Oops, I'm at Sea (1st Edition AD&D)

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Overview

Few areas in the Dungeons & Dragons rules genre have more variation than ships and the sea (with the possible exception of unarmed combat). Ship names, size, hull points, movement, cargo, combat abilities, weather effects—all vary wildly across editions and expansions. Most editions start from scratch with complicated systems, creating another game within the game. At the same time core 1st Edition is lacking many specifics. I want something detailed yet simple: What happens during inclement weather? How long until ships engage? When will a ship sink?

Starting with ship-based combat, I surveyed many D&D resources and board games and, finding nothing I wanted, started my own detailed system. Then I realized something—creating a detailed nautical combat system means players would have to learn an entirely new game. Perhaps a game that includes AD&D characters, but still, not playing AD&D. I just needed dice to answer simple questions:

- Can the players encounter/escape a seafaring foe
- What happens when a seafaring foe is at range
- How long does it take a seafaring foe to close
- What happens while two ships close with each other
- What factors might affect those questions (when I wanted to use them)

Borrowing from the resources available, I consolidated and organized AD&D rules scattered far and wide, filling in gaps from other sources. Proficiencies allow player agency. For critical life-or-death moments, tables provide granularity, but the generalities are treated, well, more generally.

In a sea-based campaign, talk will also eventually turn to shipping and trade. As 1e has little information on trade, I borrow from other resources (especially Gaz 9—the most detailed resource for trade at sea). Yet instead of a detailed, world-based goods system, generic goods permit trade without complexity. The PCs need only acquire (or hire) a ship, hire a crew, load cargo, and sail to parts known (and unknown) for adventure and profit.

Ships

Ship Types

Ship speeds are expressed as: Normal Sail (Maximum Sail)/ Normal Oar (Maximum Oar), Normal Daily Movement Sailed/ Normal Daily Movement Rowed. Maximum Sail is based on a Strong Breeze. Maximum Oar is only possible for periods of 30 minutes. *Note that sailing ships on the open ocean can sail day and night, moving twice their normal movement.

Raft: A simple craft constructed from logs lashed together to form an awkward floating platform. Maximum size is 30' × 40'. Capacity: 10,000 cn / 100 ft^2. Hull value: 5. Crew: 1 / 100 ft^2. 30% Seaworthy. Move: 3"/3", 12 miles. Cost: 10' × 10', 50 gp. Characters can build their own raft if wood is available-this takes d3 days / 100 ft^2 with a capacity: 5,000 cn / 100 ft^2.

Rowboat: (canoe, skiff): Length 8'-20', width 2'-4'. Capacity: 2,000-4,000 cn. Hull value: 1-4. This vessel can have a crew of 2-10 people, depending on size. Rowboats do not function well in breezes above 19 mph. 35% Seaworthy. Move: 6"(9")/3"(6"), 18/9 miles. Cost: 75 gp. Construction: 4 men, 6 days.

Lifeboat: The ship's lifeboat is designed for survival and has a collapsible mast. The length is 20', beam is 4'-5', and draft of 1'-2'. Capacity: 15,000 cn. Hull value: 1-4. Stored on-board typically is one week's iron rations for the crew of 10 people. Small ships usually carry one or two lifeboats. Large ships carry three or four. A lifeboat carried onboard has a capacity of 5,000 cn cargo in addition to crew. It takes a turn to launch or load a lifeboat. 55% Seaworthy. Move: 6"(9")/3"(6"), 18/9 miles. Cost: 150 gp. Construction: 5 men, 2 weeks.

Outrigger: Outriggers are fairly seaworthy, yet simple to build. The longer versions can easily make a transoceanic voyage. Average of 30' with a beam of 16', and a draft of ½ foot (from 20' to 80' long). Capacity: 5,000-20,000 cn. Hull Value: 4-8 Standard crew: 6/3/1 (up to 20 based on size). 70% Seaworthy. Move: 6"/3", 24/18 miles. Cost: 75+ gp. Construction: 1 man, 1 week.

Due to their simple construction, the barge is not exceptionally seaworthy. Barges are normally only found on calm inland waterways (lakes and rivers).

Barge, Small: 4 passengers + 6,000. 15'-20' with a beam of 4'. Capacity: 160,000 cn. Hull Value: 2-6. 30% Seaworthy. Move: 4.5"(6")/3"(4.5"), 16(24) / 8(9) miles. Construction: 1 week. Cost: 500 gp.

Barge, Large: 6 passengers + 7,500. 25'-40', with a beam of 12'-20'. Capacity: 320,000 cn. Hull Value: 2-8. 30% Seaworthy. Move: 3"(6")/2"(3"). 8(16)/4(5) miles. Construction: 2 weeks. Cost: 1,000 gp.

Galleys are long, slim oared ships, generally used for travel along the coast. Galleys beach at night, since supplies and sleeping accommodations are very limited. Stepping/Unstepping masts is done only on galleys and longships. 10 crew accomplish the task in 3 turns.

Galley, Small (hemiolia): Built for coastal and lake use. The length is 60'-100', beam is 10'-15', and draft is 2'-3'. Capacity: ~~20,000~~ 40,000 cn. Hull value: 2-12. Standard crew: 60 rowers, 10 sailors, 20 marines, 1 captain. This ship can have a ram (hull damage d4+2 × 3) and two light catapults. Food storage: 10 days. 40% Seaworthy. Move: 18"(27")/15"/(24"), 50/30 miles. Construction: 20 men, 10 weeks. Cost: 10,000 gp.

Galley, Large (dromond): Designed for oceans and large lakes. The length is 120'-150', beam is 15'-20', and draft is 3'. Capacity: 300,000 cn. Hull Value: 4-16. Standard crew: 180 rowers, 20 sailors, 50 marines, 1 captain. It has a single mast with a square sail. Although it can boast one or two masts and triangular sails, the main power comes from the 100 oars, 50 to a side. These oars are divided into an upper and lower bank, with one man per oar on the lower bank and three men on the upper bank. It can have a ram (damage d6+3 × 3) and two light catapults. Food storage: 20 days. 45% Seaworthy. Move: 12"(21")/12"(24"), 50*/30 miles. Construction: 20 men, 20 weeks. Cost: 25,000 gp.

Galley, War (cataphract): This large, two-masted galley is designed for combat. The length is 120'-150', the beam is 20'-30', and draft is 4'-6'. Capacity: 60,000 cn. Hull Value: 4-16+8. Standard crew: 150+ rowers, 30 sailors, 75 marines, 1 captain. This ship always has a ram (damage d6+4 × 3), and the deck above the rowers has two towers (providing a +3 AC bonus), each 10'-20' square, height 15'-20', and can have up to three light catapults. Food storage: 2 weeks. 45% Seaworthy. Move: 12"/6", 36*/12 miles. Construction: 40 men, 20 weeks. Cost: 50,000 gp.

Sailing Boat (fishing): A small single-masted craft, designed for lake or coastal use. The length is 15'-45', beam is 5'-15', and the draft is 3'-8'. Capacity: 20,000 cn. Hull Value: 3-24. Minimum crew: 1 sailor; additional crew and captain may be hired. Food storage: 1 day. 70% Seaworthy. Move: 15"(21")/2"(3"), 60*/10 miles. Construction: 5 men, 4 weeks. Cost: 2,000 gp.

Sailing Ship, Small (knarr, coaster): The small sailing ship has but a single mast and a square sail. There is at best only a small stern castle. In times of poor wind, a few oars at the bow and stern can provide more power. Its flat bottom makes it useful for sailing up rivers and estuaries, and it can be beached easily. The length is 60'-80', beam is 20'-30, and draft is 5'-8'. Capacity: 200,000 cn. Hull Value: 6-36. Standard crew: 10 sailors, 1 captain. It can support one ballista. Food storage: 1 month. 65% Seaworthy. Move: 15"(21")/2"(3"), 50*/20 miles. Construction: 20 men, 10 weeks. Cost: 5,000 gp.

Sailing Ship, Large (cog): This is a 2-3 masted ship with one or more decks. There is normally one deck and fore- and sterncastle. The length is 100'-150', beam is 25'-30', and the draft is 10'-12'. Capacity: 400,000 cn. Hull Value: 12-48. Standard crew: 20 sailors, 1 captain. The bow and stern are raised "castles" for better field of fire. It can support up to two artillery (ballistae or light catapults). Food storage: 2 months. 65%-70% Seaworthy. Move: 9"(15")/1"(2"), 35*/15 miles. Construction: 20 men, 20 weeks. Cost: 15,000 gp.

Sailing Ship, Troop Transport: Identical in size to the large sailing ship, this ship is designed to carry people. The capacity is double that of a large sailing ship. This vessel often has special modifications such as a hatch cut into the side for loading horses and other animals. Capacity: 600,000 cn. Hull Value: 16-56. Standard crew: 20 sailors, 1 captain, 100 marines. Food storage: 2 months. 60% Seaworthy. Move: 12"(15")/0", 50*/0 miles. Construction: 20 men, 20 weeks. Cost: 22,500 gp.

Sailing Ship, Warship (nao, carrack): Very similar to a large sailing ship, these vessels tend to be fast, but less seaworthy. The warship has three masts, the length is 70'-100', beam is 15'-25', and the draft is 12'. Capacity: 100,000 cn. Hull Value: 7-42. Standard crew: 20 sailors, 1 captain, 50 marines. The ship can support up to four artillery (max. 2 catapults). The crew of a warship tends to be 2 or 3 men to work each ballista, 3 or 4 men to handle the catapult, and the rest to main the sails. It is possible to have 100 or more men on board, but because of the shortage of space for food and fresh water, the number is usually considerably less. Food storage: 2 months. 60% Seaworthy. Move: 12"(18")/2"(3"), 50*/20 miles. Construction: 20 men, 15 weeks. Cost: 20,000 gp.

Longship (drakkar): This ship, a square-sailed, oared galley having a single mast that can be unstepped, is designed for river, ocean, or coastal use. It is fairly seaworthy and can sail across the open sea. The typical length is 60'-80' (up to 120'), beam is 10'-15', and the draft is 2'-3'. Capacity: 200,000 cn. Hull Value: 2-16. Standard crew: 75 sailors (acting as rowers and marines), 1 captain. 50 rowers are needed for full speed. No ram. Food storage: 10 days. 60% Seaworthy. Move: 15"/9"(18"), 45*/18 miles. Construction: 20 men, 10 weeks. Cost: 15,000 gp.

Ship Acquisition

Ships can be acquired for hire, by purchase (new or used), or by other legal means such as a Letter of Marque. As a general guide, a new vessel requires one week of construction time per foot of length (see Boatwright and Shipwright). Used vessels are available for 20%-70% the cost of a new one, with additional costs of 20%–70% of a new ship's cost to refit the vessel. A refit takes a half-day for each hull point (modified by refit cost %).

Ship Quality

Ships have four quality classifications (DRMG 107):

Unseaworthy: If rats scurry in droves down the ship's gangplank prior to departure, it's probably unseaworthy. In high winds, unseaworthy ships take hull damage in addition to the usual chances for a catastrophe: 1-2 points of hull damage in a strong gale, 1-3 points in a storm, and 1-6 points in a hurricane. Unseaworthy ships are capable of only 75% normal speed, and cost 10% to 30% below normal ship price.

Average: The normal quality of seagoing ships. They have approximately normal speed, costs, and capsizing chances.

Good: These ships are built with time and care. Good quality ships often serve as the flagship of a small nation's fleet or command vessels of a larger nation's fleet. They have -10% to any capsize and wind damage results percentages. These ships cost twice the normal price and will rarely be available for sale.

Excellent: The best ships are of excellent quality, designed by experts, built by masters, and are never available for sale, although they make a great prize in a naval battle. An excellent vessel serves as the flagship of a large seafaring nation's navy. They have only a 5% chance to capsize in a storm (a 15% chance in a hurricane) and take -30% to their wind damage percentage. They also speed through the water at +10%.

Daily Movement

On the open ocean, vessels can sail all day and all night long, doubling their normal movement. 1 mph is roughly 3". To simulate the effects of currents and winds on long voyages, reduce the overall movement rate by d4 x 5%.

Wet canvas holds the wind better; sails drenched with water improve speed by 5-10%.

(Optional): The movement rates for normal sail assume that the craft is being moved in the direction of the wind, and that the wind is blowing between 20 and 30 miles per hour. Subtract 1" (one mile per half-day or 10 feet per round) for each 10 miles per hour of wind speed less than 20, and add 2" for each 10 miles per hour greater than 30. A vessel cannot be successfully sailed if the wind is less than 5 miles per hour.

(Optional): The rate for maximum sail applies if a vessel is moving at right angles to the wind, with modifiers for wind speeds less than 20 or greater than 30 miles per hour. A vessel being sailed into the wind has its normal sail rate reduced by 3" for each 10 mph of wind speed, to a minimum of 1" (1 mile per eight hours or 1"/round) in any case.

Rowing

Exhaustion will occur after the crew has rowed at their normal speed for 8-10 hours or at maximum speed for 30 minutes. PCs rowing a small vessel, such as a fishing vessel or skiff, can row for a number of hours equal to one-half their Constitution (rounded up). Each extra hour requires a Constitution check, but lose one Constitution point for each additional hour (recovered at the rate of one point per full hour of rest).

A Strength check can increase the boat's movement by one-third each 5 rounds (absolute maximum 3 turns). Once a character fails a check, they cannot attempt to increase their speed again until they have rested.

Navigation

Ships which do not have the appropriate charts are at risk when they navigate, especially if the vessel travels out of sight of land. The chance to find a proper chart is 65% adjusted ± 30% for the size of port, with a cost of 2d12 gp, also adjusted for port size (± 8 gp). For every 500 miles distant, the chance of finding a chart is reduced by 10%, and the cost increased by 5%. A standard chart covers 1,000 miles (assuming 500 miles from point of purchase).

To determine the accuracy of a course, plot the route between point of departure and destination, checking daily by rolling d20 minus the Navigator's (modified) proficiency score (or 0 if no one is proficient) for the Navigation result. A successful check will identify the ship's location within one mile (the accuracy of a sextant). When a Navigation result is greater than 0, a ship goes off course or becomes lost at sea. Multiply the result by 5%; that is the percentage the course is in error. Only one roll may be made for a vessel each day, using the best navigation skill aboard.

The navigation roll is subject to the following modifiers:

- Two or more navigators in consort: -3
- No appropriate charts +2
- Strong breeze +2
- Ship is old or worn (unseaworthy) +2
- Ship sailing against strong current +3
- Ship sailing against moderate current +1
- Gale +5
- Storm or greater force winds +10

The following technological modifiers can be used:

- Primitive: Out of sight of landmarks +6
- *Rudimentary technology with Light cloud cover +2
- *Rudimentary technology with Heavy cloud cover +5

*Rudimentary technology include compass, cross-staff, astrolabe

Additional navigation checks are made in the following circumstances:

- After every week of travel with brisk or strong winds, the vessel is likely to drift downwind of its course. A successful Navigation check keeps it on course. Failure means the ship has moved one hex downwind of its former position.
- After a storm, a successful Navigation check pinpoints the ship's current location and heading. If the ship was already off course at the start of the storm, the navigator's new position estimate is based on where he thought the ship was.
- Any time the ship encounters fog or overcast skies, a failed Navigation check will cause the ship will drift to a new heading, turning one hex facing for every 2 points the roll was failed, and delaying travel appropriately. When the weather clears, another check can be made to get back on course.

Hazards

[DRMG 107] Hazards include sailing near reefs or other waterborne obstacles. Difficultly of each hazard (Minor, Major, Critical) is determined by the DM. For every five miles of hazard movement a Piloting roll is required (identical to the Navigation roll), subject to the following modifiers):

- Two or more pilots in consort -3
- Lighthouse in area -5
- No appropriate charts +2
- Ship is unseaworthy +2
- Strong breeze +2
- Ship sailing against strong current +3
- Light fog +3
- Gale +5
- Heavy fog (¼ mile visibility) +6
- Storm or greater force winds +10

If the ship misses the Piloting roll, it takes damage according to the severity of the hazard and the amount by which the piloting roll was missed (refer to the effect on the **Hull Damage** table):

Hazard Damage Table (see also Hull Damage Table)

Hazard	Missed by	Damage	Effect
Minor	1-4	1 hull damage	Light
	5-7	2-4 hull damage	Light to Moderate
	8-20	3-6 hull damage	Moderate
Major	1-2	1 hull damage	Light
	3-4	2-4 hull damage	Light to Moderate
	5-20	4-8 hull damage	Moderate to Heavy
Critical	1-2	2-4 hull damage	Light to Moderate
	3-4	3-6 hull damage	Moderate
	5-7	4-8 hull damage	Moderate to Heavy
	8-20	5-10 hull damage	Heavy

Ship Damage

Hull Value

A ship's ability to remain afloat is represented by its hull value. As a general rule of thumb, a new ship from a good shipyard will have the maximum listed hull value. A new ship from a less-reliable shipyard, or a well-maintained older ship will have somewhat fewer. A scurvy river barge that's taking on water will have the lowest possible hull value.

Hull damage caused by the various artillery engines, as well as that caused by various monsters and spells, is determined by using the SIEGE ATTACK VALUES in the DMG (extended here as an Appendix). Unless noted otherwise, giant sea creatures and appropriate magic attacks inflict 1 point of hull damage for every full 10 points of damage. Attacks that force a ship to make a saving throw (such as a *Disintegrate* spell cast on the ship) use the **Item Saving Throw Chart** (DMG, p. 39) for determining results, where most ships are Thick Wood. When relevant, a hole made in the ship has a diameter (in inches) equal to the damage caused by the attack. For example, a strike inflicting 6 points of hull damage would tear a 6-inch hole.

