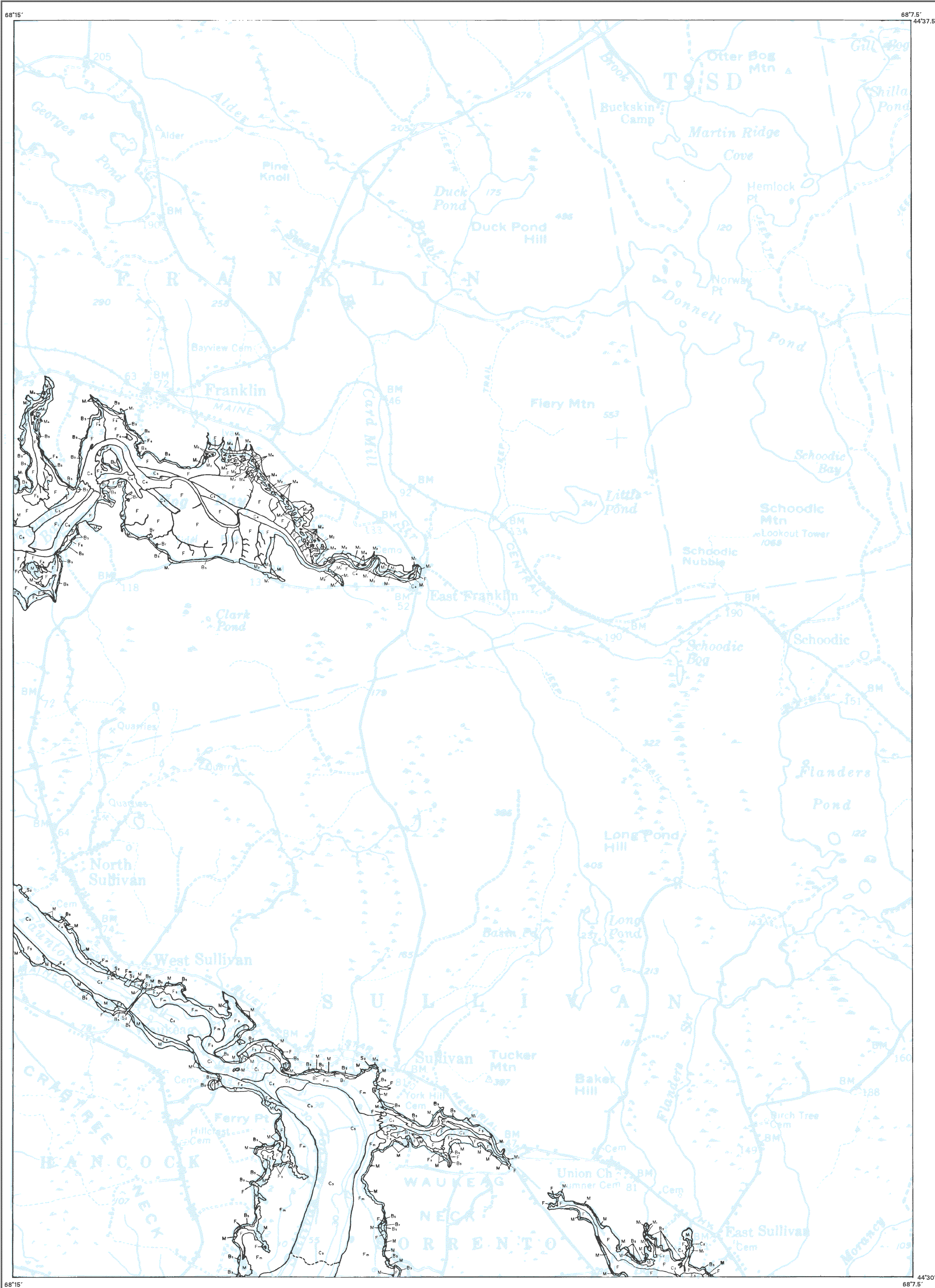




68°15'

44°37.5'

Financial assistance for the preparation of this map was provided by the Coastal Zone Management Act of 1972, administered by the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration.

1 1/4 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 0 5 10 KILOMETER

SCALE 1:24,000

1 MILE

68°15'

44°37.5'

COASTAL MARINE GEOLOGIC ENVIRONMENTS

OF THE

TUNK LAKE SW QUADRANGLE, MAINE

By

BARRY S. TIMSON

1976

Maine Geological Survey

DEPARTMENT OF CONSERVATION

Augusta, Maine 04333

Walter A. Anderson, State Geologist

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Quadrangle Location

SUPRATIDAL ENVIRONMENTS			
Environments just above the highest high water datum, but under the partial influence of marine processes and forces.			
SD Dunes and Vegetated Beach Ridges	Unconsolidated sand or gravel deposits capping beach environments. Dunes are subject to storm waves and winds, while gravel beach ridges are subject only to storm wash. Each may be vegetated with salt-tolerant vegetation.	Sm Fresh-Brackish Marsh	Water-saturated, organic-rich sediments characterized by broad-leaved vegetation tolerant of constant submergence in fresh water. Salinity of interstitial water is less than 5 ppt.
SW Fresh-Brackish Water	Ponded water behind beach ridges, man-made constrictions on former tidal embayments, or on marsh surfaces transitional between upland and salt marsh environments. Salinity of the water is less than 5 parts per thousand (ppt).	Sz Man-Made Land	Structures or fill emplaced by man in the nearshore environment.
		Sx Landslide Excavation and Deposits	Natural excavation into shoreline upland slopes created by large-scale slumping or sliding of bank material and the resulting deposits at the base of the slopes.
Se Eolian Flat	Partially vegetated sand flats adjacent to dune fields. Subject to generally northwest winds and occasional storm flooding.	Sf Washover Flat	Sand deposits covering salt marshes behind inlet mouths which originate from storm washover or inlet delta deposits on salt marshes. Subject to storm washover and spring tide flooding.
Sr Fluvial Marsh	Vegetated river floodplain and bank environments. Characterized by freshwater pond vegetation such as pond lilies, reeds, and wild rice. Subject to daily tidal flooding as well as inundation during high river discharge periods.		
INTERTIDAL ENVIRONMENTS			
Environments between the highest high water datum and the lowest low water datum subject to twice daily tidal flooding and all other marine forces.			
Marsh Environments Vegetated environments or isolated depressions within vegetated environments located above mean tide level in protected coastal areas.		B5 Low-Energy Beach	Beaches consisting of a wide variety of sediment sizes which are protected from high wave energy. Sediment characteristics are dependent upon sediment source, which is usually from upland scarps immediately shoreward of the beach. Low-energy beaches may exhibit growth of salt marsh grass when there is little sediment movement.
M1 High Salt Marsh	Organic-rich sediments densely vegetated primarily with the salt marsh grass <i>Spartina patens</i> (salt-meadow grass). High salt marshes are at the same level as mean high water.	Br Boulder Ramp	Sloping surfaces in the lower intertidal zone veneered by large boulders. This environment is seaward of gravel or boulder beaches on high wave energy shorelines. Boulders are remnant lag deposits of eroded glacial tills. Boulder movement is limited to periods of intense storm wave activity.
M2 Low Salt Marsh	Mud or muddy sand embankments sparsely to densely vegetated by the salt marsh grass <i>Spartina alterniflora</i> (salt cord-grass). Low salt marsh exists between mean tide level and mean high water.	Bw Washover Fan	Fan-shaped deposits of gravel located behind gravel beach ridges and covering portions of marshes. Few washovers have been recognized as mappable units on sand beaches. Washover fans are deposited by storm waves. Fan sediment is derived from the beach itself.
M3 Marsh Levee	Channel-margin sediments vegetated with salt-meadow grass which exist up to several tens of centimeters above the salt marsh surface. The marsh levee consists of sandy silt or silt-size sediment deposited from flood waters rising above channel margins, either from high river discharge into estuarine embayments or from storm-surge influenced flood tides from the ocean.	Ba Spits	Partially-submerged beach ridges which extend offshore into open water. This category includes tombolos (spits joining an island with the mainland).
M4 Salt Pannes and Salt Ponds	Salt-water filled, non-vegetated depressions on the high salt marsh surface (salt pannes) or salt-water filled depressions anywhere in the intertidal zone (i.e. tidal pools). Salt pannes may be dry and covered with algae during late summer months.	Flat Environments Gently sloping or level environments composed primarily of fine sand, silt, and clay accumulated in relatively quiet water. Flats are depositional areas controlled primarily by tidal currents and sediment settling from the water column. Flat environments may be eroded temporarily by storm waves.	
