entered

Bernstein, D.J 1993. Prehistoric subsistence on the southern New England coast. The record from Narragansett Bay. Academic Press, NY, NY

Goddard Lake Cor - ↓ arboreal, ↑ weeds but no exotic spp. ↑ Ambrosia + Tubuliflore + composites

Bernabo 1977

Also see Thorbahn + Cos 1988 - ↑ composit + Ambrosia ↓ trees ~1000 BP

But little evidnce for As - clearance to ↑ wildlife

Iroquois Book

Kelso site

2 overlapping villages 2 acres each bounded by double palisades - walls 4-6 (-10) feet apart

Some places - buttress poles/posts

Molds = dark if filled w/ refuse, topsoil, wood

Walls - 15-20'

Many small oblong houses 16-24' (to oval) E stacked

Longhouses 128×22' W "

6 (-8) hearths 24 hearths in 3 houses; each for 2 families ~240 people total

May have coexisted - large + small

Roasting pits

Presumably maize v. imp but few remains

27 deer 1 passenger pigeon

Getman site

assume food storage in houses + vestibules (probably overstated house height)

1st pit in a log van den Bogaert - up to 300 bu. in one house

Most food storage probably above ground - in cabins

Ind

Heritage Nfld International Fishery 16th C

Between 1545 - 1565 # fishing vessels

Bordeaux 20 → 40

La Rochelle 12 → 50

Rouen 12 → 90

Les Sables d'Olonne → 100

English 30 → 200 by 1600

1615 Richard Whitbourne - 250 Eng Vessels - 5000 men

French - ~~Dry fishery~~ wet - salt or brine

Eng - dry - cleaned, split, laid out

entered

Bernstein, D.J. 2006 Long-term continuity in the archaeological record from the coast of New York and southern New England, USA. Journal of Island and Coastal Archaeology 1:271-284

ENA - most emphasize cultural change; coastal NY + SNE - charact by LT continuity - maintenance of familiar patterns of subsistence, settlmt, raw material utilization, technology for thous of yrs
Unlike inland - maintain long-est traditions up to Eur arrival
12.5-10; 10-8; 8-6; 6-3; 3-2.7; 2.7-2; 2-1; 1-1500
Change emphasized - big game - Paleo; broadng economic - Arch; maize ag - W

Profound transformations but broad, persistent patterns
E not like WUS - v. little evidnc on Paleo; can't extrapolate - virtually no data or evidnc on large mammal hunting; no mammal fossils + weapons
No evidnc of big mammal focus
Paleo landscape may have been ecologically diverse - not impoverished as supposd Paleo - hunt large + small, gath wild plants + fish
Conseq - shift to Archaic not so revolutionary
Develop of Ag + Pottery - not nec linked

Last millenium - long-standg assumptn engaged in intensiv corn Ag like people to N+W + this supportd perm. settled villages. Primarily from readg Eur accounts + comparisons w/ Iroquois
Doesn't appear in coastal data or even interior
Tropical plant domestication - late + w/ little discernible impact on lifeways
Remains - typically lacking or sparse; limited isotopic support
Continued long-established tradition of broad spectrum resource use

>20 spp plant; ≥100 spp vert, ~dozen molluscs

Variation but little Δ over time — differences relate to ecolog. settg not Δ

Corn added late - did little to alter long-entrenched lifeways — simply a new resource added to ever-expandy list of locally utilized foods

Archaic pattern - diverse range of locally available R — basic pattern maintain

No Woodland economic breakthrough

2-3000 BP - settg life well estab. "villages", "residential bases" or "permanent bases" - positioned to provide ready access to food, industrial resources

Essentially no Δ in settlmt or resource use Coastal environ. estab. since middens

Lithic industry - remarkable lack of variation over 6000 yrs

reduction of locally abundant, glacially transported cobbles to bifaces forms

If remove minute of chert types - no Δ

Hudson + CRV shift to maize after 1000

Settled life not only urban if Agriculture.

Why do Eur accts cliff from arch?

Reject Iroquois intrps → Alg

entered

Bourque, B. 1995. Diversity and Complexity in Prehistoric Maritime Societies. A Gulf of Maine Perspective. Plenum Press, NY

Late Archaic Site

Middens - excellent bone preservation

Oak-hickory-chestnut + deer-turkey biome Atlantic Coast to S NY → Michigan + Illinois

Pop'n - high protein diet, good health
regional shift conifer to hdwd forest
Rapid cooling aftr 4500 BP - disappearance swordfish

ecology
Ritchie MV - primarily hunting economy beginning to adjust to littoral

ME - imported materials - SE PA, S CT, E MD

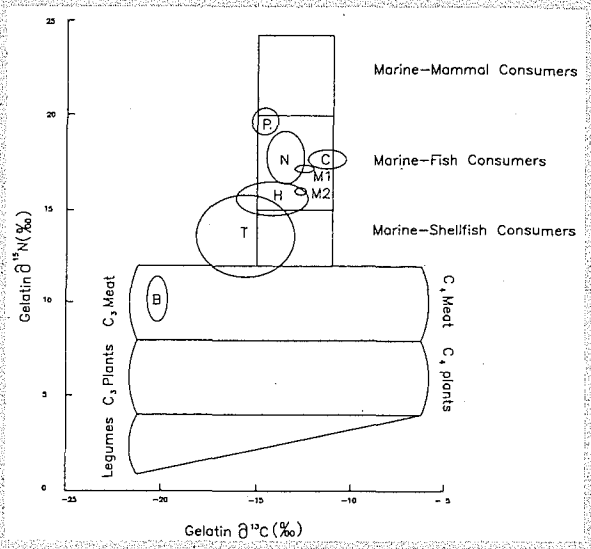
"NA native peoples, and hunter-gatherers in particular, have historically been perceived as tradition-bound and culturally static"