Movement

Each 10% of hull damage slows the ship by 10%. When a ship has suffered 75% of its hull value in damage, the ship is dead in the water; it cannot move under its own power until at least makeshift repairs are made (see Repair).

Attacks can be made on a ship's targeting the rigging and sails. Each 10% of the ship's hull points damage done to the sails and rigging will reduce the ship's movement by 10% with no permanent damage done to the ship.

Each 10% loss of rowers reduces a ship's rowed speed by 10%. Ships manned by less than their full complement (a skeleton crew) cannot exceed 2/3 of their normal movement rate. A ship with less than half the required crew is crippled and mostly drifts with the winds and current, also suffering a -2 penalty on all checks.

Terminal Damage

When a ship is damaged 90%, violent wave action can break the weakened structure, inflicting additional damage: squall/storm, 1 hull damage / day; hurricane, 1-2 hull damage / day.

A ship damaged to 90% or receiving a Leaking Critical Hit will begin to leak. A leaking ship will sink in 2d10 turns unless two crewmen are dedicated to bailing. If this critical is suffered again, the leaks become more severe—for each additional Critical Hit five more crewmen must be assigned to keeping the vessel afloat.

If a ship's hull value is reduced to zero, repairs are no longer possible. The ship cannot use ship-mounted weapons and on 4 in 6 the ship weapons are destroyed. The ship will sink to the waterline in d10 rounds and d12 turns later sink beneath the sea (rowboats will sink in d10 rounds). When the ship sinks, every character still aboard must make a Saving Throw vs. Death or be sucked down with the ship. For this reason, most characters will try to abandon ship, entering the water first to avoid being sucked into the undertow.

Repair

All ships are built of wood. Wooden pegs and metal nails join the timbers of a ship. Bronze nails are favored over iron because they better resist salt-water corrosion. Seams are caulked and fixed with wax and/or tar. Waterproofing, often mixed with paint, is melted and brushed onto the outer planking.

In most civilized areas, one point of hull damage can be permanently repaired at a cost of 100 gp / day by a crew of ten trained workers in port. Dry docks cost 5 gp per day per hull point of the ship[1] (± 50% based on port size), but reduces the time required for general maintenance or repairs by 20 to 80 percent.

Poor (or cheap) characters can repair ships themselves; a crew of five individuals, with the correct materials and in safe harbor, can repair one point of hull damage per week. Materials can be acquired (at an approximate cost of 50 gp of material per point of hull damage, and one load of cargo space) or just landing at a vacant stand of timber and taking what is needed. Such repairs are almost as good as the expensive ones provided that at least one member of the crew has the Shipwright or Ship Carpentry proficiency (Ship Carpentry can permanently repair only half of the damage and then only for damage ≤ half of the hull value). A successful proficiency check must be made for each such improvised repair to succeed; otherwise the repair is only temporary (d6 weeks).

For damage less than half of a ship's hull value, temporary repairs can be made at sea. Repairs are not possible during battles, gales, or storms. While the ship is idle, a repair crew of ten can perform makeshift repairs of one point of hull damage for each hour of work.[4] These makeshift repairs will fall apart in d6 days.

Upkeep

Boring clams (shipworms) do extensive damage to wooden hulls, mostly underwater. Weathering/storms/sea action could spring planks and even bend/break them over time. This wood must be replaced in dry dock. Seams in the ship would be stuffed with something like tarred oakum, to keep them watertight. Over time, the movement of the ship would work the oakum out of the seams, so replacing that would be a fairly frequent maintenance task. Cordage and rigging would have to be replaced fairly frequently. Tarring rigging (that is, literally applying tar or another preservative) and greasing it where it runs through blocks was a weekly if not daily maintenance task. Painting and varnishing the ship's exterior and cleaning the decks is an ongoing task. The ship's decks are cleaned every morning with grit and large stones, then washed off and beaten dry. That not only kept the decks clean but reduced rot and mold. Dampness was endemic aboard ship and tropical molds in particular could spread very quickly below decks.

Ships require port maintenance every six months, as well as careening at the end of every year.[5] Ship maintenance takes one day for every five of the ship's maximum hull points, and costs 1 gp / the ship's maximum hull value / day.[1] Maintenance can also be done by beaching the ship, taking twice the normal time with risk to ship and crew (hull

damage and crew fatality for each point of proficiency failure). Failure to perform at least annual maintenance lowers the quality of the ship by one place, and one place further every six months thereafter.[5] A vessel also loses 10% of its speed for each month sailed without required maintenance.

Capsizing

A small craft (i.e., large rowboat) is 25% likely to capsize in mild (< 15 mph winds) conditions, 35% likely to capsize in moderate (16-30 mph) conditions, increasing to 50% in Dangerous (21-50 mph) conditions, and 65% in Severe (> 50 mph) conditions, checked whenever a character enters or leaves the boat, or when deemed appropriate. If operated under sail, the chance of capsizing is 20% greater. A character with the Boating (or, where appropriate, Sailing) proficiency reduces the chance by 25%, and 20% more for each additional character with the Boating proficiency.

A capsized small craft will support a number of characters equal to twice its normal capacity; that is, up to eight characters can cluster around the sides of a capacity-4 rowboat and use the rowboat to keep from going under themselves. If this weight limit is exceeded, or if the weight is not evenly distributed, the craft will sink too far below the surface to be usable in this fashion.

In the open sea, galleys (not longships) in a Moderate to Strong Wind have a 10% chance per turn of shipping water. If water is shipped the galley automatically loses 25% of its speed. If a galley ever loses 75% of its speed in such a situation it will sink in d12 turns.

If a ship capsizes, the ship sinks immediately and escape by boat is impossible. All crew must Save vs. Death or be trapped in the wreck and killed.

Sea monsters that attack by ramming also have a chance of capsizing a vessel, but only on their first successful ram,[5] later successful rams cannot capsize the vessel. Very small boats suffer an additional 10% chance of being capsized, small vessels +5%, large vessels -5% and very large ships -10%.

Collision

A collision is not a gentle bump against the dock; what is meant here is two vessels crashing together at three-quarters to full speed. Unless a vessel is carrying a ram, this action isn't ramming, it's colliding. Each ship suffers 10%-60% of the hull value of the ship that collided with them and suffers a Ship Shaken Critical Hit.

A ship that runs on rocks or reefs takes Heavy hull damage (See the effect on the **Hull Damage Table**) every turn. On sand bars, it takes Moderate damage once; on mud banks, it takes no damage.

Fire

Fire is a great danger on shipboard. When a ship is exposed to fire, whether as a result of a critical hit, flaming pitch, or spell such as *Fireball*, roll 3d6 to determine the ship burn damage on the **Hull Damage Table.**

Fire Table

Fire	Hull Damage	Notes
10 flaming arrows	Check **Hull Damage Table**	
Pitch (via catapult)*	d6 hull points/turn	see below
≥5 HD fireball	Check **Hull Damage Table**	10 HD checks **HD Table** twice. < 5 HD does only ½ HD Hull Damage.
≥8 HD Lightning	Check **Hull Damage Table**	**HD Table** roll at -3 (< 8 HD does ½ HD Hull Damage and no fire).
Fire Spell Lvl 3+	Check **Hull Damage Table**	25% chance of creating a blaze; if so, **HD Table** roll at -3.

* Affects a 10'×10' area and causes d6 / turn (min. 1 turn) of hull damage. Any flaming catapult missile landing on a ship should be immediately doused. Otherwise, it has a 75% chance of becoming uncontrolled. Extinguishing the associated fire takes 3/2/1 turns with 5/10/15 crew. Pitch will always burn for at least 1 turn. Using pitch carries with it a 5% risk of causing fire damage to the *attacker*. All creatures within three feet of the impact and breaking point of the container missile must save vs. poison or be splashed with the contents of the shattered container for d6 damage.

Hull Damage (HD) Table (typically from Controlled Fires)

3d6	Hull Damage	Minimum Repair Outcome		
3-7	1	Light (L)		Almost no damage.
8-10	2-4	Light Moderate (LM)	= 3L	Minor damage. No immediate repair needed.
11-13	3-6	Moderate (M)	= 2L + 1LM OR 2 LM	Minor repairs required to get underway (d4 hours).
14-15	4-8	Moderate Heavy (MH)	= 2M	Major repairs to get underway (min. d3 days).
16-18	5-10	Heavy (H)	= 2MH	Extensive repairs to get underway (min. d6 days).

Fire Hull Damage that equals or surpasses the Hull Value is considered an uncontrolled fire, and the ship burns to the water line. Any fires magically-fed and not countered due to time, lack of men, or capable magic-user have a 75% chance per turn of becoming uncontrollable.

Ship Type	Burning Time of Uncontrolled Fires
Rowboat	1 turn
Barge, small	1-2 turns
Barge, large	1-4 turns
Galley, small	1-3 turns
Galley, large	1-6 turns
Merchant, small	2-8 turns
Merchant, large	3-12 turns
Warship	3-1 2 turns

U1: Direct attempts to set a ship ablaze may be undertaken only while aboard. This requires at least two flasks of oil or two cubic feet of dry combustible materials such as sacking, cloth, wool or wood kindling and still has only a 60% chance of successfully creating a blaze. Additional flasks of oil and combustibles will increase the chances by 10% for each extra flask of oil plus a further cubic foot of combustibles. It will take a full turn before such a fire takes hold, during which period it may be extinguished with a 15% chance for every person helping in the attempt. On the second turn after ignition the chance of successfully extinguishing the fire goes down to 10% per person involved; on the third turn the fire will be out of control and will burn the ship down to the waterline in a further turn.

Scuttling

Six man-sized creatures can decrease the hull value of a ship by d2/round (+1 round for each creature less than 6) if appropriately armed and damaging a specific point.

Attempts to hole a ship require the use of axes and/or similar implements. If damage is inflicted to one location equal to the ship's hull points, the ship will begin to take on water and sink in d12 turns.

Crew

Ship's crew are skilled tradesmen. The sailor must be able to tell the position and condition of every piece of equipment on-board, even to repair it in the dark and driving rain of a storm. He must never lose his footing whether in the rigging, on ropes, or on the wet and slippery deck; regardless of how violently the ship may pitch and toss. He may suddenly called upon to move cargo, hoist or lower sail and anchor, or row a vessel out of danger. He must always have an eye on the weather, for sudden drops or shifts in the wind may eventually wreck his ship.

Even in a small fishing village enough experienced sailors can always be found to crew a small ship (<40') for a trip of several days duration. Larger ships will require larger ports to obtain skilled hands. Crewmen must be of the sort needed for the waters (fresh vs. salt) and the type of vessel:

- Small boats: river boat, sailing boat, canoe, ship's lifeboat, raft
- Galleys: small galley, large galley, war galley, longship
- Sailing vessels: Large sailing ship, small sailing ship, troop transport

Sailors cost 2 gp per month. They never wear armor but will use almost any sort of weapon. When not slaves, *oarsmen* are considered to be primarily sailor-soldiers; they cost 5 gp per month, wear any sort of armor furnished, and use shields and all sorts of weapons. *Marines* are simply soldiers aboard ship; they cost 3 gp per month and otherwise have armor and weapons of heavy foot as furnished, with one *sergeant* per ten marines for 30 gp per month. More experienced crew earn 50% more for each additional level of skill/experience.

For every 20 crewmen there must be one *lieutenant* and two *mates*. Mates conform to specifications of sergeants. A lieutenant can command as many decades as he or she has levels. A *captain* can command as many lieutenants, and as many scores of sailors as he or she has levels. Captains and lieutenants cost 100 gp per month / level.

The bulk of a crew's pay on a merchant ship is in shares of the ship's profits as well as a share of any prize or treasure taken at sea. ~50% is the traditional share of the profits (and all of the losses) for ship owners, with the remainder paid out to the ship's crew. For any crew, the master captain gets a 25% share, each lieutenant gets 5%, each mate 1%, and the crew share the remainder between them.

See Ship Damage > Movement for Crew Size affecting movement.

Crew normally expect three days of liberty (shore leave) each month, or become tired and argumentative, and lose morale. Employment of captain and crew is a matter of offer and acceptance (see Hirelings in the DMG). There is of course always the press gang option for gaining crew: 2–16 burly sailors or soldiers armed with swords but wielding clubs. Outnumbered or incapacitated citizens may be shanghaied onto the ship (with appropriate ramifications for skill and morale).

Supplies

Every five crew require one barrel of water per week. Iron rations cost 25 gp per week per five crew, but include dried fruit.[2] Sea rations of salted meat and hard tack cost only 7 gp per week per five crew (4 sp per day per crew[3]). A small sailing ship can carry one month's worth of sea rations and water, a large sailing ship 2–3 months. The space taken up by base crew provisions does not affect the ship's cargo space. Additional supplies can be taken on: two weeks of additional sea rations and water for five crew equals one "load" of cargo (discussed elsewhere) and costs 9 gp. Once the ship has additional water barrels, the future cost is reduced to 14 gp per week with a supply of fresh water.

A crew living on sea or iron rations for more than a month becomes susceptible to scurvy (and other vitamin-related diseases). 10% of the crew will be affected by scurvy for each additional week the crew goes without fresh food. Those with scurvy lose one point of Constitution and Strength each week until either reaches zero, and they die. Those points are regained at a rate of three for each week with fresh food. Eating edible cargo reduces the cargo value by 10% per week that the cargo is eaten.

Fishing

In dire straits the crew can fish, ceasing ship progress. On the sea lanes or high seas there is only a 10% chance per day to net enough fish to feed the crew for seven days (five days if unable to prevent spoilage), increasing to 50% within 100 miles of the coast.

Gear

Mariner's armor: The most skilled tanners and armorers construct this special leather armor. It is not magical, but acts as if it were for swimming and diving purposes (equal to no armor). It is waterproof, as is normal leather. Cost varies according to region and economic conditions, but it is at least 20 gp, four times the cost of ordinary leather armor. It must be tailored to fit the individual and requires 30 days to construct.

Swimming

There are two possible modes of movement underwater: swimming and walking. Swimming will be impossible when encumbered with more than 20 pounds of equipment of any type (add or subtract 1 pound for each 100 gp worth of strength bonus or penalty), or in any type of metal armor, with the exception of magic armor. Any character wearing magic armor will be encumbered but can dog paddle at 1"/round. Although characters wearing heavier armors cannot swim, they can walk across the bottom at 1/3 their normal movement rate.

The base surface swimming speed is 1/3 the normal movement rate (twice that if unencumbered). For a swimmer moving beneath the surface of the water, the rate is reduced to 2/3 the base amount (rounded up). The base rate may be modified by one or more of the following factors:

Strength 16 or 17	+1"
Strength 18	+2"
Strength 18/01+	+3"
Swimming in light current	±1" to ±3"
Swimming with strong current	±4" to ±6"

The base vertical movement rate is 2". The rate is doubled for moderately encumbered characters and tripled for heavily encumbered characters who are diving. The rate fir surfacing is doubled for unencumbered characters. Characters floating to the surface rise at the rate of .5"/round, and sink 1"/round (2" if moderately encumbered).

Encumbrance

Enc.	Endurance	Speed	Diving	Surfacing	Floating	Sinking
None	×2	×2	×1	×2	×¼	×¼
Light	×1	×1	×1	×1	×¼	×½
Moderate	×½	×½	×2	×½	-	×1
Heavy	×¼	×¼	×3	×¼	-	×2
Severe	—	—	×3	—		

Endurance

A character's base swimming endurance in turns is equal to: `total experience levels + current Constitution score`. Only treading water doubles their endurance. Endurance also doubles for the unencumbered, and halves for the heavily encumbered. Each hour spent swimming causes a cumulative penalty of -1 to all attack rolls. A character regains three turns of endurance for every turn resting on shore.

A character may swim at high speed on the surface with a successful Strength check (vs. half the character's normal Strength score), doubling their movement rate but reducing their endurance to 1/10 normal. After such an action (regardless of duration) the character must get out of the water to rest for as long as they spent swimming at high speed, regaining only one turn of endurance for every one turn of resting.

All this assumes calm water. If the waters are choppy, a Constitution check should be made every hour spent swimming, regardless of endurance. Rough seas can require more frequent checks; heavy seas or storms may require a check every round.

A character who has reached the end of their endurance must exit the water, or sink.

Drowning

Considering only the actual armor class, subtract the armor class from 9 to determine how long it takes to put on the armor: Leather armor (AC 8) can be donned in one round, while banded mail (AC 4) requires five rounds. For any plate armor (plate mail, field plate armor, or full plate armor), add 2 rounds, and add an extra 5 rounds for field plate or full plate if the wearer is putting it on without help. Taking off armor can be done in half the time required to put it on - from 1/2 round for a character to get out of his leather gear, up to 8 rounds for someone to get out of a suit of full plate armor without help." WSG, p. 65. In times of urgency, armor can be cut off to halve the time.

DRMG 107: When a person swims in water for an extended length of time, there is a chance that the swimmer will not be able to maintain his buoyancy. Consult the chart below, treating the magical armors of ring mail, chain mail, and studded leather armor as non-magical leather, to determine at what interval a drowning check must be made.

Drowning Table

Encumbrance	**Drowning Check Frequency**
*No armor / unencumbered	2 hours
*At least 50 gp enc.	1 hour
*At least 100 gp enc.	½ hour
*At least 150 gp enc.	1 turn
*At least 200 gp enc.	5 rounds
Choppy seas	1 hour
Storm	1 turn
Cold water	1 turn or less (see below)

* Treat leather armor as 50 gp encumbrance. Magical leather is equal to no armor at all.

The base 25% chance for drowning is modified as follows:

- **Every previous drowning check made: +10%**
- Wearing leather or padded armor: +5%
- Every 50 gp enc. on person: +2% (includes weapons, backpacks, and hard boots)

- Salt water: -10%
- Treading water (0" movement): -15%
- Calm water and/or weak current: -20%
- Choppy water or moderate current: -0%
- Rough water or strong current: +15%
- Every level of sea-deity worshiper: -1 %/level
- Buoying device: -5% to -50%
- Storm / Winds above 35 mph (check every turn): +50%

Hypothermia

Exposure to cold waters increases the chance of drowning. A *ring of warmth* or similar magic item or spell will prevent hypothermia. Adjust the drowning roll as follows:

- Water temperature below 60°F: + 10%, check as normal
- Water temperature below 50°F: + 30%, check every turn
- Water temperature below 40°F: + 60%, check every two rounds

Holding One's Breath

All characters are able to hold their breath for one round, regardless of circumstances. A character can hold their breath underwater a number of rounds equal to ⅓ of their Constitution score. This assumes that the character has a chance to take a deep breath before submerging. If the character did not have a chance to fill their lungs with air before going under (or takes a momentary quick breath in combat), the time is cut in half (rounded up). If they engage in strenuous activity (such as combat), the time is also cut in half. These penalties are cumulative. Characters reduced to ≤ ⅓ of their normal movement due to encumbrance are always engaged in strenuous activity.

While attempting to hold their breath beyond this time, the character rolls a Constitution check each round. The first check has no modifiers, but each subsequent check suffers a -2 cumulative penalty. Once a check fails, the character runs out of air, and goes unconscious. If underwater and unconscious at the end of a round, the character's HPs reduce to a virtual -10 (if not worse already), and the character will sink.

Underwater

Underwater Vision

Characters can see objects and movement up to 50' away in fresh water and 100' away in salt water. The depth limit of vision is the same as the distance limit: characters can see until they go below 50' in fresh or 100' in salt water; below this depth vision will be obscured. Use of a *Light* spell allows vision up to 30' distance regardless of depth, or adds 10' of vision to any distance shorter than 60'.

Infravision and ultravision are useful underwater, with distance limits the same as dungeon settings. There are some problems, however: infravision users may become confused due to shifting currents and layers of different-temperature water, as water exchanges heat more slowly than air and therefore is of a less even temperature. Distance of ultravision is halved at 100' depth and reduced to zero below 200' as ultraviolet "light" does not penetrate beyond that depth in sufficient quantities for sight.

Seaweed or sea grass will reduce vision to 10' or perhaps nil for those within it, depending on its density.

Underwater Hearing (OS&S, p. 73)

Noise	Unassisted Surface Dweller[1]	Assisted Surface Dweller[2]	Marine Creature
Natural—Normal	900'	1800'	9,000'
Natural—Moderate	1800'	3600'	18,000'
Natural—Heavy	2,700'	5,400'	30,000'
Speech	10'	60'	300'
Speech—Simple / Shouts	60'	30'	150'
Surface Activity—Normal	300'	600'	3,000'
Surface Activity—Moderate	600'	1,200'	4,500'
Surface Activity—Heavy	900'	1,800'	9,000'
Underwater Activity—Normal	450'	900'	4,500'
Underwater Activity—Moderate	900'	1,800'	9,000'
Underwater Activity—Heavy	1350'	2,700'	18,000'

[1]Any surface dweller without magical aid.

[2]surface dweller with magical air (*airy water*, helm of underwater action, ioun stone, etc.)

Natural noise is the pounding of surf, or steady rainfall. Moderate natural phenomena include heavy surf, thunder, and large objects falling in the water.

Surface activity refers to the sounds of rowing a boat, conversation, sailing a ship, and fishing. Moderate surface activity refers to the sound of man-sized creatures falling into the water. Heavy surface activity refers to combat, dropping anchor, and construction

Underwater activity refers to normal sounds created by undersea creatures. Moderate underwater activity includes the usage of tools underwater, medium and huge sea creatures, and the sounds of combat with non-metallic weapons. Heavy underwater activity include combat with surface weapons, spell effects, and underwater construction.

Underwater Combat

Human-types will be somewhat slowed underwater, so aquatic creatures will always get the first chance to hit, unless the human is armed with a significantly longer weapon than the opponent. All surface dwellers suffer -4 To Hit/Initiative (for ranged and melee combat) underwater. Weapon specialization bonuses will not apply underwater.

Hand-to-Hand: Cutting, slashing, and smashing weapons are not all that useful under water. They suffer a -10 penalty to hit and do only half damage. Thrusting and piercing weapons (spears, tridents, daggers, stabbing swords, lances) function normally.

Missile Weapons: Most missile weapons do not work underwater. Only crossbows made by undersea dwellers (such as mermen) will function, and sell at ten times the normal price. Effective missile and thrown range will be one-half normal (dungeon) distances (or, Poly #16, 3").

Nets: All of the undersea races use nets, particularly aquatic elves, locathah, and mermen; the most adept of all are the sahuagin. They will often set ambushes involving many small nets or one huge net several hundred feet in diameter. These may be concealed in seaweed or left floating near the surface, disguised as something else. The sahuagin are

masters of combat network as well, and will often fight with a net in one hand (to entangle and confuse) and a short, jabbing trident in the other.

Nets wielded single-handedly in combat must be weighted. Nets can be thrown one foot for every point of the thrower's strength. Underwater races can throw nets an average of 15', sahuagin 20'. Weighted nets can also be dropped upon non-swimmers on the ocean floor to drag them down or incapacitate them. Some battle nets have little hooks or barbs attached at every intersection to ensure that targets will be unable to escape easily. The underwater combat net is a difficult weapon to use, and player characters who attempt it will do so at -4 to hit unless they undergo extensive training and choose the underwater net as a weapon of proficiency (such training must take place underwater). Some battle nets have little hooks or barbs attached at every intersection to ensure that targets will be unable to escape easily.

Two or more characters could stretch a large net between them and foul up attackers or combatants by maneuvering it so that their opponents become entangled therein. This is most effective vs. charging or unsuspecting opponents, who will have less chance of avoiding it.

Spells: Characters cannot cast spells at all underwater unless they have already cast *Water Breathing* or *Create Air* or are using a magical item that permits them to breathe. Many material components will be altered by or will not work correctly underwater.

Potions: You can drink underwater.

Ship Combat

Visibility

On a clear day a 6' tall character can see 3 miles to the horizon line. A character in a 60' crow's nest can see 9 miles. Any obstruction (such as an island) will provide cover which may reduce this distance. Land can be seen at a distance of 24 miles on a clear day. Ships can be identified (type, firepower, low or high in the water) at 90" on a clear day (or as little as 12" in dense fog).

Maximum Visibility (Crow's Nest)	Miles
Clear	9
Cloudy	3
Gale	2
Hurricane	1
Fog	1 or less

Ship Sighting

A ship will normally first be spotted at maximum range, although range can vary based on visibility. When two ships enter visual range of one another, each ship makes a d20 roll each turn until it sees the other. Depending on heading, it is possible for one ship to see the other first and attempt to fade back into the horizon before being seen. This roll can also be used to indicate sighting land, large sea monsters (at the horizon), or other items of significance. Success is defined by the quality of the crew:

Ship Sighting Table

Crew Quality	d20
Landlubber	20
Green	16
Average	13
Trained	10
Crack	8

Ship Visibility Table

Distance	Range	Duration	Possible Actions
Distant	> 90"* (max 9 miles)	d6 hours	Approach/ Evade
Normal	90" - 15"*:	d6 turns	Approach/ Maintain/Withdraw, Spells, ship-to-ship weapons, missile weapons
Short	15"* - Contact	d6 rounds	Approach/Maintain/Withdraw, Spells, missile weapons, Grapple/Ungrapple, Prepare to Shear/Ram
Boarding	Contact	1 round	Withdraw, Spells, missile weapons, Grapple/Ungrapple, Shear, Ram Board/ (unless Grappled),

*Converted from Yards

Range changes are possible only every interval defined by Duration. Range increase/decrease will be evenly spread across the Duration, and are based on one ship attempting to avoid the other but failing to Evade (see Evasion).

Evasion

A crew spotting a distant ship can choose to evade:

Base chance of evading pursuit outdoors (d100)	**80%**
Pursued is faster	+10%
Pursued is slower	-20%
Original Positional Advantage (optional)*	+25% to -25%
Piloting Skill Check	+10%
Open water	-50%
Marsh	+10%
Light, daylight	-30%
Light, twilight	-10%
Light, moonlight	0%
Light, starlight	+20%
Light, dark night	+50%
Weather, cloudy day	+10%
Weather, gale	+20%
Weather, storm	+30%
Weather, fog	+50%
Ship Damage	-%hull damage

*Original positional advantage is determined by where the pursuer is in relation to the wind.

If Evasion is successful, the attacker has lost sight of the pursuing vessel and cannot attempt again until the following day, otherwise the two ships close from 90" in d6 turns if pursuer is <= speed, or at rate of closure.

Once the pursuer closes to 90", they have the opportunity to review their target. At that time the pursuer can choose to disengage. This flight is automatically successful if not pursued, otherwise they need to succeed on an Evasion roll in order to return to Distant range (taking 1 turn if the former target turns to pursue) and leading the now pursuer on a merry chase before potentially disappearing from sight in d6 hours if successfully evading a second time.

Tactical Movement

Tactical movement isn't typically necessary—just deal with encounter ranges. However, tactical movement can come into play with non-ship encounters. Tactical watercraft maneuvering is similar to Aerial Movement (see "Oops, I'm Flying") at maximum 30° / hex (where each hex is 3"), i.e., each 3" of movement equals 1 hex of movement. Small craft can turn 180° in a round. Wind can affect tactical movement (see Wind Effects).

Movement

WEIGHING ANCHOR:

Accelerate from standing to normal speed

Oared craft	1 round
Small craft	2 rounds
Barge, Small	2 rounds
Galley, Small	3 rounds
Galley, Large	6 rounds
Merchant ship, Small	5 rounds
Merchant ship, Large/Warship	1 turn

Other actions

Heave to (or from)	2-8 rounds	*Where sails and rudder cancel out*
Reef sails	d6+4 rounds (small craft), d10+10 rounds (medium+ ships)	
Get under way	1-6 turns	
Raise anchor	3-18 rounds	
In irons (see Appendix)	5-30 rounds	
Launch john boat	1 turn	
Replace lost sail	1 turn	

HEAVE TO: A ship can attempt to Heave To each round, decreasing movement by half (minimum 1"), with a successful Ship (Sailing) check. On a failed check, the ship does not decelerate. When deceleration reduces speed to 0", the ship will continue to drift forward another d4 × 3" until it reaches a complete stop.

Oared Vessels

MOVEMENT: An oared ship can increase speed 3" (1 hex) / round, although it is possible to decrease speed twice as fast by backing oars. Maximum reverse speed is ½ forward speed.

TURNING: For every 10" moved an oared ship being rowed may turn up to 45° (maximum 30°/hex). Any ship wanting to turn otherwise must let her momentum carry her at least twice her length before such a procedure may begin.

Galleys (and other oared vessels) are able to do a pivot to face any direction if they are dead still in the water.

Sailed Vessels

MOVEMENT: A sailed ship can increase speed by 3" (1 hex) / round. For sailed craft, turning directly away from the wind can increase speed up to 3". Turning into the wind will decrease speed by 3".

Ships moving across the wind move at base speed. Ships running before the wind (or 45 degrees off) can move up to 1.5× their base speed. Ships proceeding 45 degrees into the wind move a maximum of half speed. Stopped ships may turn in place (maximum 30° in a round), and may elect to either drift or maintain their position. If they drift they do so in the direction of the wind at 10% of the speed of the wind.

Sailed ships may never move directly into the wind (1 of 8 cardinal points) but may tack (turn across the wind). Moving directly into the wind risks placing the ship in irons* without a successful Piloting check.

*A vessel in irons is temporarily out of control. How long the vessel stays in irons depends on how quickly the cause is remedied. For the loss of a mast or a poorly-executed maneuver, the vessel is in irons for 5-30 rounds. Once in irons, a vessel has no control over its course, cannot accurately fire its artillery, and does a fair job of imitating a sitting duck.

TURNING: Sailed craft can safely turn up to 30° / round for every 12" of sailed movement[6]. Any ship wanting to turn must let her momentum carry her at least twice her length before such a procedure may begin.

A sailed ship can attempt to turn Hard to Port/Starboard , turning up to 90° by the end of the round, with a successful Piloting check. This check will be at a -10 penalty if the ship is at full speed, -6 at 75%, and -3 at 50%. On a failed check the ship cannot turn. If the turn was into the wind, a failed check automatically brings the ship in irons, otherwise a second Piloting check determines that status.

FLYING CREATURES: For purposes of integrating flight with naval combat, use: "Oops, I'm Flying". In Gale force or greater creatures eagle-sized or less cannot fly. If >35 mph winds, *Gaseous Form* may disperse, and device usage (such as *Broom of Flying* or *Carpet of Flying*) risks dismount at (wind speed–speed of device)% / turn. Man-sized creatures cannot fly in a Storm or greater.

Ranged Combat

Crews can fire upon one another whenever within missile range. Hand missile weapons such as bows and crossbows can damage or kill crew but do no effective damage against the ship itself. No more archers can fire effectively than the ship's base maximum crew. A ship cannot successfully make a ranged attack in the same hex the ship maneuvered.

Artillery

Armament on galleys ranges from a ram to ballistae; some of the larger galleys may even sport a catapult. Only longships, galleys, and sailed warships can mount catapults; ordinary sailing ships cannot. Typical armament for merchant ships includes at most a ballista.

A catapult costs 150 gp (light) or 200 gp (heavy). A ballista costs 75 gp. A catapult and 20 rounds of shot weigh 20,000 cn (1 load). A ballista and 20 bolts weigh 6,000 cn. A ballista bolt is 10 gp / bolt. Catapult stones are 20 gp, and are approximately 1' in diameter. Pitch costs 25 gp and takes 3 turns to prepare.

	Range (Min/Max)[a]	Damage (S/M, L, Hull)			Rate of Fire[b]	Crew	Arc	Siege Defensive value	AC	Critical Hit
Ballista[c]	1"/ 32"	2d6	3d6	-	¼-½	2-4	45°	2	4	20

	Range (Min/Max)[a]	Damage (S/M, L, Hull)			Rate of Fire[b]	Crew	Arc	Siege Defensive value	AC	Critical Hit
Catapult, Light	15"/30"	2d10	3d4	4	¼	4	30°	4	4	20
Catapult, Heavy	18"/36"	2d12	4d4	6	¼	6	15°	6	0	19,20

[a] Range modifiers do not affect catapults or ballista. Ballista are +4 to hit. Incendiary ammo (pitch) reduces range by 1/3.
[b] Rate of Fire can only be achieved with the requisite crew. If less than the requisite crew is available, RoF drops to at best 50% of normal, and for each crew member missing, the weapon takes one additional round to fire.
[c] It takes three rounds for a crew of four to reposition a ballista.

Ranged attacks on characters inside the crow's nest are at -3 'to hit' in addition to any other penalties. This reflects the defensive bonus from the 3' high walls of the crow's nest.

Hit Determination

The weapon crew chief's level determines base THAC0. Default Lvl 4, THAC0 18 (potentially adjusted for crew rating). Artillery can be either aimed at the ship's crew, artillery, or the ship itself. Galleys are AC 5, other ships are generally AC 0. Catapult targets are otherwise considered to be AC 0; ballista targets are considered to be AC 10. *When any of the various siege machines (ballistae, catapults, etc.) fire missiles, target characters do not gain Dexterity bonus considerations to Armor Class.* Adjust the base numbers to hit using the following table:

Target Movement	
Stationary	+3
Movement Rate 3"-12"	-3
Movement Rate > 12"	-5
Target Size	
Medium ship	+2
Large Ship	+4
Subsequent shots (if stationary)	+4
Subsequent shots (if moving, max +3)	+1
Weather	
Calm	+1
Light to moderate breeze	0
Strong Breeze/Gale	-2
Storm	-4
Direct Fire (subsequent shots at stationary target, ballista/mangonel, skorpion)	+4

Critical Hits

If a ship received a Critical Hit, further damage is indicated:

d20	Result	
1	Roll twice on this table	
2-4	Deck Crew Casualty	One exposed crew member is struck and suffers the same damage as the ship.
5	Interior Crew Casualty	Same as Deck Crew Casualty, but everyone aboard is a potential target, including prisoners and the captain. This reflects not so much the effect of the missile itself, but shattered parts of the ship's interior bouncing around during combat.
6-8	Ship Shaken	All characters not sitting or otherwise firmly tied down must make a Dexterity

d20	Result	
		Check to maintain their balance or fall to the deck, disallowing any attacks or spell use that round. Characters in the rigging could fall.
9-10	Large Weapon Damaged	One large weapon (chosen randomly) is inoperable until repaired. Its crew is unharmed.
11-12	Sheared	Ship movement is reduced 50%, and 25% of the rowers are killed.
13	Fire!	See Fire.
14-15	Loss of Movement	The base move of the ship drops by 1".
16	Leaking	The ship begins to leak as the timbers groan. Such a ship will sink in 2d10 turns unless two crewmen are dedicated to bailing.
17-20	Hull Holed	The attack punches a hole in the ship where there was none before. A hole made in the ship has a diameter (in inches) equal to the damage caused by the attack. For example, a strike inflicting 60 points of damage would tear a 60 inch hole. The hole is below the waterline, and the ship will sink in d6 turns unless patched (see Ram).