Beach Environments Deposits of unconsolidated sediment which extend shoreward from the lowest tide line to the upland or vegetated dune field or beach ridge. Dominated by wave processes.		F Mud Flats	Flats comprised of sediment finer than sand.
B1 Sand Beach	Beaches consisting of sand-size sediment which are subject to high or moderate wave energy (waves generated in the Gulf of Maine).	F1 Coarse-Grained Flat	Intertidal flats where sand or larger-size material comprises most of the sediments. Coarse-grained flats are subject to higher tidal-current velocities than mud flats.
B2 Mixed Sand and Gravel Beach	Beaches consisting of sand and gravel-size sediment which are subject to high or moderate wave energy.	F2 Seaweed-Covered Coarse Flat	Coarse-grained, shallow subtidal and low intertidal flats which act as a stable substrate for seaweeds such as <i>Ulva</i>, <i>Enteromorpha</i>, <i>Ascophyllum</i>, and <i>Laminaria</i>.
B3 Gravel Beach	Beaches consisting of gravel-size sediment which are subject to high or moderate wave energy.		
B4 Boulder Beach	Beaches consisting of boulder-size sediment which are subject to high or moderate wave energy.		
SUBTIDAL ENVIRONMENTS			
Environments existing below lowest low water and subject to tidal current forces and wave-generated current forces.			
Flat Environments Submerged, gently sloping, or level environments composed primarily of fine sand, silt, and clay. Includes subaqueous exposures of coarse-grained, Pleistocene glacial sediments.		Channel Environments Linear, intertidal and subtidal depressions carrying tidal-current water.	
Fm Mud Flat	Fine-grained subtidal flats.	C1 High-Velocity Tidal Channel	Tidal channels where maximum flow velocities probably exceed 2 meters per second (mps).
Fc Coarse-Grained Flat	Coarse-grained subtidal flats.	C2 Medium-Velocity Tidal Channel	Tidal channels where maximum flow velocities probably attain values between 1 and 2 mps.
Fe Seagrass Flat	Fine-grained and coarse-grained, shallow subtidal (low intertidal) flats which support dense stands of seagrass (<i>Zostera marina</i>).	C3 Low-Velocity Tidal Channel	Tidal channels where maximum flow velocities probably do not exceed 1 mps.
Fs Seaweed Community	Coarse-grained subtidal flats and bedrock ledges which support seaweed growth.	C4 Estuarine Channel	Tidal channels where ocean and river waters mix. Estuarine water salinities range between 0.5 ppt and 30 ppt.
Fb Upper Shoreface	The inner subtidal slope which extends seaward from large exposed sand beaches where sediments are actively transported by bottom currents generated by storm waves. The upper shoreface is a sandy environment of constant wave shoaling under normal wave conditions.	C5 Estuarine Flood Channel	Estuarine tidal channels where flood-tide current velocities greatly exceed velocities attained during ebb tide.
Fp Lower Shoreface	The outer subtidal slope which extends seaward from the upper shoreface. The lower shoreface is affected only by currents generated by storm waves. Lower shoreface sediments grade from sand to mud in a seaward direction.	C6 Estuarine Ebb Channel	Estuarine tidal channels where ebb-tide current velocities greatly exceed velocities attained during flood tide.
		C7 Inlet Channel	High current-velocity channels cut through barrier beaches and connecting back barrier estuaries or lagoons with the open ocean.
		C8 Dredged Channel	Man-made, artificially-deepened or widened tidal channel.
		Cs Channel Slope	Gently to moderately sloping wall margins of large tidal channels. Channel slopes are confined to channel wall margins composed of sediment.
		Cb Abandoned Tidal Channel	Former tidal channel no longer carrying flow sufficient to erode the channel floor or margin walls. Abandoned channels usually occur in salt marsh tracts where meandering of the central drainage channel cuts off former channel segments.
		Cf Tidal Fluvial Channel	Lower portions of river channels under tidal influence but not carrying estuarine waters.
		Tidal Creeks Small tidal channels draining salt marshes or intertidal mud flats.	
		Marsh Drainage Ditch Man-made, rectilinear ditches dug into marshes to facilitate marsh surface drainage.	
		Approximate transition boundary between estuarine and marine (30 ppt salinity) waters and between estuarine and river (0.5 ppt) waters.	
		Unit boundary.	
		Approximate unit boundary.	