ISOTOPES AND DIET

The importance of marine hunting by Moorehead-phase people is clearly apparent in the sophisticated bone technology and in the abundance of marine faunal remains of Occupation 2. It is also evident in a newly developed technique for reconstructing diet from human bone chemistry.[52]

Bone is composed mainly of two fractions: apatite, a crystalline substance, and collagen, a protein. It has been demonstrated that bone collagen includes two isotopes of nitrogen, the common ^{14}N and the less common ^{15}N, in ratios that reflect diet, specifically the amount and type of protein consumed. The more meat there is in a person's diet, the more enriched their skeleton will be in ^{15}N. The degree of enrichment is greater if the meat is from a marine organism and if the organism was itself a marine-meat consumer, such as a seal or a large carnivorous fish, enrichment is greater still. The same kind of enrichment occurs with the carbon isotope ^{13}C relative to the more common ^{12}C, but to a lesser degree, making it less useful as a dietary indicator. Another problem with ^{13}C enrichment is that it is proportional to both meat and corn (*Zea mays*) intake. Thus in cases where both marine organisms and corn may have been part of the diet, ^{13}C enrichment cannot distinguish between the two.

The ovals in Figure 2-13 indicate the isotopic ranges (to the first standard deviation) of several coastal Maine populations, one from the Boucher (B) site in interior Vermont and one from Port au Choix (P) in northern Newfoundland. For purposes of comparison, these



2-13. Isotopes in human bone.

ranges are superimposed upon a series of fields defining the isotopic ranges of vertebrates, including humans, whose diets are known from nonarchaeological information. The isotopic ranges for all the Maine coastal populations indicate a high intake of marine protein (flesh) in their diets. The highest relative values of ^{15}N are for individuals from the Moorehead-phase cemetery at the Nevin site in Blue Hill (N) and are most likely due to the importance of swordfish and cod in their diets, while the lowest values are for the Susquehanna-tradition cemetery (T) at the Turner Farm site.[53]

Bourque, B. J. 2004. *Twelve Thousand Years, American Indians in Maine.* University of Nebraska Press. Lincoln, NE.

entered

Calloway, C. 1990. The Western Abenakis of Vermont, 1600-1800

social org - fluid, flexible, accomodated separation and integration; fluid ethnic + territorial boundaries, merging + fissioning

1607-15 Micmac + E Abenaki fought for middleman position trading Euro goods from Nova Scotia to NE

1609 Champlain joined Montagnais, Algonqun against Mohawk intended to fight, French policy - protect fur trade

[also Iroquois against Huron?]

entered

Ceci, L. 1990. The Effect of European Contact and Trade on the Settlement Pattern of Indians in Coastal New York, 1524-1665. Garland Publishing Inc NY

PhD Thesis City University of New York 1977

Sedentary villages + tribal social org. first developed among local Algonquians under stimulus of Eur trade

Arch = hunter/gatherer, small bands, family units, seasonal stress

Hist = long duration, multi-season + yr-round villages + large cemeteries, rich graves, Indian forts or trade houses + Wampum - Hist + Arch together

Dutch + Eng tried to purchase/control imp wampum prod. sites - mints conquered/controlled/coerced production - pay fines / buy goods

Current - Sed, village life, tribes - believed prehistorical "natural state" (Cohen 1978), Silas Wood (1828) - 13 LI tribes

"pristine" culture - coastal NY - assumed by S. Wood - but used mid to late 17th C sources

Mexico
Mooney - used S. Wood - est 6000 Inds LI - 2nd highest density after

Every new work reinforces last

Settler - assumed based on maize + improved subsistence, arch supports this develop Owasco + Iroquoian NY + Alg further S NY Sed = Hist + Control

Post contact perceived as stable/static w/ tribes, powerful chiefs present for centuries

Focus on settlement pattern - as holistic, integrator of cultural system synthesis arch + hist etc

Wampum - special bead: white - Busycon carica - knobbed whelk; Busycon canaliculatum - channeled whelk; purple - Mercenaria mercenaria - only blue bead ENA - Linné name from use 3.2 mm diam

need fine metal tools to produce - ornamentation, rank symbol, medium exchange, pledges/messages; + currency - unique

Standard size - not just convenient but essential for coinage

"sudden + conspicuous"

Iroquois League - sudden coeval formation w/ appearance wampum 1570-80

No Wampum before Dutch

Crude prototypes - Seneca 1550-1575; Onkida 1550-1575 Eur beads temp ?

Absent in prehistory

Shell beads extremely rare in general - so not from prehistoric shell industry Busycon also rare in prehist sites

Amassed + stored shells to work up - appear after storm etc.

53 coastal NY sites - wampum + related shells 43 had Eur goods

> 4000 m², intensive, yr-round occ
e.g. Owasco + Iroquois

Old wood dates - driftwood

Grouped sites by size - camp + seden village; season

< 4000 m², fewer materials, no cult + storage

Elk + bear - tradition - fall + winter

beaver + otter - winter - better pelt; scarce precontact - so not used as food?

Most single-name villages - locations ~~ex~~ elevated over many yrs + peoples
often v. large sites at river confluence held v. long time

Storage pits + "Barnes" - little arch evidence - one site whelk + hickory
No evidence cultigen storage - no pits w/ nuts, corn etc.
or above-ground cribs
Small amts corn - refuse or grave; no evidence storage or
agricultural dependency; sharp contrast w/ Alg elsewhere +
Iroquois
Dutch destroyed > 100 pits w/corn + beans (C, B) at Esopus - mid
Hudson; Garoga site on Mohawk R. - large storage pits C+B.

Long houses - built for durability "fixed places of
abode and dwellings built with beams in the form of
an oven... sufficient for several families" DeLaet in Jameson 1909
vs
"temporary huts or shanties" "small moveable tents" Vander
Donck for wandering life

Village sites - also exploited a wide range of fauna from various
ecological zones - marine, tidal wetland, open + wooded

Beaver + otter - were on coast - non-local by 1609 - Hudson
+ 1638 ". Elk + bear hunted elsewhere
village base from which hunters + gatherers returned t/o yr

Animals overexploited who hunted for Europeans for meat + pelts
beaver, otter, fox, marten, mink, musketry deer

Where evidence of domesticated fauna - implies scarcity of wild game
inadeq. for subsistence - acc to Miantenomie -
LI 1642

Ind in historic settlements - experienced difficulties - finely local foods

1640 - Inds receive "Indian Corn" from English
low fertility hampered Indians

Edible annual acorns - Q alba, prinus, macrocarpa, bicolor, stellata
limited #s + thin distribution

Most comm biennial-+ bitter - Q. velutina, coccinea, rubra

Hickory used - C. glabra, tomentosa, ovalis, ovata
cordiformis - bitter - avoided even by animals
also limited by distribution

Early excavations - all sites = villages included material w/in ½ kilo.

Quofes - moveable

Early pits - refuse, shellfish, baking

Few post-molds - often small - lightly built, impermanent huts or mats

1 time on coast - influenced by desire to trade for goods

Forts - 17th C - some trade house or bead manufactory

None - prehistory follow Eur models

Historic - more sites + larger centuries

All prehist sites = camps; all less in size than historic camps so shorter duration

Postmolds - no patterned arrangement

Earliest shellfish 3000-2200 13C 6000

stabilized sea level → marshes + shellfish beds

Braun 1974 Newman 1965

Fur trade - need grew for perm sites - villages near depots

larger + more perm settlements (Snow 1968)

Subsistence model - arrival of econom. imp system Ag - produced villages, popn ↑, ↑ social complexity

or shellfish

but she says this is calorically impossible - 50 people need 25-50,000 shellfish to get 1000 cal/day

Maize - precip limiting; esp if when silking + kernels enlarge

requires irrigation

nutrients - P, N, Ca, pH Fish fert is questioned

Van der Donck - 1641 → New Netherlands in 9 yrs had "never seen land manured" "of manuring and proper tillage they know nothing"

Burning - Indians said - to improve hunt not prepare or enrich fields

diff to grow

Difficult to reconstruct high yields of Natives in other areas

for coastal NY - e.g. VA 200 ac. fields 3 crops/yr

Hudson 1609 Upper Hudson - storage houses beans + maize

3 strips NH - Odessa - Schoharie soils

Iroquois + Oneida soils production 10 - 20 yrs

Hudson - coastal NY - Natives "had no house" "always carry with them all their goods, as well as their food"

No early reports of corn - yet reported on good soils up Hudson

1643 R Wms - Indians 100s of mi interior brought corn + furs to trade on coast for Indian Money, wampum.

1666 - Indians needed corn from Eng -

Ind corn - for exchange

defense from humans

storage

Corn demand - manure; land clearance; liming; weeding; fences to keep out wild + domestic animals;

plowed

Dutch on NY - abandoned land

1633 DeLaet Ind corn did not "grow spontaneously" but needed "labor and industry of man"; DeRasieres 1628 "a grain to which much labor must be given, with weeding and earthing-up, or it does not thrive"

→ After contact - maize grown at a few locations + yr-round habitation but harvests small + inad. for large scale pop'n; "little more than incidental supplement to the diet"

Contact info - reports + maps few - secrecy; info kept vague

competition - fish, fur

1570-1608 - increasing Eur contacts for trade - furs, wampum

1609 → 1624 increasy + intensify to annual, trade houses then colo

Indians stayed longer on coast to trade

Verrazano 1524 - family in wigwams, movable, pulse + fish steam

Copper sheets - from prior unknown explorers

Verr - place names on maps 1526-28 BI = Luisa

1525 - Esteven Gomes to NY coast - Florida to northel

Florida to Labrador

1529 map Diego Ribero - shows Gomes area - Hudson, with mais at top, LI area as sand + Narr Bay, CC protrusion with

→ Coast to Labredor for Slaves in Spain

Gomes - filled ship w/ Indians from this county + furs

Norombega

1527 English boats explored the coast "oftentimes puttin their men on land to search the state of these unknowen regions" (Hakluyt 1904)

1539 Pierre Crignon sailed 500 leagues 800 km S of Cape Breton to Norumbega land discovered by M. Giovanni da Verrazzano

1541-42 Jean Alfonce de Saintonge pilot for Cartier's partner Roberval sailed E shore of N America, described R of Norombegue

Fiction or NY Coast?

Describes French trading fort on upper Hudson 1540, Spanish settlmt early at Albany, 1550s

Mercator map 1569 shows Block Is (Claudia) + Hudson as part of Norombega No CC but Cape Breton, Nfld, St Law

1524-1569 "Europeans and Indians were acquiring th kinds of knowledge that would shape future economic activities and bring change to local Indian culture in coastal NY"

Economic - Eur learned location of fur bearing spp & Indians w/ skins, Inds learned that Eur had goods & would barter

Cartier 1534 - ~~Eur~~ Inds - beckoned w/ furs near St L

S Inds 1565 took furs to Tierra Nova to barter w/ Fr.

Dutch based Three's Neck 1570-95

1570 - Jean Cossin - Fr mariner. World map suggests coastal NY thoroughly explored.

1589 Hakluyt map - trail from coast to St Lawrence via Hudson Valley + L Champlain

1598 Dutch constructed shelter on N Hudson for winter + defense

1601 Eng doc describe Dutch plundering Spanish - loaned harbor about Isle of Manhattan for fifth ships. Status Isle + trade w/ Inds Questionable

Gov. Bradford - 1627 - Dutch trading in NY area 6 or 7 and 20 years

Virginia Co. chart 1606-08 - remarkably complete - SA to Labrador

Spanish passage from W Indies = Gulfstream

1584 Dutch had helped GB defeat Spanish Armada; attacked Spain in Carribean + Brazil

Secret trading ships - Dutch etc.

Gosnold 1602 - lands brought many furs to trade - beaver, marten, otter, lynx, black fox, rabbit, deer, seal

spoke English w/ great facility

Lescarbot - 1604-07 chronicler for Fr. colonies in ME + NS accounts of NY + RI area Indians wanted beads

Hudson 1609 - trade in lower Hudson - Indians had brass + red copper tobacco pipes + iron - Upstream more valuable furs

evidence that competitors already trading

People stayed over winter on Hudson by 1612-13 if not 1598-1601

1613-14 Overwinter on Manhattan w/ 2 other Dutch Co boats

10,000 furs

New Netherland Co formed 1614 - 4 groups each made 4 trips in 3 years

Carte Figurative - Adrien Block 1614

V. detailed - Cape, MV? LI as Island

Shows location + ID of many Indian groups - commercial + navigational

Mohawks on Upper Hudson

"the French come in sloops to the extremity of their Land, in order to trade with them" - St L or upper Hudson?

No settl shown coastal NY

Does show Wapanoos, Pequots, Sequins

\ Narr Bay \ to W \ CT River

She claims all names relate to Wampum

1626 Manhattan purchase.

1615 Fort built at Manhattan – for trade

1609-24 ↑ exchange fur + wampum, the yr-round occupation transformed Coastal NY – active marketplace trinkets + goods, clothes, tools w/ great technology- hatchets, axes, adze, ~~art~~ knife, kettle, fishhook

Increased orientation + settlement for trade; reinforced by longer stays by Europeans

1524-1624 cutdown for the growth + intensification of trade in coastal NY. This economic development... brought significant changes to local Indians,

---

Plymouth etc. become involved in wampum + fur

Plymouth farmers – maize to ME for skins

CT not navigable v. far. Dutch up since Block 1614

1633 – Dutch trade house 20 mi up CT

1633 Plymouth + Mass. rush built trade house 1-3 mi above Dutch got 15,000 skins 1632

By 1636 Eng + Dutch widely using wampum in trade with furs → Eur.

1637 Claims Pequot War about wampum – as Indn + Eng rid of Pequots

Peq – powerful + competitors for wampum

Allowed Eng to expand W + take over wampumlds

Decision of transhumant hunter gatherers to establ more sedentary settlements in coastal zone that was formerly a visitg place

Adaptive + advantageous after Eur trade introduced

Principal factor - new goods

Fur used 1st; then wampum as desired by Interior Indians

w/ furs trade

Inexpensive goods from Europe → Coastal NY for wampum →

Inland for furs → Europe

Required sedentary (after ? use + steps) + corn

Not driven by corn

"the model for the 'Late Woodland', which includes a village way of life and maize ag, is inappropriate for Coastal NY". Sedentism and the onset of maize cult in the area would seem best correlated with the intensification of wampum production brought about by Eur demand"

retrieved MV Bib

→ Chase, H.E. 1883. Notes on the Wampanoag Indians. Annual Report of the Smithsonian Institution. pp. 879-907 Washington DC

Every year- fewer signs of Indian settlmts - Notes from 1882-83

Find site; get info from farmers + locals; go to Mass Hist

Most Indians - English names + curly hair - interbreed w/ negroes

Most know less about Indian arts than small white boys who collect arrowheads

Farmers - plowed old Indian fields - rich black soil

1612-13 epidmic - Pawkunnawkutts (Wampanoags) - ACK, MV New Plymouth C.

"Thereby Divine Providence made way for the quiet and peaceful settlmt of the English in those nations"

MV escaped King Philips War - Christianized by Mayhew 1659-70

became friends Cape + Islands spared

Gosnold treated well 1602 Thos Dermr 1619 attacked - either he or Martin Prins (1603) provoked hostility

Hunt took 27 from Mass Bay - incl. Squanto

One of Smith's commands

Weymouth took 5 from MV

Describes diseases in great detail as did Barber + Gookin

Cotton 1674 - MV - Praying towns - Chappy (separated by straight)

Nashamoiess (5 Eds), Sengekontakit (N Edg), Toikiming (Takeme, Tis)

Nashuakemmik (Chilmark), Talhamo (part of Chil)

1720 - 6 small villages ~800 people; a few on No Man's Land

1764 - 313 Ind in Dukes Co 86 - Eds, 39 Tis, 188 Chil

1792 440 75 - Chop, 25 Sengo, 40 Christiantown, 24 Nash, 276 GH

Cemetery - many w/ no stones; others thick plain slate

Buried dead - sitting posture or curled up
Kept living in wigwam right thru 18th c

Chilton, E.S. 1996. Embodiments of choice: Native American ceramic diversity in the New England interior. PhD Thesis, University of Massachusetts, Amherst

LW contrast ceramics - 2 NE Algonquian sites x 1 Mohawk Iroquois site - profound difference in technical systems

The groups were interacting + sharing information - CT Valley Algonqs had access to similar cultural knowledge + technology - but rather than being sedentary farmers w/ extensive + rigid social structures + similar pots - CT V people - fluid + mutable subsistence, settlement + social relationships - reflected in diverse + flexible ceramic traditions.

Active agents of social change not less cult or technological

Carlson, C.C. 1992 The Atlantic Salmon in NE prehistory and history: social and environmental implications. PhD Thesis Univ. MA, Amherst

Use in Intro

Salmon - abundant in prehistoric period - colonized NE streams in substantial #s in historic period, corresponds to LIA

Fundamental environ. basis for AS expansion + retraction w/ LIA not pollution + dams → implications for salmon restoration.

entered

Chilton, E. C. 2003 (?) Farming and social complexity in the Northeast.

Some archaeo - dependent relationship farming, sedentism and social complexity

Dincauze - Neast retarded backwater
No sedentism, craft specialization or perm architecture

Iroquois stereotypic + exemplars of LW lifestyle
Iro centrism

Iroquois pots - more resistant to thermal stress - better for cooking — transport, storage + cooking
Alg - sturdier + more uses

600-1300 people
Irog - villages up to >100 multi-room longhouses
300' long
villages permanent 25-30 yrs
≥ AD 1200 palisaded for inter-tribal warfare

Some pr-round Alg sites - marine + terrestrial
Sedentism paved way for hort not after wards
Some few longhouses - not clustered + ran most after contact
Alg more mobility + fluid social boundaries
Pit features to MA + LA; function not all clear; short-term food storage + food processing
Large + well-defined homelands loose political structure unlike Iro

had knowledge + technology to be Seden farmers
used maize for 800 yrs - never Seden. farmers
diversity ~~strategy~~
↳ diff trajectory

Assume complexity related to subsistence

Flexible + egalitarian, dis orderly, voted with feet
Hard to get federal recognition

Add to bib

Chilton, E. S., D. L. Duranleau and D. R. Foster. 2008 (?). An archaeological ecology of the southern coastal New England. ~~Unpublished MS.~~ Presentation. Society for American Archaeology.

At beginning of Sources Bibliography have a list of sources

Brona Simon, Mass Historical Commission + State Archaeologist

Dr Paul Robinson, RI State Archaeologist

National Park Service

Mass Archaeological Society

RI Historic Preservation and Heritage Commission

Public Archaeology Laboratory

Dr Nicholas Bellantoni, CT State Archaeologist

Douglas Mackey NY Office of Parks, Recreation and Historic Preservation

Dr Brian Jones + Dr Mitch Mulholland MA Archaeological Services

Q Change in site size thru time

Regional patterns of sites + periods

Characteristics of sites lacking habitation

Changes in H-G strategy - seasonal activity

Ecological footprint of change degree of sedentism

DD Thesis Contrast Late Archaic + Late Woodland

Short term - temporary use, seasonal - repeated LT + broad range

Many LA sites occupied in LW - continuous or return.

LA	149 short term sites	155 seasonal	No def sedntsm	
LW	153	176	41 " "	(none Buzz Bay, ACK)

CC + MV highest in LW + LA both

Little diff - short + + seasonal LW lithic retouch + hunting; diff in fish, lithic P, shellfish, storage, burial,

little diff hort

Great sim activity LA + LW

did at GSA

Slight increase # sites LA → LW

Even after hort- maintained seasonal rounds + most sites seasonal

More LW sedntg sites

MV - more grass pollen - imp resource; or overuse of forests + fire for dr.

Overall- great continuity land use + ecolog history

Not ever increasy pop'n, hort exploit + deforestation

Paleo 12-10 tundra + parkland; huntins

EA

All entered

eds.

Chilton, E.S. and M.L. Rainey. 2010. Nantucket and Other Native Places. State University of New York Press, Albany, NY.

ent.

Rainey, M.L. Native american architecture on Nantucket Island, Massachusetts. pp. 25-62

ent.

2 general styles not historically - wigwam longhouse

wigwam - semi-spherical 10-60' diam, constructed of bent saplings tied together, covered w/ woven mats, skins, mat or skin doorway or 2 cntr hearth + smoke hole

some double mats, rd vs sq poles, bark cover - walnut, chestnut, birch, rush

Verrazano, Champlain, Hudson, Cooper, Wood, Josselyn, Williams

longhouse - larger, more elaborate, dome shaped, saplings but bark covered 60-100' x 20', lined w/ painted rush mats up to 50 people

Archeology - local or seasonal artifact collectors; members Mass Arch Soc; univer. field schools; members of Nan Hist Assoc; cultural resource mgt co. - 60 CRMs since 1980s

Quidnet site Little 1984. 66 7-10 cm post, 22 in 4.75 mtrs arc may in pairs - support system

settlement pattern - not static; relocation could occur annually

One site - center ridge pole on central supports - footprint unchanged over thousands of yrs - left supports in place

Other - 5.5 m diam ~ round; small family

incl. both in Bib

Little, E.A. and J. C. Andrews. Drift whales at Nantucket. The Kindness of Moshup. pp 63-86

Note: Originally published in Man in the Northeast 1982 23:1-16

ent.

Drift whale customs, deeds, regs existed - ACK, LI, RI, MV, CC - important resource

Crevecoeur "fond of the sea and expert mariners"

Dutch + Eng whale fishery - 13th C Biscayan or Basques

1609 - along-shore whaling - Gulf St L

1610 - Champlain - Biscayans whaling off New France - harpoons + lances

No whales reported S of Del before 1750

Eng settlers - Indians didn't know how to whale at sea

whaling began off LI 1667

Indians in canoes helped strand whales in embayments

Basset 1792 MV "Moshup, their legendary whalesman, was kind to them, by sending whales &c. ashore to them to eat"

Drift whales numerous enough no need to go to sea

~1 whale/yr ~13 metric tons today despite less abundant

ACK - 1673 - "all the Whal fish or other drift fish belong to the Indian Sachims" also some on MV + LI - full rights unique to ACK

Eng - Whales royal fish

ACK - Indians more possessive over drift whales than land

ACK - NY until 1692

Sachems - each had 10 men to assign drift whale rights

1620 - Pilgrims - Ind cutting up grampus "into long rounds"

Bradford - small drifts common - Natives cut up

Williams "the Natives cut them out in several parcells, and give and send farre and neare for an acceptable present, or dish

MV - Ind of two decked drift rights w/ land; reserved some

No records - Salem, ME, E NJ, Coast S of Pol

Wasque "whalebone" sturgeon → harpoons

No prehistoric harpoons on AC - elsewhere small % of bone, toggle

Right whale distribution - controlled drift whale, alongshore whaling, and pelagic whaling cutters; temperate shores - slow, rich in oil, doesn't sink who killed

By 1760 "whales appeared generally to have deserted the coast"

ACK + N Bed - 19th C world cutters

Along shore + pelagic whaling cutters up to 1835 - v. sim to distr. of recorded drift whaling by Ind. L.

Leading whaling ports 19th C not chief merchant or fishing ports - Phil, Boston, NY, Salem but those near recorded Ind drift whaling ACK, N Bed, Sag Harbor

Ind of MV, NCK, CC, LI - key role in growth of Am whlg

Supply of right whales + labor pool of Ind w/ maritime aptitude + interest in whales

Along shore grew from drift + strategic from along shore

Rt whales died + stranded on shores they frequented

Inshore SENE + E LI (poss Del Bay) experienced more right whales than any other E Coast area & of Gulf St L

Dead right whales → drift

ent. Becker, M.J. Wampum use in southern New England. The paradox of bead production without the use of political belts pp 137-157

SNE principle area of Native wampum production but limited use of them for diplomacy

Dutch trade SNE + Manhattan - brilliant summary by McBride 1993

ent. Chilton, E.S. The origin and spread of Maize (Zea mays) in New England. pp 159-179.

Mobile farmers + long continuity of hunting + gathering

Maize prevalent only after 1250 AD

Maize - imp for understanding relationship sedentism, farming + social complexity

Tehuacan Valley 5500 BP → increasing sedentism

Moved N - not all societies adopted - depended on pre-existing subsistence + mobility, ecolog setting + hist factors

Not obvious or easy - labor, risk + change

Maiz de Ocho - hybrid teosinte + 12-14 row

Other domesticates - Chenopodium (goosefoot), sumpweed/knotweed Iva annua, sunflower helianthus - all need extensive cooking - palatable + digestible → stone + ceramics coincident

Weeds

No evidence domestication (increased seed size, ↓ seed coat) w/ one possible exception for chenopod

think of "pots as tools"

Soapstone bowls 3500 - + storage pits - Late Archaic

may mediate hort - circumstantial

LA - highest pop'n to that point; pop'n pressure? so search for alternative foods, new technologies; coincides w/ hem ↓ ↑ nuts

Maize assemt: (1) C-14 kernels; (2) C-14 wood charcoal; (3) stable isotope bone, (4) analyze pottery residue, (5) pollen analysis landscape (6) Δ artifacts or settlemt (complemtes)

Earliest ENA date - Holding site IL 2000 BP

Lower Gr L - AD 500; NY AD 600; S Ont + NY dietary steph AD 1000

NE - prevalent 1250 AD

Beans - arrived ~ AD 1300

Old wood issue - C-14 dates on charcoal too old (must be big tree + old forest - how would Inds manage that?

C-14 doesn't tell introduction - might be there long before need flotation, intensive sampling, burning, id.

14 samples - some incorrect ids

Most 1300-1600 like Little

Ingalls site NH - 1019-1159

(1) Not all reported maize = maize

(2) Not all maize is published

(3) NE may not be simply W → E may be ↓ via St L + CTR

McBride + Dewar 1987

Non event vs major transformation - EC imp - but "No evidence for sedentary yr-round farming villages in NE" "no evidence for intensive maize hort. until after Euro colon."

Is evidence for year-round habitation in protected harbors beginning in LA - not assoc w/ hort but yr-round availability marine + terr Resources

"The modest recoveries of maize and lack of evidence for land clearing [on the coast] ... argue that maize was probably grown in small gardens near houses with southern exposures"

{DRF - but what of Pale + E+MA sites now inundated? Why did coastal emerge LA?

Little - old shell + alluvial limestone used for fert to ↑ bean + maize P after 1250

1300AD - maize more prevalent due to cultural Δ or Medieval Warm Period
cultural, material + aesthetic considerations

Need ① accurate dates ② accurate chrono of other subsist changes ③ understand imp enviro Δ

Betty Little - one of few publ. in Am Antiquity

ent Little, E.A. Limestone, shell, and the archaeological visibility of maize and beans in New England. pp 181-200

Documented movement of people to the coasts + rivers ~~by AD1290-~~ 1350

Hyp - by 1290-1390 Inds had learned to use old saltwater shell middens + limestone or FW mussels on alluvial floodplain to ↑ yield beans + maize

This ↑ preservation + visibility

People in warmest part of landscape (rivers + coast)

Coincides w/ onset of LIA

Midden material used - soil, shell, charcoal, bone

ACK - 1659 27 Puritans + families - 1500-2500 Inds

ent Dincauze, D.F. An intellectual biography of Elizabeth Alden Little, 1927-2003. pp 201-209.

EAL

Inds worked cooperatively + reciprocally w/ ACKers - not exploited

Acidity today - not characteristic of Northeast before Eur Ag practice - soils leach rapidly with deforest + plows

Maize on siltloam fields

Cronin - Changes in the Land

Changes Notes to Include

Ag s of Kennebec River according to Verazano 1524

ME - 1/2 of food from river + sea incl. nuts + berries

[DRF - like coastal Indians - reduces direct impact on land]

WC still seems them in villages but disbanding into winter family groups.

~~Understanding~~ the distinction between S + N Indians is as important as that between Indian + European. ~~More~~ Critically important if we are to understand the pre-European landscape + have a benchmt fo mgt

41 per 100 square miles vs 287 - 7x

DRF - critical period LA - arrival hickory + then chestnut; emergence of bowls + technology for more complete processing of nuts; larger storage pits; critical for smoothy out seasons

But not communal - dispersed.

Multiple spp → diversity, less risk;

Hemlock decline + oak decline - flourishing of mast + mast associated taxa

Native weed use - when did these arrive

Mast + weeds pre-adapt for corn; preparation, storage, modest cultivation.

John
Pynchon importance of Ag - calendar

Women - 3/4 of food 25-60 bu/~~ac~~ on 1-2 ac.

400
Village - 8500 lb deer 7000 lb bear

N Indians didn't burn - no Ag, less tied to sites, less incentive to alter environment. Canoe travel; forest less adapted to repeated fire + too much fuel - no control

p 51 Dwight description - re-read

Contrast mobility of Indians with fixity of English

Huge impact - disease - instability, new political leaders; undermine traditional medicine, spiritual + religious leaders
>70K to <12K by 1670; NH/VT 10K → 500

P90 - Regrowth of forest with abandonment.

Role of Indian trade - gifts, friendship, maintain political/economic alliances, diplomacy N-S; coast-interior but local - no entrepreneurial class new trade assimilated into this context
Indians redirected activity to trade; shift military balance among villages

99 Springfield MA - little worth for trade by 1650
Meat trade large by 1630s - 1672 turkey ware - Josselyn

1630s - new sedentarism - SNE Indians on coast year-round; conflict → forts reinforced - fewer foodstuffs; cloth for fur; more perm fields; less ecological diversity
late 1600s - cattle over deer

~59 Village - political + ownership unit - used various times a year; ecological territory
"village lands usually organized along a single watershed"
↓ what does this mean

Eur - girdled, planted between; burned open land dries, ↓ snow, easier to burn

141 1634 - animals crowding Cambridge

1631 - Wm Bradford - livestock having a big impact

WC - cycle of dynamic and changing relationships - environ + culture dialectical

WP 5' diameter + 250' tall

31 - Indians for 12,500 years

WC - village base leads to political + social misinterp - village + tribal
Lead to a literal reading of Wood, Verrazano, Morton

Archaeo + Paleo puts history into perspective

Changes emphasis - subtle gradients vs stay + sharp; not rapid ramp up of activity after corn but slow chge until Eur settlt

No conflict - big diff w/ Euro

Notes on Cronin Indian

82, 83-84, 90-91, 97, 99, 107

Cronin - Changes · 6, 12, 13, 19, 23, 25, 27, 29, 30, 32
33, 37, 38, 39, 41, 42, 44, 46, 47, 48
49, 50, 51, 52

Does he recognizes Changes in Indians over time?

Ecological history - used ecological sources

· Dynamic + changing relationship enviro + cultur - instability

WC mixes movable villages (p 88) w/ corn production; desire for natural products + reliance on cult.; dispersed during summer who corn grows, moved places, alfred spp etc; not perm settlements

Pynchon - month naming Stored food for later use

WC actually has most of it correct, but by miss the central part he miss it all

8-20-10

Changes Notes

Need to use history; need good history - to guide conservation
How do we move forward given such tumultuous history
Which history to use?
Future for NE

Changes 8-22-10

Intro
Changes
Salmon
WWF future

Global Change Future
Intact, continuous
No salvage, low intensity

- Start with cons bio - desire to conserve openland taxa + early successional, shrubland, young age classes - range from sandplain grassland, heathland, scrub oak, young forests
- Application - fire, mechanical + fire → structure age, open, savanna; parklike (big)
- Interpretation - Indian fire + consequences - Cronon, Pyne, Day, Denevan edge - host of wildl. (→ Indian decline - ↑ forest + succ; ↓ wildlife habitat; ↓ wildlife; mosaic successional quality of NE ecosystem)
  evidence - Boston + Narr By - remove forest altogether - deference to Ind.
  Connection explicit in many mgt guidelines + policies, also ecological territory - w/in watershed - few hundred (400)
- Ultimately linked to understanding of NA subsistence - village, Ag, domination + (principal grouping - crucial distinction +/- start subsistence discussion there)

- no burn + less mod. of environ as not involved in agric.; canoes

mgt. of landscape - shifting Ag, perm villages (long house), dichotomy (patchwork) S + N NE (Pop'n size, winter survival)
NNE - fewer Inds so greater conc of animals more fur; major trade = corn; 1/2-2/3 diet
large, conc pop'n; beans, squash, corn; 80% total pop'n

edge effect - literal + figurative

2 explanations - large treeless areas - fixed villages + consuming E supply; cleared w/ fire for farms
land w/o people - random; winter - move for wood
Cleared land, conc food base, imp step in restructuring ecosystem

3 diff structural effects of fire: ① open, ② treeless, ③ edge

- pasture, nutrients, biomass;
managing + harvesting foodstuff
husbandry

But examine evidence - long continuous veg sequence, low fire occurrence varied geographically; no evidence of openlands; dominance of long-lived shade tolerant to mature forest spp - shift to ↑ charcoal, ↑ openland + succ; ↓ mature forest spp.; ↑ burning with settlmt. (big trees + dense forest; good grow)

Archaeology - no evidence for farmers for subsistence on maize; no evidence for villages, for large settlements, for conc. pop'n; for permanent dwellings; maize fields or forts or conflict
Maize - possibly 1000 BP - present 1250. (3-5% duration of Indians) Evidence mobility, dispersed, family groups, hunt gatherers;

never abundant
Interplay beaver + no mention of natural disturbance

Fundamental misinterpretation - ecological state, dominant processes, ~~even ultimately~~ (include T Dwight) rooted in misinterp of human relationship to land, but more deeply in misinterp of human society, subsistence base, lifestyle, organization. Arose due to overemphasis on history vs archaeology. Long recognition - archaeol ≠ history. Partly due to diff strengths + biases; largely due to sampling diff time depths. WC - ecological history is linear - land changing rapidly - so Colonists sampling changed land.

DC - Jump to concl. that 16th + 17th C activity longstanding - so played it out in time

History - impact contact - trade - political, social, disease - WC - how little understand - hundreds who visitors

Fund lessons - need to place mod land in history; but need deep history to understand - rates of change, human role + relationship; if apply these - fundamentally diff

Understanding of Indian history + relationship; completely diff understanding of nature pre-settlement — was dynamic but driven by physical processes - hurricanes, winds, ice, + climate change.

Landscape - dominated by OG + mature forest.

WC View

Anthro View → People changing

land already changing in response to new understanding

Nature at time of Eur Settlmt

Pre-Eur Dynamics

DRF-actuals ↑ edge effect

+ edge released for Eur fields

-+↑ cattle - comp w/ deer

Land released from ~~Eur~~ N Am impacts - ↑ forest, ↓ edge, ↓ biomass; ~~↑ timing~~

timing is wrong, plus ignores trapp + hunt, ↓ beavers

meat trade big 1630s

Other impact - beavers - loss - boon to settlr, destruction of Ind comm

other pavin of way for Eur comms

some of greatest impacts to Ind

Post-Eur Dynamics - Deforest + Reforest

Patterned Ld - Plow + Slup, not fire

AS

Wildlife Curves - DRF vs Dick DeGraaf

Cons Lessons + OPP

W, W, F - Wilderness, Resource, Cultural

WWF

Global Change Future

(1)
ConR

Cronon on Raup. P 181 Ftnte #26 -

Raup argues that wholesale conflagration of NE landscape every year or even every 10 to 20 yrs inconceivable. WC counters - failed to account for reduced fuel load in thick forests. "But Raup was no doubt right that the entirety of southern New England was never regularly burned; I have limited the claims of my argument to the local vicinity of village sites. A recent article defends Raup but basically confirms my emphasis on local burning." 1E WBRussell 1983.'

Cronon miscontrues Indian settlement patterns - getting dwelling + family bonds, movement patterns correct but misinterpreting settlement pattern as village based, subsistence as too strongly centered on maize and evidence of sedentary lifestyle as confirmation of agricultural, ~~and~~ village and maize dependent. Leads to important key elements: mis-interpretation of political + social organization as village, tribal etc. rather than familial and federation; sedentary as tied to land for farming as opposed to mixed diverse habitat - confluence of ~~fresh~~freshwater, brackish and saltwater with access to upland resources; and therefore too strong a focus on land management, + active use of land.

Emphasis on established maize diet x% calories - required need to organize large #'s people, rooted to site, accumulation of goods, tools, food stores etc, active farmed + fallowed land. ~~Active use~~ Heavy imprint of people + gradient of use emanating out from village sites with 100s of people - large fields, fuelwood collection, burning to improve habitat ~~food~~, travel, ~~intertribal~~ defense. Focus emphasis in Cronon seen above 1 In its extreme, which WC was defending against this led to application across SNE landscape and beyond. To literal reading of Morton, Wood, Verrazano - and interpretation of broad landscape as controlled by

and managed by Indians, mosaic driven by their activities, especially of fire, land clearance and agriculture.

Interestingly also led to interpretation of ecological diversity as governed by habitat controlled by man rather than nature and thus human control. WC - deer principally - dependent on "edge habitats" ~~the~~ and land becoming more wooded + less hospitable as Indians ↓ from disease, moved to coast etc.

Interpreted by biologist + conservationists as producing maximum or expansive "edge" habitat at settlement, losing some of this as Europeans settled and dichotomized landscape into tamed + wild, increasingly led to competition deer + domestic animals

Extreme view - Pyne on one hand - fire, open land, kaleidoscope; wildlife mgt - book by DeGraaf + Miller - diagram

Strong influence → ecologists + conservation biologists.

But Qs : why no longhouses + substantial structures? Why so little evidence of Ag? Why no villages? Why no evidence of fields etc?

Overemphasis of history - not entirely wrong or biased - but incomplete, temporally + geographically limited. Snapshot of dynamic landscape

Archaeologically + Paleoecological; informed by history. Provides framework that puts history into perspective but that provides a diff moderator of subsistence, settlement etc. patterns - orients them much more to the diversity of resources, places people in the land for these, not Ag, yields Ag as a supplement, mobile. This roots sedulty + activity deeper in time rather than tied to new crop.

Re-orient focus to diverse resources from land (broad + wide) & rather than centered on specific crop. Spreads activity, diffuses effort, makes this part of

concentration of pop's,

a long continuous pattern. Reduces | focused impact on land, need or desire to manipulate land.

Changes the spatial and temporal distribution of native impact

Rather than focused with strong gradient, dispersed + sporadic

Time - rather than ramps up broadly with corn etc. ramps from LA to Woodland Period, ~~reticulate~~ does that for broad subsistence but only focused on corn etc. ~~1000~~ 1500s →

Big ecolog repercussions / consequences

long social cultural underpinnings - no major conflict, not tribal, not villages; family groups - mobile + interacting

Choice - aware of Iroquois - not adopting

Ecolog interp - incorrect - not open + edge; deer doesn't prove that if deer & hunting - has always controlled deer - deer & with settlement + concentration; deer abundant - suburbs, Iowa corn, PA woods - not tied to edge.

Beaver + Moose - S NE - large pop's today; constrained then by ? Hunting + habitat? Heavy forest - continuous; open land - colonial.

Colonists edge - land clearance, fuel wood, selective harvest, browse in landscape, ↑ fire

Changes in the Land

Chapter on what is missing in NF today

At some level seems incongruous - heavily forested landscape + abundance of people + species - need + desire to conserve species of open lands, young forests, of non-forest habitat and of diverse forest structure - habitats or vegetation types - grassland, heathland, shrubland, scrubland; diversity of forest ages + structure - recently disturbed, young pole, mature + old along with savanna; open forest.

Overall - accurate landscape diversity - back up continuous forest; create more mosaic of habitats.

Application - diverse - cutting, mowing, brushwacking but especially burning. kill trees, open woods, rejuvenate forests, shrublands + grasslands; combination - cutting to open, generate savanna, open forest, early succ. habitat + then burn.

Intriguing - heavily forested landscape, allow land to sit + will reforest, allow forest to grow + will age + mature, larger trees, older trees, gradual increase in mature forest spp - over successional. