises.

Saline tidal marshes support a limited array of flora and fauna, even though the saturated soil gets a periodic respite from the saltwater. Only a handful of specialized grasses and rushes successfully adapted to the unkind conditions encountered in this alkaline environment. The flora is critical to the long-term survival of this ecosystem. The plants' roots capture sediment and other nutrients; otherwise, these materials would wash out to sea and steadily erode the tidal marsh until it became part of the body of water. These hardy plants tolerate cool temperatures remarkably well; thus, saline tidal marshes are commonly found in the middle to high latitudes. Fauna is also scarce in this challenging biome.

Several mollusks, crabs, and young fish are among the few creatures who feed on the organic matter washed ashore by the tide.

Brackish and freshwater tidal marshes are extremely rare in comparison to their saline brethren. This habitat has greater biodiversity than its less-welcoming kin and is commonly found along the shores of rivers close enough to oceans and seas to be subjected to daily tidal influences. Still, the assortment of fauna and flora living here remains fairly homogenous compared with other biomes. Grasses, sedges, cattails, and wild rice are some of the plants often encountered in the low marsh areas and the mud flats. A number of bird species, including herons, osprey, hawks, and the iconic mallard duck, wade in the shallow waters and nest in the grasses along shore. Several fish species spawn in the freshwater tidal marshes, and mussels are found in abundance on the channel.

The following table describes the vegetation and ground conditions found within the surrounding 2d4 miles in the tidal marsh based upon the season. When consulting this table, the GM rolls percentile dice for each feature to determine if it is present in the area. One or more types of terrain and/or vegetation may coexist in the same general area, though certain features negate the effects of others as described in the following table. Difficult terrain, as described in this table, only applies to determining the actions a character can take when moving through an area containing this feature rather than its effect on the creature's speed.

Table 3-14: Tidal Marsh Vegetation and Terrain Type by Season

Vegetation and Terrain	Rainy Season	Dry Season
Mud^a	95%	50%
Vegetation^b	20%	25%
Undergrowth^c	30%	40%
Shallow water^d	30%	20%
Deep water^e	20%	10%

^a Mud reduces overland speed by half and halts all wheeled vehicles in their tracks. If there is no mud, the ground is soft and yielding during the rainy season and firm soil during the dry season. Soft and yielding earth reduces overland speed by half and wheeled vehicle speed by three-quarters. Firm soil has no effect on overland speed or wheeled vehicles. Areas containing shallow water or deep water completely cover the mud and negate its effects on movement. Areas containing mud are treated as difficult terrain, if applicable.

^b Vegetation cannot cohabitate areas with deep water. Vegetation reduces overland speed by half and halts wheeled vehicles in their tracks. Areas containing shrubs are treated as difficult terrain, if applicable.

^c Undergrowth includes vines, roots, and soft-stemmed vegetation covering the marsh floor. These plants cannot cohabitate areas with deep water. Undergrowth has no effect on overland speed, but areas containing undergrowth are treated as difficult terrain.

^d Shallow water is one foot or less in depth. It reduces overland speed by half and halts all wheeled vehicles in their tracks. Watercraft with a draft greater than the water's depth automatically run aground while those with a draft greater than 1d4 inches have a 50% chance of running aground per 100 feet traveled. If shallow water is present, the area cannot also contain deep water. Areas containing shallow water are treated as difficult terrain, if applicable.

^e Deep water reaches a depth of 1d6 feet. It reduces overland speed by three-quarters and halts all wheeled vehicles in their tracks. Charging and running are impossible for creatures whose height is less than five times the water's depth. Creatures not tall enough to keep their heads above water risk drowning, though they benefit from cover, if applicable. Watercraft with a draft equal to or less than half the water's depth can safely navigate through deep water. Watercraft with a draft greater than half the water's depth but less than its depth have a 50% chance of running aground for every 100 feet traveled, while vessels with a draft equal to or greater than the water's depth automatically run aground. Areas containing deep water are treated as difficult terrain, if applicable.

The GM may consult the following table to determine the fauna, flora, and random events the characters may encounter during their journey across the tidal marsh. These items may be used solely as wilderness dressing, to plant the seeds for an upcoming adventure, or as an interesting side trek.



**Table 3–15: Tidal Marsh
Flora, Fauna, and Random Events**

d20	Encounter
1	Three mallard ducks paddle in unison toward a lush patch of reeds.
2	An osprey dives into the water and emerges with a small fish in its clutches.
3	Grasswort flourishes along the banks of a small stream.
4	A pair of large, molted crab shells rest on the ground.
5	The tide washes a component from a sundered astrolabe onto the shore.
6	Despite ample moisture and sunlight, the cordgrass in this area wilted and turned brown.
7	Mud completely covers an overturned wooden bucket abandoned in the marsh.
8	A cloud of midges circles around a murky eddy.
9	A broken shovel is imbedded into the soft earth near a muddy embankment where wild rice flourishes.
10	A hawk nests in a thick row of sedges.
11	Torn, muddy khaki trousers rest atop the grasses.
12	Modest waves ripple through the water.
13	Floodwaters apparently pushed a log onto dry ground.

d20	Encounter
14	A heron adeptly pulls a mussel out of its shell.
15	The dorsal fin of an immature dolphin protrudes from the shallow water.
16	The swollen, warped stern of a broken gondola lies partially buried in mud.
17	The mud in the area bears a reddish tinge suggesting it may contain a mixture of soil and clay.
18	A crab inexplicably attacks another crab and kills it.
19	The grasses grow at an odd 45-degree angle.
20	A hat with a wide brim is perfectly balanced atop a cluster of reeds.

Conversely, non-tidal marshes are almost exclusively freshwater systems found near the mouths of rivers and in areas of low elevation and depressions routinely saturated by the overflow from lakes, ponds, streams, and river tributaries. In addition to deriving moisture from neighboring bodies of water, these nutrient-rich wetlands also add substantial amounts of precipitation, groundwater, and surface runoff to their water stores. These marshes appear in every climate on Earth other than the polar regions. They are found along the edges of an oasis in a hot desert and adjacent to steppes in arid, boreal regions. In many cases, particularly during the summer or a prolonged period of drought, these marshes dry out for a few months until the rainy season commences.

Non-tidal marshes are substantially more widespread and abound with infinitely more varieties of plant and animal life than their saline tidal counterparts. Water lilies, grasses, rushes, herbs, forbs, sedges, sawgrass, cattails, and the apropos marshmallow flourish in the biome's damp, fertile soil. Countless birds, including swans, geese, egrets, gulls, and ducks flock

to these wetlands. Beavers, otters, raccoons, and muskrats are some of the more recognizable mammals indigenous to this hospitable domain. Of course, any discussion of this environment would be incomplete without at least mentioning the ubiquitous alligator and crocodile. However, these prehistoric reptiles are not the only representatives of their class. Turtles, snakes, and lizards slither, swim, and slog through the marsh's stagnant waters and thick mud alongside their much larger and more feared cousins.

The following table describes the vegetation and ground conditions found within the surrounding 2d4 miles in the tidal marsh based upon the season. When consulting this table, the GM rolls percentile dice for each feature to determine if it is present in the area. One or more types of terrain and/or vegetation may coexist in the same general area, though certain features negate the effects of others as described in the following table.

Table 3-16: Non-Tidal Marsh Vegetation and Terrain Type by Season

Vegetation and Terrain	Rainy Season	Dry Season
Mud^a	90%	30%
Tree^b	10%	10%
Vegetation^c	30%	30%
Undergrowth^d	40%	50%
Shallow water^e	15%	10%
Deep water^f	05%	—

^a Mud reduces overland speed by half and halts all wheeled vehicles in their tracks. If there is no mud, the ground is soft and yielding during the rainy season and firm soil during the dry season. Soft and yielding earth reduces overland speed by half and wheeled vehicle speed by three-quarters. Firm soil has no effect on overland speed or wheeled vehicles. Areas containing shallow water or deep water completely cover the mud and negate its effects on movement. Areas containing mud are treated as difficult terrain, if applicable.

^b The tree's trunk provides cover, if applicable, to any creature behind them. When trees are present, each individual tree is 1d4+1 x 5 feet away from the its closest neighbor. Trees have no effect on overland speed, but they reduce the speed of wheeled vehicles and waterborne vehicles by half.

^c Vegetation cannot cohabitate areas with deep water. Vegetation reduces overland speed by half and halts wheeled vehicles in their tracks. Areas containing shrubs are treated as difficult terrain, if applicable.

^d Undergrowth includes vines, roots, and soft-stemmed vegetation covering the marsh floor. These plants cannot cohabitate areas with deep water. Undergrowth has no effect on overland speed, but areas containing undergrowth are treated as difficult terrain.

^e Shallow water is one foot or less in depth. It reduces overland speed by half and halts all wheeled vehicles in their tracks. Watercraft with a draft greater than the water's depth automatically run aground while those with a draft greater than 1d4 inches have a 50% chance of running aground per 100 feet traveled. If shallow water is present, the area cannot also contain deep water. Areas containing shallow water are treated as difficult terrain, if applicable.

^f Deep water reaches a depth of 1d3 feet. It reduces overland speed by three-quarters and halts all wheeled vehicles in their tracks. Charging and running are impossible for creatures whose height is less than five times the water's depth. Creatures not tall enough to keep their heads above water risk drowning, though they benefit from cover, if applicable. Watercraft with a draft equal to or less than half the water's depth can safely navigate through deep water. Watercraft with a draft greater than half the water's depth but less than its depth have a 50% chance of running aground for every 100 feet traveled, while vessels with a draft equal to or greater than the water's depth automatically run aground. Areas containing deep water are treated as difficult terrain, if applicable.

The GM may consult the following table to determine the fauna, flora, and random events the characters may encounter during their journey across the non-tidal marsh. These items may be used solely as wilderness dressing, to plant the seeds for an upcoming adventure, or as an interesting side trek.

Table 3-17: Non-Tidal Marsh Flora, Fauna, and Random Events

d20	Encounter
1	A swan hovers above the reeds while presumably searching for a pool of water.
2	Water overruns an abandoned beaver dam made from mud and vegetation.
3	An otter fishes in the shallow water.
4	Two geese engage in a bitter fight over an unknown topic.
5	The sun reflects off a shiny object partially concealed beneath the mud.
6	There is an "X" painted onto a turtle's shell.
7	Two raccoons pick meat off a fishbone.
8	The cattails in the area remain perfectly straight, even in the face of a stiff wind.
9	An egret plucks organic matter out of the mud.
10	Two young girls harvest papyrus plants.
11	A rusty, open iron lock lies atop a mound of organic debris.
12	Gulls circle the reeds below them in an obvious search for something hidden in the brush.
13	A small crib crafted from reeds rests on a riverbank.
14	Hip waders still hang around the waist of a humanoid skeleton lying face down in the mud.
15	Mosquito larvae cover the water in a stagnant pool.
16	Two lizards engage in a staring contest.
17	A crab desperately tries to escape from a broken trap.
18	The stench of decay fills the air, though the odor's source remains a mystery.
19	A family of muskrats drags something into its push-up shelter.
20	An old scrap of papyrus sitting on the grass bears a single word, "Why?"

Like the resident wildlife, humanoids residing in marshes greatly favor the considerably friendlier non-tidal freshwater marshes over the less accommodating saline marshes. However, as in the case of other wetlands, erecting permanent settlements atop the soft earth and amid the murky waters presents a host of logistical challenges. Because there are few, if any, trees and shrubs in the area, using the arboreal giants as a building foundation is not an option. Likewise, procuring large quantities of wood to fashion stilts and frame walls also proves problematic. To combat these issues, most marsh residents dwell in small, elevated huts that use minimal amounts of wood and other hard materials. Only the stilts and floor are made from wood. Leaves, reeds, and thatch make up the structure's walls and roof. The humanoid residents dwelling here are typical hunter-gatherers. They troll the waters for fish, crustaceans, and other edible sea creatures, and hunt for game on patches of dry land. They complement their diet with an assortment of fruits, grains, and vegetables they gather from the surrounding area.

When adventurers encounter humanoids in a predetermined location or in a randomly generated community near a body of water or a road (see **Tables 3-35 through 3-45** inclusive), the population size affects its demographic makeup as reflected in the following table.

Table 3-18: Population Effect on Demographics

Population	Modifier
Fewer than 50	−4d10
51–200	−2d10
201–2,000	none
2,001–5,000	+2d10
5,001–15,000	+4d10
15,001–30,000	+6d10
31,000+	+8d10

After determining the modifier based upon the population size, the GM may then apply that modifier to the following table to determine the demographics of a marsh community.

Table 3-19: Humanoid Demographics

d100	Racial Makeup
<31	Exclusively Homogenous: Everyone is a member of the same humanoid race, religion, or ethnicity, if applicable.
31–50	Predominately Homogenous: Almost everyone is a member of the same humanoid race, religion, or ethnicity, if applicable.
51–70	Largely Homogenous: The majority are members of the same humanoid race, religion, or ethnicity, if applicable.
71–85	Neutral: One race, religion, or ethnicity, if applicable outnumbers all others but does not comprise a majority. Nonetheless, their culture, traditions, and beliefs define society, though other peoples exert lesser degrees of influence as well.
86–95	Moderately Diverse: Some races, faiths, and ethnicities, if applicable, are more prevalent than others, but none greatly outnumbers all others. The traditions of several races, religions, and ethnicities combine forces to determine society's overall cultural makeup.
96–00	Largely Diverse: A multitude of races, religions, and ethnicities make up the largely integrated population. The fusion of backgrounds creates a unique society embodying traits borrowed from numerous traditions, though some perspectives influence the community more than others.
>00	Completely Diverse: Nearly every race, faith, and ethnicity imaginable can be found among the population. Most citizens are multicultural and multilingual, embracing their own customs as well as adopting those acquired from neighboring peoples.

The following table modifies the results on **Table 3-21** based upon the community's demographics.

Table 3-20: Demographics Effect on Humanoid Attitudes

Demographic	Modifier
Exclusively homogenous	−5d10
Predominately homogenous	−3d10
Largely homogenous	−1d10
Neutral	none
Moderately diverse	+1d10

Demographic	Modifier
Largely diverse	+3d10
Completely diverse	+5d10

Marshes appear less foreboding than swamps. Sunlight basks the wetland in warm light throughout the day. While they are still difficult to traverse, the food crops, including rice and cereal grains, and the seafood harvested in this biome bring its people into contact with outsiders seeking these wondrous goods. Nonetheless, many marsh people remain isolated within their own worlds, causing them to view others with suspicion. To reflect these divergent viewpoints, the GM may use the following table to determine the prevailing attitudes toward others within and outside the community.

Table 3-21: Humanoid Attitudes

d100	Attitude
<16	Segregated: Society is strictly divided along racial, religious, or ethnic lines with the more populous groups assuming a dominant role. They treat minorities as inferiors, relegating them to subservient status. Civil or religious authorities strictly enforce boundaries between divergent populations through threats, intimidation, and if necessary violence.
16–30	Prejudiced: Although some integration takes place, racial, religious, or ethnic tension hangs heavy in the air. Many people hold persistent, deep-seated opinions sowing mistrust between members of different groups. Residents keep a wary eye on those different than themselves, perceiving them as second-class citizens who pose a constant threat to their supposedly superior way of life.
31–50	Biased: Few individuals publicly express their misgivings about other people, yet it is difficult to ignore the undercurrent of bias bubbling beneath the surface. Although people can move freely about without restriction, subtle acts of discrimination still permeate society. Interactions between different sets of people may seem courteous and polite on the surface, yet words, gestures, and body language belie the person's compartmentalized suspicions.
51–65	Indifferent: An indifferent society strives to maintain the society's <i>status quo</i> , sweeping any pervasive prejudices under the proverbial rug. Gradual modification of existing attitudes can occur, though some find its pace too plodding for their liking. Residents rarely let their biases govern their actions and perceptions of other people, yet few go out of their way to welcome those different than themselves.
66–85	Tolerant: Multiple languages, religions, and cultures mingle together, though members of the same race, religion, or ethnicity feel more comfortable with others of their kind than outsiders. A live-and-let-live attitude best summarizes a tolerant society's outlook toward the community at large, though some innate biases linger in certain circles.
85–00	Accepting: Members of different races, religions, and ethnicities live side by side in almost completely integrated communities. Familiarity forms the cornerstone of an accepting society. However, those hailing from unfamiliar places or arriving with previously unseen customs encounter some misgivings and suspicion from startled observers.

d100	Attitude
>00	Welcoming: Society welcomes immigrants and visitors, regardless of race, religion, or ethnicity into the fold. Newcomers are encouraged to quickly assimilate into their surroundings as they adapt to their neighbors' customs and traditions while adding their uniqueness to the mix. Indeed, most members perceive themselves as citizens first and foremost, relegating association with their race, religion, or ethnicity to a secondary status. Prejudice persists in some isolated corners, but the overwhelming majority strongly condemn such viewpoints and celebrate diversity.

Throughout the course of history, humanoid communities with extensive resources and manpower have drained the marshes and transformed the muddy terrain into arable land. Still, nature is a temperamental host. Keeping the floodwaters at bay requires eternal vigilance and regular maintenance. Levees must be constantly fortified. Dams need frequent repairs. A gigantic weather system or a massive storm surge can undo the best-laid plans and years of hard labor in an instant. In many respects, this approach is best described as fighting against the forces of nature. However, some clever engineers came up with an alternative that keeps the marshes largely intact. They aptly describe their idea as a mitigation strategy instead of an outright conquest. These resourceful people construct their structures on enormous earthen mounds towering over the surrounding landscape. To maximize efficiency, architects literally build up, adding multiple stories to their wood-framed designs. Thus, they need fewer mounds to accommodate more people. Oddly, the vast majority of towns and villages that owe their creation to this remarkable innovation do not use the same technique to convert the marsh into farmland. They remain hunter-gatherers at heart and live off the land.

Accomplishing any of the preceding engineering feats requires organization and planning. In other words, someone must supervise these activities to prevent them from lapsing into chaotic messes. As with their personal lives, many put their trust in the gods and the individuals deigned to represent their interests in the mortal worlds. In most marsh cultures, religious and political authority stem from the same source. In this challenging environment, many people willfully sacrifice liberty and dissension for decisiveness and cohesion. Therefore, government systems skew more toward autocracy than democracy. Based upon these ideals, the GM may consult the following table to ascertain the system of government presiding over the people.

Table 3-22: Political System

d100	Political System
01-10	Autocracy: A single individual, who seized control of the state through bloodless or violent means, wields absolute power over his people. This individual may have attained this position from their predecessor who was a family member or handpicked this person as their successor. An autocrat often targets one or more segments of society as their sworn enemies, encouraging their subjects to take some punitive actions against the autocrat's real or imaginary foes.

d100	Political System
11-30	Monarchy (Absolute): A group of blood relatives rules the land with ultimate authority vested in one or two persons known as the monarch. This individual's power is absolute, though the crown may vest some jurisdiction in others. In patriarchal societies, the eldest male descendent of the previous leader functions as the monarch, assuming the title of chieftain, elder, or another suitable designation. In a matriarchy, the oldest female descendent performs the same role as the state's queen, empress, or other lofty heading. The monarch's spouse, typically hailing from a neighboring royal family or a distant relative, functions solely as a consort, preventing the surviving spouse from inheriting the throne when the monarch dies. Younger siblings, living parents, and children undertake other civic and religious duties within the state, while extended family members also enjoy the trappings of nobility.
31-35	Oligarchy: A group of individuals determined by birthright, military might, or personal wealth oversee all matters of state and economic development. The oligarchy's views toward personal freedoms range from moderately tolerant to oppressive with most examples skewing closer to the latter option than the former. The oligarchy's members along with their family and friends, if they choose, act with impunity while those outside the inner circle must abide by the oligarchy's edicts. On some occasions, individuals outside the elite group who are fortunate enough to amass wealth under this system may be granted membership into the oligarchy.
36-60	Theocracy (God Figure): All civil authority derives from a divine source. In the case of a god figure, political power rests in the hands of one individual who may be a living deity, a demigod, or a representative chosen by one or more gods. The god figure wields absolute authority over all matters of state including serving as the head of its church.
61-70	Theocracy (Clerical State): In a clerical state, the clergy interprets the deity's or deities' commands and codifies them as law. Priests enforce the gods' edicts, allowing them to preside over all religious and secular matters. Unlike the god state, the priests may select one of its members to serve as its high priest, a role granting the individual supreme authority but not divinity.
71-90	Tribal: This society lacks any formal government. Instead, a familial patriarch, matriarch, or a family council usually consisting of the group's elders presides over their individual clans who may live cooperatively or competitively with other bloodlines in a shared community or as parts of smaller, rival communities dwelling close together. Military might, more than lineage, frequently determines an individual's status within the tribe.

d100	Political System
91–00	Warrior State: Incorporating elements of tribalism and autocracy, the community's warriors enjoy an exalted status within society, gaining civic rights and privileges denied to average citizens. Military commanders or celebrated heroes may assume rulership over the state, though these individuals usually defer daily oversight of civic and religious matters to others.

Like most humanoids, marsh residents typically dwell close to rivers, streams, lakes, and other bodies of fresh water. While most marsh people refrain from widespread agriculture and remain hunter-gatherers at heart, they nonetheless lead a predominately sedentary lifestyle near reliable sources of wild grains, abundant game, and seafood. With these factors in mind, the GM may consult the following table to determine the people's lifestyle.

Table 3-23: Lifestyle

<01	Nomadic: The people live exclusively off the land and are constantly on the move, never staying in the same location for more than one night. They are exclusively hunter-gatherers. To cover more ground in a single day, most nomadic peoples ride atop domesticated animals and frequently travel with large herds of livestock. Most share common lineage with their fellow travelers.
01–15	Semi-nomadic: These individuals have no permanent home, though they may settle down in one location for several days, weeks, or even a few months under the right conditions. Their movements usually coincide with seasonal changes, though they rarely revisit the same exact locale. Although they are predominately hunter-gatherers, they may engage in limited agricultural activities before moving on to their next destination. These individuals typically reside in mobile, temporary shelters they erect soon after their arrival.
16–30	Semi-sedentary: Although they construct permanent settlements, these people divide their time among a few predetermined locations based upon the seasons. They may spend several months in one favorable spot to raise crops, fish its bountiful waters, or hunt a herd of game animals traveling along a migratory route. While they may still be classified as hunter-gatherers, they spend a roughly equal amount of their time raising domesticated livestock, growing agricultural products, and engaging in commercial activities.
>31	Sedentary: The residents live in the same location year-round, where they farm the land, tend to their domesticated flocks, hunt game in the surrounding wilderness, and develop commercial enterprises. Trade routes, civic engineering projects, and a reliable water source can be typically found in a sedentary society.

Marsh Campaigns

Semi-aquatic environments such as marshes pose unique obstacles to adventurers accustomed to traveling and fighting on dry ground. The previous section on swamps described some of the tactical advantages amphibious and water-breathing creatures have over terrestrial-based foes. Likewise, because of the marsh's water table, it is nearly impossible to keep seeping groundwater and floodwater out of underground passages and chambers. The high marshes overlooking the channels may be elevated enough to prevent any complex dug into the surface from being

completely underwater regardless of the time of year. Nonetheless, the moist ground above and below the recess must be reinforced to prevent the ceiling from collapsing and the floor from turning into quicksand. For this reason, an intact lair or cave carved into the side of high marsh indicates the location is either still inhabited or maintained by someone or something residing within it or somewhere else in the immediate vicinity.

Marshes differ from swamps in the respect that large portions typically dry out for prolonged stretches, most often during the summer or periods of drought in the non-tidal marshes. Even during the rainy seasons and high tides, the water is rarely more than a few feet deep. This factor makes swimming less of a necessity in these shallow waters, especially if the character is tall enough to keep his head above the surface. Of course, an unconscious or helpless creature who falls into the water is likely to drown without some intervention.

Adventurers rarely delve into unknown territory without a purpose. Every story needs a plot to set the tale's events into motion. The GM may use the following table to ignite a spark of inspiration in any marsh adventure.

Table 3-24: Tidal and Non-Tidal Marsh Adventure Ideas

d10	Event
1	Bad Luck: At some point in their career, every gambler runs into a seemingly endless streak of bad luck. After losing his last coins on a terrible bad beat during a riverboat poker game, the desperate player seeks alternative methods of financing his stake to get back into the game. His first option is to secure a loan or find partners willing to front him money. If this approach fails, he resorts to a more extreme measure: waylaying and robbing passersby for their money.
2	Black Swan: Birds frequently wade in the marsh's shallow waters. Some residents watch and catalogue these animals during their forays into the marsh. Catching a glimpse of a majestic swan captures the imagination of most ornithologists though the opportunity to spy upon the rare black swan eluded amateurs and experts alike until now. A young girl spotted not just one, but a pair of these birds circling overhead several hours ago before they flew off to the west. Her account invokes envy in some community members and trepidation in others. Her fellow bird fanciers long to share her experience, which inspires them to race out to the site to see the elusive bird with their own eyes. On the other hand, skeptical inhabitants perceive the birds' appearance as a foreboding omen. They insist upon killing the animals to prevent an unforeseen calamity from befalling them.
3	Festival: Music fills the air, colorful decorations adorn the area, and the tasty aromas of exotic food delight the senses. Everyone in the community dons an elaborate costume complete with beaded necklaces while carrying a plate of tasty morsels in their welcoming hands. Yet the jovial atmosphere belies something is amiss. No one knows what they are celebrating. Befuddled guests stammer for an explanation but come up empty. Furthermore, they cannot say when the festivities began or when they are supposed to end. Judging by the amount of food and drinks consumed, it appears the party has been going on for days. However, no one complains about tiredness or seems ready to call it a night. Although previously relegated to the background, the alluring rhythms blaring through the marsh suddenly take center stage, confining all thought and reason to the back of the listener's obsessed mind.

d10	Event
4	Frog: The semi-aquatic marshes offer an ideal habitat for amphibians, especially frogs. These animals are renowned for their distinctive croaking. While their messages make sense to other frogs, humanoids generally cannot comprehend their bizarre language, though there may be one exception. Several residents insist they came across a talking frog who requested their assistance in a matter of utmost importance. None who aided the animal ever returned to tell the tale. Even more surprising is the fact that these stories span the generations, indicating there may be more than one such frog dwelling in the marsh or the creature enjoys incredible longevity.

5	Hemlock: Found along the edges of ponds and streams, this tall member of the carrot family can be mistaken for its edible, non-toxic relative. While most wisely avoid eating or even touching the plant, an unstable yet brilliant hermit dwelling in the marsh claims he regularly devours its leaves and stems. Before initiating his strange symbiotic relationship with the poisonous water hemlock, the man could not articulate or understand the simplest concepts. Now he occupies his days making advanced mathematical calculations while formulating complex theories about the universe around him. Naturally, his newfound intelligence leads some scholars and wizards to investigate the water hemlock's unusual properties.
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6	Manatee: Otherwise known as a sea cow, this curious marine mammal somehow wrapped a piece of waterlogged fabric around its tail. Upon closer inspection, the soggy square of linen appears to be part of an ancient sail that apparently sat undisturbed at the bottom of the marsh until the manatee's inquisitiveness got the better of it. The plain, beige material bears no images or other telltale signs of its affiliation with any entity, though its dimensions and sturdy construction imply it came from a large, seafaring vessel rather than a small boat submerged somewhere in a nearby river or lake.
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7	Marsh Gas: When organic matter decays, it frequently releases methane, the primary component of marsh gas. In most cases, marsh gas is an unpleasant yet harmless byproduct of the decomposition process. However, this circumstance seems different. The normally invisible gas instead emits a weird blue luminescence as well as an especially foul, earthy odor accompanied by a gasping sound. Being a recent phenomenon, a few local residents tie the event to the suspicious disappearance of a young woman several weeks earlier. The rumor mill claims she was the odd person out of a scandalous and volatile love triangle.
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8	Orphan: Sightings of a feral child living in the marsh have circulated throughout the community for years. By now, the young boy must be a man. In most incidents, the child walks freely in the company of a panther. The orphan and the big cat allegedly dwell on a small island surrounded by dense sedges and streams. Some people believe the man and the panther are really one and the same creature. After avoiding humanoid contact for years, the feral person has been spotted stalking the settlement's outskirts on several occasions during the past week alone. His intentions remain unclear, but his panther companion did not accompany him on these recent excursions, leading most to ponder the animal's fate.
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d10	Event
9	Papyrus: Humanity uses the crushed pulp of this marsh plant to create the writing material bearing its name. However, a local farmer recently unearthed a papyrus plant already bearing symbols and pictographs seemingly burnt onto its leaves and stem. When he took the strange plant to his priest, the holy man trembled at the sight and immediately fell over dead. Terrified by this unforeseen and traumatizing development, the man fled the area, taking the plant with him. No one knows what the images and icons look like or mean, but the priest's death reinforces the belief the message foretells something horrific.

