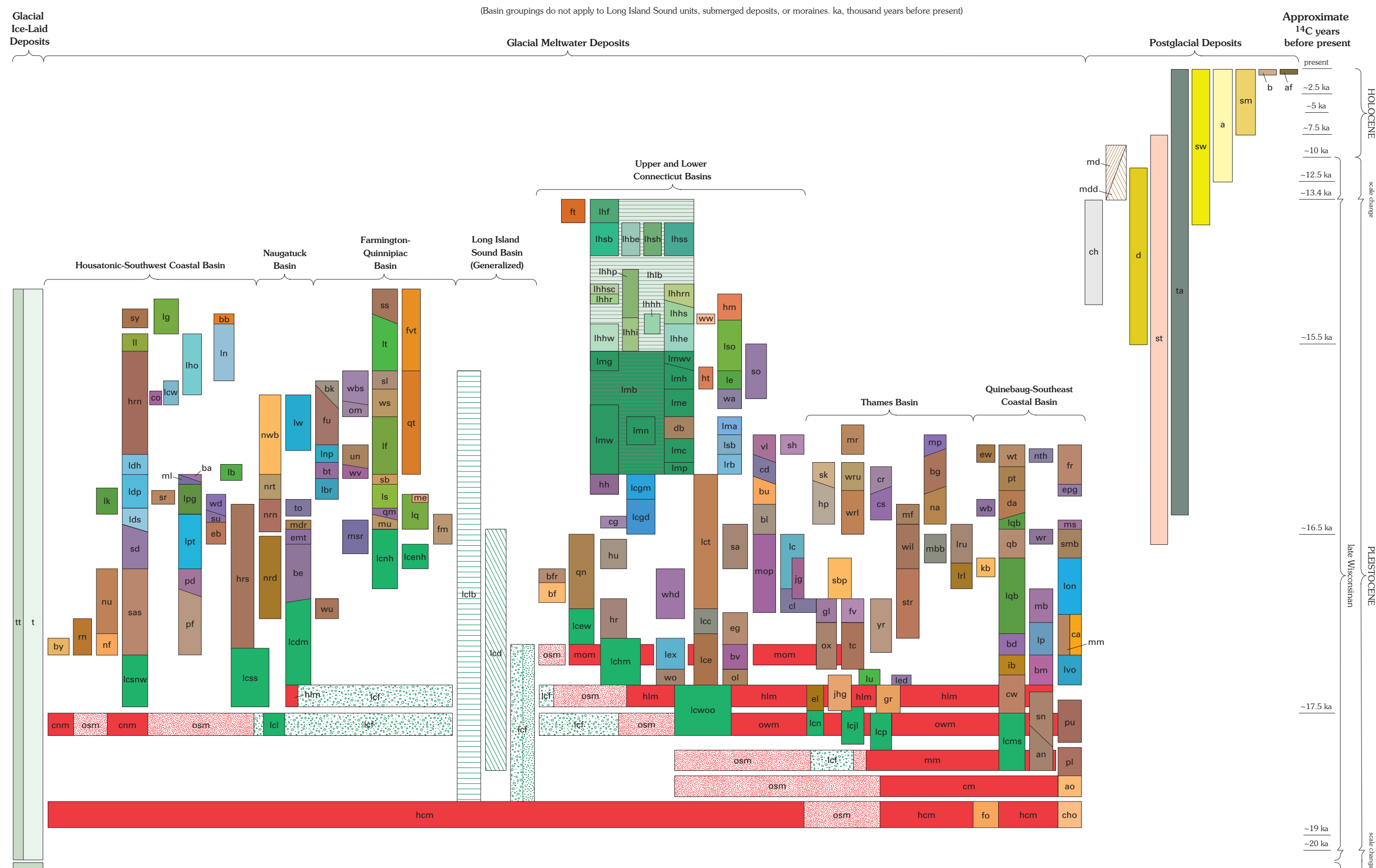
Prepared in cooperation with
STATE OF CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION
GEOLOGICAL AND NATURAL HISTORY SURVEY

CORRELATION OF MAP UNITS

(Basin groupings do not apply to Long Island Sound units, submerged deposits, or moraines. ka, thousand years before present)



LIST OF MAP UNITS

[For complete descriptions, see accompanying text pamphlet.]