Contact

Stopping a Ship

Aquatic attackers typically stop a vessel by snagging the hull with a large net (acting as a sea anchor), or by attaching two sea anchors—one to the rudder (ripping it out) and one to the side of the ship (making the ship turn in circles). The attackers may then attach more sea anchors at their leisure to stop the ship. Both of these methods work 50% of the time, and reduce speed by 50%.

Ram

Only oared ships can typically perform ramming maneuvers as sailing vessels do not possess sufficient maneuverability. Only galleys normally mount rams; Viking-type longships seldom carry them. A large or small galley may have a ram, a war galley always will. A ship may only attempt to ram once / turn. Before any battle in which ramming is intended, the mast must be previously unstopped and secured on deck; 10 crew accomplish this task in three turns.

Ramming must be done head-on at full speed, with the galley striking the target ship at a 60-90° angle.

When ramming, use the helmsman's THAC0 against AC 8 to determine if the ramming is successful. The rammed ship suffers from 10% to 60% damage, and there is a 25% chance that it is holed below the waterline and will sink beneath the sea in d6 turns unless patched. A vessel rammed in the side loses 20% of its crew (15% must be rowers if the ship is oared); a vessel rammed astern or bow on loses 5% of its crew, none of whom will be rowers. Patching a hole below the waterline requires five turns of work by ten men, and there is a 25% chance the job will not hold, requiring another five turns to replace.

If the ramming ship misses its target or reduces the opposing ship to 0 hull value (so that the opposing ship begins to break up), the ramming ship may continue its movement. Ship crews may grapple in the same round as a ram if so desired. If the ship strikes its target without destroying it or is locked or grappled with the target, its movement stops.

After successfully striking, the ramming ship must backwater immediately or risk either sinking with the ship it rammed or being boarded by her crew if the hole is above the water line. It may take d12 turns before the ship sinks (rowboats

and small rafts are the only vessels that sink in less than a turn). Both ships automatically suffer a Ship Shaken Critical Hit.

A ship without a ram may nonetheless drive itself into an enemy, inflicting collision damage on both the attacker and victim (it may still be useful for huge ships facing rowboats)—see Collision.

It is possible for some monsters to make ramming attempts. A successful Save vs. Breath Weapon will reduce the damage by half. Gargantuan creatures take 1d6 points of damage per 20,000 cn. capacity (or fraction thereof) of an attacking ship (up to a maximum of 6d6).

Shear

A shearing attack is a close pass against an opposing ship with the intention of snapping oars to slow the ship's speed. Shearing can only be attempted against oared craft. The attacking helmsman's THAC0 against AC8 is used to determine success. A successful shearing attack will cause a Shearing Critical Hit (kill 50% of the rowers on that side of the opposing ship, and cause it to be dead in the water for three turns, thereafter moving at one-half speed maximum). If it has its oars sheared again it will remain powerless to move by rowing. Shearing attacks inflict no damage on the target ship's hull, but if a 20 is rolled for the attack, an additional Critical Hit results applies. If the vessel shearing the oars is also a rowed ship, its own oars will be sheared off, with the same effect on rowers, unless orders specify that the oars on the side affected are to be shipped.

Delphin

Merchant vessels, with their taller masts and longer yards, can make effective use of the delphin, a heavy sharp-pointed weight hung out at the end of a yard or boom. When released, this delphin plunges down through a hull of an adjacent lightly constructed galley, inflicting 2d6 HP, potentially punching a hole in the enemy galleon's bottom. Each delphin and rigging requires 2 loads of space, and weighs 10,000 cn.

Damaging the Rigging and Sails

Attacks targeting the rigging and sails (see Movement) can slow the ship without inflicting permanent hull damage. Replacing sails that are lost (as long as the mast is still standing) takes 1 turn.

Grapple

Grappling may be attempted each round that ships are adjacent (50' or less). There is a 100% chance of success if both crews desire that outcome, otherwise success is indicated by a 1-2 on a d6, while a 3-6 means the other crew successfully casts the grappling lines free. Once a ship is grappled, there is a 25% chance of freeing the ship each round (assuming the crew is not otherwise occupied). It requires only one man to grapple or cut a grapple. Grappled ships immediately lose all maneuvering, and have their Movement reduce to 0" in 5 rounds. Once grappled, vessels may be readily boarded.

In addition to the classic grappling hook, several devices were introduced to assist in boarding. The *corvus* was a bridge 36' long and 4' wide carried upright in the bow on a swivel mount. The far end had several spikes on the bottom. When an enemy galley was close enough, the lines holding it up were cut, allowing it to fall and spike itself to the enemy galley. The *harpax* was an iron-bound ballista missile with several lines attached to a winch at one end and a grappling iron at the other. The idea was to grapple and winch in an enemy. Pots of flaming oil were also carried at the end of long poles that could be extended from the bow and sides of galleys.

When a burning ship grapples another one, there is a 10% chance per turn that the new ship will also suffer a fire attack (see **Hull Damage Table**).

Boarding

Boarding attackers attack and defend at -2 the round they board, but receive a +1 bonus to attack if boarding from a higher ship. One crew can attempt to board every round for every 3' of length.

A crew outnumbered by 3:1 will surrender. A captain can order their continued fighting; his crew will only obey 1 in 6.

BOARDING: To conduct boarding vessels must be grappled. Boarding attackers attack and defend at -2 the round they board, but receive a +1 bonus to attack if boarding from a higher ship. One crew can attempt to board every round for every 3' of length. In addition, persons swimming can climb the sides of a ship and board. Swimmers boarding suffer the penalty of having to fight any defender above him.

A crew outnumbered by 3:1 will surrender. A captain can order their continued fighting; his crew will only obey 1 in 6.

Rigging (UK1)

Those with *Climb Walls* will move at their normal rate, for others their movement rate is reduced by 25%. Those with *Climb Walls* must roll their percentage score or less to succeed, and others must roll their Dexterity or less on 3d6 to succeed. Failure means a fall with a 50% chance of going either into the sea or onto the deck (rolling 1d6 per 10' fallen). Fighting when aloft will be as normal for those with *Climb Walls* ability. Others will have -2 on their 'to hit' die rolls and their AC will deteriorate by one (though not beyond AC 10). It will not be possible for any character to employ both shield and weapon (or any two-handed weapon) while aloft; nor will it be possible to cast spells other than those with a verbal component only. Crossbows may not be reloaded in a ship's rigging; solid footing is required to recrank the weapon.

Weather

The base chance of daily precipitation is 25% (e.g., base 40% at sea) for d12 hours, with a 10% chance it will continue. There is an additional base 10% chance per week (or fraction of a week) of encountering unusual weather phenomena (Gaz 9).

For daily weather calculation:

- Base Temp, Month: 1(32°), 2(34°), 3 (42°), 4(52°), 5(63°), 6(71°), 7(77°), 8(75°), 9(68°), 10 (57°), 11(46°), 12(33°)
- Daily Temperature High/Low: d10 + 6
- Sky: 01-20 (Clear), 21-50 (Partly Cloudy), 51-00 (Cloudy)

Terrain Modifiers Table (Greyhawk)

Type	Rain	Temp (°F)	Wind Speed (mph)
Forest	-	-5°	-5 mph
Jungle	+10%	+5°	-10 mph
Swamp/Marsh	+5%	+5°	-5 mph
Plains	-	-	+5 mph
Desert	-30%	+10° (day)/-10° (night)	
Mountains	-	-3° per 1000 ft.	+5 mph / 1000 ft.
Sea Coast	+5%	-5° (cold current) / +5° (warm current)	+5 mph

Type	Rain	Temp (°F)	Wind Speed (mph)
At Sea	+15%	-10° (cold current) / +5° (warm current)	+10 mph
40th Parallel (Standard)	-	±2° for each 70 miles different	-

Precipitation

Weather can generally be considered Rain < Storm < Gale < Tropical Storm < Hurricane. Other weather effects (in particular Blizzard, Snowstorm, Hail/Sleet, and Monsoon) can be interpreted based on their **Wind Force Effects**.

Precipitation Type Table

d100	Weather	Min Temp	Max Temp	Duration	Chance to Continue*	Wind Speed	Not Allowed
01-05	Blizzard[d]	-	15	3d8 hours	10%	4d8+36	Desert
06-20	Snowstorm[d]	-	30	3d6 hours	25%	3d8	-
21-27	Sleet/Hail[d]	-	-	d6 hours	15%	3d10	-
28-38	Fog	25	65	2d6 hours	30%	d10	Desert
39-70	Rain	25	-	d12 hours	30%	d20	-
71-84	Rain (Storm)	30	-	d4 hours	15%	4d10	-
85-89	Gale[b]	40	-	d3 days	20%	2d12+30[a]	Desert, Plains
90-92	Gale (Monsoon)[c]	55	-	d6+6 days	30%	6d10	-
93-97	Storm (Tropical)[b]	40	-	d3 days	15%	d4+d6+d10+52[a]	Desert (Sandstorm)
98-00	Unusual/Special	-	-	-	1%	-	-

[a] Aligned to DMG instead of Greyhawk

[b] Swapped Greyhawk to align with DMG

[c] Wind speed determines Gale/Storm effects using the ***Wind Effects Table***

[d] If the current temperature is 36 degrees or higher, rain will fall. If the temperature is between 30 and 35 degrees inclusive, sleet will result half of the time (1-3 on d6, or DM's discretion) and snow the other half. At a temperature lower than 30 degrees, the precipitation will be a snowfall.

The higher the d100 roll in a specific **Precipitation Type** category, the more extreme the conditions. If the precipitation continues, 10% of the time the effect increases, 10% of the time the effect decreases. If precipitation will not occur, roll for Wind.

Unusual/Special Weather Table (Gaz 9, WSG, MM2)

d100	Unusual Weather	%	Min Temp	Max Temp	Duration	Chance to Continue*	Wind Speed	Notes
01-10	Becalmed	10	-	-	d100 hours (d12 days)	-	0	
11-30	Clouds (Heavy)	20	-	-	d10 days	-	See Wind Force	
31-50	Fog (Heavy)	20	25	65	2d6 hours	30%	d10	Desert
51-75	Squall	25	-	-	d100+10 minutes	-	d4+d6+d10+52[a]	
76-95	Hurricane	20	55	-	d4 days	20%	7d10+66[a]	Desert (Sandstorm)
96-00	Waterspout/Tornado	5	-	-	d20 turns	-		20% d10 hours

I de-duplicated Unusual Weather that duplicates both normal weather & Encounters, so probability is represented in one place.

Becalmed: Lasts for d100 hours. In summer equatorial waters, instead lasts for d12 days.

Clouds (Heavy): Lasts d10 days. Shortens distance at which objects can be sighted by 50%. Penalizes Navigation checks by -2 (10%).

Fog (Heavy) (Gaz9): Lasts d4 days. Vision reduced 20-80%, reducing speed by 50%. When within 50 miles of the coast, there is a 2% chance of colliding with another vessel; within 1 mile of the coast, a 10% chance of hitting submerged rocks/reef.

Frozen Precipitation (Gaz9): Lasts d4 hours. Dexterity checks to maintain footing.

Hail: This kind of activity usually occurs during the first ten minutes of a lightning storm (see below), but on rare occasions (roll of 1 on ld6) can be a storm in and of itself lasting from 5-10 (ld6+4) minutes. Hail consists of lumps of ice, typically no larger than 1 inch in diameter but possibly as large as 2 or 3 inches across. When hail occurs at a temperature of 40 degrees or higher, the hail will melt within minutes of hitting the ground. If the hail activity is followed by a storm, the pellets will have melted by the time the lightning storm ends. WSG

Hurricane (Gaz9): A hurricane brings four days of stormy weather. It cannot be outrun or avoided. It is preceded and followed by d2 days of storms. A hurricane doubles the ship's normal movement rate. As Storm, but the storm-related damage is doubled. Characters on deck must roll a Dexterity check each day with a -4 penalty if not lashed to a safety line. A second failure indicates being swept overboard.

Snowstorm (Severe): If the normal maximum precipitation for the day in question is moderate, this storm will dump 5-10 inches (d6 +4) of snow; if the normal maximum precipitation is heavy, a severe snowstorm will cause 7-12 inches (1 d6 +6) of accumulation. The snow will come down at the rate of 1 inch per hour until the indicated accumulation is reached. Wind velocity will be very strong at the start of the storm, but will taper off after 1 or 2 hours to a moderate breeze (15-20 mph) at best as the storm center becomes stalled over the area receiving the precipitation. WSG

Squall (brief Storm) (Gaz9): Lasts d100+10 minutes, Force d4. Arrives in d3 turns. No effects on movement or navigation. A successful Ship Sailing check allows judging probable force and best heading. Force 4, 10% chance that ballast or cargo shifts. Shifted ballast reduces movement by 20% and Ship Sailing rolls by -4. Shifted cargo inflicts one point of hull damage per five loose loads[1], and requires one day to resolve. Lightning accompanies 20% of storms, with a 5% chance of hitting the ship (see *Lightning* spell). (RC)

Storm (Gaz9,RC): Strikes in 2d6 turns after it is sighted on the horizon, with a 5% chance to avoid with minor course change. Storms last one day, with a 20% chance of continuing the second day and a 10% chance of continuing each day thereafter. For each day a storm lasts, the ship is blown d10 × 10 miles off course. Lightning accompanies 20% of storms, with a 5% chance of hitting the ship (see *Lightning* spell). Determine the storm's force with d6. Force 5 or 6 storms require characters on deck to roll a Dexterity check each day; a second failure indicates the character is swept overboard. There is a 10% chance that ballast or cargo shifts, doing two hull damage per five loose loads[1], and requires one day to resolve. The captain must make a Ship Sailing roll for each day of the storm to avoid damage, modified by -1 for Force 5, -2 for Force 6, and -2 for every 1,000 miles the ship has sailed without maintenance. An average ship takes one hull damage for each day in a storm.

Sailing ships can attempt to run before a storm, moving twice their normal rate in a random direction. If no coastline is reached, the ship is safe. However, if the ship reaches a coastline, a Ship Sailing check will avoid breaking on the beach, otherwise only a 25% chance the ship will find a safe harbor. Any vessel without a sail, including galleys, may not run before a storm, and has an 80% chance of being swamped by any gale (or worse). If a galley is in sight of the coast when the gale first hits may beach if there is clear coastal terrain, otherwise the galley will find a safe cove on 1-2 on d6.

Once during the storm, roll a Constitution check for all characters without sea-based proficiencies to see if they become ill/seasick. If so, they will have to go below for the duration of the storm. They will be no use to anybody until the seas, and their stomachs, are calm again (GA1).

Waterspout/Tornado (Gaz9): Most last for d20 turns, but 10% last for d10 hours. There is a 5% chance to hit the ship. If a ship is struck by a waterspout it rolls four times for storm damage, and double the severity of the effects. Persons on deck suffer 3d6 damage and are flung d10 × 1" away.

Wind Damage Table

DMG:	Gale	Storm	Hurricane	
Capsizing	1%	20%	40%	Ship will sink in d12 turns
Broken Mast	5%	25%	45%	Mast snaps, halving ship movement
Broken Beams	10%	35%	50%	Ship leaking, will take 1 hull damage / turn
Torn Sail/Rigging	20%	45%	65%	6 hull damage, halves ship movement
Man Overboard	10%	50%	70%	

**The problem with this DMG chart is the probability of a hurricane in the DMG: 1 in 216 (.5%). The probability of hurricanes in other charts is often an order of magnitude higher (3% Expert, 5% Greyhawk, 3% 2nd, 12% Gaz9). Combining this DMG chart with others without taking that info account is extraordinarily lethal, and exacerbated by the above check being every 6* hours*, where Greyhawk lists hurricanes as d4* days*. That problem is further compounded if checking the Wind Speed Table (which has hurricanes) and the Weather Table (which ALSO has hurricanes). Probabilities adjusted to more closely align with the DMG.*

Wind

Wind direction can generally be ignored, as wind doesn't vary wildly across trade routes. When there's no precipitation, wind is checked each 24 hours, and (if a change is indicated) changes over d12 hours. Wind can provide a 0-2 mph modifier to movement, depending on direction. Wind can have a chance to do damage to the ship, as well as a chance for men to be blown overboard. In a tactical scenario, checks are made every 6 hours, or until winds subside.

Wind Direction Table

Wind Direction (d8): DMG

1	North	3	East	5	Northwest	7	Southwest
2	South	4	West	6	Northeast	8	Southeast

Wind Force Effects Table

Wind Force (3d6): DMG		Miles per Hour	Missile Combat (P/S/M/L)	Melee Combat	Move	Effects
3	Calm	0-1	-	-	-	-
4-8	Light Wind	2-7	-	-	-	-
9-12	Moderate Wind	8-18	0/-1/-2/-3	-	-	50% extinguish candles.
13-15	Strong Wind	19-31	-1/-2/-3/xx	-1	¾	50% extinguish torch.

Wind Force (3d6): DMG		Miles per Hour	Missile Combat (P/S/M/L)	Melee Combat	Move	Effects
16	Gale[b]	32-54	-2/-4/xx/xx	-2	⅔	Creatures eagle-sized or less cannot fly. Missile range halved. If > 35 mph *Gaseous Form* may disperse, and device usage risks dismount at (wind speed–speed of device)% / turn.[a] 3d8' waves.
17	Storm[b]	55-72	-4/-6/xx/xx	-4	½	Man-sized creatures cannot fly. d10+20' waves. Hull damage (see *Storm*).
18	Hurricane[b]	73-136	xx/xx/xx/xx	-8	¼	Flight not possible (unless Plane of Air). No Dex bonus. 20% chance weapon torn from wielder's hand. Hull damage (see *Hurricane*).