10	Storm Surge: At first, the marsh's residents only feel the residual effects of a massive storm churning away in the distant sea. Steady wind and rain accompanied by dark skies usher in the arrival of the cyclone's most dangerous component — a storm surge. The spinning area of low pressure pushes immeasurable volumes of seawater into the oversaturated marshes, where it threatens to wash away settlements along the marsh's swollen riverbanks.
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Marsh campaigns are primarily wilderness adventures rather than conventional dungeon expeditions. The most primitive creatures stash their worldly riches in caves and tunnels hidden beneath the muddy waters or on patches of dry land covered by grasses and sedges. The biome's more powerful adversaries are much more sophisticated. Instead of occupying abandoned fortresses and dank ruins, the marsh's malevolent denizens take refuge on isolated, slightly elevated islands surrounded by filthy, malodorous water and an impenetrable wall of serrated and sometimes toxic reeds. A formidable villain may construct bridges and causeways to connect a chain of these islands together, creating an aboveground compound. Naturally, the average person stays as far away from these ominous strongholds as possible. On the other hand, adventurers seek out these locales, especially if the local populace hires them to clean out the marsh's unwelcome inhabitants. The call to action may result from a desire to transform a strategically located parcel of land into farmland or to rid the area of a creature wreaking havoc for the neighboring residents.

The marsh's greatest terror is the unpredictable and sinister black dragon. The capricious reptile cares only for two things: filling its belly and sating its greed, though rarely in that order. It normally wants nothing to do with man, though hunger may drive the voracious beast to make a quick meal of an unsuspecting humanoid wading in the shallow waters or along the edge of a riverbank. More often, rumors of gold, gems, and shiny metal objects pique the monster's interest in his bipedal neighbors. In this instance, the unwanted attention goes both ways. The thought of wresting an enormous treasure hoard from its avaricious claws has inspired countless generations of adventurers to venture into the wetlands to fulfill such an ambitious quest. Sadly, the majority of dragon hunters come back emptyhanded — if they even return at all.

The GM may use the following table to determine a suitable location for an adventure.

Table 3–25: Tidal and Non-Tidal Marsh Adventuring Sites

d10	Location
1	Aquarium: Presumably the centerpiece of an abandoned palatial estate, this vestige of a bygone era boasts eight stone tanks with a glass panel replacing one of its walls. Seven of the freshwater receptacles contain foul water filled with algae and debris, though one tank remains viable. Despite ages of neglect, its water remains remarkably clear and devoid of the refuse filling the other tanks. A carp-like fish with short whiskers swims along the pool's rocky bottom, where it appears to feast on the garbage littering the other tanks. In another odd development, the bottom on this aquarium, which sits flush against the ground, is the only one with a rocky bottom, implying it is somehow connected to the soil below it.

d10	Location
2	Causeway: Architects and engineers sometimes use earth and loose rocks rather than worked stone, wood, or other manufactured materials to create a causeway connecting two or more patches of dry land. The technique makes the most sense when used to span long distances over shallow water. The experienced team charged with the task of building this causeway believed the project was doomed before it began. Despite months of meticulous planning, everything that could go wrong went wrong. Anomalous weather patterns, outbreaks of disease, wild animal attacks, and other catastrophes plagued the causeways' construction at every turn. The designers finally completed the span one year overdue and far over budget even after taking several unethical shortcuts. Some surviving laborers claim the project managers buried the dead within the causeway, while others insist the corpses were already there. Whatever the explanation, misfortune follows any who dare tread upon the manmade land bridge. Dam: An extensive dam made with packed mud, loose stone, sticks, and other vegetation reaches a maximum height of eight feet and stretches almost 200 feet across the breadth of a large pond. The nine beavers who created this enormous engineering marvel constantly reinforce and maintain the barrier. The animals toil throughout the night with clockwork coordination and precision, even though they never communicate with their fellow workers. Indeed, the beavers completely ignore each other throughout the process. The industrious rodents' efforts focus much of their interest on one stretch of the dam overlooking a dredged parcel of earth covered by what appears to be waterlogged floor boards. Drainage Channel: Made from stone and mortar, this drainage channel serves as another reminder of humanity's obsession with dredging wetlands for its own purposes. Its creator sought to transform what he believed to be a fertile patch of elevated marshland into arable land, though his reasons for doing so were always steeped in mystery and intrigue. Local gossip suggested the kooky builder planned to grow illicit drugs on the isolated parcel, but regardless of his motivations, he quickly abandoned the effort, leaving a lone drainage channel as the only testimony to his folly. While most attributed his departure to his flaky personality, several surviving laborers dispute the widely held belief and insist their supervisor only decided to leave the marsh intact after excavating a chilling relic from the distant past — a humanoid skull encased in lead.

d10	Location
5	Gondola: A lone oarsman stationed in the stern of this long, sleek watercraft propels and steers the vessel. Although predominately encountered in controlled environments such as manmade canals and lagoons, this gondola presumably strayed into the marsh's twisting and treacherous waterways. Its gondolier conceals his hands and face with a thick, black cloak with elongated sleeves. The man's attire is completely out of place considering the temperature and conditions. Questionable accounts of encounters with the gondola claim the ship and its occupant came from the underworld to collect souls. One report suggests the gondola and its driver are available for hire to those seeking to rid the marsh of its evil denizens. Harbor: Elevated pieces of land jut out into a marsh waterway, which creates an inlet granting shelter to boats traveling through these waters. The harbor's shape, mounds of displaced earth, and strategic location indicate its manmade origins. The harbor predates the locals' collective memory, prompting most residents to conclude it must be at least extremely ancient. Its anonymous builders left no clues regarding their identity or why they built a harbor in the proverbial middle of nowhere, giving rise to the commonly held perception its architects wanted the harbor to remain a well-kept secret. Naturally, this conclusion leads to the next leap of faith — the builders gathered together in the harbor to engage in clandestine activities or perform mysterious rites in the privacy of the marsh. Oyster Bed: Thousands of these mollusks cover the muddy shoreline adjacent to the reeds growing in the soil. One of the marsh's keystone species, this large congregation of oysters functions as a habitat for many smaller marine creatures living on their shells or in the nooks between neighboring oysters. Of course, the oysters also attract attention from humanoids interested in finding pearls nestled between their shells or consuming their delicious flesh. Oysters encountering humanoids can do nothing but close their shells and hope for the best, but this collection of animals differs from the ordinary. Although they cannot fight back in the conventional sense, they offer passive resistance by coating their jagged shells with hallucinogenic toxins, which compel poisoned humanoids to submerge their heads in the water. This unusual property causes some to speculate someone altered these animals to guard something hidden beneath them. Rice Paddy: Water completely submerges this rice paddy, yet something simmers beneath the surface. The faint outline of an underwater current surges through the rice paddy while bubbles pierce the surface and release a sickly-sweet aroma and a fleeting cloud of wispy blue vapor. Local legends claim an ancient ruler cursed the gods after a prolonged drought ruined his people's crops. Seconds after uttering his angry tirade, a wave of water rushed across the land and drowned him. According to popular legend, the irate leader still curses the gods from beyond the grave. Indeed, his incessant rambling creates the bubbles.
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Riverboat: Safely anchored in a neighboring waterway, this pleasure craft welcomes anyone willing to test their luck in a game of chance or take a swing at romance. Its unscrupulous proprietor welcomes anyone onboard his vessel who is willing to part with their money in pursuit of a good time. Shady characters partaking in high stakes gambling and other vices guarantee someone comes to blows with an employee, another patron, or both, over a real or imaginary slight. Nonetheless, big money and nefarious persons always garner interest from adventurers seeking a lucrative score or the latest gossip.

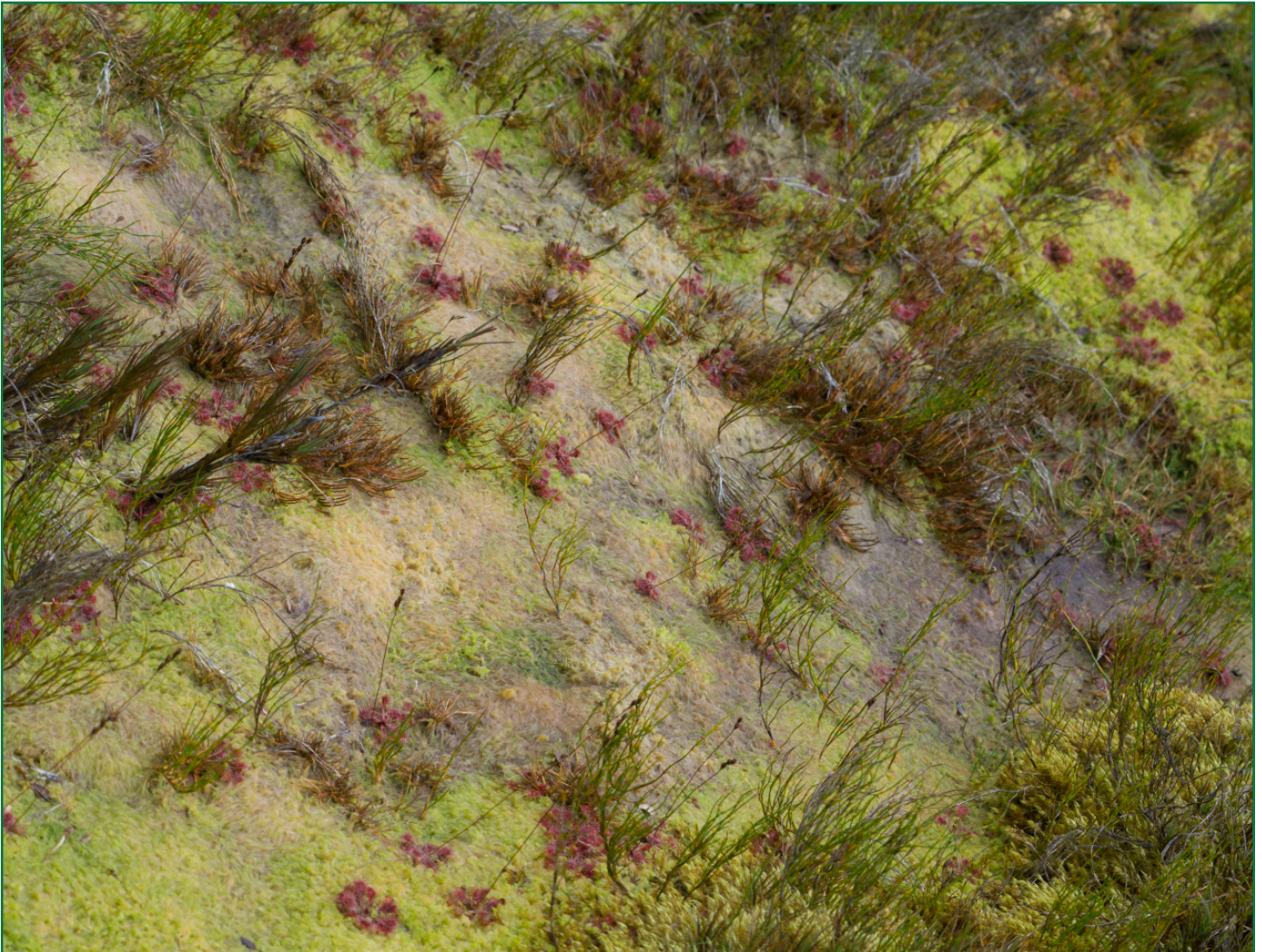
Tobacco Field: These broad-leafed green plants grow wild in a warm, damp patch of the marsh, where they inexplicably keep the endemic flying insects at bay. The absence of parasitic pests leads some to suggest the tobacco plants may be carnivorous, much like pitcher plants or the Venus flytrap. However, the tobacco field's most startling characteristic is its tendency to spontaneously combust and spew its gray smoke throughout the area without any visible flames. Those who inhale the wispy tendrils insist it filled their minds with disturbing images of a world overrun by tyrannical insects who burrowed up from the ground beneath the tobacco field.

Bogs and Fens

The term bog usually conjures images of a disgusting pond filled with stagnant, viscous liquid that periodically belches out clouds of noxious gases. Some folks even swear the foul-smelling water is so thick, a full-grown man can walk atop it. There are some slivers of truth to these widely held perceptions. Although bogs are still wetlands, they and their close cousin fens are classified as mires. This unique type of terrain lacks any forest cover and is dominated by living peat-producing plants, particularly sphagnum moss. When these plants die and fall into the standing pool of cold water, their rate of decay drastically slows, allowing them to retain moisture, giving the bog its unusual property of being practically solid. The material then sinks to the bottom of the bog where it absorbs water and becomes peat. The peat steadily accumulates, raising the water level and, in some instances, creating a pontoon of floating peat, that may indeed support an adult humanoid walking atop it.

Bogs do not develop haphazardly or overnight. Consistent with other natural processes, a great deal of time and the right conditions must exist for an area to transform into this odd terrain. A bog's most important feature is its distinct shape. They form in depressions in the earth often resembling a dome. Bogs are always higher than the surrounding landscape; thus, they can be found on elevated plateaus well above sea level. This configuration prevents water runoff from other sources such as mountain streams and melting snows from flowing over the bog's outer lip. Therefore, bogs rely almost exclusively on precipitation for their water supplies. These anomalous wetlands sometimes return excess water to the surrounding area if the bog's banks overflow during torrential downpours and the rainy season.

Bogs also need a cool climate and plentiful rainfall, so they are found exclusively in the higher latitudes in humid environments. The cold



temperatures and dampness ensure that the wetland’s main ingredient, peat, does not decompose. Peat plays a vital role in the transformation from an ordinary pool of standing water into a bog. Over time, the organic material solidifies, creating a stratified, virtually waterproof coating lining the bottom. This insulation functions in a manner similar to a modern swimming pool liner. It prevents the water in the bog from escaping, while repelling groundwater trying to seep into the bog. Coupled with the bog’s ability to repel water from other sources, this static system creates an acidic environment low in essential nutrients that impairs its ability to sustain a wide array of flora and fauna. Only a select handful of specialized plants can flourish in these caustic waters. Obviously, the ubiquitous sphagnum moss thrives in this difficult landscape, along with an assortment of heaths, sedges, and evergreen shrubs.

Fens, the lesser-known relative of the bog, makes up for its lack of name recognition with improved biodiversity. Fens are usually found interspersed among their wetlands kin and develop in the same manner as bogs. Dead organic matter and vegetation fall into the water and sink to the bottom where the materials undergo an exceedingly lengthy metamorphosis into combustible peat. However, fens differ from their cousins in one critical respect. Fens allow surface and ground water to pour freely into and out of these depressed basins. Although some fens are still acidic and may be nutrient deficient despite exchanging water with external sources, many others, such as those receiving water from limestone or calcium carbonate groundwater sources, are rich in essential minerals and typically alkaline as well.

While the flora and fauna found in the acidic fens closely resemble those encountered in bogs, the plants and animals inhabiting alkaline and nutrient rich fens are much more diverse and numerous than those dwelling in and around their acrid kin. Sedges and grasses dominate the terrain, though it is also common to find carnivorous plants such as butterworts alongside more common species. Shrubs and trees such as spruce, willow, and birch are also frequently encountered here. Sphagnum moss is less prevalent around fens; thus, they typically produce peat at a significantly slower rate than bogs. The abundant flora attracts turtles, snakes, frogs, and salamanders to this habitat as well as large mammals such as moose, bear, and the occasional beaver.

Fens are perhaps the most delicately balanced wetland ecosystem, making long-term habitation a dicey proposition. It can take several millennia to create a fen through natural processes. Once established, even the slightest change in humidity, temperature, or geography can transform a vibrant wetland into an inhospitable bog. This typically occurs when stratified layers of peat prevent the fen from discharging and receiving groundwater. Deprived of the ability to replace stagnant water with freshwater, the fen becomes increasingly acidic. A sharp decline in precipitation or sudden warming can also inhibit the introduction of fresh surface runoff into the fen or rapidly evaporate the existing stores of water, again depriving the fen of the critical nutrients necessary to sustain its diverse array of life.

The following table describes the vegetation and ground conditions found within the surrounding 2d4 miles in the bog or fen. When consulting this table, the GM rolls percentile dice for each feature to determine if it is present in the area. One or more types of terrain and/or vegetation may coexist in the same general area, though certain features negate the effects of others as described in the following table. Difficult terrain, as described in this table, only applies to determining the actions a character can take when moving through an area containing this feature rather than its effect on the creature’s speed.

Table 3-26: Bog and Fen Vegetation and Terrain Type

Vegetation and Terrain	Bog	Fen
Peat ^a	50	20
Trees ^b	10	25
Vegetation ^c	30	40
Undergrowth ^d	20	20
Shallow water ^e	30	10
Deep water ^f	05	05

^a Peat reduces overland speed by half and halts all wheeled vehicles in their tracks. If there is no peat, the ground is firm, which has no effect on overland speed or wheeled vehicles. Areas containing shallow water or deep water completely cover the peat and negate its effects on movement. Areas containing peat are treated as difficult terrain, if applicable. Peat exposed to an open flame has a 50% chance of igniting and starting a peat fire. (See the upcoming **Hazards** section for more details regarding peat fires.)

^b Trees found in bogs and fens include the spruce, birch, willow, and some evergreens. The tree’s trunk provides cover, if applicable, to any creature behind them. When trees are present, each individual tree is 1d4+1 x 5 feet away from the its closest neighbor. Trees have no effect on overland speed, but they reduce the speed of wheeled vehicles and waterborne vehicles in half.

^c Vegetation cannot cohabitate areas with deep water. Vegetation reduces overland speed by half and halts wheeled vehicles in their tracks. Areas containing shrubs are treated as difficult terrain, if applicable.

^d Undergrowth includes vines, roots, and soft-stemmed vegetation covering the marsh floor. These plants cannot cohabitate areas with deep water. Undergrowth has no effect on overland speed, but areas containing undergrowth are treated as difficult terrain.

^e Shallow water is one foot or less in depth. It reduces overland speed by half and halts all wheeled vehicles in their tracks. Watercraft with a draft greater than the water’s depth automatically run aground while those with a draft greater than 1d4 inches have a 50% chance of running aground per 100 feet traveled. If shallow water is present, the area cannot also contain deep water. Areas containing shallow water are treated as difficult terrain, if applicable.

^f Deep water reaches a depth of 1d6 feet. It reduces overland speed by three-quarters and halts all wheeled vehicles in their tracks. Charging and running are impossible for creatures whose height is less than five times the water’s depth. Creatures not tall enough to keep their heads above water risk drowning, though they benefit from cover, if applicable. Watercraft with a draft equal to or less than half the water’s depth can safely navigate through deep water. Watercraft with a draft greater than half the water’s depth but less than its depth have a 50% chance of running aground for every 100 feet traveled, while vessels with a draft equal to or greater than the water’s depth automatically run aground. Areas containing deep water are treated as difficult terrain, if applicable.

Fortunately for humanoids, cranberries, blueberries, and huckleberries are among the few species that can survive in a bog. Another small group of plants solved the bog’s mineral deficiency problem in a different and most ingenious manner. Sundews and pitcher plants entice insects and other tiny creatures into their nearly escape-proof trap, close their hinged or pitcher-shaped leaves, and then slowly devour their victims in a cocktail of digestive enzymes. The most notable members of the wetland’s fauna are caribou, moose, and beavers complemented by a limited contingent of birds, such as cranes, and insects. Still, for every successful adaptation, there are hundreds of miserable failures, leaving animals and plants in short supply. The bog’s acidic waters and soil lack the essential nutrients to support most food staples such as wheat, corn, and rice, making large, self-sufficient settlements impossible. Nonetheless, many humanoids venture into this mire for its bountiful berries, which are used to make pies, jams, and other treats.

The GM may consult the following table to determine the fauna, flora, and random events the characters may encounter during their journey across a bog or fen. These items may be used solely as wilderness dressing, to plant the seeds for an upcoming adventure, or as an interesting side trek.

Table 3-27: Bog and Fen Flora, Fauna, and Random Events

d20	Encounter
1	A humanoid bone protrudes out of a pitcher plant’s leaves.
2	A hare struggles to escape the peat.
3	Blueberry shrubs flourish along the banks of an otherwise lifeless pond.
4	Horsetflies drone around a mound of decaying moss.
5	Two muskrats furiously construct a nest from shrubbery and loose moss.

d20	Encounter
6	An amusing shrew appears to be performing tricks someone taught it.
7	Someone drove an upright wooden stake into the ground.
8	An apparently lost moose calf drinks water from a stagnant pool.
9	Rushes with curious black tips flourish in the soil.
10	A brown spider with distinctive white markings along its abdomen scuttles across the ground toward a loose stone.
11	Rusty, sundered manacles lie along the edge of a peat-covered pool.
12	Dragonflies circle around a shrub producing orange berries.
13	The sound of flapping wings heralds the appearance of a predatory harrier, swooping down from the sky to grab an unfortunate vole with its talons.
14	Two young boys frantically grab bog cotton floating in the breeze.
15	Mosquitoes desperately try to escape the sticky clutches of a massive sundew.
16	A frog periodically emits a piercing shrill instead of its typical croak.
17	Someone or something left an unattended bale of peat in the middle of the bog.
18	A rusty cutting implement lies on the ground.
19	Drops of blue liquid coat purple berries growing on a shrub.
20	Fine granules stick to blades of green grass.

When adventurers encounter humanoid in a predetermined location or in a randomly generated community near a body of water or a road (see **Tables 3–35** through **3–45** inclusive), the population size affects its demographic makeup as reflected in the following table.

Table 3–28: Population Effect on Demographics

Population	Modifier
Fewer than 50	–4d10
51–200	–2d10
201–2,000	none
2,001–5,000	+2d10
5,001–15,000	+4d10
15,001–30,000	+6d10
31,000+	+8d10

After determining the modifier based upon the population size, the GM may then apply that modifier to the following table to determine the demographics of a bog or fen community.

Table 3–29: Humanoid Demographics

d100	Racial Makeup
<41	Exclusively Homogenous: Everyone is a member of the same humanoid race, religion, or ethnicity, if applicable.
41–60	Predominately Homogenous: Almost everyone is a member of the same humanoid race, religion, or ethnicity, if applicable.

d100	Racial Makeup
61–75	Largely Homogenous: The majority are members of the same humanoid race, religion, or ethnicity, if applicable.
76–90	Neutral: One race, religion, or ethnicity, if applicable, outnumbers all others but does not comprise a majority. Nonetheless, their culture, traditions, and beliefs define society, though other peoples exert lesser degrees of influence as well.
91–95	Moderately Diverse: Some races, faiths, and ethnicities, if applicable, are more prevalent than others, but none greatly outnumbers all others. The traditions of several races, religions, and ethnicities combine forces to determine society's overall cultural makeup.
96–100	Largely Diverse: A multitude of races, religions, and ethnicities make up the largely integrated population. The fusion of backgrounds creates a unique society embodying traits borrowed from numerous traditions, though some perspectives influence the community more than others.
>100	Completely Diverse: Nearly every race, faith, and ethnicity imaginable can be found among the population. Most citizens are multicultural and multilingual, embracing their own customs as well as adopting those acquired from neighboring peoples.

The following table modifies the results on **Table 3–30** based upon the community's demographics.

Table 3–29: Demographics Effect on Humanoid Attitudes

Demographic	Modifier
Exclusively homogenous	–5d10
Predominately homogenous	–3d10
Largely homogenous	–1d10
Neutral	none
Moderately diverse	+1d10
Largely diverse	+3d10
Completely diverse	+5d10

Humans dwelling in the bogs and fens cannot live on berries alone. The small, isolated humanoid communities that spring up in this challenging environment must rely upon trade with the outside world to feed and clothe their residents. The entrepreneurs, laborers, and craftsmen who live here barter a portion of their homegrown commodities for food and other essential goods. Although they largely dwell in insular societies, their sustenance demands often bring them into contact with outsiders, which creates a strange dichotomy. While they are more homogenous than most communities, their frequent exposure to other people mollifies their anxiety when they encounter new ideas and lifestyles. Keeping the preceding considerations in mind, the GM may consult the following table to determine their attitudes toward others.

Table 3–30: Humanoid Attitudes

d100	Attitude
<01	Segregated: Society is strictly divided along racial, religious, or ethnic lines with the more populous groups assuming a dominant role. They treat minorities as inferiors, relegating them to subservient status. Civil or religious authorities strictly enforce boundaries between divergent populations through threats, intimidation, and if necessary, violence.

d100	Attitude
01–10	Prejudiced: Although some integration takes place, racial, religious, or ethnic tension hangs heavy in the air. Many people hold persistent, deep-seated opinions sowing mistrust between members of different groups. Residents keep a wary eye on those different than themselves, perceiving them as second-class citizens who pose a constant threat to their supposedly superior way of life.
11–20	Biased: Few individuals publicly express their misgivings about other people, yet it is difficult to ignore the undercurrent of bias bubbling beneath the surface. Although people can move freely about without restriction, subtle acts of discrimination still permeate society. Interactions between different sets of people may seem courteous and polite on the surface, yet words, gestures, and body language belie the person's compartmentalized suspicions.
21–35	Indifferent: An indifferent society strives to maintain the society's <i>status quo</i> , sweeping any pervasive prejudices under the proverbial rug. Gradual modification of existing attitudes can occur, though some find its pace too plodding for their liking. Residents rarely let their biases govern their actions and perceptions of other people, yet few go out of their way to welcome those different than themselves.
36–55	Tolerant: Multiple languages, religions, and cultures mingle together, though members of the same race, religion, or ethnicity feel more comfortable with others of their kind than outsiders. A live-and-let-live attitude best summarizes a tolerant society's outlook toward the community at large, though some innate biases linger in certain circles.
56–75	Accepting: Members of different races, religions, and ethnicities live side by side in almost completely integrated communities. Familiarity forms the cornerstone of an accepting society. However, those hailing from unfamiliar places or arriving with previously unseen customs encounter some misgivings and suspicion from startled observers.
>76	Welcoming: Society welcomes immigrants and visitors, regardless of race, religion, or ethnicity into the fold. Newcomers are encouraged to quickly assimilate into their surroundings as they adapt to their neighbors' customs and traditions while adding their uniqueness to the mix. Indeed, most members perceive themselves as citizens first and foremost relegating association with their race, religion, or ethnicity to a secondary status. Prejudice persists in some isolated corners, but the overwhelming majority strongly condemn such viewpoints and celebrate diversity.

These scattered towns and villages are the only vestiges of civilization in and around the bogs, making them the logical starting point for most adventures into this rugged landscape. Although most people live in the small towns and villages within the bog, nomads account for a sizable portion of the terrain's humanoid population. The rugged men and women who eke out an existence as hunter-gatherers in this foreboding realm lack the social, cultural, and technological sophistication of their urban brethren. They take a more primitive worldview, attributing their successes and failures predominately to the whims of their temperamental gods, who demand a steep price for their favors.

Despite the more hospitable living conditions in fens, humanoid settlements in the region are still small, isolated, and scattered. With peat in lesser quantities, the communities that develop in this wetland region engage in more conventional industries than their bog counterparts. The residents catch fish in the fens' shallow waters and hunt an assortment of game animals, including the formidable moose, on the dry stretches of land. Larger villages and towns raise livestock such as goats and sheep that graze on the verdant grasses that flourish in the fertile soil. Engineers build their permanent structures atop the numerous islands dotting the landscape and use the existing waterways to connect these disparate outposts by boat. The most advanced civilizations lay down roads and erect causeways to link these locations to one another.