POSTGLACIAL DEPOSITS—late Holocene, late Wisconsinan

af	Artificial fill
b	Coastal beach and dune deposits
sm	Tidal-marsh deposits
a	Flood-plain alluvium
sw	Swamp deposits
ta	Talus

EARLY POSTGLACIAL DEPOSITS—early Holocene, late Wisconsinan

st	Stream-terrace deposits
d	Inland dune deposits
md	Submerged marine deltaic deposits—Deltaic facies
mdd	Submerged marine deltaic deposits—Delta-distal facies
ch	Submerged fluvial-estuarine, channel-fill deposits

GLACIAL MELTWATER DEPOSITS—late Wisconsinan

u	Uncorrelated meltwater deposits

Deposits of Major Ice-Dammed Lakes

ln	Glacial Lake Norfolk deposits
lcw	Glacial Lake Cornwall deposits
lho	Glacial Lake Hollenbeck deposits
	Glacial Lake Danbury deposits
ldh	Pumpkin Hill stage deposits
ldp	Pond Brook stage deposits
lds	Saugatuck divide stage deposits
lpt	Glacial Lake Pootatuck deposits
lw	Glacial Lake Winsted deposits
lnp	Glacial Lake Nepaug deposits
lbr	Glacial Lake Bristol deposits
	Glacial Lake Coginchaug deposits
lcgm	Middletown stage deposits
lcgd	Durham stage deposits
lma	Glacial Lake Manchester deposits
lsb	Glacial Lake Salmon Brook deposits
lrb	Glacial Lake Roaring Brook deposits
lc	Glacial Lake Colchester deposits
lex	Glacial Lake Essex deposits
lon	Glacial Lake Oneco deposits
lvo	Glacial Lake Voluntown deposits
lp	Glacial Lake Pachaug deposits

Deposits of Major Sediment-Dammed Lakes

lg	Glacial Lake Great Falls deposits
ll	Glacial Lake Lime Rock deposits
lk	Glacial Lake Kenosia deposits
lb	Glacial Lake Bantam deposits
lpg	Glacial Lake Pomperaug deposits
lt	Glacial Lake Tariffville deposits
lf	Glacial Lake Farmington deposits
ls	Glacial Lake Southington deposits
lq	Glacial Lake Quinnipiac deposits
	Glacial Lake Hitchcock deposits
lhbe	Beach deposits
lhlb	Lake-bottom deposits
	Glacial Lake Hitchcock high-level deposits
lhhw	Windsor deltaic deposits
lhhe	East Windsor fluviodeltaic deposits
lhhh	High-level Hockanum River delta deposits
lhhs	High-level Scantic River delta deposits
lhhr	Rattlesnake Brook deltaic deposits
lhhsc	Shea Corner deltaic deposits
lhhrn	Enfield deltaic deposits
lhhi	Ice-hole deposits
lhhp	Spit deposits
	Glacial Lake Hitchcock stable-level deposits
lhsb	Bradley International Airport delta deposits
lhss	Stable-level Scantic River and Broad Brook delta deposits
lhsh	Stable-level Hockanum River delta deposits
lhf	Post-stable-level Farmington River delta deposits
	Glacial Lake Middletown deposits
lmg	Great Pond delta deposits
lmwv	Windsorville deltaic deposits
lmw	Western margin deltaic deposits
lme	Eastern margin deltaic deposits
lmh	Hockanum River delta deposits
lmn	Newington deltaic deposits
lmc	Cromwell deltaic deposits
lmp	Portland deltaic deposits
lmb	Lake-bottom deposits
lso	Glacial Lake Somers deposits
le	Glacial Lake Ellington deposits
lu	Glacial Lake Uncasville deposits
lqb	Glacial Lake Quinebaug deposits
	Glacial Lake Connecticut deposits
lcsnw	Stamford–Norwalk–Westport deposits
lcss	Stratford–Southport deposits
lcl	Lordship deposits
lcdm	Devon–Milford deposits
lcnh	New Haven deposits
lcenh	East Haven deposits
lcew	East River–West River deposits
lchm	Hammonasset River–Menunketsuck River deposits
lcwoo	Westbrook–Old Saybrook–Old Lyme deposits
lcn	Niantic deposits
lcjl	Jordan Cove–Lower Thames River deposits
lcp	Poquonock River deposits
lcms	Mystic–Stonington deposits
	Offshore submerged deposits of Glacial Lake Connecticut
lclb	Lake-bottom deposits
lcd	Deltaic deposits
	Ice-marginal lacustrine fan deposits
lcf	Coarse-grained, proximal facies
lcf	Fine-grained, distal facies