[a]Reduce by 5% for every 100 lbs. of body weight and encumbrance. Those weighing < 100 lbs have their chance increased by 1% for every 5 lbs below that limit.
[b]Any wind of gale force or better will have a chance to damage the ship or blow men overboard. Checks should be made every 6 hours or until winds subside.

Wind force can change every hour (6 turns) as follows on 2d6:

2-4 Wind drops one level
5-9 Wind does not change
10-12 Wind increases one level

Effects of Climate Extremes

Inclement weather can affect movement rate, range of vision, tracking, and the chance of getting lost.

Bulky clothing can affect character Dexterity, Armor Class, and "to Hit" rolls, -1 for every 10 degrees below °F.

Heat-producing magic will cause snow to melt and refreeze into glare ice. Ice floes will crack and separate. In mountainous terrain, intense heat can cause an avalanche or rock slide.

Extreme cold can cause oil to not flow. Liquids may freeze and crack their containers.

Encounters

Random encounters occurs 1 in 20. In fresh water, check morning, evening, and midnight. In salt water, check dawn and noon in coastal and shallow waters; check only once during daylight (usually noon) in deep water (DMG).

Unintelligent monsters will be 75% likely to be driven off by flaming oil, 90% if actually burned. Large amounts of food will be 50% likely to end encounters.

Encounter Range

For encounters with only surface-dwelling creatures, see Ship Combat > Visibility for encounter distances. For creatures that can move below the surface, the encounter distance is as normal for outdoors — 6" to 24" (6d4). If either party is surprised, the encounter distance is adjusted by subtracting the value of surprise from the normal encounter distance.

Monsters

At sea, some monsters, such as a Sea Snake or a Dragon Turtle, will also attempt to capsize a ship if they should choose to attack it. Monsters surprise ships as normal. Ships never surprise unless a special condition exists (such as fog).

Typical Sea Monster Movement

Dolphin 30", Dragon Turtle: 3"/9', Eye of the Deep 6", Locathah 12", Merman 18", Octopus 12", Sahuagin 12"/24", Sea Hag 15", Sea Lion 18", Sea Horse 21", Shark 24", Megalodon 18", Squid 18", Whale 18"-24"

A typical sea monster can tow roughly half its weight for halving its movement (towing its weight would reduce its speed by 75%) if that weight is not extremely aerodynamic.

See also MM2 Aquatic tables (p. 137).

Salt Water Encounters—Shallow Waters, Coastal Waters, Small Inland Seas (Enhanced)

If underwater, reroll for inapplicable results. Check for Frequency, and roll on appropriate section of table:
1-65 (Common), 66-85 (Uncommon), 86-97 (Rare), 97-00 (Rare)

Roll		Creature Encountered	#	AC	Move	HD	THAC0	Damage	Size	In Lair	Other
1	C	Crocodile, common	3d8	5	6"//12"	3	16	2d4/d12	L (8'-15')	Nil	Surprise 3 in 6
2	C	Men, merchant	5d6×10	-	12"	1	-	W	M	20%	80% will be carrying d100% cargo.
3	C	Ray, sting	d3	7	9"	1	19	d3	S	Nil	90% invisible, poison
4	C	Seaweed, Floating	-	-	-	-	-	-	-	-	See Seaweed.
5	C	Shark	3d4	6	//24"	3-8	16-13	d4+1/2d4/3d4	M to L	Nil	S/M/L
6	C	Strangle Weed	3d4	6	Nil	2-4	16-15	-	S	100%	7'-12' fronds. See MM.
7	C	Whale	d8	4	18"-24"	12-36	9	d8-5d8	L	Nil	On surface, damage=half of HD
8	C	Whale, carnivorous	d8	4	//24"	12	9	5d4-15d4	L	Nil	Bite, Swallow
1	U	Dolphin	2d10	5	//30"	2+2	16	2d4	M	Nil	-
2	U	Eel, Giant	d4	6	//9"	5	15	3d6/2d10	M (20')	Nil	
3	U	Falcon, Large	1 or 2	6	1"/33" (C)	1	19	d2/d2/1	S	30%	Dive +2 to hit for 2x damage, no beak. 25% eye
4	U	Koalinth (hobgoblin)	d20×10	5	9"	1+1	18	d8	M	25%	Leaders
5	U	Lamprey, Normal	d2	7	12"	1+2	18	d2	S	Nil	Drain blood (2 hp / HD)
6	U	Lobster, giant (crayfish)	d4	4	6"//12"	4+4	15	2d6/2d6	L (8'+)	Nil	Surprise 3 in 6
7	U	Men, buccaneer (warship)	5d6×10	-	12"	1	-	W	M	20%	Leader
8	U	Men, navy	5d6×10	-	12"	1	-	W	M	0	10% 2d4 ships
9	U	Men, pirate (tribesman with small craft)	-	-	12"	1	-	W	M	20%	-
10	U	Men, smuggler	5d6×10	-	12"	1	-	W	M	20%	80% will be carrying d100% cargo.
11	U	Merman	d20×10	7	1"//18"	1+1	18	d8/w	M	25%	
12	U	Ogre (Merrow)	2d12	4	6"//12"	4+4	15	d6/d6/2d4|weapon	L (9')	20%	Surprise 4 in 6

Roll		Creature Encountered	#	AC	Move	HD	THAC0	Damage	Size	In Lair	Other
13	U	Otter, sea	d4	5	12"//18"	1+1	18	d3	S	20%	
14	U	Portuguese Man-o-war, Giant	d10	9	//1"	d4	19-16	d10	S-L	Nil	Warm seas
15	U	Ray, Manta	1	6	//18"	8-11	12-10	3d4/2-20	L	Nil	Warm seas, Swallow. See MM
16	U	Sahuagin	d4×20	5	12"//24"	2+2	16	d2/d2/d4	M	25%	Leaders, Sharks
17	U	Sea Hag	d4	7	15"	3	16	d4 (dagger)	M	10%	Death Look. See MM.
18	U	Sea Horse, Giant	d20	7	//21"	2/3/4	16-15	d4/d4+1/2d4	L		S/M/L
19	U	Sea Lion	3d4	5/3	//18"	6	13	d6/d6/2d6	L	20%	
20	U	Snake, Giant Sea Serpent	d8	5	//12"	8-10	12-10	d6/3d6	L	Nil	Poison, Constriction, only 20% attack.
21	U	Spiders, Giant (Marine)	d8	4	12"	4+4	15	2d4	L	70%	-
22	U	Swordfish	d4+1	6	//24"	1+1	18	2d6	M	Nil	Usually with dolphins
23	U	Troll, Marine (Scrag)	d8	2	3"//12"	6+12	12	d4/d4/d8+8	L	15%	10% AC1
24	U	Turtle, giant, sea	d3	2/5	1"//15"	15	8	4d3	L	Nil	Non-aggressive. Capsize
25	U	Urchin, Black	d6	4	9"//15"	1+1	18	d6	S	10%	clairvoyant, hidden
1	R	Barracuda	2d6	6	30"	1-3	19-16	2d4	S to L	Nil	
2	R	Crab, Giant	2d6	3	9"	3	16	2d8/2d8	L (4' dia)	Nil	
3	R	Crane, Giant	d20	5	9"/18" (C)	3	16	d10	M	Nil	If 20, 50% d20+30 encountered
4	R	Dragon, Bronze	d4	0	9"/24" €	8-10	12-10	d6/d6/4d6	L	45%	Breath weapon, magic use
5	R	Dragon, Mist	d2	1 or -2	6"/33" €	9-11	12-10	d4/d4/2d12/2d4	L	35%	Breath weapon, magic use
6	R	Eagle	d2 (d8+4)	6	1/30" (C)	1+3	18	d2/d2/d2	M	20%	Eyesight, +4 to hit dive for 2x claw but no beak
7	R	Eye, Floating	d12	9	//30"	1-4 hp	20(21)	Nil	S (1')	Nil	Hypnotism
8	R	Falcon, Small	1 or 2	5	1"/36" (C)	1-1	20	1/1/1	S	30%	Dive +2 to hit for 2x damage, no beak. 25% eye

Roll		Creature Encountered	#	AC	Move	HD	THAC0	Damage	Size	In Lair	Other
9	R	Ghost Ship	-	-	-	-	-	-	-	-	See Ghost Ship
10	R	Giant (Storm)	d4×20	1	15"	15+2-7	7	7d6	L	55%	-
11	R	Griffon	2d8	5	18"/36" (C)	3+3	16	d6/d6/d10	L	10%	-
12	R	Hippogriff	2d8	5	18"/36" (C)	3+3	16	d6/d6/d10	L	10%	-
13	R	Hollyphant	d3	-4	9"/42" (B)	8+8	10	d3/d3/d6	S(2')	Nil	-
14	R	Island	-	-	-	-	-	-	-	-	See Island sub-table
15	R	Lacedon (ghoul)	2d12	6	9"	2	16	d3/d3/d3	M	20%	Paralyze, Undead
16	R	Lammasu	2d4	6	12"/24" (C)	7+7	12	d6/d6	L	30%	30% MR. See MM.
17	R	Lamprey, Giant	d4	6	9"	5	15	d6	M	Nil	Drain blood (2 hp / HD)
18	R	Lizard Man	4d10	5(4)	6"//12"	2+1	16	d2/d2/d8	M (7')	30%	
19	R	Locathah	d20×10	6	12"	2	16	d8/w	M	10%	Leaders, Giant Eels
20	R	Narwhale	d6	6	//21"	4+4-6+6	13-15	2d12/6d4/7d4	L	Nil	Cool to cold water.
21	R	Octopus, giant	d3	7	3"//12"	8	12	d4×8	L	70%	25% pin arm
22	R	Otter, Giant	d4+1	5	9"//18"	5	15	3d6	L	Nil	Playful
23	R	Ray, Pungi	d3	7	12"	4	15	d4	L (15')	Nil	poison
24	R	Roc	d2	4	3"/30" €	18	2 or 1	3d6/3d6	L	10%	Beak for 4d6 when prey try to escape
25	R	Shark, giant	d3	5	//18"	10-15	10-8	4d4-6d6	L	Nil	Swallow
26	R	Siren (Harpy)	2d6	7	6"/15" (C)	3	16	d3/d4/d6	M	25%	Singing, charm. See MM Harpy.
27	R	Sphinx, Gyno-	1	-1	15"/24" (D)	8	12	2d4/2d4	L	15%	Spell use
28	R	Triton	d6×10	5	//15"	3	16	d8/w	M	25%	Leaders. Mounted
29	R	Urchin, Green	d4	3	9"//18"	2+1	16	d6+1x2	S	10%	clairvoy,+# attacks TH, hidden
30	R	Urchin, Red	d4	2	9"//18"	3+1	16	d4+1 x2	S	10%	clairvoy,+# attacks TH, hidden, poison(sleep)

Roll		Creature Encountered	#	AC	Move	HD	THAC0	Damage	Size	In Lair	Other
31	R	Whirlpool	-	-	-	-	-	-	-	-	See Whirlpool
32	R	Will-o-wisp	1	-8	18"	9	12	2d8	S	5%	10% encounter d3
33	R	Wind Walker	d3	7	15"/30"	6+3	13	3d6	L	20%	See MM
1	VR	Aarakocra	d10	6	6"/36"	1+2	18	d3/d3	M	5%	Dive +4 with javelins (2x damage)
2	VR	Afanc	1	6	//15"	15	8	5d4 (bite) or 3d4/3d4 (flippers)	L (50')	Nil	Creates whirlpool (see MM2).
3	VR	Algoid	d6	5	6"	5	15	d10/d10	M	20%	Mind Blast, See FF.
4	C>VR	Crocodile, giant**	d2-2d12	4	6"/12"	7	13	3d6/2d10	L	Nil	Surprise
5	VR	Deva, Movanic	d6	-5	12"/30"//21" (B)	7+28	12	By type (+5 STR)	M	Nil	55% MR, +1 flame tongue, MM2
6	VR	Dinosaur- see Dinosaur Subtable	-	-	-	-	-	-	-	-	-
7	VR	Dragon Turtle	1	0	3"//9"	12-14	9-8	2d6/2d6/4d8	L	5%	Breath Weapon. Capsize
8	VR	Dragon, Celestial (T'ien Lung)	1	-2	9"/48"//6" €	11-13	10-9	d6/d6/4d10	L	60%	Breath weapon, magic use
9	VR	Dragon, Cloud	d2	0 or -3	6"/39" €	12-14	9-8	d10/d10/3d12/3d4	L	25%	5% Two. Breath weapon, magic use, 50% MR.
10	VR	Dragon, Gold	d3	-2	12"/30" €	10-12	10-9	d8/d8/6d6	L	65%	Breath weapon, magic use
11	VR	Dragon, Sea (Lung Wang)	1	0	3"//9"	11-13	10-9	d12/d12/6d6	L	60%	Breath weapon, magic use
12	VR	Eagle, Giant	d20×10	7	3"/48" (D)	4	15	d6/d6/2d6	M	20%	Eyesight, +4 to hit dive for 2x claw but no beak
13	VR	Eel, Electric Marine	d3	9	//12"	2	16	d3	M (9')	Nil	Radius 15' jolt for 3d8 (5'), 2d8 (10'), d8 (15')
14	VR	Elf (Aquatic Sea Elf)	d20×10	5	12"	1+1	18	d10/w	M	10%	Leaders. Dolphins
15	VR	Hippocampus	2d4	5	//24"	4	15	d4	L	Nil	-
16	C>VR	Ice	-	-	-	-	-	-	-	-	See Ice

Roll		Creature Encountered	#	AC	Move	HD	THAC0	Damage	Size	In Lair	Other
17	VR	Kelpie	d4	3	9"//12"	5	15	Nil	M	70%	Charm at -2 and drown 2d10/round. Half damage from fire
18	VR	Ki-rin	1	-5	24"/48" (B)	12	9	2d4/2d4/3d6	L	5%	+3 horn. See MM.
19	VR	Kopoacinth (gargoyle)	2d8	5	9"/15"	4+4	15	d3/d3/d6/d4	M	20%	+1 or better
20	VR	Kraken	1	5/0	//3" (21")	20	7	2d6x2/2d4x6, 5d4	L	75%	Spell Use, Drag Under. See MM2
21	VR	Lammasu, Greater	d2	3	15"/30" (B)	12+7	9	2d6/2d6	L	Nil	40% MR. See MM2.
22	VR	lxitxachitl	10d10	6	12"	1+1	18	3d4	M	60%	Cleric spells
23	VR	Lycanthrope, Seawolf, Greater	4d4	5	9"//27"	9+2	12	3d4 or weapon	L (12'-15')	Nil	+1 or better to hit, All bites lycanthropy d4+1 days
24	VR	Lycanthrope, Seawolf, Lesser	3d6	6(7)	30"//12"	2+2	16	2d4 (d2/d2/d4)	M (6'-7')	Nil	Wolfman form in (). 50% damage conveys lycanthropy
25	VR	Lycanthrope, Wereshark	1	0	12"//21"	10+3	10	5d4	L	20%	-
26	VR	Manticore	d4	4	12"/18" (C)	6+3	13	d3/d3/d6	L	20%	Tail spikes (4 volleys of 6, 18" range, d6 damage)
27	VR	Nereid	d4×20	10	12"	4	15	-	M	100%	95% undetectable. Blinding. Kiss.
28	VR	Nymph	d4	9	12"	3	16	0	M	100%	50% MR, Druid spells
29	VR	Pegasus	d10	6	24"/48" (C)	4	15	d8/d8/d3	L	15%	
30	VR	Shedu	2d4	4	12"/24" (C)	9+9	10	d6/d6/2d6	L	25%	25% MR, See MM.
31	VR	Shedu, Greater	2d	2	15"/30" (B)	14+4	8	3d6/3d6	L (6' at shoulder)	Nil	50% MR, see MM2
32	VR	Sirine	1 (2d4)	3 or less	12"//24"	4-7	15-13	By weapon	M	30%	20%+ MR, see MM2
33	VR	Sphinx, Andro-	1	-2	18"/30" (D)	12	9	2d6/2d6	L	60%	Roar, cleric spells
34	VR	Selkie	1 or 12-30	5	12"//36"	3+3	15	d6|weapon	M	0/90%	human form
35	VR	Titan	1-2 (10%)	2 to -3	21" or 15"	17-22	7	7d6/8d6	L	10%	Spell use.

Roll		Creature Encountered	#	AC	Move	HD	THAC0	Damage	Size	In Lair	Other
36	VR	Urchin, Silver	d2	0	12"//21"	5+3	15	d4+1 x 5	S	10%	clairvoy,+# attacks TH, hidden, poison(catatonic)
37	VR	Urchin, Yellow	d3	1	12"//18"	4+2	15	d6 x4	S	10%	clairvoy,+# attacks TH, hidden, poison(pary)
38	VR	Verme	1	3/5	18"	18+18	7	7d4	L (50'-80')	Nil	Swallow any prey < 12' tall, sd8+4 then 2d6/round
39	VR	Water Weird	d3	4	12"	3+3	15	0	L	50%	Drowning

*80% of encountered trading vessels will be carrying d100% cargo.