Table 3–31: Bog and Fen Political System

d100	Political System
01–10	Autocracy: A single individual, who seized control of the state through bloodless or violent means, wields absolute power over his people. This individual may have attained this position from their predecessor who was a family member or handpicked this person as their successor. An autocrat often targets one or more segments of society as their sworn enemies, encouraging their subjects to take some punitive actions against the autocrat's real or imaginary foes.
11–15	Elected Official: Residents select an individual to serve as the settlement's leader. The person may wield absolute authority or share civic responsibilities with a council of fellow citizens. The elected official, known as a mayor, magistrate, or similar title, typically defers judicial matters to a judge or sheriff appointed by the elected official.
16–20	Gerontocracy: While birthright, wealth, or political connections normally determine membership in the ruling class, this political system grants supreme authority to the community's eldest residents regardless of their gender or social status. Age is a relative term based upon the person's longevity for their race rather than their age measured in years. Because these individuals cannot bequeath their station to a designated heir or successor, they often rule in a just manner, relying upon their extensive life experiences to better the lives of their subjects. Nonetheless exceptions exist, especially for those who fear death and pursue every avenue to defy their own mortality.
21–30	Monarchy (Absolute): A group of blood relatives rules the land with ultimate authority vested in one or two persons known as the monarch. This individual's power is absolute, though the crown may vest some jurisdiction in others. In patriarchal societies, the eldest male descendent of the previous leader functions as the monarch, assuming the title of chieftain, elder, or another suitable designation. In a matriarchy, the oldest female descendent performs the same role as the state's queen, empress, or other lofty heading. The monarch's spouse, typically hailing from a neighboring royal family or a distant relative, functions solely as a consort, preventing the surviving spouse from inheriting the throne when the monarch dies. Younger siblings, living parents, and children undertake other civic and religious duties within the state, while extended family members also enjoy the trappings of nobility.

d100 Political System	
31–40	Oligarchy: A group of individuals determined by birthright, military might, or personal wealth oversee all matters of state and economic development. The oligarchy's views toward personal freedoms range from moderately tolerant to oppressive with most examples skewing closer to the latter option than the former. The oligarchy's members along with their family and friends, if they choose, act with impunity while those outside the inner circle must abide by the oligarchy's edicts. On some occasions, individuals outside the elite group who are fortunate enough to amass wealth under this system may be granted membership into the oligarchy.
41–50	Theocracy (God Figure): All civil authority derives from a divine source. In the case of a god figure, political power rests in the hands of one individual who may be a living deity, a demigod, or a representative chosen by one or more gods. The god figure wields absolute authority over all matters of state including serving as the head of its church.
51–85	Theocracy (Clerical State): In a clerical state, the clergy interprets the deity's or deities' commands and codifies them as law. Priests enforce the gods' edicts, allowing them to preside over all religious and secular matters. Unlike the god state, the priests may select one of its members to serve as its high priest, a role granting the individual supreme authority but not divinity.
86–00	Tribal: This society lacks any formal government. Instead, a familial patriarch, matriarch, or a family council usually consisting of the group's elders presides over their individual clans who may live cooperatively or competitively with other bloodlines in a shared community or as parts of smaller, rival communities dwelling close together. Military might, more than lineage, frequently determines an individual's status within the tribe.

The GM may consult the following table to determine the residents' lifestyle. When the characters encounter people close to a dependable and renewable water source, he may add +1d10 to the die roll. Conversely, he may subtract -1d10 to the die roll for individuals living far from any replenishable water source.

Table 3-32: Bog and Fen Lifestyle

<16	Nomadic: The people live exclusively off the land and are constantly on the move, never staying in the same location for more than one night. They are exclusively hunter-gatherers. To cover more ground in a single day, most nomadic peoples ride atop domesticated animals and frequently travel with large herds of livestock. Most share common lineage with their fellow travelers.
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16–45	Semi-nomadic: These individuals have no permanent home, though they may settle down in one location for several days, weeks, or even a few months under the right conditions. Their movements usually coincide with seasonal changes, though they rarely revisit the same exact locale. Although they are predominately hunter-gatherers, they may engage in limited agricultural activities before moving on to their next destination. These individuals typically reside in mobile, temporary shelters they erect soon after their arrival.
46–70	Semi-sedentary: Although they construct permanent settlements, these people divide their time among a few predetermined locations based upon the seasons. They may spend several months in one favorable spot to raise crops, fish its bountiful waters, or hunt a herd of game animals traveling along a migratory route. While they may still be classified as hunter-gatherers, they spend a roughly equal amount of their time raising domesticated livestock, growing agricultural products, and engaging in commercial activities.
>70	Sedentary: The residents live in the same location year-round, where they farm the land, tend to their domesticated flocks, hunt game in the surrounding wilderness, and develop commercial enterprises. Trade routes, civic engineering projects, and a reliable water source can typically be found in a sedentary society.

Bog and Fen Campaigns

Peat is by far the bogs' and fens' most valuable and sought after natural commodity. Once dried, this compacted mass of decaying organic matter burns for hours without any significant maintenance. Its long life makes it an ideal fuel source for ordinary peasants heating their homes during the winter and craftsmen who must use fire to create their wares. Whiskey distillers even use peat to dry malted barley, giving their spirit a distinct, earthy flavor some connoisseurs prize. Despite its benefits, peat, like other fossil fuels, has its drawbacks. Its emissions release more heat-trapping carbon dioxide into the atmosphere than coal and natural gas, occasionally producing a suffocating haze that may linger in the air for days at a time. Peat fires are the most immediate and significant danger associated with this highly flammable substance. Whether intentionally or accidentally set, these conflagrations spread quickly and are extremely difficult to extinguish.

Unlike swamps and marshes, the bog's moist patches of land retain moisture from precipitation but do not flood because of overflow from a swollen adjacent body of water. Although these parcels of earth are saturated throughout all or much of the year, they are rarely completely underwater for more than brief intervals. As a result, nearly all the native denizens — humanoids, beasts, and monsters alike — forgo the murky depths and live on the comparatively drier ground within the bog. The wetlands' fragile soil is too soft and spongy to support heavy objects, so most beasts and monsters dwell amid tightly packed clusters of grasses and trees that offer limited shelter and privacy. Clever creatures live in areas completely surrounded by the bog's shallow, muddy waters. They conceal their worldly treasures high in the trees or in watertight chests buried a few feet beneath the surface.

In the minds of these primitive folk, they share the bogs with the spirits dwelling beneath their murky depths. To appease these temperamental beings, nomads ritualistically sacrifice vanquished enemies to the bog's resident deity. They usually strangle their victim before hurling the lifeless body into the stagnant water. During exceptionally hard times, some superstitious people even murder one of their own and offer the mutilated carcass to the hungry bog in a futile effort to assuage the god's anger. Just like dead vegetation, corpses decompose at an exceedingly slow rate. The bog's unique environment tans and mummifies the skin and organs. In

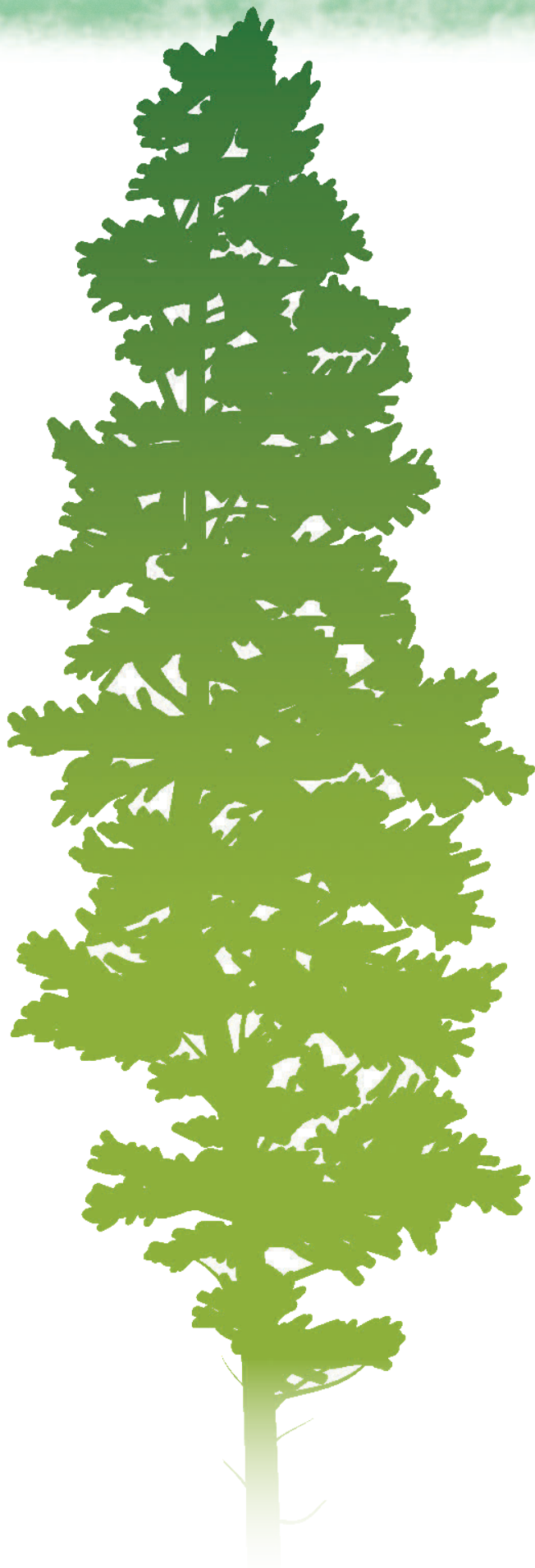
many instances, the degree of preservation is such that scholars examining an ancient corpse pulled from a bog mistake it for someone who recently died here. Oddly, the bog's acidic water leaves the skin and internal organs largely intact other than its unique discoloration, but it destroys the bones. Still, the lack of internal structure does not prevent the vengeful corpses of past victims from rising out of the cloudy waters to avenge their untimely deaths. Wicked monsters who revel in slaughter and carnage also gravitate to these sites, where they feed on the negative energy permeating such unholy grounds. On these occasions, civilized humanoids and xenophobic nomads call upon seasoned adventurers to vanquish the evil festering beneath the brackish water's surface.

Although short on biodiversity, bogs and fens adventures have no shortage of ideas. The GM may use the following table to develop a plot line for a bog or fen adventure.

Table 3–33: Bog and Fen Adventure Ideas

d10	Event
1	Blueberries: Frequently touted as one of nature's healthiest foods, blueberries are another shrub that thrives in bogs and fens. Tales handed down throughout the ages claim a blueberry with purple spots appears once every generation in a patch of land known as "The Angel's Pedestal." The legends claim the blueberries grow atop ground where an angelic being perished in the ultimate act of self-sacrifice. According to the myth, anyone who eats the berry gains the ability to ask the benevolent servant's deity for one wish. The last reputed sighting took place 26 years ago. Therefore, local residents believe the next magical berry is long overdue.
2	Butter: On the rare occasions when drought grips the wetlands, the receding waters sometimes reveal long-buried treasures. One of these unusual finds is a sealed, wooden barrel inexplicably hurled into a thick morass of spongy peat. Curious locals pried the container open and shockingly found the barrel filled with sweet butter. Naturally, someone dipped a finger into the gelatinous substance and tasted the long-hidden spread. The daring person raved about the butter's texture and flavor, prompting others to sample the fatty treat. One by one, the tasters came to believe the butter gave them tremendous strength, sharpened their reflexes, or made them immune to illnesses. On the other hand, observers noted the tasters appeared disoriented and lethargic. After a few hours, the effects wore off, spurring several of the butter's consumers to return to the barrel for a second, third, or fourth helping of the enigmatic food product.
3	Grouse Eggs: The shells of red grouse eggs are gold with black marbling. Many bird enthusiasts and artists regard their magnificent coloration as one of nature's most beautiful achievements. Unfortunately for the eggs' admirers, the chick inside the shell eventually breaks through its calcified prison and escapes into the outside world. Yet one batch of eggs being incubated by a local ornithologist never hatched. After waiting three months, the enthusiast noted the eggs felt solid and much heavier than normal eggs. The confused owner began to wonder aloud whether the eggs were really made of gold. In short order, she and the six eggs in her possession vanished. In addition to stealing the potentially valuable golden objects, many believe her kidnapper also seeks information about the bird who laid the eggs.

d10	Event
4	Harrier: This bird of prey floats several feet above the ground, where it scans the surface for small animals hiding in the vegetation beneath it. The aerial predator appears to be an ordinary specimen until closer examination reveals a large third eye in the middle of its forehead. Further observation reveals the winged hunter bypasses obvious prey animals while it coasts across the mire, suggesting it seeks something other than its next meal.
5	Hound: When the fog rolls across the wetland, its arrival also heralds the appearance of an incorporeal hound who haunts the desolate moor. The beast's origins remain steeped in mystery, but legends claim the ghostly animal seeks its missing owner who vanished centuries ago without a trace. The despondent hound's sad howling fills humanoid listeners with grief and hopelessness, which pushes some to the brink of suicide. Many believe locating the hound's lost master is the only way to grant eternal peace to the desperate animal.
6	Moose: The largest member of the deer family, this herbivore feeds on berries and other wild plants growing in this unforgiving biome. Over the past several weeks, local residents have seen one moose successfully walking across the bog blankets without causing them to collapse. The witnesses swear they observed the same animal because its antlers were shaped into the likenesses of gnarled staves. One even claims they hurled a spear at the beast only to watch it inexplicably fall harmlessly to the ground just before it would have hit the moose. Although the animal could not speak, the moose's compassionate gaze reduced the grizzled hunter to tears. He asserts the gods sent the moose to this world to serve as their emissary. Various forces throughout the area now seek the moose to determine the truth.
7	Pitcher Plant: Bog plants sometimes resort to alternative food sources in their nutrient-deprived environment. Pitcher plants lure insects into their deadly leaves, where they trap and digest their prey. However, one of these plants developed a taste for larger victims. The deadly vegetation grew in size as its sets its sights on its ultimate quarry — humanoids. In addition to its increased appetite and stature, the pitcher plant also learned to uproot itself and walk atop its spindly roots, albeit at a slow pace. While initially perceived as a curiosity, the disappearances of several pets and a small child lead many to suspect the anomalous pitcher plant may be the culprit.
8	Sacrifice: Many deities demand sacrifices from their priests and worshippers. Wetlands residents often venerate violent gods who demand blood tributes with specific requirements. The followers of a divine entity referred to as The Lord of the Mire seek a young boy with gray hair and eyes with different colored irises. Not surprisingly, their previous searches came up empty, but news circulating throughout the local villages tells of an infant boy bearing these characteristics. The rumors pique the cultists' interest and spark concerns throughout the neighboring communities, as The Lord of the Mire's worshippers stop at nothing to find the sacrifice who has eluded them for decades.



d10	Event
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	Scots Pine: Trees are generally an uncommon sight in bogs and fens, yet this species of pine tree grows well in the mire's comparatively infertile soil. Scholars and botanists believe the scots pine invaded the wetlands from drier environments. Residents hew these trees for construction material, yet one tree inexplicably defies the woodman's axe. Each time the blade strikes its trunk, the blow bends the metal surface while red, viscous liquid trickles from the wound imbedded into the tree's woody surface.
9	The unsettling development immediately curtails any further attempts to chop down the mysterious scots pine. The tale of the "Bleeding Tree" dates back through countless generations, leading many to speculate the tree may be thousands of years old. A cleric investigating the tree's unusual properties centuries earlier concluded its roots burrow into a subterranean holy site that bestowed its magical protection to the scots pine.
10	Sheep: Pustules cover the faces of nearly 100 sheep grazing on the vegetation and peat. A lone shepherd and a team of four accompany the flock, though they also bear the same pustules on their skin as the sheep under their care. However, their roles appear to be reversed. The sheep control the actions of their human and canine companions, penning them in and leading them in a direction of their choice. In an even more bizarre development, the man and his dogs bleat instead of speaking or barking.

These comparatively tame wetlands make an outstanding proving ground for nascent adventurers and grizzled veterans alike. Readily accessible settlements may serve as a base of operations and even the locale for budding explorers getting their feet wet in this dangerous profession. Although it is still impossible to build underground complexes beneath the surface, adventurers may venture through the wetland's wilderness areas, settlements, and permanent structures. As a result, fens offer an opportunity for urban, wilderness, and conventional dungeon exploration. Fens are more fertile than bogs and easier to drain than swamps and marshes. Humanoid refugees or settlers looking for a better life may contract the services of adventurers to clear out the indigenous wildlife and malevolent creatures from the region before converting it to farmland or pastures for grazing animals. In its pristine state, the presence of prey animals and humanoid residents entices wild beasts and cunning monsters to these comparatively welcoming waters, thus requiring the intervention of brave heroes to prevent them from feasting on innocent victims and to foil their dastardly plots.

Bogs and fens lack the plethora of manmade structures found in drier environments, but they are not without their adventuring locales. The GM may consult the following table for an adventure location within the bogs and fens.

Table 3-34: Bog and Fen Adventuring Sites

d10	Location
1	Copse: Eight willow trees tower above the soggy ground. The woody giants are equidistant from their neighbors and form a large semicircle, leaving no doubt humanoids planted these eight seedlings. However, the circumstances surrounding its creation and the purpose remain unknown. The site's visitors allege they feel tranquil while standing among the trees. Rumors abound the trees exhibit curative properties, especially for individuals suffering from chronic pain. Local healers occasionally brew teas from bark shaved from their trunks, though many doubt their efficacy. Despite the healthy skepticism, people suffering from incurable conditions still sometimes venture to this site in search of a medical miracle.

d10	Location
2	Cranberry Bog: Cranberries are one of the few plants that thrive in the harsh conditions found in a bog or fen. These dwarf evergreen shrubs produce tart berries ideal for creating juice, jams, pies, and sauces. Humanoid intervention increases this cranberry bog's yield substantially, though this cranberry bog's production capacity exceeds all others by an unnatural margin. Rumors swirl that its human proprietor crossed the shrubs with carnivorous plant species such as sundews and Venus fly traps, tempering the berries' tartness while allowing the shrubs to extract vital nutrients and fertilized matter from other sources. The same stories claim he lures animals and indigents into the bog where the shrubs' vines strangle the trespassers. Proponents of this theory assert that the berries' unusual coloration and the viscosity of their juice verify the tales.
3	Distillery: Although whiskey's main ingredient, grain, is grown elsewhere, peat plays an important role flavoring the alcoholic beverage. Distillers burn the combustible material to stop malted barley from germinating, but its acrid smoke conveys a unique flavor to the spirit. The whiskey produced within this distillery exhibits peat's finest properties, making it a coveted commodity among connoisseurs. In addition to savoring its exquisite taste, its imbibers occasionally experience vivid hallucinations of ghastly crimes. No one can say for sure whether the visions portray real or fictitious events, but the details conveyed in the images lead most to speculate they depict actual occurrences. A popular theory attributes the ghastly images to burning the decomposing remnants of corpses embedded in the peat. Although the unsettling yet so far harmless experiences increase his exposure in the whiskey industry, the distiller dismisses these claims as the byproducts of overactive imaginations and teetotalers unable to properly handle their liquor.
4	Floating Bog: When peat accumulates atop a body of water, it can take the form of a floating island akin to a manmade pontoon bridge. This enormous mass of peat measures 200 feet in diameter. Cattails and other soft-stemmed vegetation grow atop the spongy organic matter. In a stunning development, the massive island has moved several hundred feet over the last few days. In addition to its surprising speed, the floating bog displays unusual rippling and emits an odd, pungent stench.
5	Fountain: Situated in the center of a chilly pond, this alder wood fountain shaped into the likeness of a young woman continually spews fresh water from a pitcher held in its outstretched hands. Despite being carved from wood, the statue displays no indications of warping or cracking. Legends say bathing in the fountain's refreshing water rejuvenates the skin and restores vitality, which draws some visitors to the remote location. However, stories about the fountain coming to life and draining the youth from an unfortunate victim dampen many people's enthusiasm about trekking to the fountain.

d10	Location
6	Mass Grave: Burial is a traditional death ritual in many humanoid societies. Yet unlike the typical cemetery excavated to commemorate the departed, this clandestine mass grave was dug to bury its secret killings. Many years ago, a prolific serial killer dumped his victims' mutilated bodies in this remote stretch of festering wetland. However, his unwilling prey refused to remain silent. Their vengeful spirits and corpses rose from their watery resting places and dragged their remorseless murderer into the mire with them. In death, the predator and his prey indiscriminately attack any creature who strays too close to their haunted resting place.
7	Peat Farm: Mounds of peat, left out to dry, sit unattended on a sprawling tract of land spanning several acres. The mounds seem undisturbed despite their monetary value. Multiple cutting tools scattered about the area confirm humanoid activity, but the implements appear to have been hastily dropped and left to sit on the ground. Likewise, the stone home overlooking the farm appears dark and abandoned. A broken door is the only obvious sign of trouble on the property.
8	Peat Fire: The earth relentlessly expels thick, black, caustic smoke from a hidden, subterranean source. The dense vapors hang heavy in the air, obscuring all vision and stifling normal breathing. The immense cloud of ebon tendrils shows no signs of dissipating even when a strong breeze confronts the amorphous mass. Local residents assert the underground fire has raged for generations.
9	Sphagnum Bog: Sphagnum moss may be the most prolific plant found in bogs. When it dies, the stringy strands fall to the earth to create peat. The sphagnum growing in this location fell into a depression and transformed into the natural equivalent of a pool lining. The layer of decaying sphagnum prevented rainwater from seeping into the soil. The water accumulated over time to become a classic sphagnum bog. These ponds are generally too acidic to support diverse fauna and flora, but this one seems different. The water periodically ripples when a gray, finlike protrusion momentarily pokes above the water's surface before it disappears shortly afterward. Some people believe the beast dwelling here sprouted from the layer of peat, where it protects something not meant to be discovered beneath the pond.
10	Vineyard: Grapes are temperamental plants requiring ideal conditions. Therefore, it seems confounding to find a vineyard flourishing in one of the least hospitable environments for plant life. When the light pink berries growing on these woody stems are fermented into wine, the libation sedates most drinkers, though a small minority claim to experience waking dreams where they encounter a vivacious satyr who tempts them with offers of longevity and good health. Those who decline the bargain emerge from their trance-like state with fond recollections of their meeting but no ill effects. No one recounts ever accepting the creator's tantalizing offer.

Wetlands Travel

Under the right conditions, water can greatly facilitate travel, but the implacable force also has the power to stop the mightiest locomotives dead in their tracks. Civilization and water are inexorably linked. Countless cities, towns, and villages sprang up along the fertile banks of navigable rivers or adjacent to a safe harbor bordering an ocean, sea, or lake. Waterways stimulate trade between neighboring settlements and distant markets. It is easier, faster, and more reliable to transport goods by ship than it is to haul the same products across an overland route. Cheaper commodities and ease of travel attract humanoid settlers to these welcoming shores in droves. However, large bodies of water do not abruptly end and immediately cede dominance to immense settlements safely perched on dry land. Like rival states engaged in a border squabble, water and land ceaselessly fight for supremacy along their constantly changing boundaries. This battleground is commonly referred to as wetlands.

Throughout the year, at least some portions of the wetlands alternate between their wet state — when water completely inundates them — and their dry state — when the water recedes, leaving damp earth in its wake. Wetlands are frequently encountered in the general vicinity of many ports, coastal cities, and lakefront settlements. In some cases, wetlands serve as a gateway or a buffer zone shielding the community proper from storm surges, tsunamis, and tidal surges originating from the adjacent body of water. In other instances, wetlands absorb excess water runoff from swollen rivers, torrential downpours, and melting snows. Innovative civic engineers may even incorporate some of the wetlands' elements into their design plans, using the narrow channels as watery thoroughfares in lieu of constructing traditional cobblestone roads.

By and large, however, wetlands act as an impediment to travel rather than an aid. Wheeled vehicles weighed down by passengers and goods almost instantly sink into the soggy earth, requiring repeated efforts to extricate them from these impromptu natural pitfalls. Conventional mounts such as horses and even surefooted mules labor through tangled webs of plant roots, concealed stones, jagged shells, and soft, yielding ground that makes every step an arduous chore. Many of the same obstacles also affect watercraft attempting to navigate swamps and marshes. (Except in a handful of isolated spots, bogs and fens are too shallow to support a lone kayaker, let alone a larger vessel.) In fact, the waters inundating the largest swamps and marshes are rarely more than a few feet deep. Captains steering a path through these watery arteries can easily run aground atop a coral reef concealed beneath the muddy waters or by simply entering a channel too shallow to keep the vessel afloat. The monotonous waterways and confusing switchbacks can easily disorient sailors paddling through the swamps and marshes. One wrong turn is all it takes to get hopelessly lost in this unforgiving terrain.

Bodies of Water

Today's popular culture gives the false impression that every corner of the swamp or marsh is easily accessible by small boats and, in some cases, large pleasure craft. Hunters and naturalists alike drive their vessels through swamps and marshes with seemingly no regard for running aground or getting caught in the mangrove tendrils or cypress roots. In reality, these wetlands' explorers are primarily navigating the rivers, bays, deltas, estuaries, and lakes that carve watery roadways through the swamps and marshes proper. These large bodies of water cut a comparatively safer path through this overgrown landscape than rowing through dense thickets of mangrove shrubs, cypress trees, and tall grasses. Still, they are not entirely foolproof. Mariners learn through word of mouth and experience to avoid certain areas that may pose a danger to themselves, their property, and those in their care. Sharp rocks, perilous rapids, hairpin turns, overhanging branches, and aquatic predators lie in wait for careless individuals recklessly bumbling through the swamps and marshes.

Rivers

Rivers are the primary access points to the interior regions of swamps and marshes as well as the only likely means of getting from one side of the wetland to the other by boat. These slow-moving waterways weave meandering paths through the twisted masses of trees, shrubs, and soft-

stemmed vegetation infringing upon their poorly defined banks. The mighty rivers rolling through the wetlands frequently spill out over their boundaries and flood the surrounding areas, nourishing the damp, fertile soil with sediment and loose organic matter. Except in rare circumstances, overflowing rivers do not pour enough water into the inundated swamps and marshes to make them navigable to any water traffic larger than a rowboat. For this reason, commercial traffic venturing through swamps and marshes never deviate from the river on purpose. However, there are times when it is difficult to tell where the river ends and the wetlands begin. Wayward boatmen who inadvertently stray off course run the risk of striking unseen objects just beneath the water's surface or run aground onto dry land.

Propulsion can also prove problematic in the wetlands, particularly in swamps. Conventional oceangoing ships rely upon wind power to fill their sails and push them toward their ultimate destination. The soft-stemmed vegetation dominating the marshes bends in the wind and allows the current of air to pass through and over them, albeit at a slower speed. Shrubs, trees, the swamp's canopy, and heavy underbrush block the free flow of air, making it difficult to power a sailing vessel. Overhanging branches and moss may damage the boat's mast, snag its riggings, and tear the sails. Raw manpower seems like the obvious replacement for sails, but this option also has its drawbacks. Biremes and triremes, massive seafaring vessels powered by rows of trained oarsmen, are so heavy that they disperse too much water to remain afloat in shallow waters. Furthermore, they lack the maneuverability needed to make tight turns or come to a screeching halt.

Instead, the boats traversing these rivers are generally sturdy, lightweight vessels with long, narrow frames featuring flat or shallow hulls. Some of these ships include keelboats, longships, and rowboats. These watercraft come equipped with a mast that can hoist a square sail, but oarsmen positioned on each side of the boat predominately power them. This configuration also has the added benefit that the watercraft can be beached with minimal chance of breaching the hull in the process if the need arises. The majority of the time, these vessels ferry passengers and cargo to established ports of call either within the wetlands' interior or another harbor beyond the wetlands' boundaries.

Local residents typically use less-sophisticated vehicles for their needs. Indigenous inhabitants generally own at least one canoe made from the hollowed-out trunk of a single tree or a raft fashioned from logs lashed together with rope or another flexible material. These simple boats allow them to travel short distances along or across the river as well as give them a platform to cast their baited hooks or toss their nets into the water as they troll for fish and crustaceans. Not surprisingly, humanoids inhabiting the swamps and marshes often live in organized communities on elevated patches of dry ground overlooking or in proximity to the rivers winding their way through the almost constantly inundated terrain.

The following tables represent the percentile chance of encountering a settlement at or near rivers passing through swamps and marshes. (Cities are not included on the table, because they are large enough to generally appear on a map of the immediate area.) The GM may consult **Table 3–35** or **Table 3–36** at the beginning of every 25-mile interval while traveling on the river. If the characters are slated to come across a settlement at some point during the next 25 miles, the community appears at an appropriate or random location somewhere along the way. Vehicles that can cover more than 25 miles in a single day may require the GM to consult the table more than once over the course of the day, and those moving slower may roll on the table every other day instead. The GM should attempt only one roll for each 25-mile interval.