Deposits of Related Series of Ice-Dammed Ponds

ip	Uncorrelated deposits of ice-dammed ponds
co	Cobble Brook deposits
ba	Bantam River deposits
ml	Mallory Brook deposits
wd	Woodbury deposits
su	Southbury deposits
sd	Still River–Saugatuck River divide deposits
pd	Pootatuck River–Pequonnock River divide deposits
to	Tolles–Terryville deposits
emt	East Mountain Reservoir deposits
be	Bethany deposits
wbs	West Branch Salmon Brook deposits
om	Onion Mountain deposits
bt	Burlington deposits
wv	Whigville deposits
qm	Quinnipiac River–Mill River divide deposits
msr	Mount Sanford ridge deposits
so	Somers high-level deposits
sh	Shenipsit Lake deposits
wa	Wapping deposits
vl	Vernon–Lydallville deposits
cd	Upper Connecticut River divide deposits
hh	Hanging Hills deposits
cg	Coginchaug River divide deposits
whd	West Haddam deposits
mop	Moodus River divide–Pine Brook deposits
jg	Judd Brook–Gillette Brook deposits
cl	Colchester deposits
bv	Beaver Brook deposits
mp	Mashapaug Pond deposits
cr	Conant Brook–Roaring Brook deposits
cs	Cedar Swamp area deposits
fv	Fitchville deposits
gl	Gardner Lake lacustrine deposits
led	Ledyard deposits
nth	North Thompson deposits
epg	East Putnam–Glocester deposits
wb	White Brook deposits
ms	Mashentuck Brook deposits
wr	Wauregan deposits
mb	Mill Brook deposits
bd	Broad Brook deposits
bm	Bay Mountain deposits

Deposits of Related Series of Sediment-Dammed Ponds

sp	Uncorrelated deposits of sediment-dammed ponds
sy	Salisbury deposits
hrn	Housatonic River deposits from New Milford to West Cornwall
hrs	Housatonic River deposits from Stratford to Shepaug River
sr	Shepaug River deposits
eb	Eightmile Brook deposits
pf	Pequonnock River–Farmill River deposits
sas	Saugatuck River–Aspetuck River deposits
nu	Upper Norwalk River deposits
rn	Rippowam River–Noroton River deposits
nrt	Naugatuck River deposits from Thomaston to Litchfield
nrn	Naugatuck River deposits from Naugatuck to Reynolds Bridge
mdr	Mad River deposits
nrd	Naugatuck River deposits from Derby to Beacon Falls
bk	Barkhamsted Reservoir deposits
ss	Southwick–Suffield deposits
fu	Upper Farmington River deposits
sl	Simsbury deposits
ws	West Simsbury deposits
un	Unionville deposits
mu	Upper Mill River deposits
sb	Southington–Bristol deposits
fm	Upper Farm River–Muddy River deposits
wu	Upper Wepawaug River deposits
db	Dividend Brook deposits
hu	Upper Hammonasset River deposits
hr	Hammonasset River deposits
qn	Quonnipaug Lake–East River–West River deposits
bfr	Upper Branford River deposits
wo	Westbrook–Old Saybrook deposits
lce	Lower Connecticut River (Essex–Hamburg–Deep River) deposits
lcc	Lower Connecticut River (Chester–Hadlyme) deposits
lct	Lower Connecticut River (Tylerville–Portland) deposits
ol	Old Lyme deposits
eg	Eightmile River deposits
sa	Salmon River deposits
bl	Lower Blackledge River deposits
mr	Middle River deposits
bg	Bigelow Brook deposits
sk	Skungamaug River deposits
hp	Hop River deposits
mf	Mount Hope River–Fenton River deposits
na	Natchaug River deposits
wru	Upper Willimantic River deposits
wrl	Willimantic River deposits
wil	Willimantic River–upper Shetucket River deposits
lru	Upper Little River deposits
lrl	Lower Little River deposits
mbb	Merrick Brook–Beaver Brook–Ballymahack Brook deposits
str	Lower Shetucket River deposits
yr	Yantic River deposits
tc	Trading Cove Brook deposits
ox	Oxoboxo Brook deposits
el	East Lyme deposits
fr	Fivemile River deposits
wt	West Thompson deposits
ew	East Woodstock deposits
pt	Putnam deposits
da	Danielson deposits
qb	Quinebaug River valley deposits
smb	Snake Meadow Brook deposits
mm	Mount Misery Brook deposits
ib	Indiantown Brook deposits
cw	Cedar Swamp–Whitford Brook deposits
sn	Shunock River deposits
pu	Upper Pawcatuck River deposits
an	Anguilla Brook deposits
pl	Lower Pawcatuck River deposits