Salt Water Encounters—Deep Water (Enhanced)

If underwater, reroll for inapplicable results. Check for Frequency, and roll on appropriate section of table:
1-65 (Common), 66-85 (Uncommon), 86-97 (Rare), 97-00 (Rare)

Roll		Creature Encountered	#	AC	Move	HD	THAC0	Damage	Size	In Lair	Other
1	C	Man, merchant	-	-	12"	1	-	W	M	20%	80% will be carrying d100% cargo.
2	C	Seaweed, Floating	-	-	-	-	-	-	-	-	See Seaweed
3	C	Shark	3d4	6	24"	3-8	16-12	d4+1|2d4|3d4	M/L	Nil	-
4	C	Whale	d8	4	18/21/24	12/24/36	7	d8/3d8/5d8	L	Nil	-
5	C	Whale, carnivorous	d8	4	12/18/24	12/24/36	7	5d4/10d4/15d4	L	Nil	Swallow
1	U	Dinosaur (see Dinosaur Subtable)	-	-	-	-	-	-	-	-	-
2	U	Dolphin	2d10	5	30"	2+2	16	2d4	M	Nil	-
3	U	Eel, Giant	d4	6	9"	5	15	3d6	M	Nil	-
4	U	Island	-	-	-	-	-	-	-	-	see Island Subtable

Roll		Creature Encountered	#	AC	Move	HD	THAC0	Damage	Size	In Lair	Other
5	U	Man, buccaneer (pirate/privateer)	5d6×10	-	12"	1	-	W	M	20%	Leaders. Warship. 25% have MU, 15% Cleric. 20% will be carrying d100% cargo.
6	U	Man, navy	5d6×10	-	12"	1	-	W	M	0	10% 2d4 ships
7	U	Man, smuggler	5d6×10	-	12"	1	-	W	M	20%	80% will be carrying d100% cargo.
8	U	Merman	d20×10	7	1"//18"	1+1	18	d8/w	M	25%	Temperate/tropical
9	U	Omen	-	-	-	-	-	-	-	-	Random check for additional encounter
10	U	Portuguese Man-o-war, Giant	d10	9	1"	d4	19-16	d10	S-L	Nil	Warm seas
11	U	Sahuagin	d4×20	5	12"/24"	2+2	16	d2/d2/d4	M	25%	Leaders, Sharks, Temperate/warm
12	U	Scrag	d8	2	3"//12"	6+12	12	d4/d4/d8+8	L	15%	10% AC1
15	U	Snake, sea	d8	5	12"	8-10	12-10	d6/3d6	L	Nil	Poison, Constriction
16	U	Turtle, giant, sea	d3	2/5	1"/15"	15	8	4d3	L	Nil	Non-aggressive. Capsize.
17	U	Urchin, Black	d6	4	9"//15"	1+1	18	d6	S	10%	clairvoyant, hidden
1	R	Albatross	-	-	-	-	-	-	-	-	Treat as Omen. Roll again disregarding Common/Uncommon results
2	R	Ghost Ship	-	-	-	-	-	-	-	-	See Ghost Ship
3	R	Giant, Storm	d4×20	1	15"	15+2-7	7	7d6	L	55%	-
4	R	Giant, Cloud	d6	2	15"	12+2-7	9-7	6d6	L	40%	Hurl 2d12
5	R	Green Slime	d6	9	0"	2	16	-	S	Nil	Indistinguishable from a seaweed at ≥ 40'
6	R	Hollyphant	d3	-4	9"/42"	8+8	10	d3/d3/d6	S(2')	Nil	-
7	R	Hydra, Sea	1	5	9"	5-12	15-9	d6/d8/d10	L	20%	d8+4 heads
8	R	Ice	-	-	-	-	-	-	-	-	Not warm. See Ice
9	R	Narwhale	d6	6	/21"	4+4,5+5,6+6	13-15	2d12/6d4/7d4	L	Nil	Cool to cold water.
10	R	Octopus, giant	d3	7	3"/12"	8	12	d4×8	L	70%	25% pin arm
11	R	Roc	d2	4	3"/30"	18	7	3d6/3d6 or 4d6	L	10%	-

Roll		Creature Encountered	#	AC	Move	HD	THAC0	Damage	Size	In Lair	Other
12	R	Rocky shoals	-	-	-	-	-	-	-	-	See Rocky Shoals/Collision
13	R	Salt Water Termite (X7)	d6+1	5	4	6"//18"	15	d6	1'-5'		Ink causes paralysis, 1 Hull point / round for d6 rounds
14	R	Shark, giant	d3	5	18"	10-15	9-7	4d4-6d6	L	Nil	Swallow
15	R	Spiders, Giant (Marine)	d8	4	12"	4+4	15	2d4	L	70%	-
16	R	Squid, giant	1	7/3	3"/18"	12	9	d6×12/5d4	L	40%	Pin
17	R	Triton	d6×10	5	15"	3	16	d8/w	M	25%	Leaders. Mounted.
18	R	Urchin, Green	d4	3	9"//18"	2+1	16	d6+1x2	S	10%	clairvoy,+# attacks TH, hidden
19	R	Urchin, Red	d4	2	9"//18"	3+1	16	d4+1 x2	S	10%	clairvoy,+# attacks TH, hidden, poison(sleep)
20	R	Whirlpool	-	-	-	-	-	-	-	-	See Whirlpool
21	R	Will-o-wisp	1	-8	18	9	12	2d8	S	5%	10% encounter d3
1	V	Dragon turtle	1	0	3"/9"	12-14	9-8	2d6/2d6/4d8	L	5%	Breath Weapon. Capsize
2	V	Dragon, Cloud	1	0 or -3	6"/39"	12-14	9-8	d10/d10/3d12/3d4	L	25%	5% Two.
3	V	Elemental, Air	1	2	36"	8/12/16	12/9/7	2d10	L	-	-
4	V	Elemental, Water	1	2	6"//18"	8/12/16	12/9/7	5d6	L	-	Capsize
5	V	Giant, Frost	d8	4	12	10+1-4	10-8	4d6	L	30%	See AC10 - Iceberg
6	V	Kal-Muru (Ship-bane) (X8)	10-60	4	12"(4")	2*	16	d3/d3/d6	L	-	Create Fog, Confusion
7	V	Kraken	1	5/0	//3" (21")	20	7	2d6x2/2d4x6, 5d4	L	75%	Spell Use, Drag Under
8	V	Maelstrom	-	-	-	-	-	-	-	-	See "Depths of Despair"
9	V	Nereid	d4×20	10	12"	4	15	-	M	100%	95% undetectable. Blinding. Kiss.
10	V	Seawolf, Greater	4d4	5	9"//27"	9+2	12	3d4 | By Weapon	L	Nil	Cold waters
11	V	Seawolf, Lesser	3d6	6(7)	30"//12"	2+2	16	2d4|d2/d2/d4	M	Nil	-
12	V	Sirine	1	2	12"//24"	4-7	15-13	By weapon	M	30%	In lair encounter 2-8
13	V	Water Weird	d3	4	12"	3+3	15	0	L	50%	Drowning

Roll		Creature Encountered	#	AC	Move	HD	THAC0	Damage	Size	In Lair	Other
1	VR	Kuo-toa	2d12 (4d100)	4	9"//18"	2 or more	16	by weapon/d4+1)	M		war bands, clerics, shield glue, lightning, slippery, surprised 1 in 6, immune poison/paralysis. See FF.
2	VR	Urchin, Yellow	d3	1	12"//18"	4+2	15	d6 x4	S	10%	clairvoy,+# attacks TH, hidden, poison(pary)
3	VR	Urchin, Silver	d2	0	12"//21"	5+3	15	d4+1 x 5	S	10%	clairvoy,+# attacks TH, hidden, poison(catatonic)
4	VR	Wereshark	1	0	12"//21"	10+3	10	5d4	L	20%	-

*80% of encountered trading vessels will be carrying d100% cargo.

**Dinosaurs will be Very Rare unless in a prehistoric region, in which case they will be Common/Uncommon.

Sources: DMG, MM2, Gaz9,OSaS, OA1, X7, GA1.

Subtable - Dinosaur

Roll		Creature Encountered	#	AC	Move	HD	THAC0	Damage	Size	In Lair	Other
1	C	Dinicthys***	d4	7	//21"	10	10	5d4 (+2d6x2)	L (25'+)	Nil	
2	C	Plesiosaurus**	d3	7	15"	20	7	5d4 (+2d6x2)	L (50'+)	Nil	Also attack with flipper in water.
3	C	Pteranodon*	3d6	7	3"/15" (C)	3+3	16	2d8	L (50' wing)	Nil	Carry 200 lbs.
1	U	Archelon ischyras	d4	3	3"//15"	7	13	3d4	L (12' dia)	Nil	Turtle
2	U	Elasmosaurus**	d2	7	15"	15	8	4d6	L (50'+)	Nil	
3	U	Mosasaurus**	d3	7	3"//15"	12	9	4d8	L (50'+)	Nil	
4	U	Nothosaurus	1	6	3"//18"	14	8	5d6 (3d4/3d4)	L (60'+)	Nil	Tropical. Foreflipper against soft targets
1	R	Tennodontosaur	1 (10% 2)	4	//24"	10	10	5d4 (+2d6)	L (30'+)	Nil	Rear tail attack
2	R	Giant Pterosaur	d8	5	3"/12" (D)	6+6	13	3d4	L (50' wing)	Nil	Dive +4 to hit, 2xdamage. Carry 300 lbs.

*Encountered only in shallow waters, otherwise roll again.

**If encounter occurs in fresh water, it must be a warm climate or roll again.

***Encountered only in deep water, otherwise roll again.

Subtable - Islands

Islands have surrounding reefs 10% of the time that do 2-12 points of hull damage to ships, and a 20% chance they will put a hole in the ship (treat as ramming). 75% of all islands are mountainous. 85% of undiscovered islands will be deserted, otherwise roll below:

Roll		Mysterious Island
1	VR	Floating Rock (Dungeon Magazine #046)
2	VR	Needle (I11)
3	VR	Castanamir (C3)
4	VR	Wreck of Shining Star (Dungeon Magazine #015)
5	VR	Triffids
6	VR	Drums on Fire Mountain (X8)
7	VR	Tamoachan (C1)
8	VR	Crystal Caves (UK1)
9	VR	Lizardmen Floating Island (Gaz 4)
10	VR	War Rafts (X7)
11	VR	Barrier Peaks (S3)
12	VR	Sunken Atoll (OA1)
13	VR	Secret Pirate Base (see X1, A3, Threshold #04 -Three Flowers, GAZ9-Fire Island, GAZ4-Alcove Island)
14	VR	Temple of Poseidon (Dragon Magazine, #46)
15	VR	Floating Isle (X6)
16	WR	Sunken City (X6)
17-18	VR	Roll again on this table (two island populations)

Subtable - Other Encounters (MM2, X6)

Roll	Other Encounters
1	Seaweed, Floating
2	Ghost Ships
3	Ice (see Iceberg)
4	Land Encounter (see Islands)
5	Omen
6	Reef/Shoals
7	Seaweed, Bed
8	Shipboard Fire
9	Sunken Ship
10	Whirlpool / Maelstrom
11	Flotsam - Elves
12	Flotsam - Lifeboat (empty)
13	Flotsam - Man
14	Flotsam - Mutiny
15	Flotsam - Staff
16	Flotsam - Oil
17	Flotsam - Figurehead
18	Flotsam - Bottle
19	Flotsam - Net (empty)
20	Flotsam - Net (giant)
21	Whale/Squid
22	Uncharted Seamount

Roll Other Encounters

23 Wave

Seaweed (MM2): Floating seaweed is a hazard and sometimes serves as a lair for creatures like sea hags. Any ship entering an area of floating seaweed is slowed by 50% and there is a 40% chance of its having another encounter while among the mass of sea plants. Seaweed beds are the underwater equivalent of surface seaweed rooted to the sea floor and 30-300' high. Vision is reduced to 10 feet in beds of seaweed, and there is a 30% chance of another encounter in the area.

Ghost Ships (MM2): Many ships have been lost at sea and on hidden rivers. These ships still sail, manned by undead sailors and commanded by the more powerful of their breed. A ghost ship can be any type of ship from galley to warship. On a percentile roll, the crew will be: 01 -40 = 10-40 skeletons; 41 -80 = 10-40 zombies; 81 -00 = 10-20 juju zombies. The commanding officers will be: 01-30 = 1-4 wights; 31-40 = 1-3 wraiths; 61 -80 = 1-2 spectres; 81 -95 = 1-2 ghosts; 95-00 = 1 lich. A ghost ship can be sighted in daylight and at night but will usually only attack at night, when the ship's masters are at full power. Treasure as creatures encountered.

Iceberg (MM2): Ships can encounter ice floes in freshwater and icebergs in salt, the latter ranging from single mountains of ice to fields of 10-20 small ice mountains that continually break against each other and anything that gets in their way (10-16 feet in freshwater, 10-60 feet in salt). Ice does 1-6 points of hull damage for every round in contact with the ship. In addition, icebergs have a 10% chance of holing in the ship (treat as rammed; see "Ramming"). MM2

Land Encounters (MM2): Roll on the appropriate table for the terrain nearest the water. If not applicable, treat as no encounter.

> Islands: Freshwater game can be found on islands, as can unfriendly creatures and tribesmen. Islands have surrounding reefs 10% of the time that do 2-12 points of hull damage. There is a 20% chance they will put a hole in the ship (treat as ramming).

Omen: Half of all omens are good, and half are bad, adding ±5% to the crew's morale. Examples of bad omens include: A bloody sea, a wounded or dead albatross, the sighting of a "phantom" ship, and cloud formations of sea monsters.

Reef/Shoals: Ships encountering a reef might run aground. See Collision.

Ship-Board Fire: Fire on a ship can be devastating. Roll on the Burn Damage table for how much damage the ship takes before (and if) the fire is extinguished.

Sunken Ships (MM2): These victims of storms, ice, or hostile ships can be any type of ship. They often still bear their original merchandise and treasure and just as often have inhabitants, either new creatures moving in or remains of the original crew. On a percentile die the inhabitants are as follows: 01 -20 =carries merchant treasure (see "Man, Merchants"); 11-20 = no treasure; 21-60 = 2-24 lacedons from the original crew; 61-00 = other monsters (roll on main chart).

Whirlpool (MM2, Gaz9): 90% are natural phenomena lasting d6 hours (see Maelstrom). The whirlpool is a trap for the unwary. 75% can drag down only small craft (50' or less), while 25% can drag any size ship to the bottom. Ships are dragged into the whirlpool at 1" per round, cumulative (1" the 1st round, 2" the 2nd, 3" the 3rd, etc.). A ship must exceed the speed of the flow to escape. Otherwise, it will be dragged to the bottom in 6 rounds (see "Afanc"). Captains or helmsmen can attempt a Seamanship check at a -4 penalty once each turn to escape the maelstrom's deadly pull.

Ships that do not escape break apart in d6 rounds. Can be avoided with a successful Piloting roll. If not avoided successive rolls are at a cumulative -2 each hour. A ship still caught at the end of the duration takes 2d10 points of hull damage.

Maelstrom (see Whirlpool): 10% of all whirlpools are Maelstroms. Any ship within three miles becomes caught in the maelstrom's grip unless its movement rate is 18" or higher. These ships will enter the deadly vortex in d4 turns. Ships are dragged into the whirlpool at 1" per round, cumulative (1" the 1st round, 2" the 2nd, 3" the 3rd, etc.). A ship must exceed the speed of the flow to escape.

Flotsam - Elves: Six elves clinging to a ship's mast. If characters rescue the sailors, they tell of a giant octopus that crushed their sailing ship. The sailors are 1st level elves.

Flotsam - Man: A man floating on a plank. He waves his arms to signal the characters, but he does not yell. He is actually a zombie (AC 8; HD 2; hp 9; MV 90'(30'); #AT 1 claw; D 1-8; Save F1; ML 12; AL C; XP 20).

Flotsam - Mutiny: A lifeboat manned by a human and an elf floats into view. If characters rescue them, the two tell how their ship's crew mutinied and set them adrift. The man is a captain. The elf is a navigator.

Flotsam - Oil: A black film covering the water ahead of the boat. The film stretches for half a mile in each direction. The film is a crude oil spill. Characters may avoid the spill by turning their ship at least 90 degrees from their current direction and sailing at least 1 mile in a new direction. If the oil is ignited, it burns for a week. A ship caught in an oil fire suffers 2d12 points of hull damage per round.

Flotsam - Staff: A 2-inch-thick, 6-foot-long wooden staff. This is a staff of healing, which only clerics may use.

Flotsam - Figurehead: A wrecked, 3-foot-long ship's figurehead that is actually a wood golem (AC 7; HD 2+2*; hp 13; MV 120' (40'); #AT 1 fist; D 1-8; Save F1; ML 12; AL N; XP 35).

Flotsam - Bottle: A sealed bottle containing a parchment note from Molariah, ruler of Quagmire (X6).

Flotsam - Net (empty): A primitive, 20-foot-diameter fishing net, rimmed by wooden floats.

Flotsam - Net (giant): The ship snags a huge fishnet. To set the ship free, characters must burn or cut the net. A storm giant then appears and demands 10,000 gp as payment for the damaged net. The characters may bargain the giant down to 2,500 gp.

Whale / Squid: A sperm whale, locked in a battle with a giant squid, smashes into the bottom of the characters' ship, causing 2d12 points of hull damage.

Uncharted seamount: The ship strikes an uncharted seamount, which causes 2d20 points of hull damage and throws two men overboard. The men are not injured, but they do attract a wandering monster.

Wave: A huge wave, higher than the main mast, plunges down on the ship and causes 2d10 points of hull damage. The wave also tosses ld6 crew-members overboard. The wave drives the ship 24 miles in a random direction (roll ld6: 1-north; 2-northeast; 3- southeast; 4-south; 5-southwest; 6- northwest).

Income and Expenses

Trade Summary

1. Arrive in port
2. Harbor master
    a. Determine port entrance (d10 + 10 gp) fees and moorage fees (availability 80%, 1 gp/hull point/day or 5 gp at anchor)
    b. Pilot/towage (1 gp / hull point), port of origin and next destination
3. Determine Customs timing, appraisal, and taxes (if offloading cargo)
4. Determine merchant interest in goods
    a. Determine how many merchants are available each week
    b. Determine sales price of goods
    c. Determine time to offload cargo (depends on moorage)
5. Determine merchants with goods available
    a. Determine how many merchants are available each week
    b. Determine quantity of goods
    c. Determine time to load cargo (depends on moorage)
6. Determine if merchant seeks transport for hire to specific destination (5% + 25% if solicited)
7. If known destination, determine passengers seeking passage (2d4 - d4 ± 2 port size)
8. Determine if passengers seek transportation for hire to specific destination (5%)
9. Depart

The Cost of Doing Business

Sea travel is not without costs. Most ports charge a port entrance fee of 11-20 gp (depending on port size). 80% of the time a ship can find a moorage berth, at a cost of 1 gp / day / hull point. Ships that cannot find (or do not desire) a berth may anchor in the harbor for a flat 5 gp per day.

Port Size
Trade Power
Major Port
Port
Minor Port
Anchorage

Representatives of the harbor master visit newly-arrived vessels to assess docking and other service fees. The representatives have the authority to quarantine or turn away undesirable ships. They can also require or provide pilots and/or towage at a cost of 1 gp per hull point, required for large ships through congested harbors. When inspecting an arriving vessel, the harbor master also asks its port of origin and the next destination. This information is posted at the port authority office.

Port entrance fee	10-20 gp
Moorage Berth	1 gp / hull point/day
At Anchor	5 gp / day
Piloting or Towage	1 gp / hull point

Cargo

Measuring a ship's cargo capacity as "tonnage" derives from ships carrying barrels holding 250 gallons of wine (a tun). Cargo is determined by "loads", defining one load as a half-ton of goods (10,000 cn). 1 ton = 20,000 cn = 2 loads. A 5-ton ship can therefore carry 10 loads of goods, or 100,000 cn. Considering the load capacity for carts and wagons listed in WSG, one wagon can carry one load, a cart can carry one-half load, and a large wagon with many horses can carry 1.5 loads. The encumbrance of one crate equals 500 cns.

Where required, the value of one load can be calculated by determining one wagon's worth of a particular good. Note that packing everything in crates adds more encumbrance than a wagonload of cabbages! A horse or cow consumes fodder weighing 200 cn / day; this feed takes up additional cargo space.

Port agents can be used as middlemen to ease process of the buying and selling of cargo. They have Appraisal and Bargaining skills of 10 + d8 + d4–1 proficiency bonus. They make 2d10 + 5% of the sale profits or purchase price, and remove the requirement for an available merchant at the cost of one level of demand.

Transport for Hire

In a merchant sailors' guild, roughly 50% of the cargo is transported for hire. A variable amount is charged, based on volume, weight, and value of goods. 40% of the shipping fees go to the ship's crew as shares; the remainder goes to the guild.

There is a 5% chance per port that a merchant will offer to hire a vessel for d12 cargo loads of goods to another destination (Type determined per Available Goods below). This chance increases by 25% if the crew actively solicits such work. A shipper typically charges 40 gp per ton (two loads) of cargo space per 500 miles, with a minimum fee of 100 gp, with no requirement to fill the hold. Normally half the payment is made in advance, with the remainder paid by the shipper's agent upon arrival. Bonuses for early delivery and hazardous travel conditions are negotiable.

Consignment Trade

About 20% of guild shipping is carrying goods on consignment. The captain or guild representative sells the cargo for the best possible price, with 10-40% of the sale to the ship's crew. There is some risk, but the merchant guild takes only 30% of the profit, so a good trade can put a large sum in the hands of captain and crew.

Cargo on Speculation

About 30% of guild shipping is speculative cargo bought and sold by the captains themselves, with 80% of the profit going to the ship's crew as shares and 20% to the merchant's guild. A ship owner engages in speculation typically takes 50% of the profits, with the remainder split in shares amongst the captain and crew.

A number of components determine profit for any shipping venture: value, distance, demand, perishable, and associated skills. While there could be a complicated tracking of specific cargos available and demanded at each port (wine, cotton, fish, etc.), a simpler system defines generic cargo with associated random elements to determine profits. As such, most transaction modifications are calculated at time of sale, not purchase. For those desiring a more granular system, the associated components can be tracked in detail instead of determined randomly.

Proficiencies modify various results. Failed Proficiency rolls will inversely affect the result if the failure roll is an odd number. If both parties have the proficiency, the change is the difference between the two parties.

Buying on Speculation

Merchants in each port will buy and sell cargo, but few merchants wait in a port. There will be d6 (± 2 depending on port size) merchants (potentially modified by the Charisma Reaction Adjustment) interested in transacting with the PCs. One half of the potential merchants are available the first full week in port, one quarter the second full week, and any remainder at one per full week.

To determine the **Base Type** of Available Goods from an individual merchant roll 3d6:

- Base Type, Per Load: (≤ 5: 50 gp, Primitive), (6-8: 150 gp, Consumer), (9-12: 250 gp, Comfort), (13-16: 400 gp, Fine), (16+: 2,000 gp[1], Precious)
- Modified by port size (± 2)

A successful Appraisal roll adds 1 to the roll (representing purchasing higher-quality goods).

[1]The suggested value for monsters is 100 gp / HD, × 10 for each special or exceptional ability. Remember fodder space!

Each merchant can deliver only a limited quantity of goods on speculation. To calculate the number of loads available from any one merchant, roll 3d8:

- Modify based on the port size (± 2)
- Subtract the previous unmodified **Base Type** roll, minimum of 1.

A Bargaining check will modify the amount paid for the **Base Type** by 5% × the amount of success (max 25%).

Selling on Speculation

Merchant availability at the destination is calculated similarly. Interest in goods for a **Base Type** is calculated as 3d6, modified by port size (± 2) and Demand Modifier:

- The **Demand Modifier (3d6)** (modified +4 with successful Trade proficiency):

  3(-5), 4-5 (-4), 6 (-3), 7 (-2), 8-9 (-1), 10-11 (0), 12-13 (+1), 14 (+2), 15(+3), 16-17(+4), 18(+5)

The **Sale Price** of a **Base Type** is determined by using the **Sale Adjustment Table.** Roll 3d6, modified by:

- No applicable proficiencies (Bargaining, Appraisal, Trade): -2
- Successful Bargaining (also see Port Agent): +1
- Successful Appraisal (also see Port Agent): +1
- Precious goods: 10% of all precious goods will be Extraordinary (+4)
- The **Demand Modifier** (-5 to +5)
- Distance (d6): Short (1-2, <80 miles, -1), Medium (3-5, ≤250 miles, 0), Long (6, ≤500 miles, +2), Extraordinary (>500 miles, +4)
    - Cargo can be perishable. If the distance traveled since the last transaction is greater than the distance rolled, 25% of the time 25% of the cargo will have perished for each additional unit of travel (medium, long, etc.) since last making port.

Sale Adjustment Table

3d6	Percentage of Base Price

3d6	Percentage of Base Price
3	30 percent
4	40 percent
5	50 percent
...	...
16	160 percent
17	180 percent
18	200 percent
19	300 percent
20*	400 percent

* If the result is >20, roll an unmodified 3d6 again on the **Sale Adjustment Table** and add the results. If the result is <3, roll an unmodified 3d6 again on the **Sale Adjustment Table** and subtract the results.

A Bargaining check will modify the **Base Sale Price** by 5% times the amount of success (max 25%).

Loading and Unloading

Unloading cargo will typically incur Customs costs. Cargo cannot be unloaded until inspected by Customs. Customs inspectors normally board within d6 hours. In a busy harbor or a place with lazy customs officials this could be as long as d20 hours. Customs officials generally have an Appraisal skill of 10 + d8. If a failure is on an odd number, the evaluation is low. The appraisal is off by 5% times the amount of failure. After evaluating a cargo the customs inspector assess a tax which can range from 1% to 100% of the goods' determined value, with an average customs fee of 2d10 percent. See the Smuggling proficiency for avoiding Customs.

At a dock, five crew can unload one load of cargo (10,000 cn) per hour during daylight with reasonable weather conditions (provided the cargo is not particularly awkward). Adverse conditions can double or triple that time. Loading the ship takes 50% longer as the cargo must be carefully stowed and secured. If dock workers are available they can be hired for 2 sp per hour.[3]

Moving cargo to the shore in smaller boats increases loading and unloading time. At anchorage, it takes 75% longer to offload to a dock (one long boat required per five crew), and 150% longer if unloading to a beach. Rowing a loaded jolly boat through the surf additionally requires a Boating proficiency check for each round trip.

Passengers

There are typically 2d4–d4 passengers seeking passage at any port, ± 2 depending on port size at both port of origin and destination. Passengers are usually charged 20 gp per 500 miles traveled.

There is also a 5% chance per port visited that one or more passengers travelling together want to hire a ship to go to a destination of their choice. If this occurs, they desire to sail to the most remote port within 2d20 × 100 miles. If passengers hire a ship to go to the destination of their choice, first-class passengers pay as if they shipped enough to fill the cargo hold at 40 gp per ton (two loads) of cargo space for each 500 miles, with a minimum fee of 100 gp. A round-trip fee can be charged if there is no possibility of cargo at the destination.

On the High Seas

Governments issue letters of marque to harass an enemy's shipping in war time and in peacetime to suppress piracy and smuggling. Once a privateer has captured a prize, it must bring or send the captured ship to a port in the country issuing the letter. There, a Prize Court determines if the prize was covered by the letter; if it was, the ship and its cargo are then

auctioned. The government has the right to buy the ship for itself before auction. The privateer keeps 75% of the price of the prize, and the remainder goes to the government. That prize money is then split between the owner and crew.

Proficiencies

Appraisal: The ability to figure out what something is worth, used to evaluate the worth of a cargo. The evaluation is low on an odd-numbered failure, and off by 5% times the amount of failure. Merchants typically sell for 10-40% more than appraised value, and buy at 10-40% below appraised value. Wisdom, -2 penalty.

Artillerist: Permits the operation of artillery (catapult, ballista) OR supervision of artillery construction. Required for use of catapult. To both operate and construct artillery, this proficiency must be selected twice. Any supervised person with appropriate material can construct ½ HP of equipment /day (maximum workers = ½ the HP of the finished product). An artillerist is a hireling (150 gp / month) trained in the operation of siege artillery. Intelligence, -2 penalty.

Astrology: Characters with the astrology proficiency gain a +1 bonus to all navigation proficiency checks, provided the stars can be seen.

Bargaining: The ability to get the best possible price for goods, services, or information. If Bargaining between two characters with the Bargaining proficiency, determine the difference between the two skills and multiply the difference by 5%. The superior bargainer improves the price or decreases the cost by the indicated price adjustment. Charisma, -2 penalty.

Boating: Permits normal usage of small craft. The boating proficiency is needed to guide a small boat (small boat, canoe or kayak) down a rapid stream and to reduce the dangers of capsizing a canoe or kayak. The chance of capsizing is reduced by 20% for each proficient character after the first. In a small craft containing no proficient characters, or one in which at least one non-proficient character is doing some of the work of rowing or sailing, the following penalties apply: the movement rates of small craft are reduced to 2/3 of normal; the chance of capsizing is increased by 25% in any situation where the chance is normally greater than 0%, to a maximum of 100%. Wisdom, +1 bonus.

Boatwright: Allows constructing all sorts of watercraft up to a maximum size of 40 feet long. The time period required to build a boat depends on its size. As a general guide, a boat requires one week of construction time per foot of length. Two characters with Boatwright proficiency cut this time in half; three reduce it to one third, etc. A maximum of one Boatwright per five-foot length of the boat can work on the vessel simultaneously.

The basic boat includes the hull, masts, deck, and benches as required. Additional features such as a cabin or sealed hold add about a week apiece to the construction time. Characters without Boatwright proficiency can aid the Boatwright in construction, but it takes two such characters to equal the time savings that one additional skilled Boatwright would provide. 2 slots, Intelligence, -2 penalty.

Customs Inspection: Provides the ability to detect Smuggling. Those who also have Smuggling gain an additional +1 bonus to Customs Inspection checks. Wisdom, -2 penalty.

Navigation (DRMG 107): The art of navigating by the stars, studying currents, and watching for telltale signs of land, reefs, and hidden danger. This is not particularly useful on land. ~~At sea, a successful proficiency check reduces a chance of getting lost by 20%.~~ A character with the Ship Sailing proficiency can attempt to Navigate with a -10 penalty. A character with only Boat Sailing skill is successful only on a die roll of 2 or less, and a character with none of these skills

navigates correctly by mere luck on a roll of 1. Intelligence, -3 penalty [aligning average Intelligence with base of 40% from DRMG107].

Piloting (DRMG 107): Skill at directing a ship through a hazardous area (e.g., an icefield, lake with jutting rocks at irregular intervals, a reef, or a strong current which pulls ships into danger), and is specific to ship type:

- Small boats: river boat, sailing boat, canoe, ship's lifeboat, raft
- Galleys: small galley, large galley, war galley, longship
- Water vessels: Large sailing ship, small sailing ship, troop transport

A character with the Piloting skill also decreases the chance of capsizing by 10% and increases shearing attempts by +2. Wisdom, +1 bonus.

Sea Lore (Gaz 9, DRMG 107): This skill is similar to a bard's legend lore, but deals with knowledge of nautical legends, such as recognizing the names of sunken ships and remembering their history, recognizing uncharted islands from rumors and reports of landmarks, identifying sea monsters and ghost ships, etc. Intelligence, -2 penalty.

Seamanship: The character is familiar with boats and ships, and qualified to work as a crewman (although he cannot actually sail or navigate). Crews of trained seamen are necessary to manage any ship, and they improve the movement rates of inland boats by 50%. Those with Seamanship will not be required to roll for success when aloft in the rigging under normal conditions, and can fight as normal. Select fresh or salt water. Dexterity, +1 bonus.

Ship(Rowing): Character knows how to server as efficient rower on a ship/galley. This skill does not give the ability to navigate. Strength, +1 bonus.

Ship(Sailing): Character knows how to sail a ship. This skill does not give the ability to navigate. Intelligence, +1 bonus.

Ship Carpentry: Character can make common shipyard repairs, including masts, and can build boxes, barrels, and other containers. Intelligence, 0.

Shipwright (DRMG 107): See Boatwright. Character knows the arts of ship construction and can determine its quality with minimal inspection. The character is knowledgeable regarding techniques for ship construction and repair. He can design and build ships of all types, with a proficiency check only being required for an unusual feature. The character can perform routine maintenance on sailing vessels or galleys, including repairing sails and caulking the hull, without a proficiency check. A shipwright need not have other workmen to finish small vessels, but vessels of any size require large crews of shipwrights and other laborers to build or repair. 2 slots, Intelligence, -2 penalty.

Signaling: Those proficient know a common flag code and a common conch-horn code, and may pick up new codes.

Smuggling: A character with the Smuggling proficiency can avoid paying customs fees. Failure means a fine at 10× normal customs fees. Those who also have Customs Inspection gain an additional +1 bonus to Smuggling checks. Wisdom, -4 penalty.

Trade: A character with the Trade proficiency is more likely to have goods demanded at the destination, and will modify the Demand ±2 with a Trade proficiency check. Wisdom, -1 penalty.

Underwater Combat: For surface dwellers. Suffer only -2 To Hit, and +2 to Initiative when underwater (weapon specialization will still not apply). Weapon Proficiency.

Vessel Identification (Gaz 9): Upon seeing a vessel, the character can judge things about it by her lines, rigging, and flags (if any). Use of this skill gives a good idea of the ship's country of origin, its type, armament, speed, and crew compliment. Intelligence, 0.

End Notes (see also References)

[1] Number scaled from Expert and Gaz 9 to AD&D based on a 5:1 difference in hull points.
[2] Based off of 1e AD&D numbers.
[3] Doubled due to the 20:1 ratio for silver in AD&D.

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Appendix A: Siege Attack Values (Against Ships)

Source of Damage	Hull Damage
Bigby's Clenched Fist	1/round
Catapult, Light	4
Catapult, Heavy	6
Disintegrate	2
Fireball & Delayed Blast Fireball	½ per HD (if <5 HD) + Fire (if >= 5 HD) (see **Hull Damage Table**)
Flame Strike	4 + Fire (see **Hull Damage Table**)
Gust of Wind (hostile)	(10% chance / level of putting sailing vessel in irons)*
Gust of Wind, friendly	+5% sailing speed for 5 rounds.
Horn of Blasting	18
Incendiary Cloud	½ per 6 hp damage done, Fire (see **Hull Damage Table**)
Lightning Bolt	½ per HD (if < 8 HD) + Fire (if >= 8HD) (see **Hull Damage Table**)
Meteor Swarm (2' sphere)	3 each
Meteor Swarm (1' sphere)	1½ each
Wall of Fire	2 + Fire (see **Hull Damage Table**)
Wall of Force	As per collision
Warp Wood	1 (Level 5-9), 2 (Level 10+)
Sea Monsters (unspecified)	1 hull damage for each full 10 hp inflicted unless otherwise indicated

*A vessel in irons (as noted above) is temporarily out of control. How long the vessel stays in irons depends on how quickly the cause is remedied. For the loss of a mast or a poorly executed maneuver, the vessel is in irons for 5-30 rounds. Once in irons, a vessel has no control over its course, cannot accurately fire its artillery, and does a fair job of imitating a sitting duck.

Appendix B: Potential Modifiers (Optional)

The following modifiers can apply to dice rolls when evaluating ship-to-ship movement and combat:

	-2	-1	0	+1	+2	Special
Crew Quality	Green	Average	Trained	Crack	Old Salts	[Wounded]
Crew Quantity	None	Skeleton/Crowded	Normal	Enhanced	Peak	
Crew Morale	Afraid	Nervous	Normal	Confident	Fervent	
Wind	Calm	Light Breeze	Moderate	Strong	Gale	[Favorable]
Range	Distant	Long	Medium	Short	Contact	
Ship Size	T (< 8')	S (8'-19')	M (20'-59)	L (60'-100')	VL (100'+)	
Ship Status	Crippled	Leaking	Normal	Good	Advanced	[Fire], [Sinking]
Movement	Slow	Slower	Same	Faster	Fast	[Sailed]
Visibility	Foggy	Hurricane	Rain/Storm	Cloudy/Twilight	Clear	[Darkness]
Maneuverability	E	D	C	B	A	[Rowed]

Crew Experience

Training: 6 months landlubber, then 1 year as green/scurvy rats. 50% will then advance to Average (Mates) in 6 months. Trained requires many long voyages at sea, typically on different craft, and experienced in combat. Crack crews are very specialized, for a specific crew, ship, and captain.

Appendix C: Aquatic Monster Summoning

1-65 (Common), 66-85 (Uncommon), 86-97 (Rare), 97-00 (Rare)

Aquatic Monster Summoning, Salt Water

		Creature Encountered	#	AC	Move	HD	THAC0	Damage	Size	In Lair	Other
Monster Summoning I											
	R	Barracuda (1HD)	2d6	6	30"	1-3	19-16	2d4	S to L	Nil	-
	U	Lamprey, Normal	d2	7	12"	1+2	18	d2	S	Nil	Drain blood (2 hp / HD)
	U	Merman	d20×10	7	1"//18"	1+1	18	d8/w	M	25%	-
	U	Otter, sea	d4	5	12"//18"	1+1	18	d3	S	20%	-
	U	Piranha (3d4 appear)	5d10	8	9"	d4 hp	20	d2	S	Nil	25% not attack, double damage once blood
	U	Urchin, Black	d6	4	9"//15"	1+1	18	d6	S	10%	clairvoyant, hidden
Monster Summoning II											
	R	Barracuda (2HD)	2d6	6	30"	1-3	19-16	2d4	S to L	Nil	-
	U	Dolphin	2d10	5	30"	2+2	16	2d4	M	Nil	-
	R	Locathah	d20×10	6	12"	2	16	d8/w	M	10%	Leaders, Giant Eels
	VR	Ixitxachitl	10d10	6	12"	1+1	18	3d4	M	60%	Cleric spells
	C	Ray, sting	d3	7	9"	1	19	d3	S	Nil	90% invisible, poison
	U	Sea Horse, Giant	d10	7	//21"	2/3/4	16-15	d4/d4+1/2d4	L		S/M/L
	VR	Lycanthrope, Seawolf, Lesser	3d6	6(7)	30"//12"	2+2	16	2d4 (d2/d2/d4)	M (6'-7')	Nil	Wolfman form in (). 50% damage conveys lycanthropy
	R	Urchin, Green	d4	3	9"//18"	2+1	16	d6+1x2	S	10%	clairvoy,+# attacks TH, hidden
Monster Summoning III											
	R	Barracuda (3HD)	2d6	6	30"	1-3	19-16	2d4	S to L	Nil	-
	R	Crab, Giant	2d6	3	9"	3	16	2d8/2d8	L (4' dia)	Nil	-
	R	Lacedon (ghoul)	2d12	6	9"	2	16	d3/d3/d3	M	20%	Paralyze, Undead
	U	Sahuagin	d4×20	5	12"/24"	2+2	16	d2/d2/d4	M	25%	Leaders, Sharks, Temperate/warm
	VR	Selkie	1 or 12-30	5	12"//36"	3+3	15	d6|weapon	M	0/90 %	human form
	R	Urchin, Red	d4	2	9"//18"	3+1	16	d4+1 x2	S	10%	clairvoy,+# attacks TH, hidden, poison(sleep)
Monster Summoning IV											
	VR	Hippocampus	2d4	5	//24"	4	15	d4	L	Nil	-
	VR	Kopoacinth (gargoyle)	2d8	5	9"/15"	4+4	15	d3/d3/d6/d4	M	20%	+1 or better
	U	Lobster, giant (crayfish)	d4	4	6"//12"	4+4	15	2d6/2d6	L (8'+)	Nil	Surprise 3 in 6
	U	Ogre, Merrow	2d12	4	6"//12"	4+4	15	d6/d6/2d4|weapon	L (9')	20%	Surprise 4 in 6
	R	Otter, Giant	d4+1	5	9"//18"	5	15	3d6	L	Nil	Playful.
	C	Shark (3-5HD)	3d4	6	24"	3-8	16-12	d4+1|2d4|3d4	M/L	Nil	-
	R	Triton	d6×10	5	15"	3	16	d8/w	M	25%	Leaders. Mounted.
	VR	Urchin, Yellow	d3	1	12"//18"	4+2	15	d6 x4	S	10%	clairvoy,+# attacks TH, hidden, poison(pary)
Monster Summoning V											
	C>VR	Crocodile, giant**	d2-2d12	4	6"/12"	7	13	3d6/2d10	L	Nil	Surprise
	U	Lamprey, Normal	d2	7	12"	1+2	18	d2	S	Nil	Drain blood (2 hp / HD)

		Creature Encountered	#	AC	Move	HD	THAC0	Damage	Size	In Lair	Other
	U	Troll, Marine (Scrag)	d8	2	3"//12"	6+12	12	d4/d4/d8+8	L	15%	10% AC1
	U	Sea Lion	3d4	5/3	//18"	6	13	d6/d6/2d6	L	20%	-
	VR	Selkie	1 or 12-30	5	12"//36"	3+3	15	d6|weapon	M	0/90 %	human form
	C	Shark (5-6 HD)	3d4	6	24"	3-8	16-12	d4+1|2d4|3d4	M/L	Nil	-
	U	Spider, Giant (Marine)	d8	4	12"	4+4	15	2d4	L	70%	-
	V	Water Weird	d3	4	12"	3+3	15	0	L	50%	Drowning
	VR	Urchin, Silver	d2	0	12"//21"	5+3	15	d4+1 x 5	S	10%	clairvoy,+# attacks TH, hidden, poison(catatonic)
		0 Roll again with 1d8									
Monster Summoning VI											
	U	Eel, Giant	d4	6	//9"	5	15	3d6/2d10	M (20')	Nil	-
	R	Narwhale	d6	6	//21"	4+4-6+6	13-15	2d12/6d4/7d4	L	Nil	Cool to cold water.
	R	Octopus, giant	d3	7	3"//12"	8	12	d4×8	L	70%	25% pin arm
	VR	Lycanthrope, Seawolf, Greater	4d4	5	9"//27"	9+2	12	3d4 or weapon	L (12'-15')	Nil	+1 or better to hit, All bites lycanthropy d4+1 days
	C	Shark (7-8 HD)	3d4	6	24"	3-8	16-12	d4+1|2d4|3d4	M/L	Nil	-
	U	Snake, sea (8 HD)	d8	5	12"	8-10	12-10	d6/3d6	L	Nil	Poison, Constriction
Monster Summoning VII											
	U	Ray, Manta	1	6	//18"	8-11	12-10	3d4/2-20	L	Nil	Warm seas, Swallow. See MM
		2 Slug, giant sea									
	U	Snake, sea (10 HD)	d8	5	12"	8-10	12-10	d6/3d6	L	Nil	Poison, Constriction
	R	Squid, giant	1	7/3	3"/18"	12	9	d6×12/5d4	L	40%	Pin
Monster Summoning VIII											
	VR	Eye of the Deep	1	5	6"	10-12	12-10	2d4x2/d6	L (3-5')	20%	Eye attacks
	V	Dragon turtle (12 HD)	1	0	3"/9"	12-14	9-8	2d6/2d6/4d8	L	5%	Breath Weapon. Capsize
	V	Kraken*	1	5/0	//3" (21")	20	7	2d6x2/2d4x6, 5d4	L	75%	Spell Use, Drag Under
	R	Shark, giant	d3	5	18"	10-15	9-7	4d4-6d6	L	Nil	Swallow
	R	Vodyanoi (16 HD)*	d3	2	6"	8	12	3d4x2/d10	L (8' tall)	30%	summon electric eels
	C	Whale, carnivorous	d8	4	//24"	12	9	5d4-15d4	L	Nil	Bite, Swallow
	C	Whale (12 HD)	d8	4	18/21/24	12/24/36	7	d8/3d8/5d8	L	Nil	-
	R	Worm, mottled (purple)	d2	9	6	9"	15	2d12/2d4	L	30%	swallow + poison tail

* This creature has a 10% chance to become free-willed for the duration of the spell if ordered to act against its nature or inclinations.

Aquatic Monster Summoning, Fresh Water

		Creature Encountered	#	AC	Move	HD	THAC0	Damage	Size	In Lair	Other
Monster Summoning I											
	U	Frog, giant (1 HD)	5d8	7	3"//9"	d3	16	d3	S	Nil	Swallow on 20
	U	Koalinth (hobgoblin)	d20×10	5	9"	1+1	18	d8	M	25%	Leaders
	U	Lamprey, Normal	d2	7	12"	1+2	18	d2	S	Nil	Drain blood (2 hp / HD)
	R	Nixie (3d4 appear)	20-80	7	6"//12"	d4 hp	20	weapon	S (4')	95%	giant fish, charm, 25% MR, fear fire/light
	U	Otter, sea	d4	5	12"//18"	1+1	18	d3	S	20%	
	U	Piranha (3d4 appear)	5d10	8	9"	d4 hp	20	d2	S	Nil	25% not attack, double damage once blood
Monster Summoning II											
	VR	Eel, Electric Marine	d3	9	//12"	2	16	d3	M (9')	Nil	Radius 15' jolt for 3d8 (5'), 2d8 (10'), d8 (15')
	U	Frog, giant (2 HD)	5d8	7	3"//9"	d3	16	d6	M	Nil	Swallow on 20
	VR	Kuo-toa	2d12 (4d100)	4	9"//18"	2 or more	16	by weapon/d4+1)	M	See FF	war bands, clerics, shield glue, lightning, slippery, surprised 1 in 6, immune poison/paralysis. See FF.
	U	Leech, giant (2 HD)	4d4	9	3"	1-4 HD	16-15	d4	S-M	Nil	drain blood
	R	Lizard Man	4d10	5(4)	6"//12"	2+1	16	d2/d2/d8	M (7')	30%	
	VR	Piranha, giant	2d10	7	//15"	2+2	16	d6	S (2-3')	Nil	95% attack, 2x attacks with blood, leap 10'
Monster Summoning III											
	R	Crab, Giant	2d6	3	9"	3	16	2d8/2d8	L (4' dia)	Nil	
	C	Crocodile, common	3d8	5	6"//12"	3	16	2d4/d12	L (8'-15')	Nil	Surprise 3 in 6
	U	Frog, giant (3 HD)	5d8	7	3"//9"	d3	16	2d4	M	Nil	Swallow on 20
	R	Lacedon (ghoul)	2d12	6	9"	2	16	d3/d3/d3	M	20%	Paralyze, Undead
Monster Summoning IV											
	C	Beetle, giant water	d12	3	3"//12"	4	15	3d6	L(6')	Nil	
	U	Crayfish, giant	d4	4	6"//12"	4+4	15	2d6/2d6	L	Nil	Surprise 3 in 6
	VR	Kopoacinth (gargoyle)	2d8	5	9"/15"	4+4	15	d3/d3/d6/d4	M	20%	+1 or better
	VR	Kelpie	d4	3	9"//12"	5	15	Nil	M	70%	Charm at -2, drown 2d10/round. Half damage fire
	U	Ogre, Merrow	2d12	4	6"//12"	4+4	15	d6/d6/2d4|weapon	L (9')	20%	Surprise 4 in 6
	R	Otter, Giant	d4+1	5	9"//18"	5	15	3d6	L	Nil	Playful.
	R	Pike, giant	d8	5	36"	4	15	4d4	L ('9'-14')	Nil	Surprise 4 in 6
	U	Spiders, Giant (Marine)	d8	4	12"	4+4	15	2d4	L	70%	-
Monster Summoning V											
	C>VR	Crocodile, giant**	d2-2d12	4	6"/12"	7	13	3d6/2d10	L	Nil	Surprise
	VR	Eel, Electric Marine	d3	9	//12"	2	16	d3	M (9')	Nil	Radius 15' jolt for 3d8 (5'), 2d8 (10'), d8 (15')
	U	Troll, Marine (Scrag)	d8	2	3"//12"	6+12	12	d4/d4/d8+8	L	15%	10% AC1
	V	Water Weird	d3	4	12"	3+3	15	0	L	50%	Drowning

		Creature Encountered	#	AC	Move	HD	THAC0	Damage	Size	In Lair	Other
Monster Summoning VI											
	U	Eel, Giant	d4	6	9"	5	15	3d6	M	Nil	-
	R	Gar, giant	d6	3	30"	8	12	5d4	L (21'-30')	Nil	Swallow
	R	Octopus, giant	d3	7	3"/12"	8	12	d4×8	L	70%	25% pin arm
	VR	Lycanthrope, Seawolf, Greater	4d4	5	9"//27"	9+2	12	3d4 or weapon	L (12'-15')	Nil	+1 or better to hit, All bites lycanthropy d4+1 days
	U	Snake, Giant Sea Serpent (8 HD)	d8	5	//12"	8-10	12-10	d6/3d6	L	Nil	Poison, Constriction, only 20% attack.
	R	6 Vodyanoi (8 HD)	d3	2	6"	8	12	3d4x2/d10	L (8' tall)	30%	summon electric eels
Monster Summoning VII											
	R	Catfish, giant	1	7	//18"	7-10	12-10	3d4+poison spinesx2	L (16'-24')	Nil	swallowing, poison spines
	VR	Greenhag	1	-2	12"//12"	9	12	d2+6x2			35% MR, spell use, see MM2
	U	Naga, water	d4	5	9"//18"	7-8	12	d4	M (10')	45%	poison, 5th lvl MU
	U	Snake, Giant Sea Serpent (10 HD)	d8	5	//12"	8-10	12-10	d6/3d6	L	Nil	Poison, Constriction, only 20% attack.
Monster Summoning VIII											
	U	Slug, giant sea	1	8	6"	12	8	d12	L	Nil	Spit acid 6", no blunt
	VR	Dragon Turtle	1	0	3"//9"	12-14	9-8	2d6/2d6/4d8	L	5%	Breath Weapon. Capsize
	VR	Kuo-toa Monitor	1	1	18"//36"	2 or more	16	2d4x2/d4+1x2	M		surprised 1 in 10, immune poison/paralysis. See FF.
	R	Worm, mottled (purple)	d2	9	6	9"	15	2d12/2d4	L	30%	swallow + poison tail

Appendix D: Random Notes on Seaworthiness (unused)

Of Ships & Sea, Fallen Stars

Damage: Light, Moderate, Heavy affects seaworthiness?

A ship can be sunk by failing a seaworthiness check (taking on water), or be destroyed through the loss of a hull points.

Seaworthiness rates the vessel's relative stability in dangerous situations, notably storms, hidden shoals, extended voyages, huge monster attacks, and combat. Whenever a ship is rammed, struck by catapult stones, pierced by a ballista shaft, or partially disintegrated, there is a chance the damage caused will be serious enough to cripple or sink the vessel. In combat, seaworthiness is checked on a Hull Smashed artillery Critical Hit, a Deadly Strike ram Critical Hit, a Ram Shatters on a critical failure, if a ship loses half its hull points, or if the ship is partially disintegrated.

Ships also makes Seaworthiness checks if sailing in a gale or storm, on entering coastal waters with hidden shoals, or when sailing in a fog.

Any time there is a chance of sinking, roll percentile dice. If the roll is equal to or less than the seaworthiness rating of the ship, the ship remains afloat (although bailing or repairs may still be necessary). If the roll is higher than the seaworthiness rating, the ship suffers a Critical Hit.

Ports and anchorages give a seaworthiness bonus of +50%. Thus, vessels at anchor are in little or no danger from a normal storm.

Hits reduce seaworthiness by 5%. Failure causes a Critical Hit. Each crew member less than the minimum reduces Seaworthiness by 5%.

In most civilized areas, 5 percentage points of seaworthiness can be replaced or repaired at a cost of 2,000 gp in 1d6 days by a crew of ten trained workers. Poor (or cheap) characters can repair ships themselves. A crew of five individuals, with the correct materials, can repair five percentage points in a month at sea.

Such repairs are just as good as the expensive ones, provided that at least one member of the crew has Shipwright proficiency. A successful proficiency check must be made for such improvised repairs to succeed.

S&S: A storm (worse than a gale) imposes a 15% penalty to Seaworthiness checks. Make one Seaworthiness check each day a gale or storm lasts. A ship that fails a seaworthiness check sinks in d10 hours. A roll of 20 (96%-100%) means the ship has capsized; the ship sinks immediately and escape by boat is impossible. All crew must save vs. death or be trapped onboard and killed.

Grounding happens when a ship enters coastal waters in fog, storm, or game. A failed Seaworthiness check indicates the ship has run aground. Ships that ground on a rocky coastline or coral reef sink in d3 hours. A natural 20 (96%+) indicates the ship splinters and sinks immediately in the jagged rocks of the coastline. The shop can be repaired and refloated after d6 days of work, bit all future Seaworthiness checks suffer a 15% penalty until properly repaired.