Table 3–35: Settlement along a River in a Marsh

Settlement Type	Percentage Chance of Presence
Village ^a (fewer than 201 residents)	01–35%
Town ^a (201–5,000 residents)	36–45%
Pier Only (no residents)	46–60%
No Settlement	61–00%

^a Pier or mooring is also present

Table 3-36: Settlement along a River in a Swamp

Settlement Type	Percentage Chance of Presence
Village ^a (fewer than 201 residents)	01-25%
Town ^a (201-5,000 residents)	26-30%
Pier Only (no residents)	31-40%
No Settlement	41-00%

^a Pier or mooring is also present

Lakes

Lakes rarely create precise boundaries totally separating them from dry land. Low-lying lakeshore areas often become swamps and marshes as excess water spills over into the neighboring wetlands throughout the year or during the rainy season. Although there are some rare instances where a lake exists within the interior of a marsh or swamp, in most cases, lakes are found along the edges rather than in the heartlands of these ecosystems. Because of this, these large bodies of water almost always lie along the wetlands' periphery and do not grant access to remote locales deep within the saturated forests or grasslands. Still, lakes offer an efficient means of traveling from one boundary of a swamp or marsh to another without undertaking a grueling overland trek through muddy earth and shallow channels.

The lack of tree cover, overhanging branches, and intervening vegetation allows captains to use wind power instead of brute strength to propel vessels across the water. However, some of the hazards associated with river travel through the wetlands still remain, especially for lakes nearly or entirely encapsulated by surrounding wetlands. The lakes described in the latter case tend to be very shallow, as exemplified by Lake Drummond in the Great Dismal Swamp with a maximum depth of six feet, and Lake Okeechobee in the Florida Everglades with an average depth of nine feet. Vessels with hulls sitting several feet below the water's surface may easily strike solid objects lying at the lake bottom such as rocks, rotting tree stumps, and even past shipwrecks. For this reason, veteran mariners rarely pilot any ship larger than a keelboat through these uncertain waters unless they are intimately familiar with the lakebed's features.

In addition, large bodies of water directly feel the effects of strong winds and changes in atmospheric pressure more severely than inland rivers, making long voyages to distant shores a very risky proposition. When high winds buffet partially or fully enclosed bodies of water, the currents of air push massive quantities of water in the direction the wind is blowing. When the wind dies down, the water rebounds and creates an oscillating wave simulating the effects of a powerful tide that lasts for hours or even days. This effect is known as a seiche. To make matters worse, massive lakes may literally create their own weather under certain conditions. Fog and lake effect snow are common byproducts caused by the water's effects on the air temperature in surrounding areas. Some scholars even theorize massive lakes could spawn extratropical cyclones over their open waters.

Based upon the preceding difficulties, natives and visitors alike hardly ever stray far from shore when traveling on the lakes bordering swamps and marshes. In fact, humanoid settlements are most frequently founded on lakefront areas on slightly elevated ground where the waters are relatively calm. It is also not unusual for communities to spring up in lakefront areas near adjacent rivers and streams emptying into the lake.

The following tables represent the percentile chance of encountering a settlement in a marsh or swamp adjacent to a lake. (Cities are not included on the table, because they are large enough to generally appear on a map of the immediate area.) The GM may consult **Table 3-37** or **Table 3-38** at the beginning of every 25-mile interval while traveling along the lakeshore. If the characters are slated to come across a settlement at some point during the next 25 miles, the community appears at an appropriate or random location somewhere along the way. Any travel over open waters does not count toward the 25-mile increment unless a marsh or swamp exists on an island in the middle of the lake. Naturally, vehicles that can cover more than 25 miles in a single day may require the GM to consult the table more than once over the course of the day, and those that move slower may roll on the table every other day instead. The GM should attempt only one roll for each 25-mile interval.

Table 3-37: Settlement in a Lakefront Marsh

Settlement Type	Percentage Chance of Presence
Village ^a (fewer than 201 residents)	01-50%
Town ^a (201-5,000 residents)	51-60%
Pier Only (no residents)	61-80%
No Settlement	81-00%

^a Pier or mooring is also present

Table 3-38: Settlement in a Lakefront Swamp

Settlement Type	Percentage Chance of Presence
Village ^a (fewer than 201 residents)	01-35%
Town ^a (201-5,000 residents)	36-45%
Pier Only (no residents)	46-60%
No Settlement	61-00%

^a Pier or mooring is also present

Estuaries

In simplest terms, an estuary is a coastal mixing bowl where water from inland rivers meets water rushing in from the open seas or oceans. Land, in the form of a peninsula or barrier islands, surrounds much of the estuary, limiting the exchange of water between divergent systems. Thus, estuaries may be freshwater, brackish, or saltwater. Bays, gulfs (larger bays), and lagoons are commonly classified as estuaries. Because they are partly protected from the ravages of the open sea, many of the world's largest cities were founded in these proverbial safe harbors adjacent to or on top of marshes and swamps. For instance, New York City, the most populated city in the United States, stands at the mouth of the Hudson River Estuary. Although only small parcels of land within the Five Boroughs were originally wetlands, large sections of Northeastern New Jersey on the opposite bank of the Hudson River are still marshes, despite the substantial urban development in the region. Likewise, Peter the Great built the port city of Saint Petersburg atop the marshes and swamps bordering the Neva Bay.

Water depth is rarely a problem in most bays and all gulfs, but it can still pose a difficulty in shallow lagoons. Frequently traveled lagoons are typically well-charted as most commercial maritime traffic travels upriver or passes through the inlets granting access to oceangoing vessels. Oceans and seas are saline, hence saltwater swamps and tidal marshes are most prevalent in estuaries closest to these enormous bodies of water. Saltwater swamps cannot exist in temperate and boreal climates. Therefore, tidal saltwater and freshwater marshes dominate the wetlands bordering estuaries in these cooler environments. Sections of the estuary near large rivers and streams are more likely to contain brackish or freshwater, allowing them to support both swamps and marshes. Most humanoid settlements spring up in these areas, where prey animals and drinking water are more abundant than alongside the less-habitable saltwater swamps and marshes.

The following tables represent the percentile chance of encountering a settlement in a marsh or swamp adjacent to an estuary. (Cities are not included on the table, because they are large enough to generally appear on a map of the immediate area.) The GM may consult **Table 3-39**, **Table 3-40**, **Table 3-41** or **Table 3-42** at the beginning of every 25-mile interval while traveling along the estuary's shores. If the characters are slated to come across a settlement at some point during the next 25 miles, the community appears at an appropriate or random location somewhere along the way. Any travel over open waters does not count toward the 25-mile increment unless a marsh or swamp exists on an island in the middle of the estuary. Naturally, vehicles that can cover more than 25 miles in a single day may require the GM to consult the table more than once over the course of the day, and those moving slower may roll on the table every other day instead. The GM should attempt only one roll for each 25-mile interval.

Table 3–39: Settlement in a Marsh bordering a Freshwater Estuary

Settlement Type	Percentage Chance of Presence
Village ^a (fewer than 201 residents)	01–50%
Town ^a (201–5,000 residents)	51–80%
Pier Only (no residents)	81–90%
No Settlement	91–00%

^a Pier or mooring is also present

Table 3–40: Settlement in a Marsh Bordering a Saltwater Estuary

Settlement Type	Percentage Chance of Presence
Village ^a (fewer than 201 residents)	01–30%
Town ^a (201–5,000 residents)	31–35%
Pier Only (no residents)	36–40%
No Settlement	41–00%

^a Pier or mooring is also present

Table 3–41: Settlement in a Swamp Bordering a Freshwater Estuary

Settlement Type	Percentage Chance of Presence
Village ^a (fewer than 201 residents)	01–35%
Town ^a (201–5,000 residents)	36–60%
Pier Only (no residents)	61–75%
No Settlement	76–00%

^a Pier or mooring is also present

Table 3–42: Settlement in a Swamp Bordering a Saltwater Estuary

Settlement Type	Percentage Chance of Presence
Village ^a (fewer than 201 residents)	01–20%
Town ^a (201–5,000 residents)	21–25%
Pier Only (no residents)	26–30%
No Settlement	31–00%

^a Pier or mooring is also present

Manmade Canals

Nature has an unfortunate knack of standing in the way of humanoid progress, especially in the case of wetlands. In the eyes of the common man, this important ecosystem is an insufferably humid, malodorous cesspool of polluted water, rotting organic matter, and virulent pests. Wetlands surround or lie at the outskirts of many coastal cities and ports, which spur a demand to eradicate these mosquito breeding grounds and convert this habitat into arable land. Thankfully for the animals and plants inhabiting the wetlands, such an undertaking is usually beyond the means of all but the most advanced and well-financed civilizations. Determined humanoids who cannot conquer the wetlands then turn to discovering a means to travel through them without undue risk.

Canals look like an obvious choice yet building and maintaining these vital highways is a backbreaking and expensive process. Water is everywhere in the wetlands, so constructing a manmade channel

seems to be a simple matter of digging a wide trench and letting water naturally funnel into the gap. Massive engineering feats are never that straightforward. Over time, sediment deposits, debris, and infringing plant growth on the bottom and along the canal’s edges demand routine inspection and maintenance, adding to the financial and human costs of these ambitious projects. Without regular oversight, canals eventually fall into disrepair and are once again overrun by neighboring trees, shrubs, and vegetation.

Despite the preceding obstacles, canals have the unique advantage in that they do not depend upon the landscape’s topographical features. Unlike an overland road, they can carve a direct path between two or more locations with no concern for the site’s elevation or other physical properties. However, their major drawback is that they must be wide enough and deep enough to accommodate seafaring vehicles. Boats have difficulty regulating their speed and making precise turns. If the channel is too narrow or not deep enough, the vessel’s bow or hull can strike an object that compromises the boat’s integrity and causes it to sink.

Manual labor is frequently the driving force that brings these important traffic arteries to life. Feeding, clothing, equipping, paying, and sheltering hundreds of workers in the remotest corners of the swamps and marshes is a fiscal quagmire and a logistical nightmare. Sophisticated societies may also turn to magic and technology to aid in the undertaking, though these tools can never completely eliminate the need for a humanoid presence in the field. Still, arcane power and ingenuity cannot overcome every obstacle in nature’s diverse and persistent arsenal. The weather rarely cooperates with any facet of the endeavor, and pestilence travels with the canal’s personnel wherever they go. Wily predators lurk in the murky waters and onshore in the thick underbrush, waiting for an unwary laborer to wander into their trap. These deadly threats persist and take their toll on any maintenance crews left behind even after the canal is finally completed.

The following tables represent the percentile chance of encountering a settlement at or near canals passing through swamps and marshes. (Cities are not included on the table, because they are large enough to generally appear on a map of the immediate area.) These tables only apply to canals that are actively maintained. Those that have fallen into disrepair are treated as part of an ordinary swamp or marsh. The GM may consult **Table 3–43** or **Table 3–44** at the beginning of every 25-mile interval while traveling on the canal. If the characters are slated to come across a settlement at some point during the next 25 miles, the community appears at an appropriate or random location somewhere along the way. Naturally, vehicles that can cover more than 25 miles in a single day may require the GM to consult the table more than once over the course of the day, and those that move slower may roll on the table every other day instead. The GM should attempt only one roll for each 25-mile interval.

Table 3–43: Settlement along a Canal in a Marsh

Settlement Type	Percentage Chance of Presence
Village ^a (fewer than 201 residents)	01–30%
Town ^a (201–5,000 residents)	31–35%
Pier Only (no residents)	36–60%
No Settlement	61–00%

^a Pier or mooring is also present

Table 3–44: Settlement along a Canal in a Swamp

Settlement Type	Percentage Chance of Presence
Village ^a (fewer than 201 residents)	01–25%
Town ^a (201–5,000 residents)	26–30%
Pier Only (no residents)	31–40%
No Settlement	41–00%

^a Pier or mooring is also present

Traveling Wetlands' Waterways

Humanoid populations take to the water for a variety of reasons. Merchants rely heavily upon rivers, lakes, and in some cases canals to import and export goods for sale. The vessels engaged in these commercial activities are the largest and most heavily armed ships to travel through the swamps and marshes. Because of their size and weight, merchant ships are confined solely to deep waters. They never stray into shallow estuaries, rivers, and lakes. Manned by a professional captain, crew, and a retinue of guards, the men and women aboard their impressive watercraft keep a vigilant eye out for ambushes from the shoreline and beneath the water's surface. They are naturally suspicious of other boats crossing their path. It takes only one ill-chosen word or the slightest hostile action to rile the crew of a merchant vessel into action. A minor naval encounter can easily escalate into a full-blown confrontation in a matter of seconds, especially if the merchant vessel's perceived enemy poses a realistic threat to the formidable ship. For this reason, prudent mariners avoid these temperamental parties whenever possible.

Native anglers and hunters predominately use rowboats, canoes, and kayaks to catch fish beneath the murky waters and to snag game atop the scattered hummocks and patches of dry land protruding above the water's surface. These residents are wary of strangers too, though the majority opts for flight over fight, unlike the significantly better-equipped and trained merchant vessels. However, this dynamic is subject to change in the case of a boat laden down with a prized catch such as a bounty of rare shrimp, crawfish, oysters, or mussels. Sadly, thievery knows no boundaries. Therefore, it is not uncommon for local thugs to forcibly rob fishermen and hunters of their hard-earned cargo, whether they are adrift on the water or safely docked onshore. For this reason, the sight of an armed adventuring party rowing upstream or standing on the edge of a pier may lead nervous sailors to wrongly deduce their actual intentions.

Nonetheless, ship-to-ship combat is a rare occurrence on the waterways that border and intersect the wetlands. In most cases, passing vessels merely keep their distance from one another. Rival captains and crews familiar with each other may exchange a few jibes or cordial pleasantries depending upon the nature of the relationship. Explorers seeking information about nearby locales can gain valuable intelligence about these areas from their fellow seafarers for the right price. Of course, there are no guarantees the information is accurate or not entirely fabricated. Giving false details to a group of treasure-laden adventurers to lure them into an ambush plays right into the wheelhouse of conniving villains. In fact, most humanoids perpetrate attacks against seafaring vessels and their passengers from concealed positions onshore. Archers or javelin throwers may hide in the neighboring trees or behind the tall reeds adjacent to the shoreline. Other common ploys include dropping a net onto hapless foes from an obscured perch just beneath the swamp canopy or blocking continued passage along the waterway with a chain or rope affixed to two or more immovable objects on opposite banks of the canal or river.

Humanoid bandits may be the cleverest opponents adventurers face traveling through the bodies of water found in the wetlands, but they are certainly not the only creatures searching for victims in this fertile hunting ground. The most feared of the waterways' dangers are its ubiquitous reptilian predators, the dreaded alligators and crocodiles trolling the murky waters. Perceptions aside, these animals almost never attack occupied vessels unless provoked. When stirred to anger, either intentionally or by accident, the ornery reptiles open their vice-grip jaws and chomp down on anyone or anything in their way regardless of whether it is an oar, an arm, or a boat's hard underbelly. Alligators generally do not regard humanoids as prey, making them less aggressive than crocodiles, which are more apt to include people in their regular diet. Nonetheless, if either species' bite clamps down on a victim, the crocodilian grabs the creature and drags it underwater, where it performs a twisting maneuver known as a "death roll." This brutal tactic serves two purposes — to drown air-breathing opponents and to cut the prey into bite-size pieces. The animal lies on top of its foe, using its immense weight to prevent the creature from escaping and also to suppress its

ability to inhale and exhale. The thrashing motion also literally tears larger prey limb from limb, allowing the crocodile to feast on smaller chunks of shredded meat.

Alligators and crocodiles stalk the wetlands' waterways in greater numbers than any other potential adversary, yet one of these solitary reptiles is no match for the environment's apex predator, the loathsome black dragon. Fortunately for wetlands' travelers, the enormous dragons spend much of their time asleep, perhaps dreaming of adding more riches to their vast treasure hoards. In their absence, other monstrosities step into the breach and don the mantle of supremacy over these foul waters. These contenders include the exceedingly rare and bizarre frogemoth, the legendary hydra, and the alien, arthropod chuul. Although each is a formidable terror in its own right, all of these monsters slink back to the security of their underwater lairs whenever the wetlands' undisputed master crawls out of its underwater stronghold and reassumes its rightful position as the wetlands' supreme predator.

Land

In the wetlands, land is a transitory term. Explorers traveling through wetlands must contend with the inescapable fact that saturated areas and dry land are rarely constants. A large swath of ground submerged beneath several feet of water during the rainy season may dry out when the monsoon ends, and the waters recede back to lower ground. The speed of these changes and the size of the areas subjected to these transformations vary widely from one wetland to another. Swamps and marshes are in a significantly greater state of flux between wet and dry conditions than bogs and fens. The construction and maintenance of roads granting access to these wetlands' interior regions appears at the end of this section.

Swamps

At their core, swamps are flooded forests. Trees, woody shrubs, or a combination of both plant types dominate the vegetation that prevails in this soggy, damp terrain. Whereas rivers, lakes, and canals facilitate unfettered boat traffic through this particular environment, using any watercraft to travel through the swamp proper, especially in the case of a freshwater swamp, is a laborious and often impossible task. Reeds and grasses bend. Trees and shrubs do not. They are immovable and impassable objects that create narrow channels spawning a veritable labyrinth of twisting waterways, dead-ends and tight squeezes. Furthermore, even during the rainy season, the water covering the forest floor is very shallow in many spots. A rowboat has a difficult time avoiding running aground or slamming into one of the countless obstacles standing in its path. Larger ships have no chance of navigating through the swamp. Native inhabitants are well aware of this reality; thus, they use small, nimble watercraft to travel through this challenging environment under the proper conditions. Canoes, kayaks, and gondolas are the most popular choices among indigenous peoples. These agile vessels are easy to control and can remain afloat at a minimum water depth of as little as six inches. As an added bonus, they are portable. If there is insufficient water in a particular area, the boat's passengers can lift it off the ground or even drag it across dry land until they reach another location suitable for water travel.

Water has the opposite effect on overland travel. Whereas trees and shrubs completely block movement, regardless of the mode of travel, deep pools of standing water tremendously slow creatures attempting to walk through them. In fact, creatures too short to keep their heads above water while passing through such areas must either hold their breath or swim through the swamp's most inundated sections to avoid drowning. To compound their problems, creatures wading through at least knee-deep water generally cannot see bottom through the murky liquid, giving concealed aquatic creatures and parasites a decided tactical advantage over their terrestrial enemies. Likewise, the hapless explorer cannot avoid hazards littering the saturated forest floor, such as hidden tree roots and sharp objects protruding through the ground. Highways and roads are a rare luxury in the swamp. Therefore, almost all treks must contend with countless acres of untamed wilderness.

Marshes

The grasses, reeds, and rushes dominating the marsh pose more of an impediment to vision than actual travel. The tightly bunched, soft-stemmed plants grow to remarkable heights that can completely conceal some races of giants. Indeed, many predators who hunt in this often-fertile habitat use this terrain feature to their betterment. They closely watch their prey from behind a wavering curtain of stems and leaves, waiting for the ideal opportunity to pounce upon their unsuspecting victim trudging through the squishy earth.

Although the flexible greenery cannot halt a creature dead in its tracks like a mighty tree or a mass of shrubbery, the slick, gooey surfaces and puddles of standing water offer no traction for terrestrial creatures. In addition, the pervasive undergrowth's exposed roots and closely packed stems snare the unwary, making it impossible to run or charge through the treacherous landscape. Fortunately, the average-sized humanoid rarely finds himself in over his head when walking through the marshes, so drowning is a remote possibility for someone traveling by foot. Land vehicles fare even worse than their bipedal and quadruped counterparts, as their wheels almost instantly sink into the yielding earth and frequently get stuck in the muck. Only extremely light land vehicles have any chance of successfully negotiating their way through marshes without magical intervention.

Water vehicles are in a similar situation as their land counterparts. The relatively shallow waters pose the greatest obstacle to maritime travel, particularly in the freshwater marshes prevalent around rivers, lakes, and other large bodies of water less influenced by the tides. Small, agile craft such as kayaks, canoes, and gondolas can remain afloat in shallow water and avoid dense clusters of vegetation. In a pinch, these lightweight vehicles can be dragged ashore and towed great distances until conditions improve. Large, heavy ships have enough bulk to plow through any foliage they encounter on their journey. While their immense size allows them to muscle through almost any physical obstacle, their enormous girth guarantees their vulnerable underbellies are sure to scrape against the marsh's bottom and run aground in the shallow water. These massive vehicles are not portable and cannot be carried overland. Only an extremely experienced captain with intimate knowledge of the terrain — or an outright fool — would dare pilot an oversized vessel into these dangerous waters.

Marshes are more apt to have areas of dry land than swamps, so roads and trails are more common than they are in swamps. Nonetheless, at least some portion of the characters' sojourn through the marsh is bound to take place outside the friendly confines of civilization. Regardless of whether a particular area is dry or inundated by water, walking through trackless areas in a marsh is a slow endeavor.

Bogs

The pools of standing water encountered in a bog are generally too shallow to keep even a small vessel afloat, thus explorers traveling through this saturated wetland mostly must do so by foot. Peat dominates the terrain in a bog. This spongy, decaying organic material behaves much differently than the ground found in other environments. Soil typically rests atop a stable layer of packed dirt and rock that can support tremendous amounts of weight in dry conditions. By comparison, bogs contain vast accumulations of soft peat reaching a staggering depth of nearly 30 feet in some cases. This stratified material prevents accumulated water from seeping into the groundwater supplies and vice versa. However, this malleable, watertight substance gives way under pressure. While it may be able to support a man's weight in some instances, an overland vehicle such as a wagon, chariot, or carriage is sure to get bogged down in the dense mire. Likewise, the creature pulling the vehicle almost certainly faces the same fate.

Despite the obstacles, seasoned adventurers can safely cross these wetlands by avoiding plainly visible hazards. Veteran explorers always stay away from standing water, even if the fluid appears to be nothing more than a thin film coating the surface. Areas containing fine, granular particles of mud also pose a significant danger to travelers, as these sections duplicate the effects of quicksand. Fluffy portions of dry peat are safe to walk across as well as patches where dry sedge grass and heather

grow. Walking across a bog can resemble a game of hopscotch. The person traversing across this wetland steps or in some cases leaps from one area of safe, comparatively dry ground to another. Over time, people and animals performing this arduous undertaking create rudimentary trails for others to follow. Although it is a slow, laborious process that may necessitate some backtracking along the way, using the preceding approach is the only surefire natural way to circumvent the bog's numerous pitfalls.

The water level in a bog is typically at or just below the surface. In general, areas containing any type of vegetation are safe to walk over, whereas those containing no flora are more likely to be quicksand than solid ground. This is especially true in the case of an area containing any standing water. Humanoids rarely inhabit bogs; thus, roads and highways are extremely rare. Hiking through trackless areas in a bog is a wearisome grind.

Fens

Whereas bogs are closed-water systems receiving their supplies solely from precipitation, fens accumulate water from other sources, including overflow from neighboring lakes and rivers. However, despite the intake of water from larger bodies of water, the water table in a typical fen is similar to that found in a bog — at or slightly below the surface. Although it is possible to travel along a river or lake to reach the fen's edge by watercraft, the water depth within the fen proper is too shallow to keep the vessel buoyant. Thus, traveling into the heart of the fen must be accomplished by foot. Fortunately, fens are more accommodating hosts than the other varieties of wetlands. Pools of standing water and deceptive morasses of inviting peat are comparatively uncommon in these mires. In fact, the peat depth in a fen is significantly less than what explorers encounter in a bog, typically measuring anywhere from a few inches in depth to a maximum of six feet in rare instances.

The fens' friendlier confines support an array of flora that give the ground enhanced stability. It is still difficult to lug a vehicle through a fen, but a lone traveler can easily negotiate a safe path through the fen by adhering to the cardinal rules of hiking through a bog, i.e. avoiding standing water, wet peat, and areas covered with fine, granular particles of mud. Areas containing any type of vegetation are safe to walk over, whereas those containing no plants are more likely to contain shallow, standing water. Unless a local settlement constructs a formal road or highway through the fen, most trails leading into and out of this wetland were made through continued use rather than deliberate effort.

Roads

It takes manpower, money, and commitment to construct and maintain a conventional road over dry ground. Building that same thoroughfare in a wetlands environment and ensuring its long-term survival demand exponentially more resources, determination, and ingenuity. Obviously, water poses the biggest obstacle. In order to function properly, the road has to be higher than the water level. This is especially true in swamps and marshes where unexpected flooding can suddenly deluge previously dry patches of ground. If the road is submerged beneath standing water for even just a few days, it is almost certain to sustain significant damage in addition to being rendered completely useless while it remains underwater. As a result, conventional wetlands' highways are typically built atop the biomes' limited high ground, which almost always forces the architect to take a circuitous route from one intended destination to another based upon the intervening terrain. Yet even this measure may not be enough to protect the road against the ravages of weather. In the wetlands, "dry" merely refers to sections of earth not inundated by water. While the highway may run through an area satisfying the preceding definition, heavy rains and humidity constantly plague the wetlands' saturated soil. Laying a road down over soggy, yielding dirt is a wasted effort. The road is guaranteed to sink into the ground the moment any heavy creature or object passes over it.

Clever engineers have devised two methods to keep the forces of nature at bay. Some opt for the more straightforward approach that relies upon innovative drainage techniques to divert water away from the roadway's surface. Others choose to use water-resistant materials to erect elevated highways. The former method requires the builder to lay down a suitable foundation composed of water-resistant logs, granular stones,

or a combination of the two materials. Packed earth or large, flat stones are then placed atop the foundation, which is raised slightly above the surrounding area. The latter method adheres to a modified blueprint of the typical swamp residence. Water-resistant logs pounded into the ground act as pylons to support a raised wooden structure resembling a modern boardwalk. This design is more commonly found in bogs and fens where the stratified layers of peat almost duplicate the durability and strength of concrete. The use of either method is more a matter of personal preference and available resources rather than based upon a pure cost analysis basis. Both types require routine maintenance and regular repairs.

It is not uncommon for local authorities to pass these expenses onto the travelers using these roads through the imposition of tolls and tariffs. Of course, there must be a demand for such services; otherwise, no one would willingly pay money to venture down a road leading nowhere. In many cases, wetlands' roads link coastal settlements and vital ports to landlocked interior regions farther inland. The overland traffic passing through the wetlands frequently leads local inhabitants and immigrants alike to establish their own roadside communities to service the needs of humanoid making their way through the region. Food and shelter are the two industries in greatest demand, but there are also niche markets for more exotic goods such as crocodile skins, rare plants, and peat.

The following table represents the percentile chance of encountering a settlement at or near roads passing through wetlands. (Cities are not included on the table, because they are large enough to generally appear on a map of the immediate area.) These tables apply only to actively maintained roads. Treat those that have fallen into disrepair as ordinary trackless terrain. The GM may consult **Table 3–45** at the beginning of every 24-mile interval while traveling on the road. If the characters are slated to come across a settlement at some point during the next 24 miles, the community appears at an appropriate or random location somewhere along the way. Creatures that can cover more than 24 miles in a single day may require the GM to consult the table more than once over the course of the day, and those that move slower may roll on the table every other day instead. The GM should attempt only one roll for each 24-mile interval.

Table 3–45: Settlement along a Road in the Wetlands

Settlement Type	Percentage Chance of Presence			
	Swamp	Marsh	Bog	Fen
Village ^a (fewer than 201 residents)	01–35%	01–45%	01–15%	01–25%
Town ^a (201–5,000 residents)	36–45%	46–60%	—	26–30%
No Settlement	46–00%	61–00%	16–00	31–00%

^a Pier or mooring is also present

Modes of Travel

As the name suggests, wetlands are a transition zone between wholly aquatic environments and purely terrestrial habitats. Crews of ships sailing into ports in wetlands regions may remain aboard their vessels and travel farther upriver into the hearts of neighboring swamps and marshes until they can go no further. Likewise, mounted riders and pedestrian traffic face the opposite dilemma when they leave dry land and set foot in a semi-aquatic environment. It is impossible to adapt a one-size-fits all strategy to travel through the wetlands. A nimble rowboat can master tight turns and shallow streams, but the same vessel cannot contend with rough waters and dry land. While there is no perfect solution to the logistical difficulties associated with traveling through this challenging landscape, there is no shortage of new and innovative methods to overcome these age-old problems.

Watercraft

Obstacles and shallow water are the two greatest impediments facing ship captains who stray from the navigable rivers, lakes, and estuaries bordering and bisecting swamps and marshes. Slamming into a large object regardless of whether it is visible or hidden beneath the murky

waters can puncture or otherwise compromise the hull's integrity, making the vessel no longer seaworthy. The damage dealt to a vehicle that crashes headfirst into an obstacle is determined in the same manner as if it deliberately rammed an object, such as another boat. The same methodology applies when the ship's hull hits something underwater — with one exception. Because the vessel's soft underbelly is not designed to withstand a direct impact, the object deals double damage to the boat. If the vessel unexpectedly runs aground on a muddy embankment or similar land feature without barreling into anything noteworthy, the vessel takes half damage from the collision. This damage applies only to an unanticipated event rather than an intentional landing or beaching.

To avoid hitting something protruding above the water or underneath the surface, the helmsman must succeed on a moderately difficult (see the **Hazards** section) check (Dexterity or a Dexterity-based skill for a small vessel, a driving, piloting, or similar specialized skill check for a seagoing vessel) to steer the boat out of harm's way and prevent a catastrophe. In the latter case, as a general rule of thumb, the draft (minimum water depth) needed to keep a vessel afloat is equal to the vehicle's hit points divided by 200. This distance is measured in feet, and fractions are not rounded down. Thus, a rowboat with 50 hit points, needs a little less than four inches of water. For boats with a flat bottom or those specifically designed to function in shallow waters, such as a keelboat, barge, or longship, it is appropriate to reduce the draft in half. Ships venturing into waters too shallow to support their weight run aground and take damage as described in the preceding paragraph. The captain must then succeed on another suitable check of Hard difficulty (see the **Hazards** section) to extricate the vehicle from its precarious position. Only adventurers culled from the ranks of indigenous residents and seafaring cultures commonly specialize in piloting a vessel through narrow straits. Instead, wetlands' explorers typically contract others to provide such valuable services. Of course, their expertise does not come for free, especially considering they face many more hazards in the twisting channels and shallow water than they would on a well-traveled river or across calm seas. Characters who opt to hire a captain to helm a vessel venturing into the wetlands' proper can expect to pay 1 gp per day for a novice captain to as many as 10 gp per day for a highly experienced skipper. These rates do not include the vehicle's lease rate or purchase price. Adventurers seeking someone to do more than steer and propel the boat are more apt to consider contracting the services of a guide. These highly specialized individuals are discussed in the "Guides" section, which appears later in this chapter.

Land Vehicles

Wetlands are the stuff of nightmares for land vehicles and their operators. Carriages, carts, wagons, and chariots are not built to splash through standing water or to cross over running streams. However, peat and mud frighten drivers and passengers more than any stagnant pool or body of water. Both are extremely slick and malleable surfaces providing no traction or support to a heavy vehicle. Peat is found predominately in bogs and to a lesser extent in fens, whereas mud is encountered in all wetlands though it is most prevalent in swamps and marshes. Prudent drivers know better than to contend with these treacherous hazards. Instead, they keep to the highways passing through this soggy terrain for as long as possible. When vehicles stray from the safety of the road, their fate falls into the hands of the man or woman holding the reins. One wrong turn into a treacherous patch of soft earth or damp peat can bring any overland journey to an abrupt halt.

A vehicle that sinks into or gets stuck in mud, peat, or damp earth cannot move until it is freed. It takes three consecutive successful specialized driving checks, Strength checks, or a combination of both at a moderate difficulty level to fully extricate the vehicle from its predicament. The first check dislodges its wheels, the second rocks it back and forth, and the third moves it out of the hole. Whenever a check fails, the operator goes back to the beginning of the previous step. Hence, if the operator fails to move the vehicle out of the hole, the vehicle remains dislodged, but is no longer rocking back and forth. He must succeed on another check to rock it back and forth before he may try to pull it out of the hole again. Of course, it is easier to pull a small cart out of a quagmire than it is to lug a heavy wagon. To simulate the increased difficulty based upon the object's size, the GM may modify the chances of success by making the check more difficult or applying disadvantage to the check.



Mounts

Many humanoid cultures depend upon animals and beasts as the primary means of hauling goods and passengers. Horses, camels, and llamas make travel and trade possible in some of the most inhospitable and exhausting environments on earth, but these domesticated creatures are not native to or well-suited for life in the wetlands. Heat, humidity, water, mud, peat, trees, fallen logs, and tangled vegetation impede these animals' progress through the rugged terrain. Training an indigenous animal or beast to serve as a mount seems like the next logical course of action. Indeed, several large quadrupeds possess the necessary size, strength, and speed to serve in this capacity. Furthermore, they are also excellent swimmers, a quality which comes in handy when traveling across this semi-aquatic environment. Crocodiles, alligators, jaguars, and tigers are among the wild beasts that potentially fit the bill. However, in the real world, none of these feral creatures has the disposition to willingly allow a humanoid to sit on their backs and direct them where to go. Yet depending upon one's perspective, some daring or foolhardy individuals insist on attempting to tame one of these unruly beasts to serve their needs. The animal's would-be master must first domesticate the creature and then specifically train it to accept a rider by any means necessary. Most rear one of these beasts from infancy, though it is possible under some circumstances to domesticate juveniles or even young adults with the proper expertise and the right circumstances.

Tigers and jaguars are the most versatile of the wild beasts that can serve as mounts. They are equally at home on dry land, in the water, and, in the case of the elusive jaguar, even the trees. Alligators and crocodiles run faster than most people expect, but they are more adept at stalking prey in the water than chasing victims down on the muddy riverbanks and hummocks. The big cats' body shape and height make it relatively easy to attach a conventional saddle to their backs. On the other hand, crocodilians are too low to the ground to comfortably accommodate a humanoid rider on an overland trek without major modifications. It is possible, however,

to strap a chair-like device to the reptile's back to elevate the rider high enough to prevent his knees and feet from constantly dragging along the ground. Rumors persist that an elite handful of daredevils forego sitting altogether and instead stand on top of the alligator or crocodile using nothing but a pair of foot straps and leather reins to maintain their precarious position atop the creature.

Aristocrats and explorers seeking to make a social statement sometimes ride in majesty atop the mighty elephant or the burly but cantankerous hippopotamus. Although they are not especially strong swimmers, neither of the gigantic beasts faces any realistic possibility of drowning in the wetlands' shallow waters. Despite their fearlessness, their gargantuan size makes it difficult for these behemoths to venture through areas teeming with trees, shrubs, and other dense vegetation. Instead of trying to get around these obstacles, the mammoth brutes often knock them over or crush them, which can wreak havoc in this delicate ecosystem. However, just like land vehicles, their enormous weight works against them whenever they walk through soggy peat or thick patches of mud. Because of these limitations, elephants and hippopotami fare best when traveling through waterways such as rivers, deltas, and estuaries as well as areas of damp earth supported by underlying layers of rock and stone.

Although the preceding animals can be used as mounts under the right conditions, none of them takes kindly to serving as beasts of burden for their humanoid masters. Humanoids can tame tigers and jaguars, but they cannot completely suppress their predatory instincts. The sight of potential prey constantly distracts the sleek cats, which would much rather pursue a fresh meal than haul a wagon full of cargo and passengers through their hunting grounds. Alligators and crocodiles suffer from the same deficiency and are not ideally suited for long overland treks. However, the animals fare better towing watercraft through the narrow channels and waterways of their indigenous marshy and swampy habitat. Still, they are rarely used in this capacity, as it requires far less effort to hire and train someone to paddle a boat than to propel a boat using a primitive-minded reptile with an unpredictable and savage temperament.

Walking

The simple act of putting one foot in front of the other does not even register as an afterthought in terrestrial environments, but in the wetlands, one misstep can be a hiker's last. While the same perils exist for mountain climbers, the brave souls who scale steep slopes at least enjoy the luxury of seeing where their foot is going next rather than dipping their toes into the proverbial unknown. The dirty water inundating large portions of the wetlands conceals many hidden dangers, including jagged shells, twisted roots, submerged logs, and treacherous quicksand. No single step is a given, even when the intrepid explorer can see what lies ahead of him. The soft, yielding soil in swamps and marshes and the spongy peat dominating the bogs and fens never reveal their secrets through mere visual inspection. Without warning, the soggy ground can suddenly grab and swallow the foot — and sometimes far more — of any creature foolish enough to step into its squishy trap. The tremendous suction literally pulls the hapless victim deeper and deeper into the quagmire until it either escapes the pitfall or succumbs to it.

On a more mundane level, the constant exposure to water takes a severe toll on the traveler's feet. Several foot immersion syndromes, most especially trench foot, caused by prolonged contact with chilly, contaminated moisture, can severely injure and eventually destroy the waterlogged appendage. Poorly crafted footwear submerged in water creates a damp, humid incubator for infectious agents that exacerbate the condition. Unfortunately, going barefoot is not a viable solution either. Bare skin offers no insulation against the cold or protection against the serrated mollusk shells and sharp granular materials covering the saturated soil beneath the water's surface. Proper shoes are the only defense against these threats. The footwear must shield the person's vulnerable sole from unsafe objects beneath his feet as well as keep the wearer's feet at a consistent and comfortable temperature. Most importantly, the shoes must either allow water to freely escape or be completely waterproof.

Guides

In the wetlands, guides wear many hats. The majority of these thrill-seekers consists of local residents looking for excitement and a big payday instead of the tedium associated with daily life. In addition to being intimately familiar with their surroundings, they are competent mariners and skilled naturalists with a smattering of abilities in other disciplines. Commanding their own boat or piloting someone else's vessel is an integral part of their duties, but they are substantially more than the skippers described in the previous "Watercraft" section. The typical hired captain steers and propels his ship in accordance with his clients' wishes. He may provide limited advice about a particular region and avoid known obstacles. However, in his mind, his obligations end there.

Conversely, guides actively participate in their charges' adventures. They give directions to specific places and can relay important bits of information about a particular locale to adventurers and explorers who hire them. Most have extensive knowledge about the dangers posed by the indigenous flora, fauna, and other organisms dwelling in the wetlands. Others can function as crude medics to combat injuries and illnesses caused by the native denizens or sinister pathogens. Most critically, their extensive experiences allow them to lead explorers on safe paths through the unforgiving terrain, bypassing impassable areas and treacherous parcels of ground. In a pinch, all guides can defend themselves, though they do so only as a matter of last resort to ensure their self-preservation.

The average guide charges the same fees as a skipper or captain, including the costs of boat rental, lease, or purchase plus an additional fee of 3 gp per day per person. Guides notoriously talk a good game about their fearlessness and countless exploits, yet it is rare to see one stand at the forefront in the event of a monstrous attack. They happily point adventurers toward danger and then slink back to the rear and remain out of sight for the remainder of the foray. If the situation gets too dangerous, it is not uncommon for a terrified guide to abandon his clients and hightail it back to safety, hoping to never see his clients again. In the event the adventurers survive the encounter and confront their cowardly hireling, the frightened resident usually claims he presumed his accusers were already dead. If that ploy fails, he or she pathetically resorts to pleading for his or her life and offers to return any payments made back to his former employer.

Wetlands Hazards

Life as we know it cannot exist without water. All carbon-based lifeforms from the tiniest single-celled organism to the gargantuan brontosaurus need the precious liquid to survive. In arid biomes, a creature's daily activities revolve around its constant struggle to find enough water to remain hydrated and to stave off extreme thirst. Wetlands' inhabitants, on the other hand, suffer from the opposite dilemma. Water is practically everywhere. Yet sometimes too much of a good thing can have unintended consequences. Although the creatures who reside here do not spend their days endlessly preoccupied with finding potable water to drink, the critically important fluid can be an uncaring and fickle tenant. When riled to anger by fierce winds, violent storms, or trembling landmasses, water transforms into an unstoppable force brushing aside everything in its path as if it were mere dust. The crucial liquid is a relentless opponent that can sweep away a centuries-old tree in the blink of an eye or turn solid stone into wet grains of sand over the course of countless millennia.

Water may be the land's temporary or permanent guest, but it also hosts numerous creatures as well. The aggressive, prehistoric crocodilians are perhaps the most recognizable and feared of the bunch, yet despite their reputation for bloodshed and carnage, the wetlands' minutest creatures wreak exponentially more harm than these brutal, primordial killers. Warmth, moisture, and humidity attract parasites in droves and none more so than nature's winged nightmare, the mosquito. The stealthy insect inserts its syringe-like proboscis through its unwitting host's skin and siphons off the creature's blood for the purpose of nourishing its developing eggs. In the process of exchanging fluids with its victim, the bloodthirsty mosquito often transmits a deadly contagion to the creature it violated as a sinister parting gift. While mosquitoes act as a vector in the transmission of disease, other less-sophisticated organisms residing in the murky waters directly infect their prey. Unicellular organisms such as some varieties of protozoa and bacteria can severely sicken or kill creatures who deliberately or accidentally ingest the contaminated waters or come into contact with the soil where these creatures thrive.

The land itself also conceals many invisible dangers. Quicksand is a pervasive problem throughout the wetlands, especially in the bogs and fens found in the world's temperate and boreal regions. Peat — decaying, stratified organic material primarily composed of sphagnum moss — can repel and retain vast quantities of water. Yet much to adventurers' chagrin, the spongy material is prone to collapse under pressure, turning what looks like solid ground into a soupy quagmire of frigid water and granular particles that behave like wet cement. For this reason, many wetlands' natives sarcastically quip, "visitors wrongly fear terrors right before their eyes, so they never see death coming."

Terrestrial Hazards

In the wetlands, a parcel of ground may be dry land one day and a streambed the next. In many ways, the soil's transitory nature is responsible for creating a significant number of the terrestrial hazards associated with this environment. Humidity, rainfall, and a uniquely acidic environment give rise to the creation of peat, the hydrocarbon material dominating the chilly bogs and fens. This soggy, decaying matter is surprisingly combustible, and the microorganisms feasting on the dead matter in this anaerobic environment also release flammable gases as a byproduct of their digestive processes. Of course, mud can be just as insidious as peat. Although quicksand is commonly associated with deserts in fiction, the flawed and potentially dangerous mixture of water and soil actually appears more often in saltwater marshes, riverbeds, and lakeshores than it does in deserts. Native residents sometimes refer to the saturated, granular sand as pluff mud. Quicksand and pluff mud are visible, recognizable hazards. On the other hand, the ground hiding beneath the water is just as perilous. The submerged soil under the water's surface teems with serrated oyster shells and barnacles that shred bare skin with their jagged edges. Even the cloudy water covering the land conspires against adventurers by obscuring their vision and shrouding the murky depths in ominous darkness. Taking anything for granted, whether seen or unseen, is a grave mistake in the chameleon-like wetlands.

Dealing with Hazards

Hazards are natural obstacles characters must overcome to survive in the Wetlands. Many appear under a general heading providing a broad overview of these perils. Others warrant a detailed entry. Those falling into the latter category are presented by name followed by the type of hazard they pose — disease, poison, terrestrial, and weather and an intricate description of the hazard.

Because *Hazardous Habitats: Wetlands* is a system neutral work, we are not presenting any specific game mechanics regarding the detection, identification, avoidance, escape, dimensions, and effects the hazards and other challenges presented here. However, these sourcebooks offer guidance on how to adjudicate these hazards and challenges in your game. One of the ways we accomplish this is by assigning degrees of difficulty to the various tasks a character may undertake to detect, identify, avert, and escape the obstacle. All hazards and challenges are rated as easy, moderate, hard, and arduous based upon the following definitions.

Easy difficulty: An easy challenge is one where low-level character have at least a 50% chance of success. Mid-level characters are likely to succeed most of the time, while high-level characters would almost always succeed absent atrocious luck.

Moderate difficulty: A moderate challenge is one where mid-level characters have a roughly 50% chance of success. Low-level characters sometimes succeed when luck is on their side, while high-level characters are likely to succeed most of the time.

Hard difficulty: A hard challenge is one where high-level characters have at least a 50% chance of success. Mid-level characters sometimes succeed when luck is on their side, while low-level characters need remarkably good luck to have any chance of success.

Arduous difficulty: An arduous challenge is one where even high-level characters struggle to succeed. They sometimes succeed when luck is on their side. Mid-level characters need remarkably good luck to have any chance of success, while low-level characters succeed on the rarest of occasions, and even then, they need astounding luck to pull off the impossible.

Hazards are then presented in the following format to allow characters to interact with and defeat the hazards. The Detection, Identification, Avoidance, and Escape sections use the scales of difficulty presented above. The Dimensions and Effects sections follow a different format described under those headings.

Detection: This section describes the suitable ability check or appropriate skill check that may be used to spot the hazard before encountering it as well as listing the degree of difficulty associated with the preceding check. It may also describe the sense used to notice it.

Identification: This section describes the suitable ability check or appropriate skill check that may be used to identify the hazard and its potentially detrimental effects to the character. Naturally, a character cannot identify a hazard he failed to detect.

Avoidance: This section describes the hazard's degree of difficulty and the suitable ability check or saving throw type that may be used to avoid the hazard when the character is subjected to its effects. In most cases, avoidance becomes applicable when the character failed to detect the hazard beforehand.

Escape: This section describes the degree of difficulty required to escape from the hazard as well as the ability or skill check used to escape from the hazard.

Dimensions: This section describes the hazard's overall size as defined below.

Individual: The hazard impacts a single creature or object exposed to it. However, the same hazard may affect more than one creature or object who comes into contact with it.

Small-scale: The hazard affects an area no greater than 1,000 square feet.

Large-scale: The hazard affects an area greater than 1,000 square feet but less than 1 square mile.

Localized: The hazard affects an area greater than 1 square mile but less than 1,000 square miles. Despite its magnitude, its effects are most strongly felt closest to its epicenter.

Regional: The hazard affects an area greater than 1,000 square miles but are not felt worldwide. Despite its magnitude, its effects are most strongly felt closest to its epicenter.

Worldwide: The hazard affects the entire world. On this grand scale, the hazard may equally impact creatures and objects regardless of their distance from its epicenter.

Effects: This section describes how the hazard affects the character. Its impact is categorized as nuisance, harmful, dangerous, deadly, or lethal. The definition for each category appears below.

Nuisance: A nuisance has a minimal impact on low-level characters and no impact on mid-level and high-level characters. At worst, the hazard may temporarily inconvenience the character or deal damage no greater than one-quarter his maximum hit points.

Harmful: A harmful effect has a modest impact on low-level characters, such as potentially dealing damage no greater than one-half the character's maximum hit points or having another temporary, minor detriment on the character. Mid-level characters may potentially take no more than one-quarter their maximum hit points, while high-level characters would regard the hazard as a temporary inconvenience.

Dangerous: A dangerous effect may imperil the lives of low-level characters, dealing significant amounts of damage to them or otherwise incapacitating them. Mid-level characters would suffer a modest impact from the hazard, while high-level characters would potentially take no more than one-quarter their maximum hit point total.

Deadly: A deadly effect almost always kills low-level characters, while potentially imperiling the lives of mid-level characters. The hazard imposes a modest impact on high-level characters.

Lethal: A lethal effect always kills low-level characters, and almost always kills mid-level characters. The hazard even imperils the lives of high-level characters.

In addition to indicating the hazard's degree of danger, the Effects section also lists the following information.

Damage Type: This listing indicates the type of damage, if any, the hazard deals to affected creatures, such as bludgeoning, fire, or piercing damage. If the type of damage dealt is not applicable to the game system, at the GM's discretion the hazard instead deals normal hit point damage or otherwise impacts the character's health.

Condition: This listing states the condition the hazard imposes on a character caught in the hazard, such as blinded, paralyzed, or poisoned.

Complications: This listing indicates the complications that may arise from falling prey to the hazard, such as drowning or suffocating.

Remedy/Cure: This listing details what actions the creature can take to cure or remedy the hazard's effects, such as succeeding on two consecutive Moderate difficulty Constitution saving throws.

Immersion Foot Syndrome (Terrestrial, Disease)

Detection: Easy Intelligence ability check or skill check pertaining to disease, nature, or moving through wilderness

Identification: Easy Wisdom ability check or skill check pertaining to disease, nature, or moving through wilderness

Avoidance: Moderate Constitution-based saving throw delays hazard for one additional day (see below)

Escape: See below

Dimensions: Individual

Effects: Nuisance

Damage Type: Constitution, Dexterity

Condition: None

Complication: Walking speed reduced by half; disease deals additional damage each day until cured

Cure/Remedy: Two consecutive successful Moderate Constitution saving throws immediately after taking damage

In general, living creatures thrive in a warm, humid environment. The inside of a waterlogged shoe or boot exemplifies this principle in a microcosm. The damp, warm, and dark conditions encountered inside of soaked footwear and socks encourage the growth of bacteria and fungi. As long as the skin remains healthy and intact, the body keeps these unwelcome invaders at bay. Over time, however, water takes a heavy toll on the outer epidermis regardless of the temperature. The exact causes for why this occurs remain a subject of debate among scholars, but there is no disputing that prolonged exposure to a damp, dark environment causes the feet to suffer from numbness, maceration, and blisters. In its early stages, immersion foot syndrome, as it is commonly called, makes walking an extremely painful endeavor, thus limiting the creature's mobility. As the affliction progresses, cracks in the skin and ulcerated blisters provide bacteria and fungi a window of opportunity to infiltrate through the skin and invade the damaged tissue. Left untreated, gangrene becomes a foregone conclusion.

There is a 10% chance of developing immersion foot syndrome for each consecutive day the creature continuously wears waterlogged boots, shoes, and socks. For instance, a creature wearing the same soaked shoes and socks for three straight days would have a 30% chance of contracting immersion foot syndrome. If the cycle of dampness is broken, i.e. the character removes the soaked footwear and allows his feet to "air out" in an elevated position overnight, the chances of contracting immersion foot syndrome are lowered by 20%. Likewise, removing the soaked footwear and replacing it with dry clothing reduces the chances of developing immersion foot syndrome by 10%.

Marsh Gas (Terrestrial)

Detection: Moderate Wisdom ability check or skill check pertaining to nature or olfactory perception

Identification: Moderate Intelligence ability check or skill check pertaining to nature identifies areas suitable for the development of marsh gas

Avoidance: Easy Dexterity-based saving throw partially reduces effects

Escape: Fleeing the area

Dimensions: Small-scale

Effects: Nuisance

Damage Type: Fire

Condition: Sickened

Complication: Fire deals additional damage every round for six rounds; creatures engulfed in flames may catch fire; foul odor may temporarily sicken creatures who smell it

Cure/Remedy: A creature who catches fire extinguishes the flames with a successful Easy Dexterity saving throw immediately after taking damage

Tales of eerie, flickering balls or flames of light spontaneously appearing above the watery surfaces of swamps, marshes and bogs resonate

throughout recorded history. The men and women who witnessed this strange phenomenon believed them to be otherworldly beings they referred to as will-o'-the-wisps. In actuality, these odd, illuminated spheres are simply small clouds of combustible natural gases bubbling up from beneath the soil. Not surprisingly, adventurers who have stood toe-to-toe with these malevolent creatures vigorously dispute their alleged non-existence. Nonetheless, in the real world will-o'-the-wisps are a wholly natural occurrence that presents only a minor danger to wetlands' travelers.

Marsh gases form in the proverbial bowels of the wetlands. Bacteria that thrive in the wetlands' anaerobic environment beneath the water release several potentially combustible gases as a byproduct of their digestive process. Likewise, with the right temperatures and humidity levels, fermented organic matter may also emit the same chemicals. Marsh gas consists predominantly of methane and carbon dioxide, along with a smattering of other compounds. It is invisible in its normal state. However, once ignited, which frequently occurs in a spontaneous, inexplicable manner, marsh gas burns with a distinctive blue flame.

Marsh gas exposed to an ignition source instantly catches fire. Even without an open flame, marsh gas has a 10% chance per minute of spontaneously combusting. A typical pocket of marsh gas measures 2d4 feet in diameter. A creature standing within or adjacent to a smoldering cloud of the flammable fumes takes fire damage and is at risk of catching on fire. Fires caused by marsh gas are generally too short-lived to ignite nearby damp, living vegetation. However, an unusually dry area ravaged by drought or extremely high temperatures may catch fire under the right conditions. In general, for every mile traveled in the marshes, swamps and bogs, there is a 5% chance of wandering into an area plagued by marsh gas. Marsh gas is less common in fens, so there is a 2% chance of encountering a pocket of marsh gas for every two miles traveled across these particular wetlands.

Peat Fires (Terrestrial)

Detection: Moderate Wisdom ability check or skill check pertaining to olfactory or visual perception at a range of one-half mile; obvious at a range of one-quarter mile or less

Identification: Moderate Intelligence ability check or skill check pertaining to nature

Avoidance: Moderate Dexterity-based saving throw partially reduces effects

Escape: Fleeing the area

Dimensions: Large-scale

Effects: Dangerous

Damage Type: Fire

Condition: Blinded

Complication: Smoke obscures all vision; fire deals additional damage each round while exposed to it; creatures engulfed in flames may catch fire

Cure/Remedy: A creature who catches fire extinguishes the flames with a successful Moderate Dexterity-based saving throw

In today's vocabulary, the term fossil fuel almost always refers to oil, coal, and natural gas. These complex hydrocarbons power our vehicles, heat our homes, and generate electricity for countless other uses. However, in an era before the advent of drilling rigs and heavy machinery, people harvested peat, a lesser-known fossil fuel, to meet their energy demands. Peat is the product of decaying organic matter, just like its more famous kin. Although it typically accumulates in a moist, acidic environment, peat's high concentration of carbon and several other combustible elements makes it extremely flammable. The peat accumulating in the chilly bogs and fens is normally too damp and waterlogged to easily ignite. Humanoids culling this material from the ground leave it out to dry for an extended period before using it to warm their hearths and stoves during the long winters. Yet under the right conditions, most notably during times of extended drought, the peat encountered in bogs and fens can be a conflagration waiting to happen.

Fire keeps shrubs and trees at bay in many biomes. Bogs and fens are no exception. Lightning, intense heat, carelessness, and arson can provide the spark that sets peat ablaze. Once lit, peat can burn indefinitely. In fact, there

are recorded instances of peat fires lasting for decades and even centuries. In some instances, these steady burns originate and continue to smolder underground, where they are shielded from the elements. Peat infernos release astounding volumes of methane and carbon dioxide. The blinding, choking smoke generated by the flames travels miles downwind, irritating the noses, mouths, and lungs of any living creatures breathing the suffocating air.

Peat fires spread slowly, often burrowing underground in a vertical direction rather than traveling outward in a more conventional horizontal manner. Despite their slow speed, they can burn for long periods, spewing gigantic plumes of noxious smoke high into the air. The flat terrain combined with the enormous columns of smoke make it easy to spot a peat fire from a greater distance than a forest fire. The leading edge of a peat fire (the downwind side) moves steadily, traveling at a speed of 1d4 x 10 feet per hour in winds below 21 mph, 2d4 x 10 feet per hour in winds between 21 and 50 mph, and 4d4 x 10 feet per hour when influenced by winds in excess of 50 mph. As previously mentioned, peat fires can burn almost indefinitely. Once a particular portion of peat catches fire, it remains ablaze for 2d4 weeks unless another creature intervenes to extinguish the raging flames or prolong its existence.

Creatures caught in the leading edge of the fire run the risk of catching fire. The smoke behaves slightly differently. It is so thick that it makes vision impossible. The smoke reaches a maximum height of 2d6 x 10 feet over areas that are ablaze and downwind of the fire.

The preceding discussion relates to peat fires caused by unseen forces. PCs and their enemies may intentionally or accidentally ignite a peat fire while fighting in the wetlands. A dropped torch, a neglected campfire, a *flaming sword*, and many spells that create fire can set the peat ablaze. The risk of starting a deadly inferno is a significant consideration when battling foes outdoors, especially during the dry season. As a general rule of thumb, wet peat exposed to an instantaneous flame does not catch fire, whereas desiccated peat has a 50% chance of igniting. Fires lasting for 10 seconds or more always ignite dried peat. On the other hand, every 10 seconds there is a cumulative 5% chance wet peat exposed to an open flame catches fire. Once a fire starts, the wind direction determines where it goes unless the PCs or their adversaries use other means such as magic to steer the blaze in a direction of their choice. Whether caused by nature or the actions of living creatures, no natural force can stop a peat fire if the flames can safely retreat to a subterranean location.

Quicksand, Wet (Terrestrial)

Detection: Moderate Wisdom ability check/skill check pertaining to visual perception or Easy skill check pertaining to moving through wilderness or getting along in the wild

Identification: Easy Intelligence ability check or skill check pertaining to deserts or nature

Avoidance: Moderate Dexterity saving throw completely avoids hazard

Escape: Moderate Strength ability check or Easy skill check pertaining to swimming or climbing if there is a surface to climb

Dimensions: Small-scale

Effects: Dangerous

Damage Type: None

Condition: None

Complication: Drowning/Suffocation

Cure/Remedy: Escape

In the 1950s and 1960s, quicksand practically became a cottage industry. Writers and directors of the period regaled readers and moviegoers with iconic images of heroes and villains stepping onto a patch of gelatinous sand that suddenly morphed into an inescapable quagmire. Many of these climactic scenes took place in the desert beneath a hot, roiling sun far beyond the reach of any assistance. After a valiant struggle, the trapped creature finally succumbed to his inevitable fate and disappeared beneath the amorphous surface, never to be seen again. In the case of quicksand, fact is a far cry from fiction.

Quicksand is an imperfect amalgamation of water and sand. Quicksand, also known as pluff mud in some circles, usually appears in marshes near rivers, lakes, and other bodies of water. It forms when fine, granular

particles such as sand or silt become overly saturated by a swell of groundwater, which remains hidden below a layer of sand. Whenever a creature steps onto the surface and exerts enough pressure on the unstable soil, the loose grains of sand and water quickly separate and transform the mess into a soupy liquid. In short, falling into quicksand is more akin to stumbling into a previously hidden pool of water than plummeting through a crack in the earth. This variety of quicksand is known as wet quicksand.

Quicksand, Dry (Terrestrial)

Detection: Hard Wisdom ability check/skill check pertaining to visual perception or Moderate skill check pertaining to moving through wilderness or getting along in the wild

Identification: Moderate Intelligence ability check or skill check pertaining to deserts or nature

Avoidance: Hard Dexterity saving throw completely avoids hazard

Escape: Hard Strength ability check or Moderate skill check pertaining to swimming or climbing if there is a surface to climb

Dimensions: Small-scale

Effects: Dangerous

Damage Type: None

Condition: None

Complication: Suffocation

Cure/Remedy: Escape

Dry quicksand is the substance generally seen in works of fiction. To date, there are no known natural instances of dry quicksand, though it has been successfully replicated in a laboratory under highly controlled conditions. Dry quicksand contains no water. Instead, it is composed of minute, loose particles of granular material infused with air. This may occur when the wind blows extremely fine grains of sand into the air, and those same grains then tumble back to the surface and pile atop one another. Although it is truly solid, dry quicksand lacks density, which causes heavy creatures that step into it to literally fall through the sand and bury themselves. Dry quicksand is more stable than wet quicksand, so it is able to support some weight before it instantaneously gives way and collapses upon itself. This feature makes it very difficult to detect, because it looks and behaves like solid ground under visual and tactile inspection. The typical patch of dry quicksand is 50 feet in diameter. Because of its ability to support roughly 50 pounds of weight, the momentum of a running or charging character carries him 1d4 x 5 feet into the dry quicksand before he sinks into it. Creatures weighing less than 50 pounds are unaffected by dry quicksand. Creatures that fall into dry quicksand only have seconds to react or face certain death. However, in the wetlands where water is in great abundance, dry quicksand is just a part of pulp fiction.

Rust (Terrestrial)

Detection: Easy Wisdom ability check or skill check pertaining to visual perception

Identification: Easy Intelligence ability check or skill check pertaining to metallurgy or nature

Avoidance: Moderate Constitution-based saving throw completely avoids the hazard (only magical iron objects and creatures receive a saving throw against rust)

Escape: None

Dimensions: Individual iron object or creature

Effects: Nuisance

Damage Type: Acid

Condition: Broken, fragile

Complication: Rust deals damage to iron objects and creatures for every day it is exposed to freshwater or greater than 50% humidity. Exposure to saltwater deals double damage.

Cure/Remedy: Cleaning and thoroughly drying iron objects mitigates damage or grants a bonus to saving throws for magical items and creatures

Water never surrenders. Over time, the tireless fluid grinds the grandest monuments into dust. Naturally, some materials repel water far better than others. Iron looks and feels like a formidable opponent, but appearances are deceiving. Prolonged exposure to water or damp air degrades iron on an atomic level, as oxygen atoms combine with iron atoms to create iron oxide. Adding salt, which is found in seawater, accelerates the chemical reaction. The oxidation process rapidly weakens and corrodes iron into a fragile material that denigrates into brittle, discolored orange flakes known as rust.

Moisture is an inescapable and harsh reality in the wetlands. Even if a character does not wade through waist deep swamp water or endure a torrential downpour, water vapor in the form of humidity still eats away at iron's porous molecular bonds. Armor, weapons, tools, equipment, and even creatures made from iron and iron alloys suffer the ravages of rust when they are exposed to freshwater or greater than 50% humidity. Objects and creatures exposed to saltwater suffer additional effects.

Sinkhole (Terrestrial)

Detection: Hard Wisdom ability check/skill check pertaining to visual perception or Moderate skill check pertaining to moving through wilderness or getting along in the wild

Identification: Hard Intelligence ability check or skill check pertaining to geology, geography, or nature identifies areas more susceptible to sinkholes (see below)

Avoidance: Hard Dexterity-based saving throw completely avoids hazard

Escape: Hard Strength ability check or Moderate skill check pertaining to climbing if there is a surface to climb out of the sinkhole

Dimensions: Small-scale

Effects: Dangerous

Damage Type: Bludgeoning, falling

Condition: None

Complication: Portions of the sinkhole may collapse, burying the creature beneath 1d4+1 feet of dirt and debris; buried creature may suffocate

Cure/Remedy: Moderate Strength ability check to dig out of the dirt and debris

In almost every case, water eventually gives birth to sinkholes. The invasive fluid dominates the wetlands. It slowly seeps through the saturated soil and into the limestone, dolomite, gypsum and other layers of porous, easily soluble stone underneath the inundated earth. Over time, the relentless invader bores into the underlying structure, carving out cracks and fissures that slowly grow into gaping cavities. Scholars refer to this as karst topography. Contrary to popular belief, these subterranean abscesses are not the sinkholes surface dwellers actually see when the ground suddenly and violently collapses. Instead, sinkholes are created in a manner similar to marking the passage of time with an hourglass. The original underground cavity works much like the lower bulb in the timekeeping device. Water penetrates through the surface, where it then pushes loose dirt, soil, clay, and other organic material in the upper bulb through the hourglass's neck and into the lower bulb. The process is slow, taking years and sometimes decades to reach critical mass. However, when enough material pours into the lower bulb, the upper bulb weakens to the point where it can no longer support the weight of the soil, vegetation, and water above it. The ground immediately collapses, spawning a massive crater in its wake.

While natural processes are responsible for the creation of most sinkholes, irresponsible humanoid activities may also create or at least contribute to a sinkhole's genesis. Mining and agriculture are the two primary culprits. Subterranean mines extract minerals and metals from the earth, leaving manmade cavities in their wake that duplicate the structure of karst topography. The agricultural industry drains aquifers of water for the purpose of irrigating surface crops. Removing water from the underground cavities makes it easier for soil and clay to fill in the abscesses. In addition, pouring massive quantities of water in a small,

concentrated area forces any excess runoff to sink into the ground and dissolve soluble layers of bedrock beneath the farm.

The typical sinkhole measures 4d6 feet in diameter and descends to a depth of 2d4 x 10 feet, though they can be larger or smaller depending upon the circumstances surrounding their creation. Terrain conducive to creating a natural sinkhole can be spotted ahead of time, though a successful check does not verify the presence of a sinkhole or pinpoint one's exact location. It merely tells the creature a sinkhole is more likely to be found in a given region than elsewhere. Creatures who fail to detect the sinkhole walk 1d6 feet past the edge before the ground suddenly collapses. In general, for every mile traveled in the marshes and swamps, there is a 2% chance of stumbling across a sinkhole. Fewer sinkholes are in the bogs and fens, so there is a 1% chance of stepping onto a sinkhole for every two miles traveled across these particular wetlands.

Water Clarity (Terrestrial)

Detection: Easy Wisdom ability check/skill check pertaining to visual perception to spot barnacles and oysters through murky water; Hard Wisdom ability check/skill check to spot them through muddy water

Identification: Easy Intelligence ability check or skill check pertaining to nature to identify the mollusks

Avoidance: Moderate Dexterity-based saving throw completely avoids hazard

Escape: Fleeing the area

Dimensions: Small-scale

Effects: Nuisance

Damage Type: Piercing, slashing

Condition: None

Complication: Creatures in murky water gain bonuses to stealth or other checks to avoid being seen; creatures in muddy water are invisible beyond a range of five feet

Cure/Remedy: None

It is extremely difficult to avoid something that cannot be seen. On land, dense clouds of smoke may grant concealment to creatures moving through the thick vapors. The same principle applies underwater. High concentrations of mud, sediment, peat and other organic materials in the water greatly impede vision. These minute particles block and reflect light. Under normal conditions, creatures can see 1d8 x 10 feet through murky water. Muddy water obscures all sight.

As a general rule of thumb, moving water is always murky unless it is in a particularly large, slow-moving river. Muddy waters are typically encountered in swamps and marshes near the mouths of rivers, streams and other bodies of water, where sediment and mud picked up farther upstream are ultimately deposited. In addition to granting concealment to predators such as alligators and crocodiles along with parasites such as leeches, the cloudy, shallow waters in these areas also hide large colonies of barnacles and oysters that attach themselves to objects on the swamp or marsh floor. Their jagged, serrated shells deal damage creatures walking across these shells. The animals typically cluster together in a 1d4 x 10-foot radius. There is a 10% chance of encountering barnacles and oysters in muddy waters. Obviously, creatures that can see them through clear or murky waters are likely to avoid wading through areas that host large numbers of these creatures. If they persist and decide to walk atop the animals' sharp shells, they take damage as normal.

On the other hand, algae floating atop the water's surface act as a gigantic blanket draped atop the water. This broad grouping of aquatic plants comes in many shapes, sizes and colors and can flourish in a wide variety of areas. Unlike mud and sediment, algae can be temporarily pushed aside to grant momentary visual access to the water below it. This may allow a creature to avoid stepping onto objects and creatures on the bottom directly in front of it. Algae still obscures long-range vision, thus preventing the creature from seeing an oncoming predator swimming through the water. Algae flourish in nearly every wetlands' environment, but they are most abundant in saltwater swamps and tidal marshes.

Plants

Wetlands are often defined in accordance with their indigenous flora. Trees and woody plants dominate swamps, whereas grasses, reeds and rushes hold sway over marshes. As is the case in most biomes, the overwhelming majority of the indigenous greenery leads an anonymous existence, innocuously blending into the background without eliciting a glance or thought in its direction. Yet a handful of unique and unusual plants leave their indelible mark on their native biome. Although they have no direct impact on adventurers, the mires' strange carnivorous plants, such as the famous Venus flytrap along with the lesser known pitcher plant and sundews, warrant mention because of their ability to trap and digest insects as an alternate food source.

Despite these noteworthy exceptions, plants usually develop adaptations to encourage insects to pollinate their flowers or to prevent hungry bugs, animals, and humans from feeding on their stems and leaves by coating them with poison. The deadly manchineel tree, poison sumac, and water hemlock take the latter approach. On the other hand, cypress trees and mangroves have unforeseen beneficial and detrimental effects on explorers traveling through the wetlands. Whether intentional or inadvertent, some plants indigenous to this ecosystem may gravely imperil adventurers who choose to blissfully ignore these unwelcoming residents.

Cypress Tree (Terrestrial)

Detection: Moderate Wisdom ability check or skill check pertaining to botany, nature, visual perception, or moving through wilderness when submerged beneath muddy water; Easy Wisdom ability check or skill check pertaining to botany, nature, visual perception, or moving through wilderness when submerged beneath murky water; obvious when protruding above the water's surface

Identification: Moderate Intelligence ability check or Easy skill check pertaining to botany, nature, or moving through wilderness

Avoidance: Easy Dexterity-based saving throw completely avoids hazard

Escape: Fleeing the area

Dimensions: Small-scale

Effects: Nuisance

Damage Type: Piercing

Condition: None

Complication: Creatures who take damage from cypress knees may be slowed; concealed cypress knees may impede watercraft; area containing cypress knees treated as difficult terrain, if applicable

Cure/Remedy: Successful Easy Strength ability check dislodges watercraft caught in cypress knees

These massive, woody giants tower 120 feet above the water and vegetation that covers the swamp floor. The cypress family includes a diverse array of conifers that adapt extremely well to their indigenous environments. Despite the family's versatility, only a handful of cypress species thrive in the perpetually humid swamps and marshes. The bald cypress is the most renowned and prolific representative. This particular species owes its name to its deciduous nature. During the winter months, it loses its flat, spiraled leaves, thus earning the "bald" moniker. The bald cypress is most commonly found in tropical and semi-tropical freshwater swamps in coastal regions and along riverbanks. Native humanoid residents and loggers prize the bald cypress's wood because of its ability to withstand water damage and to resist termite infestation. As such, humanoids often build settlements in the swamps and marshes where the trees are plentiful, facilitating their ability to harvest the vital timber needed to build their homes and businesses. The exceptionally venerable bald cypress does not give up its longevity without offering some resistance. Bald cypress trees have an unusual root structure usually referred to as cypress knees. In almost all cases, a plant's root system remains firmly buried within the soil and completely invisible to the naked eye. While much of the bald cypress' support and feeding tendrils are also entrenched beneath the ground, the tree's roots sport numerous vertical, spike-like growths that protrude above

the surface. The majority of these woody projections are clustered in close proximity to its trunk with lesser concentrations extending outward up to 30 feet away from the main body. The knees' height roughly conforms to the prevailing water table. Cypress trees inundated by shallow water may spring knees that range from several inches in height to a few feet. Those routinely submerged beneath deeper waters may grow knees measuring a staggering 10 feet in length. The exact purpose of this strange anomalous growth remains a mystery, but most scholars theorize that cypress knees have multiple functions that may include enhanced stabilization, improved oxygen exchange, or a methane release mechanism.

The tree harbors no ill will toward explorers, yet bald cypresses pose significant danger to creatures that approach these arboreal monoliths when its knees are submerged within the turbid swamp water. Any creature that steps into a square adjacent to a cypress tree's trunk has a 50% chance of accidentally stepping on a cypress knee. Creatures stepping into squares between five feet and 30 feet away from any cypress tree's trunk have a 1d3 x 10% chance of stepping on a cypress knee. Any waterborne vessel that moves into an area containing cypress knees takes piercing damage from the collision and must be extricated from the area. The presence of multiple cypress trees in a concentrated area does not increase the chances of encountering a cypress knee. Obviously, if the area surrounding a cypress tree is not inundated by muddy water, the cypress knees are visible and can be easily circumvented.

Manchineel Tree (Poison)

Detection: Hard Intelligence ability check or Moderate skill check pertaining to botany, nature, or moving through wilderness

Identification: Hard Intelligence ability check or Moderate skill check pertaining to botany, nature, or moving through wilderness

Avoidance: Hard Constitution-based saving throw completely avoids hazard

Escape: Fleeing the area

Dimensions: Individual

Effects: Dangerous

Damage Type: Constitution (contact or inhaled), Dexterity (ingested), poison

Condition: Blinded (inhaled), poisoned, sickened

Complication: Poison deals additional damage every 1d6 rounds until cured

Cure/Remedy: Hard Constitution-based saving throw immediately after taking damage; when inhaled two consecutive Hard Constitution-based saving throws immediately after taking damage

Mangroves are the undisputed masters of the saltwater swamp. This upstart, tall shrub with gray bark, green leaves and light green apple-like fruit often grows alongside its more abundant competitor. Yet what the tropical tree lacks in numbers, it more than compensates for with its toxicity. It is one of the most poisonous trees in the world. The mere act of seeking shelter beneath its broad, shiny leaves during a rainstorm can permanently scar and kill an unfortunate creature simply trying not to get wet. Its bark, stems, leaves, and fruit exude a milky, white sap loaded with toxic compounds that severely irritates exposed skin coming into contact with even a single, diluted drop of the blistering concoction. Setting any part of the plant ablaze creates noxious smoke that sears the eyes and lungs, potentially blinding and killing any living creature that inhales the fatal fumes or looks upon the roaring conflagration. Chewing its leaves or devouring its apple-like fruit invites near-certain death. Primitive humanoid cultures sometimes execute their foes by tying the helpless victim to the tree's trunk and letting nature take its course. The same peoples also frequently dip their arrowheads in sap harvested from the tree.

Manchineel trees grow in the proverbial shadows of their more populous mangrove neighbors. They flourish in coastal beaches and in brackish swamps. Despite its fearsome reputation, the manchineel tree is no match for the more prolific mangrove when the rivals must compete against each other for space and food resources. In general, the tree is found only in the wild; therefore, it can be difficult to identify the species and its toxic properties.

Mangrove (Terrestrial)

Detection: Easy Wisdom ability check or skill check pertaining to botany, nature, visual perception, or moving through wilderness when submerged beneath muddy or murky water; obvious when protruding above the water's surface

Identification: Moderate Intelligence ability check or Easy skill check pertaining to botany, nature, or moving through wilderness

Avoidance: Easy Dexterity-based saving throw completely avoids hazard

Escape: A successful Easy Strength ability check extricates the creature's foot from the mangroves

Dimensions: Small-scale

Effects: Nuisance

Damage Type: Piercing

Condition: None

Complication: Area containing mangroves treated as difficult terrain, if applicable; mangroves snag watercraft

Cure/Remedy: Successful Easy Strength ability check dislodges watercraft caught in mangroves

Few woody plants can survive the anaerobic conditions that come with being rooted in constantly saturated soil. Of these hardy trees and shrubs, only one ascended to a dominant role in this oxygen-poor environment ravaged by salt water. The mangrove stands supreme among all its peers. This alien-looking tree has elongated, external roots that resemble spindly fingers burrowing into the tarry muck that makes up the saltwater swamp's floor. In many respects, mangroves are the lynchpins that hold this precarious ecosystem together. The plant's upright, skeletal rib-like root structures trap nutrients and sediment that would otherwise wash out to sea and provide a secure nursery for countless fish, crustaceans, mollusks and other small animals that dwell in this delicate habitat.

The trees and shrubs classified as mangroves grow in tropical and subtropical coastal regions. The most prevalent species are commonly associated with colors as in the case of white mangroves, black mangroves, and red mangroves. In general, all mangroves other than black and gray mangroves rely upon their elevated stilt or prop roots to stand above the water level and derive oxygen from the air. This tangled, slippery mass of vine-like tendrils extends around and underneath the woody plant's trunk, making it difficult to walk through the muddy soil surrounding the mangrove without an outstretched portion of its roots snaring a creature, even if the roots are plainly visible. Creatures that exercise care, i.e. those walking at half speed or less through areas adjacent to or containing mangrove trees and shrubs, automatically avoid getting a foot stuck within the twisted root structure.

Black and gray mangroves differ from their relatives in the fact that they do not have prop roots that ensnare passing creatures. Instead, they have pneumatophores — small, vertical woody structures attached to subterranean root systems that protrude through the soil akin to cypress knees. However, they are significantly shorter and stubbier than cypress knees since they are solely used to supplement the plant's oxygen intake. Any creature that steps into a square adjacent to a black or gray mangrove has a 20% chance of stepping on a pneumatophore. Any watercraft that moves into an area containing a pneumatophore also takes damage from the collision and must be extricated from the area. The presence of multiple mangroves in a concentrated area does not increase the chances of a square containing a pneumatophore.

Poison Sumac (Poison)

Detection: Hard Wisdom ability check or skill check pertaining to botany, nature, visual perception, or moving through wilderness when submerged beneath muddy water

Identification: Moderate Intelligence ability check or skill check pertaining to botany, nature, or moving through wilderness

Avoidance: Moderate Constitution-based saving throw completely avoids hazard

Escape: Removing or washing items that come into contact

with poison sumac prevents future exposure to the poison

Dimensions: Individual

Effects: Harmful

Damage Type: Dexterity, poison

Condition: Distracted

Complication: Poison deals additional damage each day until cured

Cure/Remedy: Two consecutive Moderate Constitution-based saving throws immediately after taking damage

Although its notoriety pales in comparison to the ubiquitous poison ivy and the more common poison oak, this species of the *toxicodendron* genus is the most potent and toxic of its kin. Poison sumac appears as a woody shrub or small tree that reaches a maximum height of 30 feet. The plant can be recognized by its red stems and green leaves that bear a reddish tint. Poison sumac grows only in saturated soil; thus, it is found exclusively in swamps, bogs and fens.

Whenever the plant's leaves, stems, or fruits are injured, it releases a toxic concoction of oils known as urushiol. Injury occurs whenever the urushiol gets on clothing, and thus irritates any skin it touches. Removing and thoroughly washing any clothing or fur that comes in contact with the poison eliminates any possibility of future contamination. If these items are not removed in a timely manner, transferring the urushiol to the skin becomes a foregone conclusion. Poison sumac causes a severe rash and blisters to develop on the skin. In spite of its ugly appearance, the rash and blisters cannot be spread from person to person unless the second individual comes in direct contact with any urushiol residue still present on the first person. Burning poison sumac to eradicate it is an awful idea. Inhaling the smoke has the same effects on the lining of the lungs as it does on the skin.

Water Hemlock (Poison)

Detection: Moderate Wisdom ability check or skill check pertaining to botany, nature, or moving through wilderness

Identification: Moderate Intelligence ability check or Easy skill check pertaining to botany, nature, or moving through wilderness

Avoidance: Hard Constitution-based saving throw completely avoids hazard

Escape: None

Dimensions: Individual

Effects: Dangerous

Damage Type: Dexterity, poison

Condition: None

Complication: Poison deals additional damage every 1d4 rounds until cured

Cure/Remedy: Successful Moderate Constitution-based saving throw immediately after taking damage; when ingested, two consecutive successful Hard Constitution-based saving throws immediately after taking damage

The four species commonly referred to as water hemlock belong to the same family but a different genus than their more renowned relative, which claimed the life of the classical Greek philosopher Socrates. Like its kin, the plant is a member of the carrot family, leading some humanoids accidentally to eat the water hemlock's celery-like stem or, worse yet, its virulently poisonous roots that resemble parsnips. Correctly identifying the perennial herbaceous plant as water hemlock reveals the toxic compounds found in water hemlock differ significantly from those present in traditional hemlock, despite the fact that both types trigger very comparable effects.

Water hemlock is a roughly eight-foot-tall plant with green or white flowers with an umbrella shape. It is typically found growing on the banks of ponds and streams within swamps and marshes. Water hemlock thrives in temperate and boreal climates. Creatures that consume even a tiny amount of the plant's roots or a slightly larger piece of its stem or leaves suffer debilitating seizures within a matter of minutes. Death follows shortly thereafter. Water hemlock can also poison its victims by contact; however, the toxin is less effective when administered through touch instead of taste.



Wetlands Inhabitants

Large humanoid settlements are rare within the wetlands proper. However, many cities and towns now occupy land that once fell under the auspices of a neighboring swamp or marsh. Residents dwelling in the communities living within and on the edge of the wetlands frequently venture into this semi-aquatic domain in search of exotic goods and valuable commodities. While humanoids may not inhabit wetlands in droves, countless species of insects, fish, animals, beasts, and monsters prosper in this delicate ecosystem. In particular, parasitic creatures and organisms thrive in the stagnant waters and humid conditions that dominate their environment. Mosquitoes, ticks, biting midges, and leeches are hallmarks of this steamy world, along with the microorganisms that fester in this habitat. Any discussion of the wetlands' inhabitants would be incomplete without addressing its most ubiquitous predators — alligators and crocodiles. These reptilian vestiges of a bygone, prehistoric era rank among the wetlands' most feared animals, but their reign does not go unchallenged. An elite handful of carnivorous felids, including panthers, jaguars, and the massive tiger, compete for prey within the tall marsh grasses and mangrove swamps. Still, these aggressive beasts cower from several other monstrous inhabitants, along with the wetlands' supreme ruler, the dreaded black dragon.

Mosquitoes (Disease)

Detection: Arduous Wisdom ability check pertaining to audio or visual perception or Hard skill check pertaining to audio or visual perception detects mosquito crawling on skin before it bites

Identification: Easy Intelligence ability check/skill check pertaining to entomology, nature, or getting along in the wild

Avoidance: Moderate Dexterity-based saving throw allows creature to kill mosquito before it bites, if it has already been detected

Escape: Insect repellent gear and equipment may reduce chances of exposure

Dimensions: Individual

Effects: Nuisance

Damage Type: Piercing

Condition: Distracted

Complication: Creature bitten by a mosquito may contract a mosquito-transmitted disease (see **Tables 3-46** and **3-47** as well as the **sidebox** below); Disease deals additional damage each day until cured

Cure/Remedy: Successful Easy Constitution-based saving throw immediately after taking damage

Every so often, the typical wetlands traveler experiences an unwelcome sensation. Sometimes it feels as if something is moving across his skin. Other times, there is a sudden and urgent need to rub or scratch a swollen nodule that just appeared on his skin a few moments earlier. In certain cases, the person catches the bloodthirsty thief in the act of feasting on his warm, nourishing blood. The ordeal then ends with a quick slap or flick that crushes or removes the offending creature before it causes any more damage. Other than an irritating itch and mild annoyance, most people give no further thought to the brief engagement with the unwelcome parasite. Within hours, the swelling and redness subside, and the interlude becomes a distant memory. In most cases, this attitude is justified; however, there are rare instances where the pest leaves more than a passing mark on its unwitting host. Instead, the insect's bite or proboscis transmits a virulent disease to the unsuspecting victim. Mosquitoes and ticks are the two creatures most responsible for spreading contagions in this manner.

In the real world, mosquitoes easily kill more people than all other non-sentient creatures combined. They have spread numerous diseases

from antiquity through the present with malaria likely being the deadliest. Mosquitoes thrive in warm, humid environments, so they are most active in tropical and subtropical swamps and marshes where the year-round warmth, countless pools of stagnant water, and an abundance of animal and human hosts provide the ideal environment for feeding themselves and their offspring. Fens are typically found in cooler climates, so the cunning blood thieves hibernate during the winter to emerge only when the temperatures warm up during the spring and summer months. Though bogs experience similar weather conditions, their nutrient poor environment and low oxygen levels generally keep the mosquito populations in check. Female mosquitoes deposit their eggs in stagnant water, which is naturally in abundance throughout the wetlands. Mosquito larvae spend anywhere from a week up to a month depending upon the particular species in this aquatic environment. The juveniles feed on algae, organic debris and simple organisms bobbing on the water's surface. Larvae that reach adulthood perpetuate the reproduction cycle, allowing the insects to multiply at staggering rates.

Most game systems offer statistics for swarms of these insects or their giant counterparts. An ordinary, solitary mosquito poses no combat threat whatsoever to even the tiniest and feeblest character. A flick of a finger is enough to kill the pest in most instances. Still, the common mosquito can inflict tremendous damage to even the mightiest warrior. **Table 3-46** below details the daily chances of encountering a disease-carrying mosquito based upon the wetland type and time of year. The GM can and should interject encounters with non-disease carrying mosquitoes to increase the characters' fear and paranoia of these pests.

Table 3-46: Daily Percent Chance of Encountering Disease-Carrying Mosquito

Wetlands Type	Spring	Summer	Autumn	Winter
Bog	01-02	01-03	01	—
Fen	01-06	01-10	01-04	01
Marsh	01-08	01-12	01-06	01-03
Swamp	01-10	01-15	01-08	01-04

The following table may then be used to determine which disease the mosquito carries based upon the season and type of wetland. The following sidebar provides details about the possible diseases.

Mosquito-transmitted Diseases

The follow entries detail the modifications the GM should make to the preceding hazards listing to simulate the effects of the following mosquito-transmitted diseases

Dengue “Breakbone” Fever: Add Dexterity and Constitution to the *Damage Type* and fatigue to the *Condition* listing. Increase *Effects* to Dangerous and *Cure/Remedy* to two consecutive successful Moderate Constitution-based saving throws.

Encephalitis: Add Wisdom to the *Damage Type* and confused to the *Condition* listing. Increase *Effects* to Harmful.

Filariasis: Add Dexterity to the *Damage Type* and slowed to the *Condition* listing. Increase *Effects* to Harmful and *Cure/Remedy* to two consecutive successful Easy Constitution-based saving throws.

Malaria: Add Constitution and Wisdom to the *Damage Type*. Increase *Effects* to Dangerous and *Cure/Remedy* to two consecutive successful Easy Constitution-based saving throws.

Yellow Fever: Add Constitution to the *Damage Type*. Increase *Effects* to Dangerous and *Cure/Remedy* to two consecutive Moderate Constitution-based saving throws.

Table 3-47: Disease Transmitted by Mosquito

Wetlands Type	Dengue Fever	Encephalitis	Filariasis	Malaria	Yellow Fever
Bog	—	01-90	91-95	96-00	—
Fen	01-05	06-70	71-90	91-00	—
Marsh	01-10	11-15	16-25	26-70	71-00
Swamp	01-10	11-20	21-25	26-60	61-00

Mosquitoes are typically most active at dawn and dusk, so characters that protect their exposed skin and sleeping quarters are less likely to get bitten than those that take no precautions. Still, there are no foolproof ways to completely avoid any exposure to these creatures other than completely covering a person's entire skin, which is rather impractical.

Ticks (Disease)

Detection: Hard Wisdom ability check or skill check pertaining to visual perception detects tick before it bites

Identification: Easy Intelligence ability check or skill check pertaining to entomology, nature, or getting along in the wild

Avoidance: Moderate Wisdom ability check or skill check pertaining to feeling physical sensations allows creature to feel a tick biting it; Easy Constitution-based saving throw to resist disease, if any

Escape: Spotting and removing tick in skin with a successful Hard Dexterity ability check or Moderate skill check pertaining to hand and eye coordination or manipulation of tools and small objects; failure injures tick and automatically spills any contagions into the wound

Dimensions: Individual

Effects: Nuisance

Damage Type: Piercing

Condition: Distracted

Complication: Creature bitten by a tick may contract a tick-transmitted disease (see **Table 3-48** and **3-49** as well as the **Sidebox** below); Disease deals additional damage every day until cured; using a tool or precision instrument may grant a bonus to removing the tick

Cure/Remedy: Successful Easy Constitution-based saving throw immediately after taking damage

Mosquitoes are not the only critters that spread disease in the wetlands. Ticks, a member of the arachnid family, also lurk in the vegetation, waiting to hitch a ride on a suitable host for a future blood meal. They frequently cluster in the soft-stemmed vegetation and branches overhanging waterways, trails, and other areas with high animal and humanoid traffic. Ticks prefer warm, humid habitats and are most active during the late spring and summer months. They are prolific breeders and can be found in abundant numbers in tropical, semitropical, and temperate marshes, swamps, and fens.

These insidious bloodsuckers cannot fly or jump. Instead, they use two pairs of legs to attach their bodies to a leaf or a blade of grass and use their forelegs to climb onto a victim as it passes their hiding spot. Ticks have acute senses that allow them to detect the nearby presence of a potential host and find a weak spot in the creature's skin so that it can easily burrow through the outer epidermis. Whereas mosquitoes use hit-and-run guerilla tactics to feed and find their next meal, ticks hang around for the long haul. A tick can attach itself to a single host for days at a time until it finally sates its appetite for blood. They are silent, tiny parasites whose coloration blends well with clothing and are difficult to locate without a thorough, tactile examination.

Like mosquitoes, most game systems present statistics for giant versions of these bugs or swarms. A solitary, adult tick is no match for even a small child. The youngster can crush the arachnid with ease. Ticks are hard to spot and tricky to permanently remove. Smashing a tick kills the pest, but leaves its mouth and head buried beneath the skin, guaranteeing any

contagion it carries spills into the host's bloodstream. The following table details the daily chances of encountering a disease-carrying tick based upon the wetlands type and time of year. The GM can and should interject encounters with non-disease carrying ticks to increase the characters' fear and paranoia of these pests.

Table 3-48: Daily Percent Chance of Encountering Disease-Carrying Tick

Grassland Type	Spring	Summer	Autumn	Winter
Bog	01-02	01-03	01	—
Fen	01-03	01-05	01-02	01
Marsh	01-04	01-07	01-03	01
Swamp	01-05	01-09	01-03	01

To come into contact with the tick, the person must brush against the tick's temporary home, and the tick must latch onto the target's clothing or its body. Ticks move relatively slowly and can spend 1d4 hours looking for an ideal feeding location on its host. This gives the character or his companions a chance to spot the hitchhiker before it has an opportunity to deal any damage. If the check succeeds, the character may kill or remove the tick without making an attack roll.

An undetected tick eventually settles on a feeding location and burrows into the skin. Because ticks stick around for a while, they secrete an anticoagulant that prevents the blood from clotting, giving the pest an uninterrupted flow of blood. Catching a tick in the act of feeding requires a delicate procedure to completely remove the hungry arachnid. Crushing the tick kills it, but its detached mouth and head remain buried beneath the skin. Other than using magical means, ticks are best removed with a steady hand and a small precision grasping tool. Table 3-49 may be used to determine which disease the tick carries based upon the season and type of wetland, and the sidebox presents details on the diseases.

Table 3-49: Disease Transmitted by Tick

Anaplas-mosis	Babes-iosis	Enceph-alitis	Hemorr-hagic Fever	Lyme Disease	Spotted Fever
01-10	11-20%	21-35%	36-55%	56-80%	81-00%

Tick-Transmitted Diseases

The follow entries detail modifications the GM should make to the preceding hazards listing to simulate the effects of the following tick-transmitted diseases.

Anaplasmosis: Add Dexterity to the *Damage Type*. Increase *Effects* to Harmful and *Cure/Remedy* to a Moderate Constitution-based saving throw.

Babesiosis: Add Strength to the *Damage Type* and fatigued to the *Condition* listing. Increase *Effects* to Harmful and *Cure/Remedy* to a Moderate Constitution-based saving throw.

Encephalitis: Add Wisdom to the *Damage Type* and confused to the *Condition* listing. Increase *Effects* to Harmful.

Hemorrhagic Fever: Add Constitution and Wisdom to the *Damage Type* and bleed to the *Condition* listing. Increase *Effects* to Dangerous and *Cure/Remedy* to two consecutive Moderate Constitution-based saving throws.

Lyme Disease: Add Dexterity to the *Damage Type*. Increase *Effects* to Harmful and *Cure/Remedy* to a Moderate Constitution-based saving throw.

Spotted Fever: Add Constitution and Wisdom to the *Damage Type* and sickened to the *Condition* listing. Increase *Effects* to Dangerous and *Cure/Remedy* to two consecutive Moderate Constitution-based saving throws.

Midges (Poison)

Detection: Easy Wisdom ability check or skill check pertaining to visual perception detects midges
Identification: Easy Intelligence ability check or skill check pertaining to entomology, nature, or getting along in the wild

Avoidance: Easy Constitution-based saving throw to avoid being distracted and resist poison

Escape: Fleeing the area

Dimensions: Individual

Effects: Nuisance

Damage Type: Piercing, poison

Condition: Distracted

Complication: Poison deals additional damage every six hours until cured

Cure/Remedy: Successful Easy Constitution-based saving throw immediately after taking damage

While it is difficult to spot tiny mosquitoes and ticks, it is virtually impossible to see the nearly microscopic midge. In fact, many wetlands' inhabitants refer to the annoying pests as no-see-ums, because of their ability to avoid visual detection. These minute flies are so small they can slip through some mosquito nets with ease. As in the case of most parasitic insects, female midges insert their proboscis into the skin of their vertebrate hosts and suck their blood. Although they use the same mechanism to draw blood as mosquitoes, midges are not prolific disease vectors. Instead, their voracious bites leave behind an itching welt as an unwelcome reminder of the insects' fleeting rendezvous with these ungrateful guests.

Midges attack as swarms rather than lone individuals; thus, swatting at them quickly proves to be an exercise in futility. The irritating bugs demonstrated their biting prowess and nuisance quotient during the 2007 Major League Baseball playoffs, when a relentless horde of the insects harassed and partially blinded the bewildered and distracted players. Many fans in New York blamed the annoying midges for costing their team that particular game and perhaps the series. Although they are most active during the early morning hours and shortly after dusk, midges are opportunistic feeders as they demonstrated in the preceding incident.

Midges appear suddenly and linger in a particular area for 2d6 minutes before dissipating. On average, they fill a 2d4 x 10-foot-radius area, and they move 1d4 x 5 feet per round in a random direction. Midge bites do not deal damage. However, the insect's saliva triggers an allergic reaction in most creatures that manifests as an itchy welt. The following table details the daily chances of encountering midges based upon the type of wetlands and time of year. Midges most commonly are found in grassy areas within the wetlands.

Table 3-50: Daily Percent Chance of Encountering Midges

Type of Wetlands	Spring	Summer	Autumn	Winter
Bog	01-02%	01%	—	—
Fen	01-04%	01-02%	01%	—
Marsh	01-08%	01-04	01-02%	01%
Swamp	01-06%	01-03%	01%	—

Leeches (Poison)

Detection: Hard Wisdom ability check or skill check pertaining to visual perception detects leeches in muddy water; Moderate Wisdom ability check or skill check pertaining to visual perception detects leeches in murky water; Easy Wisdom ability check or skill check pertaining to visual perception detects leeches in clear water

Identification: Easy Intelligence ability check or skill check pertaining to entomology, nature, or getting along in the wild

Avoidance: Moderate Wisdom ability check or skill check pertaining to feeling physical sensations allows creature to feel leech biting it

Escape: Spotting and removing a leech attached to the skin with a successful Hard Dexterity ability check or Moderate skill check pertaining to hand and eye coordination or manipulation of tools and small objects; failure deals additional piercing damage

Dimensions: Individual

Effects: Nuisance

Damage Type: Piercing

Condition: Bleed

Complication: Improperly removing tick causes additional piercing damage from an anticoagulant for the next 1d4 rounds

Cure/Remedy: Properly removing leech (see above)

While the preceding cavalcade of bloodsuckers give humanity nothing but disease and pain for its hospitality, the next member of this illustrious group found its way into the satchels of ancient and medieval physicians. For more than two millennia, doctors attached leeches to their patients as part of their bloodletting protocol. Leeches are still used today in some parts of the world and in a handful of highly specialized modern medical procedures. In the wild, the leech's tactics and method of drawing blood from its victims differ greatly from its insect counterparts. The segmented worms attach their bodies to their hosts using a slimy adhesive and an oval sucker similar to a suction cup. Once affixed to its target, the animal's miniscule jaws gnaw through the creature's skin and secrete a potent anticoagulant that grants the unwanted parasite a steady flow of fresh blood. When the leech sates its appetite, it detaches from its host and slinks off to digest its warm meal.

The majority of leech species eat carrion or feed on creatures their own size. Only a small number of species targets larger animals and humanoids for their blood. Leeches are hermaphrodites; thus, the act of feasting on blood is not limited to a particular gender or circumstance. They are found predominantly in freshwater environments, especially swamps and marshes. They prefer floating through shallow waters and burrowing through moist soil along the banks of rivers, lakes, streams, estuaries and bays bordering or self-contained within the preceding wetlands. Leeches do not fare well in saltwater or in highly acidic bogs and some fens.

A hungry leech is a determined predator that slithers underneath loose clothing in search of bare flesh. An undetected leech latches onto the creature and searches for an opening to grant it access to the target's exposed skin. When it reaches its destination, it begins feeding. Leech bites do not evoke immediate pain, so there is a good chance that the leech's dining goes unnoticed. A character aware of the chewing sensation instantly knows where the discomfort is coming from on his body. If he can see the attachment site, he can kill or remove the leech.

Leeches are not disease vectors, but during the act of feeding, the worm secretes hirudin, a strong anticoagulant, into the injection site. The chemical has no toxic properties, but it can promote profuse bleeding if the leech is removed improperly from the skin. Other than using magical means, leeches are best removed with a steady hand and a fingernail or flat tool that is wedged underneath the animal's attached sucker. This act breaks the seal affixing the sucker to the skin and allows the victim to remove the offending creature from its body without injury. Although there are countless homeopathic methods to remove leeches, these techniques fail at least 50% of the time. (The GM must adjudicate the exact chance of failure based upon the specific method used to remove the leech.) The following table details the daily chances of encountering leeches based upon the type of wetlands and the time of year. They are most prevalent in shallow freshwater and saturated earth alongside or partially submerged beneath water.

Table 3-51: Daily Percentage Chance of Encountering Leeches

Type of Wetlands	Spring	Summer	Autumn	Winter
Bog	—	01%	—	—
Fen	01%	01-02%	—	—
Marsh	01-03%	01-04%	01-02%	01%
Swamp	01-05%	01-08%	01-04%	01-02%

Microorganisms (Disease)

Detection: None

Identification: Hard Intelligence ability check or skill check pertaining to disease, nature, or getting along in the wild

Avoidance: Easy Constitution-based saving throw completely avoids hazard

Escape: Microorganisms can infect creature only under specific circumstances

Dimensions: Individual

Effects: Nuisance

Damage Type: Poison

Condition: Fatigued, sickened

Complication: Creature infected by microorganism may contract a Disease (see **Tables 3-52, 3-53, and 3-54** as well as the **Sidebox** below); Disease deals additional damage every day until cured

Cure/Remedy: Successful Easy Constitution-based saving throw immediately after taking damage

Swamps and marshes teem with life during the warm summer months. Many plants are in bloom. Insects buzz with activity, and animals hunt for food and potential mates. Yet, the heat has an unintended consequence in the slow-moving waters that meander through the swamps and marshes. Humanoids are well aware that these listless waters serve as the breeding grounds for countless insect pests, but they also act as incubators for countless microbial organisms as well. Running water sweeps pollutants and other hazards into the wetlands' soil, where they settle to the bottom and are ultimately broken down into harmless compounds by the indigenous plants and animals. Furthermore, agitating water infuses the liquid with fresh oxygen. Anaerobic pathogens flourish in an oxygen-starved atmosphere; thus, the conditions encountered in undisturbed, stagnant water are more conducive to their development and reproduction than in an oxygen-rich environment.

Brainless microbes undertake no thoughtful actions to find living creatures to serve as their unwitting hosts. Instead, these parasitic microorganisms lurk in the stagnant waters and gooey soil where they wait for a suitable victim. Despite their lack of intelligence, these minute pathogens display remarkable grit and determination when finding a way to infiltrate another creature's body. Some rely upon deliberate or accidental ingestion to reach their intended destination in their target's gut, as in the case of the insidious protozoan *cryptosporidium parvum* and *giardia lamblia*. This pair of germs wreaks havoc in the host's digestive tract, causing severe pain and discomfort for the duration of their stay. On the other hand, invasive bacteria such as *leptospira* do not wait for an invitation to the creature's insides and instead enter the body through cuts and scrapes on the skin. The insidious and almost always lethal *naegleria fowleri* makes its way through the creature's nasal passages and into its brain, where the hungry protozoa devours its host's neural cells.

Seasoned wetlands' explorers know better than to drink stagnant swamp, marsh, fen, or bog water without mechanically or magically purifying it. Therefore, microbial infestations generally occur when an adventurer accidentally swallows or inhales contaminated water or his open wounds come into contact with impure water or soil. Whenever a creature's nose or mouth is submerged underwater, the creature can avoid ingesting and inhaling the water by holding its breath. Land-based creatures that breathe water, including those using spells and other magical effects, must take some water into their noses and mouths in order to derive oxygen from the liquid, thus exposing them to any dangerous pathogens that may be in it. Newly injured creatures that wade through water also risk exposure to opportunistic microbes unless they wear protective gear that prevents any water from contacting their skin.

Still, nothing is universal in the wetlands. While stagnant water is more likely to be plagued by protozoan and bacteria than running water, that is not always the case. The crystal-clear liquid pouring through a rolling stream may teem with infectious agents from a dead animal lying farther upstream. Of course, the mere presence of pathogens in the water or soil does not guarantee that they sicken or kill a potential host. The microorganism must have the proper vector to infect its victim. For instance, *naegleri fowleri* is dangerous only if it enters the creature's

nostrils through prolonged underwater submersion or from water being forced into its nasal passages during the act of jumping into the water. Swallowing a gallon of water containing the deadly protozoan has no ill effect. On the other hand, *cryptosporidium parvum* and *giardia lablia* attack the stomach and intestines after ingestion, whereas *leptospiira* infiltrate the bloodstream through openings in the skin. With these factors in mind, the chance and type of organism present in a given environment appear in the following tables.

Table 3-52: Percent Chance of Microorganism in Stagnant Water

Bog	Fen	Marsh	Swamp
01-02%	01-04%	01-08%	01-10%

Table 3-53: Percent Chance of Microorganisms in Running Water

Bog	Fen	Marsh	Swamp
01%	01-02%	01-04%	01-05%

Leptospiira survives for only a short period of time in saltwater environments, whereas *naegleria fowleri* cannot live in saltwater at all. The following table may be used to determine which microorganism is present in the water or soil.

Table 3-54: Microorganism Present in Water or Soil

Microorganism	Freshwater	Saltwater
<i>Cryptosporidium parvuum</i>	01-50%	01-65%
<i>Giardia lamblia</i>	51-75%	66-95%
<i>Leptospiira</i>	76-90%	96-00%
<i>Naegleria fowleri</i>	91-00%	—

Presented in the sidebox are the effects for each of these diseases.

Microorganism-Transmitted Diseases

The follow entries detail the modifications the GM should make to the preceding hazards listing to simulate the effects of the following microorganism diseases

Cryptosporidiosis: Add *Dexterity* to the *Damage Type*. Increase *Effects* to *Harmful* and *Cure/Remedy* to a *Moderate Constitution-based saving throw*. Creature must ingest contaminated soil or water to become infected

Giardiasis: Increase *Effects* to *Harmful* and *Cure/Remedy* to a *Moderate Constitution-based saving throw*. Creature must ingest contaminated soil or water to become infected

Leptospirosis: Add *Constitution* and *Strength* to the *Damage Type*. Increase *Effects* to *Dangerous* and *Cure/Remedy* to two consecutive *Moderate Constitution-based saving throws*. Pathogen only enters the body through an open wound exposed to contaminated soil or water.

Naegleriasis: Add *Constitution* to the *Damage Type*. Increase *Effects* to *Deadly* and *Cure/Remedy* to two consecutive *Hard Constitution-based saving throws*. This organism must enter the brain through the cribriform plate of the nose, it is not inhaled. It is in water and swims through when submerged.

Animals

Wetlands are a hybrid biome. Not truly aquatic or terrestrial, the fauna dwelling in the wetlands frequently develops adaptations that allow them to thrive in both worlds. Many diverse species of birds, reptiles, and mammals are equally at home wading in the shallow marshes or walking through the high grasses onshore. Explorers traveling through the wetlands rarely have any trouble with these innocuous creatures. Most indigenous animals merely keep a wary eye on the humanoid strangers as they cautiously go about their daily routines. Others are not as obliging. Chief among them are the belligerent alligators and crocodiles. These primordial, reptilian beasts seethe with simplistic aggression and a burning desire for food. Their only animal rivals are the ferocious big cats — tigers, jaguars, and panthers. These felids rely upon the dense vegetation to conceal their presence and ambush their intended target.

At first glance, alligators and crocodiles are nearly indistinguishable from one another. Both are long, semi-aquatic reptiles with exaggerated snouts, serpentine eyes, four stubby legs and a long, powerful tail. Thick leathery hide with pointed ridges encase their muscular bodies. However, closer scrutiny reveals several noteworthy differences. Although both animals belong to the same biological order, crocodilian, they are actually members of two related, but separate families. Alligators are indigenous to freshwater and some brackish environments, particularly tropical and semitropical swamps and marshes. They are, on average, smaller than their distant crocodile relatives. Crocodiles, on the other hand, dwell in freshwater, brackish, and saltwater habitats, including but not limited to swamps and marshes. Their territories often overlap those of their fellow reptiles. Both families are sensitive to cold; thus, they are never found in temperate and boreal climates.

While size may indicate whether an animal is a crocodile or an alligator, seasoned wetlands' explorers usually turn their attention to the shape of the creatures' massive, toothy jaws. Alligators have U-shaped snouts, whereas crocodiles sport V-shaped snouts. Determining the creature's species may look like window dressing to outsiders who presume both animals are stupid, brutish lizards, but experience has taught native humanoids that the two animals stand apart in one critical aspect not visible to the naked eye: aggression. Alligators generally shy away from confrontations with humanoids unless directly threatened or provoked. Crocodiles show no such restraint and attack simply for the sake of sating their pent-up rage. Not all crocodilians are large enough to take down a full-grown man, but even a bite from a juvenile animal is certain to inflict significant damage to its victim or perhaps kill a child.

Alligators and crocodiles hunt best in shallow murky waters, where they remain almost completely hidden beneath the water's surface except for their ominous eyes. The camouflaged reptiles slowly and silently approach their foe, allowing them to remain undetected as they move closer to their opponent. When the animal closes in on its target, the reptile surges forward and clamps down on its victim. The voracious predators use a ploy known as a "death roll" to drag their prey underwater to simultaneously suffocate it and tear its limbs off into bite-size morsels. Only the strongest or luckiest creatures escape the burly beast's grasp and live to tell the tale.

Alligators and crocodiles on dry land dispense with pretenses and instead charge straight ahead toward their intended victim. The predators can run surprisingly fast in short bursts, even though their gait looks incredibly awkward and contrived. Still, the reptiles prefer ambushing and surprising their enemies from their watery hiding spots rather than launching a frontal assault out in the open. Alligators and crocodiles generally attack on dry land only when presented with an easy opportunity to feed or when another creature riles them to action. Female members of both families bury their eggs in the sand along riverbanks and in mounds of vegetation, so the future mother keeps vigilant watch over her offspring and ferociously assaults anything that draws too close to the nesting site or otherwise threatens it.

People commonly associate the prehistoric crocodilians with the wetlands, but few see the big cats in the same light. However, tigers, jaguars, and panthers greatly benefit from the vegetation prevalent in tropical and semitropical swamps and marshes. The enormous tiger, the world's largest cat, fares well in a wide range of climates and habitats including lush, mangrove swamps. Unlike the common housecat, tigers feel right at home



in the water. The cunning animals are excellent swimmers who use this ability to maximum advantage. The clever predators rely upon the tall grasses and heavy undergrowth for cover while they stalk their prey from afar, waiting for the unsuspecting victim to walk past the hiding spot. The tiger then leaps from the brush and ambushes its startled foe. If a chase ensues, the wily cat steers the frightened opponent toward the nearest body of water to slow the adversary and catch up to it. The tiger then jumps on the creature's back and sinks its massive fangs into the prey's neck or nape, where it attempts to manually strangle the creature and sever the major arteries passing through the vulnerable connective tissue. Tigers then drag the fallen foe back to a safe location and gorge on its flesh.

The huge cats usually target ungulates and small mammals, though wounded and infirmed tigers unable to slay their normal prey may instead set their sights on humanoids. There are some isolated instances of healthy, adult tigers attacking villagers for food and apparent amusement. Settlements deep within the swamp's interior regions are more vulnerable to these incidents than larger communities. Nonetheless, cats unaccustomed to humans keep their distance from these strange, upright mammals. On the other hand, tigers are not averse to squaring off against a full-grown alligator or crocodile if the need arises. They are perhaps the only terrestrial animal that prevails on a regular basis against these ornery reptiles, making them the swamp's non-monstrous, apex predator.

The sleek and muscular jaguar also sits atop the food chain in its native environment, but it knows better than to tangle with its bigger reptilian competitors. The elusive, spotted cat inhabits tropical rainforests as well as warm freshwater swamps and marshes. Jaguars are prototypical ambush predators, using their coloration to blend into the background and pounce upon their bewildered prey at the most opportune moment. The cats prefer attacking animals their own size and larger, instead of picking on overmatched foes. Still, jaguars find it difficult to pass up easy pickings. When hunting big animals, the jaguar uses the same offensive tactics as the tiger. It sinks its jaws into the foe's trachea, constricting the victim's airway and severing vital blood vessels. However, against smaller adversaries,

the predator sometimes buries its canine teeth into the opposing temples on the foe's skull. This attack penetrates into the brain, instantaneously incapacitating it. Fortunately, humanoids rarely encounter this secretive cat, which prefers to stay out of sight and far from bustling settlements.

Panthers, also known as cougars, pumas, and mountain lions, lack the size and strength of their more formidable cousins, but their numbers compensate for their inferior raw power. Unlike tigers and jaguars, panthers belong to the same subfamily as the domestic housecat and are generally classified as the largest of the so-called "small cats." Despite their divergent lineal tree, panthers use the same hunting techniques as their larger kin, preferring to ambush their prey rather than run it down. They are average swimmers, so these felines stalk their quarry on the hummocks and patches of land that emerge during the wetlands' dry season. For the most part, panthers target deer and other game animals. They shun humanoid contact and normally attack adult humanoids only when threatened, provoked, or startled. However, an opportunistic or hungry panther may target a juvenile or elderly person under the right circumstances.

Snakes (Poison)

Crocodylians and predatory big cats, on occasion, may perceive humanoids as prey animals, but gnawing hunger and mindless aggression cannot account for all animal attacks. Smaller hunters with no realistic chance of devouring a humanoid adversary sometimes lash out for different reasons. An unwary traveler may inadvertently stumble onto an animal's lair, stray too close to its young, or even step on the sleeping animal. When walking, humanoids rarely fix their gaze toward the ground, which may initiate a confrontation with a serpent underfoot. In general, snakes avoid people whenever possible and usually give loud and ample warning of their displeasure. However, some belligerent species are less apt to forgive wayward trespassers than others. In these instances, the animal's poisonous bite proves far worse than its proverbial bark.

Snake venom comes in two general varieties: hemotoxins and

neurotoxins. Hemotoxins destroy living tissue and red blood cells, which disrupts clotting. Neurotoxins are paralytic agents that shut down the victim's nervous system. Most snake venoms incorporate elements of both types of toxin, but one is generally predominant. Presented below are the hazard tables for hemotoxic venom and neurotoxic venom. The effects of individual species are detailed in the subsequent venom sidebar.

Hemotoxic Venom (Poison)

Detection: None

Identification: Moderate Intelligence ability check/skill check pertaining to animal and nature

Avoidance: Easy Constitution-based saving throw, after being bitten

Escape: None

Dimensions: Individual

Effects: Harmful

Damage Type: Dexterity, piercing, poison

Condition: None

Complication: Poison deals additional damage every 1d4 minutes until the creature is cured

Cure/Remedy: Subsequent successful Easy Constitution-based saving throw immediately after taking damage

Neurotoxic Venom (Poison)

Detection: None

Identification: Easy Intelligence ability check/skill check pertaining to animals and nature

Avoidance: Moderate Constitution-based saving throw, after being bitten

Escape: None

Dimensions: Individual

Effects: Harmful

Damage Type: Piercing, poison, Strength

Condition: Paralyzed

Complication: Poison deals additional damage every 30 minutes and the creature remains paralyzed until cured

Cure/Remedy: Subsequent successful Moderate Constitution-based saving throw immediately after taking damage

These animals share the same statistical blocks as those used for poisonous or venomous snakes in your game system. Presented below are three tables to randomly determine the type of snake encountered in each of the wetlands as well as provide more individualized effects for the species' venom. A snake whose bite delivers hemotoxic venom uses the preceding hazard listing unless otherwise noted in the following **Venom Sidebar**. A snake whose bite delivers neurotoxic poison uses the preceding hazard listing unless otherwise noted in the following **Venom Sidebar**.

Table 3-55: Swamp Snakes

Type of Snake	Encounter Chance
Black snake, redbellied^a	01–10%
Cobra, water^b	11–20%
Copperhead^a	21–40%
Coral snake^b	41–45%
Cottonmouth/water moccasin^a	46–70%
Rattlesnake, diamondback^a	71–85%
Sea snake, beaked^b	86–90%
Tiger snake^b	91–95%
Viper, sharp-nosed^a	96–00%

^a Hemotoxin

^b Neurotoxin

Table 3-56: Marsh Snakes

Type of Snake	Encounter Chance
Cobra, water^a	01–10%
Copperhead^b	11–30%
Coral snake^a	31–35%
Cottonmouth/water moccasin^b	36–60%
Rattlesnake, diamondback^b	61–80%
Sea snake, beaked^a	81–85%
Tiger snake^a	86–95%
Viper, sharp-nosed^b	96–00%

^a Neurotoxin

^b Hemotoxin

Table 3-57: Bog and Fen Snakes

Type of Snake	Encounter Chance
Copperhead^a	01–35%
Rattlesnake, diamondback^a	36–95%
Tiger snake^b	96–00%

^a Hemotoxin

^b Neurotoxin

Venom

All snake venoms are not alike. Although they share many common characteristics, the toxins differ slightly from one species to the next. For GMs seeking added realism, the following entries detail the modifications you can make to the hemotoxic and neurotoxic venom hazard listings for each individual species.

Black snake, redbellied: Increase *Effects* to Dangerous and the *Cure/Remedy* to a Hard Constitution-based saving throws. Add Constitution to the *Damage Type*.

Cobra, water: Increase *Effects* to Dangerous and increase the *Cure/Remedy* to a Moderate Constitution-based saving throw. Add Strength to the *Damage Type* and suffocation^a to the *Complication* listing.

Copperhead: Add Constitution to the *Damage Type*.

Coral snake: Increase *Effects* to Dangerous and the *Cure/Remedy* to two consecutive Moderate Constitution-based saving throws. Add Strength to the *Damage Type* and suffocation^a to the *Complication* listing.

Cottonmouth/water moccasin: Add Constitution to the *Damage Type*.

Rattlesnake, diamondback: Add Constitution to the *Damage Type*.

Sea snake, beaked: Increase *Effects* to Dangerous and the *Cure/Remedy* to a Moderate Constitution-based saving throw. Add Strength to the *Damage Type* and suffocation^a to the *Complication* listing.

Tiger snake: Increase *Effects* to Dangerous and the *Cure/Remedy* to two consecutive Hard Constitution-based saving throws. Add Strength to the *Damage Type* and suffocation^a to the *Complication* listing.

Viper: None

^a Suffocation automatically occurs when the creature's Strength is reduced to 0.

Men and Monsters

Wetlands stand on the edge of civilization, yet still seem distant and remote. Swamps and marshes frequently surround bustling cities and ports founded on the banks of major rivers and lakefronts as well as the safe harbors granting secure and unfettered access to the open seas. But in the cosmopolitan minds of most city dwellers, the rank, inundated forests and grasslands appear to be a dark, isolated world bristling with unseen terrors. Although no more than a brisk day's walk from the metropolis's gates, the wetlands are scary places that few enter. Their reputation for mayhem and malevolence suits the urban landscape's most unsavory citizens perfectly fine. Seclusion offers forbidden cabals, depraved cultists, and criminal enterprises sanctuary for their clandestine gatherings and rituals. Eerie lights and sounds, a sudden rash of unexplained disappearances, and a noticeable rise in monstrous activities are telltale signs that at least one of these groups plies its craft somewhere within these sheltered areas. When this occurs, city officials call upon the services of adventurers to eradicate these threats from the city's outskirts. That is, unless the wetlands' indigenous humanoid residents act first to get rid of the uninvited interlopers.

The rugged men and women who make a go of it in this tough environment are a self-sufficient lot accustomed to taking matters in their own hands whenever possible. Although they share the same independent spirit as those inhabiting other challenging biomes — such as the deserts and mountains — the scrappy residents who dwell here face different obstacles than their rural counterparts. It goes without saying that finding potable water in the wetlands is not the same problem it is in the parched deserts. Likewise, locating sufficient stores of food in a crowded landscape teeming with fauna and flora poses no dilemma to native humanoids. Yet, one man's boon can be another's bane. In the wetlands, the struggles of daily life do not revolve around procuring enough food and water to survive. Instead, these people are most concerned with fending off wild animals, monsters, and invisible pests as well as literally keeping their heads above water when floods roll into their domain.

Their travels through this semi-aquatic realm bring them into contact with many of the creatures they seek to avoid — antagonistic crocodiles, mosquitoes, harmful pathogens, and their urban brethren who use their homeland to plan and partake in their nefarious deeds. Naturally, the fiercely autonomous swamp folk do not take kindly to outsiders treating their territory like their personal playground. Whenever suspicious natives come across other humanoids trespassing in their hunting grounds, they observe them from afar to ascertain their motives. If they are satisfied that their intentions pose no threat to them or the wetlands at large, they maintain their distance and monitor their activities for the duration of their stay. On the other hand, the normally wary residents violently ambush any exploitive or destructive entity encroaching upon their homes. The incursion may be as brazen as a horde of bandits pillaging their communities or as innocent as a work crew building a road through a desolate stretch of wilderness. Adventurers meddling with long-dormant horrors or delving into ancient sites may also attract the unwanted interests of locals who prefer to leave well enough alone and not stir up any trouble from slumbering evils. When dealing with seasoned, well-equipped explorers, a community leader may first try his hand at diplomacy to discourage the treasure hunters from disturbing the status quo. If he or she cannot convince them to abandon their mission and turn back, his or her followers resort to acts of sabotage or guerilla attacks to further dissuade the determined heroes from fulfilling their quest. When all else fails, a full-scale assault may be the only viable alternative.

Of course, adventurers have more to fear in the wetlands than a mob of perturbed villagers. Other monstrous beings and races live here as well. Sinister harpies abound in the wetlands. Although they can be found in any of the four types of wetlands, they have a peculiar fondness for bogs and fens. These brutal, winged temptresses typically settle in wilderness areas close to humanoid settlements, ensuring them a steady supply of brainy meals. The remorseless huntresses use their captivating song to lure wayward men, women, and children into their clutches. They particularly enjoy leading an entranced victim into a treacherous quagmire where they take great amusement watching the creature helplessly flail about in the thick mud in a desperate bid to escape. Pure sadism drives the murderous harpies to kill other intelligent creatures for sport.

Common people wrongly lump the cunning, but intellectually limited harpies into the same category as the solitary medusa, another exclusively

female monstrous humanoid. However, the charming and intelligent woman is a far cry from the barbarous harpies. Although both mastered the art of deceit, the medusa uses her glib tongue and beauty to entice others to their doom instead of a mystical power. Medusas live in the remotest corners of the wetlands, far from the judgmental eyes of sedentary humanoids. Their clothing and jewelry give the false impression that these monstrosities are pampered socialites, but in a wilderness setting, they display remarkable agility and durability. They can move through the wetlands undetected, and their precision with their trusty longbow attests to their incredible prowess with the weapon. Adventurers who stray too close to the hermetic creature's abode soon discover their roles reversed. Their medusa host is now the hunter, and they are her prey.

Still, none of these creatures compares in sheer might to the black dragon, the wetlands' undisputed champion. The enormous, amphibious beast roams the domain's darkest recesses, taking up residence in dank caverns beneath disgusting pools of stagnant, lifeless water. The domineering bullies exert their absolute authority over all other creatures through gruesome, public spectacles of their awesome power. Any being who fails to grovel helplessly in the master's presence experiences an agonizing demise that renders onlookers mortified and speechless. Macabre trophies from the ghastly incident reinforce the smug dragon's supremacy over the wetlands. Despite their frightening reputation, an elite handful of noble and courageous souls ignore the warnings and defy the vile dictator's edicts. Armed with resolve and magical wonders, these valiant adventurers trudge through the foul waters and delve into its lair of fetid, waterlogged passageways and chambers. Any who survive the perilous trek and ensuing battle leave richly rewarded. Those who fail become grisly reminders of the reptile's malice and vindictiveness.

While traveling through the wetlands, the GM may use the following table to determine random encounters. To use the table, roll 1d1000 (3d10). Consult the bog/fen table to determine encounters in that environment, the marsh table for encounters in that environment, and the swamp table for encounters in that environment.

Table 3–58: Random Wetlands Encounters

Creature	No. App.	Bog/Fen	Marsh	Swamp
Basilisk	1–6	001–020	001–010	001–010
Bear	1–4	021–050	011–020	011–030
Black Dragon	1	051–055	021–025	031–035
Chuul	1–6	—	026–045	036–045
Crocodile	1–12	—	046–090	046–080
Dog	1–12	056–060	091–095	081–085
Doppelganger	1–6	061–070	096–110	086–100
Elk (Moose)	1–50	071–135	111–115	101–110
Gargoyle	1–12	136–140	116–125	—
Ghost	1	141–160	126–135	111–120
Ghoul	1–12	161–200	136–160	121–145
Giant elk	1–12	201–240	—	146–155
Giant frog	1–12	241–260	161–190	156–180
Giant leech	1–6	261–265	191–210	181–210
Giant mosquito	1–12	266–290	211–250	211–260
Giant poisonous snake	1–6	291–300	251–270	261–280
Giant spider	1–8	301–310	271–280	281–295
Green hag	1 or 3	311–350	281–300	296–315
Harpy	1–12	351–370	301–340	316–345
Hell hound	1–12	371–380	341–345	346–350
Hydra	1	381–390	346–370	351–370

Creature	No. App.	Bog/Fen	Marsh	Swamp
Jaguar	1	—	371–390	371–395
Lich	1	391–400	391–395	396–400
Lizardfolk	1–60	401–420	396–430	401–435
Manticore	1–6	421–435	431–445	436–450
Medusa	1	436–475	446–480	451–475
Mimic	1	476–490	481–490	476–485
Minotaur	1–4	491–500	491–500	486–505
Mosquito swarm	1–12	501–520	501–550	506–545
Mummy	1–12	521–580	551–560	546–565
Ochre jelly	1	581–600	561–570	566–580
Panther	1–2	601–610	571–595	581–600
Rakshasa	1–12	611–620	596–605	601–615
Rat	1–20	621–650	606–635	616–650
Shadow	1–12	651–690	636–660	651–665
Shambling mound	1	691–730	661–690	666–695
Skeleton	1–50	731–780	691–710	696–720
Snake (constrictor)	1–6	781–790	711–740	721–750
Snake (poisonous)	1–8	791–800	741–765	751–780
Specter	1–12	801–820	766–780	781–790
Spider	1–20	821–830	781–790	791–800
Spirit naga	1–4	831–840	791–810	801–815
Stirge	1–40	841–850	811–835	816–835
Tiger	1–2	851–855	836–845	836–850
Vampire	1	856–870	846–855	851–860
Weretiger	1–8	871–880	856–860	861–875
Werewolf	1–8	881–890	861–870	876–885
Wight	1–12	891–915	871–895	886–910
Will-o'-wisp	1–4	916–945	896–925	911–940
Wraith	1–12	946–965	926–950	941–965
Zombie	1–50	966–000	951–000	966–000

Weather

Wetlands serve as a buffer zone in the ongoing conflict between the open seas and dry land. The opposing sides' engagement greatly resembles modern trench warfare. The tides of battle slowly ebb and flow throughout this war of attrition. Gains and losses are measured in feet instead of miles, and victories are often fleeting rather than long lasting. Although both foes are evenly matched, water's mobility grants it a distinct advantage over its immobile adversary under the right conditions. Whenever the ocean floor rumbles, or the unstable atmosphere riles its anger into a violent tempest, water rises to the occasion and becomes an enraged wave that sweeps aside everything in its path and floods the land. Because of their proximity to large bodies of water, wetlands bear the full brunt of the encroaching sea's wrath. Fortunately, wetlands are equipped to handle the task and spare densely populated cities and towns from the oncoming deluge. However, when other creatures interfere with this natural process by turning former wetlands into farmland or settlements, disastrous consequences usually follow. Yet these monumental events are extremely rare. On most days, rain, heat, and intense sunlight are adventurers' main adversaries.

Flash Flood (Weather)

Detection: None

Identification: Moderate Intelligence ability check or skill check pertaining to geology, geography, or nature identifies areas more susceptible to sinkholes (see below)

Avoidance: Hard Dexterity-based saving throw completely avoids hazard

Escape: Fleeing the area

Dimensions: Large-scale

Effects: Dangerous

Damage Type: bludgeoning

Condition: Restrained

Complication: Floodwaters sweep creatures away; creatures underwater may suffocate

Cure/Remedy: Moderate Strength ability check or skill check pertaining to swimming to reach dry ground

Rivers and streams move water from higher elevations into lakes, seas, and oceans found at lower elevations. Under normal conditions, the aquatic waterway runs with the efficiency and precision of an assembly line conveyor belt. The river keeps the water safely tucked within its banks on its long trek to its final destination. However, nature is rife with exceptions that trump well-established rules. When the amount of water funneling into a river or stream exceeds its capacity, the excess spills over the channel's banks and pours into low-lying areas adjacent to it. Heavy rains and rapid snowmelts are responsible for most flash floods, but not always in the ways that people imagine. Water recognizes no territorial boundaries; thus, it is not unusual to see heavy rains in one area upstream greatly impact a more vulnerable area farther downstream even though the precipitation stopped several days ago. Still, in most cases, flash flooding is a localized event that occurs during or immediately after torrential downpours overwhelm the river or stream's ability to safely contain that much water.

Flash floods predominantly affect landmasses adjacent to or near rivers and major streams along with low-lying areas plagued by poor drainage. A creature may identify whether a particular area is vulnerable to flash floods or that a flash flood is about to strike within the next 1d4 minutes because of heavy rainfall, storm surge, or rapid snowmelt somewhere farther upstream. However, in most cases, a successful skill check does not predict an exact time or guarantee that a flash flood is imminent. It only indicates that a flash flood is possible in the region. Naturally, a character also aware of heavy rainfall on the way may take precautions to ride out the storm and stay safely out of harm's way. On the other hand, creatures that do not heed the warnings usually suffer the consequences.

In essence, a flash flood is merely an extension of the stream or river. The flowing body of water's width and depth swells to 1d3 + 1 times its normal size, engulfing all creatures and objects in its path. The water moves at a speed of 1d4+5 x 10 feet per round. Flash floods caused by events upstream last for 2d4 hours. Those created by local weather conditions or snowmelt persist for 5d6 minutes. When the floods end, the water then recedes.

Hurricanes (Weather)

Detection: Hard Intelligence ability check or Moderate skill check pertaining to weather identifies weather conditions conducive to hurricane development

Identification: Easy Intelligence ability check or skill check pertaining to nature or weather

Avoidance: None

Escape: Fleeing the affected area, taking shelter below ground or in a secure, interior room within an above-ground structure capable of withstanding the hurricane's winds

Dimensions: Regional

Effects: Dangerous

Damage Type: Bludgeoning, piercing, and slashing

Condition: Blinded, deafened

Complication: Wind hurls creature in a random direction; creature close to or within the hurricane is subjected to additional bludgeoning, piercing, and slashing damage from flying debris

Cure/Remedy: None

Tornadoes are responsible for generating the highest windspeeds ever recorded on Earth, but hurricanes dwarf these short-lived whirlwinds in terms of their overall size, duration, and the copious amounts of rain these mammoth storms dump on areas they affect. Low barometric pressure and warm water fuel these spinning giants. They predominantly occur from mid-summer through mid-autumn, when the large bodies of water that give birth to them are at their warmest. In simplest terms, a hurricane is an organized band of thunderstorms that circulate around a central point referred to as an eye. The storm's windspeed determines whether it is classified as a hurricane or a lesser system, such as a tropical storm or a tropical depression. The weather system attains hurricane status if its sustained windspeeds equal or exceed 74 miles per hour. The strongest hurricanes ever recorded have attained windspeeds slightly in excess of 200 miles per hour.

At first blush, wind seems to be the obvious candidate to wreak the most havoc, and in an unexpected way, that assertion is correct. While the winds that blow through towns and cities cause damage, the rapidly rotating winds that drive incalculable amounts of ocean and gulf water onshore actually have the most devastating effects. Scholars refer to this relentless onslaught of water as storm surge. Low-lying coastal regions, particularly wetlands, bare the full ire of the swollen oceans, gulfs, rivers, and streams. Storm surge, along with heavy rain, destroyed vast swaths of the Gulf Coast during Hurricane Katrina in 2005 as well as substantial portions of coastal New Jersey and New York during Hurricane Sandy in 2012. Unlike a tidal wave, storm surge is a prolonged event that builds slowly and can last for hours or even days. Although its effects are felt most dramatically in coastal regions, storm surge also compounds the flooding caused by rivers, deltas and streams farther inland if they feed or are fed by a larger body of water directly affected by the raging storm. For these reasons, the GM must exercise discretion when determining the storm surge's exact effects and duration.

When dealing with hurricanes, forewarned is forearmed. These swirling tempests of wind and rain are not rude gatecrashers like tornadoes, which appear with little or no warning. Hurricanes give ample notice of their impending arrival. Skies darken, winds howl, rain intensifies, and the angry seas froth and foam on their march inland. Riding out the storm in regions close to seething bodies of water — especially on landmasses slightly above, at, or below sea level — almost always ends in fatalities. Prudent residents seek higher ground in secure structures and other safe locales that offer protection against the wind, rain, and floodwaters. Yet even the sturdiest building cannot grant a foolproof defense against one of nature's most energetic forces.

The swirling currents of onrushing air also take their toll on thatch, wood, brick, and stone as well as the trees endemic throughout the swamps. Hurricanes are measured on a scale of 1 to 5 based upon their sustained windspeed. The weakest hurricanes fall into the Category 1 classification, while the most powerful hurricanes top the scale as Category 5 monsters. The following table determines the hurricane's strength in addition to detailing its effects on buildings and trees.

Table 3–59: Hurricane Strength and Effects

d%	Hurricane Category	Windspeed (mph)	Effects on Buildings and Trees
01–35	1	74–95	a, b, c
36–65	2	96–110	a, d, e
66–80	3	111–129	a, d, e, f
81–95	4	130–156	a, e, g, h
96–00	5	156+	a, e, i, j

- ^a unframed buildings such as huts, tents and teepees are destroyed
- ^b minor damage to framed wooden buildings
- ^c shallow trees uprooted (50% chance)
- ^d major damage to framed wooden buildings, especially windows and roofs; minor damage to stone buildings
- ^e all shallow trees uprooted or snapped
- ^f all other trees snapped or uprooted (25% chance)
- ^g severe damage to framed wooden buildings, windows and roofs destroyed (50% chance of collapse); major damage to stone buildings

- ^h all other trees snapped or uprooted (50% chance)
- ⁱ catastrophic damage to framed wooden buildings, windows and roofs destroyed (75% chance of collapse); severe damage to stone buildings, freestanding stone walls topple (25% chance)
- ^j all other trees snapped or uprooted (75% chance)

The amount of damage dealt by a falling tree depends upon its size. Of course, if the tree lands on top of a nearby building, road, or a waterway, the impact generates other consequences. A massive tree can crush a sturdy, framed wooden building. Fallen trees may block roads and waterways, preventing traffic from passing without removing the obstacle or going around it. Creatures inside of a building at the time of its collapse may be buried beneath rubble and debris.

Hurricanes have a radius of 6d10 x 10 miles and move at a speed of 3d10 miles per hour. The storm's windspeeds do not influence its size or speed. Despite their immense power, other weather systems and steering winds decide where the hurricane goes during its destructive march. In general, the mighty storms rarely turn more than 45 degrees over the course of a day. In addition to their high winds, hurricanes also bring heavy rain, thunderstorms, floods (see above), and may even spawn tornadoes. Hurricanes that interact with landmasses rapidly deteriorate and weaken. The storm's windspeeds decrease at a rate of 2d10 mph for every hour or part thereof that the hurricane's eye is located over land.

Daily Weather

The wetlands' weather is consistent in the respect that it is almost always very humid. Temperatures are fairly constant in the tropical/semi-tropical wetlands. Temperature wetlands experience seasonal variations, while boreal wetlands are generally cool and damp throughout the year. Presented below are several tables allowing GMs to determine the weather in tropical/semi-tropical, temperate, and boreal wetlands. The tables are organized according to climate type. The tables allow the GM to determine the daily high temperature, daily low temperature, windspeed, and most importantly the chance of precipitation. All the tables are based upon percentile dice.

Tropical/Semi-Tropical Marshes and Swamps

The following tables generate the daily high temperatures, low temperatures, windspeed, and chance of precipitation in a tropical or semi-tropical marsh or swamp according to season.

Table 3–60: Daily High Temperature

d100	Spring	Summer	Autumn	Winter
01–10	86+3d4° F	92+3d4° F	82+3d4° F	66+3d4° F
11–20	84+3d4° F	90+3d4° F	80+3d4° F	64+3d4° F
21–30	82+3d4° F	88+3d4° F	78+3d4° F	62+3d4° F
31–40	80+3d4° F	86+3d4° F	76+3d4° F	60+3d4° F
41–50	78+3d4° F	84+3d4° F	74+3d4° F	58+3d4° F
51–60	76+3d4° F	82+3d4° F	72+3d4° F	56+3d4° F
61–70	74+3d4° F	80+3d4° F	70+3d4° F	54+3d4° F
71–80	72+3d4° F	78+3d4° F	68+3d4° F	52+3d4° F
81–90	70+3d4° F	76+3d4° F	66+3d4° F	50+3d4° F
91–00	68+2d4° F	72+3d4° F	64+3d4° F	48+3d4° F

To determine the daily low temperature, subtract the amounts shown on the following table from the day's high temperature. For instance, if the preceding table generates a high temperature of 100° F, and the low temperature generates a result of 14 – 3d4°, which results in a total of 20°, the daily low temperature is 80° F (100° – 20° = 80° F).

Table 3-61: Daily Low Temperatures

d100	Low Temperature
01-10	-2+3d4
11-20	-4+3d4
21-30	-6+3d4
31-40	-8+3d4
41-50	-10+3d4
51-60	-12+3d4
61-70	-14+3d4
71-80	-16+3d4
81-90	-18+3d4
91-00	-20+3d4

The following table determines the windspeed measured in miles per hour based upon the season.

Table 3-62 Daily Windspeed (miles per hour)¹

d100	Spring	Summer	Autumn	Winter
01-10	1d3	1d2	1d3	1d4
11-20	1d4	1d3	1d4	1d6
21-30	1d6	1d4	1d6	1d8
31-40	1d8	1d6	1d8	1d10
41-50	1d10	1d8	1d10	2d6
51-60	2d6	1d10	2d6	2d8
61-70	2d8	2d6	2d8	3d6
71-80	3d6	2d8	3d6	3d8
81-90	3d8	3d6	3d8	4d6
91-00	4d6	3d8	4d6	4d8

¹ Increase the daily windspeed by 6d6 mph in the event of a thunderstorm or blizzard.

The following chart determines the daily chance of experiencing a storm. It is also based upon the season.

Table 3-63: Daily Chance of Precipitation

Result	Spring	Summer	Autumn	Winter
No Precipitation	01-70%	01-45%	01-75%	01-65%
Rain ¹	71-85%	46-70%	76-94%	66-97%
Thunderstorm ²	86-00%	71-99%	95-97%	98-99%
Hurricane ³	—	00%	98-00%	00%

¹ If the temperature is 32° F or less, the rain falls as snow.

² If the temperature is 32° F or less, the thunderstorm becomes a blizzard.

³ This result is treated as a thunderstorm for interior wetlands far from shore.

Temperate Wetlands

The following tables generate the daily high temperatures, low temperatures, windspeed, and chance of precipitation in temperate wetlands according to season.

Table 3-64: Daily High Temperature

d100	Spring	Summer	Autumn	Winter
01-10	62+4d6° F	80+4d6° F	56+4d6° F	40+4d6° F
11-20	62+3d6° F	80+3d6° F	56+3d6° F	40+3d6° F
21-30	57+4d6° F	75+4d6° F	51+4d6° F	35+4d6° F
31-40	57+3d6° F	75+3d6° F	51+3d6° F	35+3d6° F
41-50	52+4d6° F	70+4d6° F	46+4d6° F	30+4d6° F
51-60	52+3d6° F	70+3d6° F	46+3d6° F	30+3d6° F
61-70	47+4d6° F	65+4d6° F	41+4d6° F	25+4d6° F
71-80	47+3d6° F	65+3d6° F	41+3d6° F	25+3d6° F
81-90	42+4d6° F	60+4d6° F	36+4d6° F	20+4d6° F
91-00	42+3d6° F	60+3d6° F	36+3d6° F	20+3d6° F

To determine the daily low temperature, subtract the amounts shown on the following table from the day's high temperature. For instance, if the preceding table generates a high temperature of 100° F, and the low temperature generates a result of 14 - 3d6°, which results in a total of 22°, the daily low temperature is 78° F (100° - 22° = 78° F).

Table 3-65: Daily Low Temperatures

d100	Low Temperature
01-10	-2+3d6
11-20	-4+3d6
21-30	-6+3d6
31-40	-8+3d6
41-50	-10+3d6
51-60	-12+3d6
61-70	-14+3d6
71-80	-16+3d6
81-90	-18+3d6
91-00	-20+3d6

The following table determines the windspeed measured in miles per hour based upon the season.

Table 3-66 Daily Windspeed (miles per hour)¹

d100	Spring	Summer	Autumn	Winter
01-10	1d3	1d2	1d3	1d4
11-20	1d4	1d3	1d4	1d6
21-30	1d6	1d4	1d6	1d8
31-40	1d8	1d6	1d8	1d10
41-50	1d10	1d8	1d10	2d6
51-60	2d6	1d10	2d6	2d8
61-70	2d8	2d6	2d8	3d6
71-80	3d6	2d8	3d6	3d8
81-90	3d8	3d6	3d8	4d6
91-00	4d6	3d8	4d6	4d8

¹ Increase the daily windspeed by 6d6 mph in the event of a thunderstorm or blizzard.

The following chart determines the daily chance of experiencing a storm. It is also based upon the season.

Table 3-67: Daily Chance of Precipitation

Result	Spring	Summer	Autumn	Winter
No Precipitation	01–55%	01–55%	01–65%	01–55%
Rain¹	56–90%	56–80%	66–93%	56–95%
Thunderstorm²	91–00%	81–98%	94–98%	96–99%
Hurricane³	—	00%	99–00%	00%

¹ If the temperature is 32° F or less, the rain falls as snow.

² If the temperature is 32° F or less, the thunderstorm becomes a blizzard.

³ This result is treated as a thunderstorm for interior wetlands far from shore.

Boreal Wetlands

The following tables generate the daily high temperatures, low temperatures, windspeed, and chance of precipitation in boreal wetlands according to season.

Table 3-68: Daily High Temperature

d100	Spring	Summer	Autumn	Winter
01–10	56+3d4° F	76+3d4° F	52+3d4° F	16+3d4° F
11–20	54+3d4° F	74+3d4° F	50+3d4° F	14+3d4° F
21–30	52+3d4° F	72+3d4° F	48+3d4° F	12+3d4° F
31–40	50+3d4° F	70+3d4° F	46+3d4° F	10+3d4° F
41–50	48+3d4° F	68+3d4° F	44+3d4° F	8+3d4° F
51–60	46+3d4° F	66+3d4° F	42+3d4° F	6+3d4° F
61–70	44+3d4° F	64+3d4° F	40+3d4° F	4+3d4° F
71–80	42+3d4° F	62+3d4° F	38+3d4° F	2+3d4° F
81–90	40+3d4° F	60+3d4° F	36+3d4° F	0+3d4° F
91–00	38+2d4° F	58+3d4° F	34+3d4° F	–2+3d4° F

To determine the daily low temperature, subtract the amounts shown on the following table from the day's high temperature. For instance, if the preceding table generates a high temperature of 70° F, and the low temperature generates a result of 14 – 3d4°, which results in a total of 20°, the daily low temperature is 50° F (70° – 20° = 50° F).

Table 3-69: Daily Low Temperatures

d100	Low Temperature
01–10	–2+3d4
11–20	–4+3d4
21–30	–6+3d4
31–40	–8+3d4
41–50	–10+3d4
51–60	–12+3d4
61–70	–14+3d4
71–80	–16+3d4
81–90	–18+3d4
91–00	–20+3d4

The following table determines the windspeed measured in miles per hour based upon the season.

Table 3-70: Daily Windspeed (miles per hour)¹

d100	Spring	Summer	Autumn	Winter
01–10	1d3	1d4	1d3	1d3
11–20	1d4	1d6	1d4	1d4
21–30	1d6	1d8	1d6	1d6
31–40	1d8	1d10	1d8	1d8
41–50	1d10	2d6	1d10	1d10
51–60	2d6	2d8	2d6	2d6
61–70	2d8	3d6	2d8	2d8
71–80	3d6	3d8	3d6	3d6
81–90	3d8	4d6	3d8	3d8
91–00	4d6	4d8	4d6	4d6

¹ Increase the daily windspeed by 6d6 mph in the event of a thunderstorm or blizzard.

The following table determines the daily chance of experiencing a storm. It is also based upon the season.

Table 3-71: Daily Chance of Precipitation

Result	Spring	Summer	Autumn	Winter
No Precipitation	01–50%	01–50%	01–35%	01–20%
Rain¹	51–95%	51–85%	36–93%	21–00%
Thunderstorm²	96–00%	86–00%	94–99%	—
Hurricane³	—	—	00%	—

¹ If the temperature is 32° F or less, the rain falls as snow.

² If the temperature is 32° F or less, the thunderstorm becomes a blizzard.

³ This result is treated as a thunderstorm for interior wetlands far from shore.