Deposits of Proximal Meltwater Streams

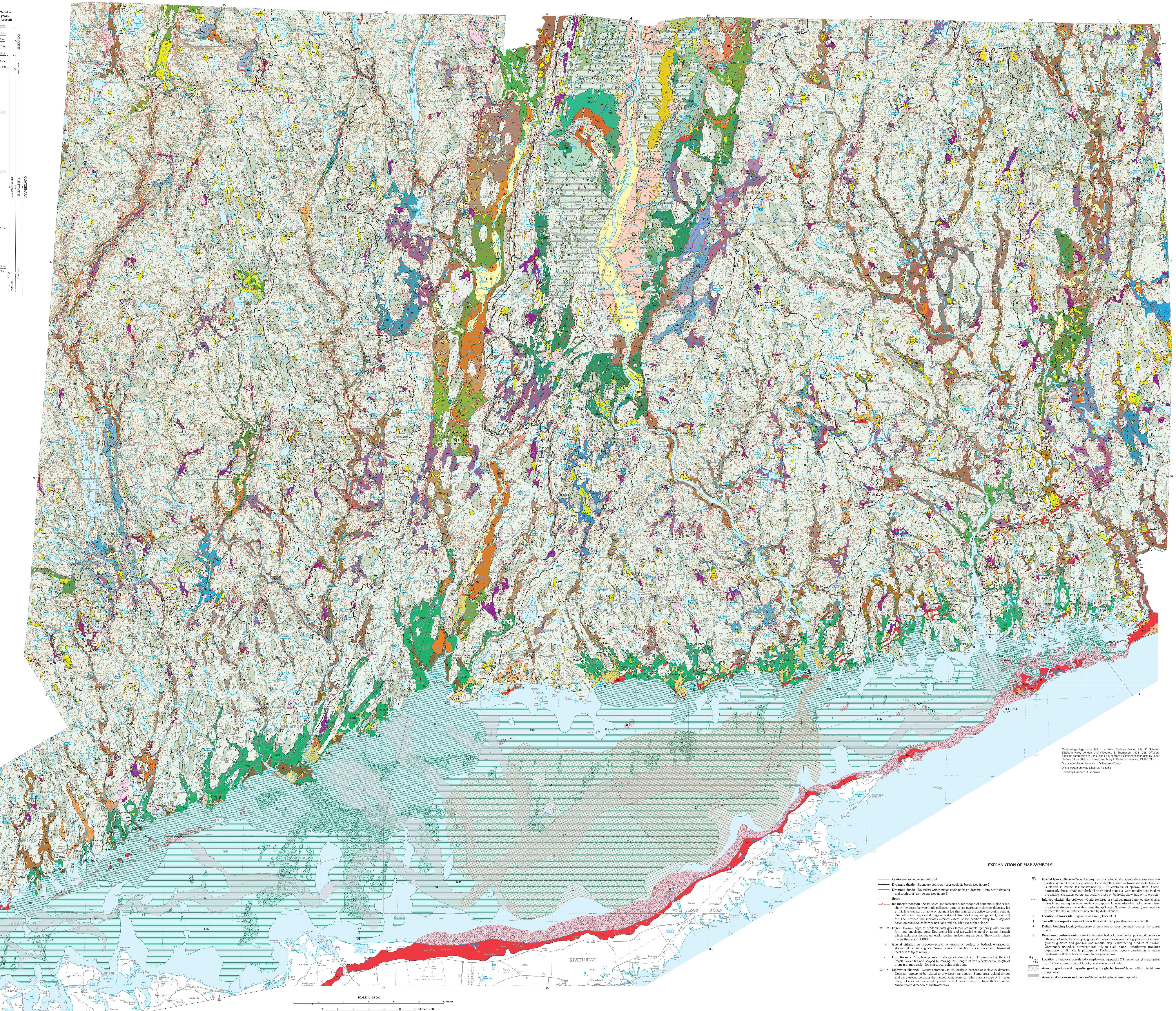
fp	Small, uncorrelated proximal fluvial deposits
nf	Norwalk River–Fivemile River deposits
by	Byram River deposits
nwb	West Branch Naugatuck River deposits
me	Meriden deposits
ww	Woods Stream–Wrights Brook deposits
bu	Upper Blackledge River fluvial deposits
bf	Branford River fluvial deposits
sbp	Sherman Brook–Bartlett Brook–Pease Brook deposits
jhg	Jordan Brook–Hunts Brook–Green Marsh Brook deposits
gr	Groton deposits
kb	Kitt Brook deposits
ca	Carson Brook deposits
ao	Avondale outwash deposits
cho	Charlestown outwash deposits
fo	Fishers Island outwash deposits

Deposits of Distal Meltwater Streams

fd	Uncorrelated meltwater terrace deposits
bb	Blackberry River terrace deposits
fvt	Farmington Valley meltwater terrace deposits
qt	Quinnipiac River valley terrace deposits
hm	Hampden–Somers meltwater terrace deposits
ht	Hockanum River valley meltwater terrace deposits
ft	Farmington River terrace deposits

GLACIAL ICE-LAID DEPOSITS—late Wisconsinan, Illinoian

t	Thin till deposits
tt	Thick till deposits
m	End moraine deposits, uncorrelated
hcm	Harbor Hill–Fishers Island–Charlestown moraine deposits
cm	Clumps–Avondale moraine deposits
mm	Mystic moraine deposits
owm	Old Saybrook–Wolf Rocks moraine deposits
hlm	Hammonassett–Ledyard moraine deposits
mom	Madison–Oxoboxo moraine deposits
cnm	Captain Islands–Norwalk Islands moraine deposits
osm	Submerged moraine deposits



Base from U.S. Geological Survey, 1:100,000

Block Island, 1983; Boston, 1989; Bridgeport, 1986; Hartford, 1994; Holyoke, 1985; Long Island East, 1984; Long Island West, 1984; New Haven, 1983; Pittsfield, 1986; Providence, 1984; Waterbury, 1993

Topographic contour linework compiled from U.S. Geological Survey Digital Line Graph (DLG) files of 1:100,000-scale 20-meter hypsographic data. Linework has been edited in places

25,000-foot grid ticks based on Connecticut coordinate system

10,000-meter Universal Transverse Mercator grid ticks, zone 18

1927 North American Datum

SCALE 1:125 000

2 0 2 4 6 8 10 MILES

2 0 2 4 6 8 10 KILOMETERS

CONTOUR INTERVAL 20 METERS

Onshore geologic compilation by Janet Radway Stone, John P. Schafer, Elizabeth Haley London, and Woodrow B. Thompson, 1978–1988. Offshore geologic compilation of Long Island Sound from seismic-reflection data by Janet Radway Stone, Ralph S. Lewis, and Mary L. DiGiacomo-Cohen, 1988–1996.

Digital compilation by Mary L. DiGiacomo-Cohen

Digital cartography by Linda M. Masonic

Edited by Elizabeth D. Koozmin

EXPLANATION OF MAP SYMBOLS

Contact—Dashed where inferred

Drainage divide—Boundary between major geologic basins (see figure 1)

Drainage divide—Boundary within major geologic basin dividing it into north-draining and south-draining regions (see figure 1)

Scarp

Ice-margin position—Solid ticked line indicates outer margin of continuous glacier ice, shown by scarp between little-collapsed parts of ice-marginal meltwater deposits. Ice at this line was part of zone of stagnant ice that fringed the active ice during retreat. Discontinuous tongues and irregular bodies of dead ice lay beyond (generally south of) this line. Dashed line indicates inferred extent of ice position away from deposits based on requisite ice-barrier positions and plausible ice-surface slopes

Esker—Narrow ridge of predominantly glaciofluvial sediments, generally with sinuous form and undulating crest. Represents filling of ice-walled channel or tunnel through which meltwater flowed, generally feeding an ice-marginal delta. Shown only where longer than about 1,000 ft

Glacial striation or groove—Scratch or groove on surface of bedrock engraved by stones held in moving ice. Arrow points in direction of ice movement. Measured locality is at tip of arrow

Drumlin axis—Morphologic axis of elongated, streamlined hill composed of thick till (mostly lower till) and shaped by moving ice. Length of bar reflects actual length of drumlin at map scale; dot is at topographic high point

Meltwater channel—Occurs commonly in till, locally in bedrock or meltwater deposits. Does not appear to be related to any lacustrine deposit. Some cross upland divides and were eroded by water that flowed away from ice; others occur singly or in series along hillsides and were cut by streams that flowed along or beneath ice margin. Arrow shows direction of meltwater flow

405 **Glacial lake spillway**—Outlet for large or small glacial lake. Generally across drainage divides and in till or bedrock; some cut into slightly earlier meltwater deposits. Number is altitude in meters (as constrained by 10-ft contours) of spillway floor. Some, particularly those carved into thick till or stratified deposits, were notably deepened by the exiting lake water; others, particularly those on bedrock, show little or no erosion

Inferred glacial-lake spillway—Outlet for large or small sediment-dammed glacial lake. Usually across slightly older meltwater deposits in south-draining valley where later postglacial stream erosion destroyed the spillways. Numbers (if present) are requisite former altitudes in meters as indicated by delta altitudes

◊ **Location of lower till**—Exposure of lower (Illinoian) till

♦ **Two-till outcrop**—Exposure of lower till overlain by upper (late Wisconsinan) till

▲ **Deltaic bedding locality**—Exposure of delta foreset beds, generally overlain by topset beds

× **Weathered bedrock outcrop**—Disintegrated bedrock. Weathering product depends on lithology of rock; for example, grus with corestones is weathering product of coarse-grained gneisses and granites, and residual clay is weathering product of marble. Commonly underlies nonweathered till; in such places, weathering predates deposition of till, and is perhaps of Tertiary age. Severe weathering of easily weathered sulfidic schists occurred in postglacial time

4 10.1 10.5 **Location of radiocarbon-dated sample**—See appendix 2 in accompanying pamphlet for ^{14}C date, description of locality, and relevance of date

Area of glaciofluvial deposits grading to glacial lake—Shown within glacial lake map units

Area of lake-bottom sediments—Shown within glacial lake map units

QUATERNARY GEOLOGIC MAP OF CONNECTICUT AND LONG ISLAND SOUND BASIN

By

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[1]U.S. Geological Survey. [2]U.S. Geological Survey (deceased). [3]Long Island Sound Resource Center. [4]Connecticut Geological and Natural History Survey (retired). [5]Maine Geological Survey.

2005

ISBN 0-607-98460-0
9 780607 984606

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For sale by U.S. Geological Survey, Information Services, Box 25286, Federal Center, Denver, CO 80225; telephone 1-888-ASK-USGS

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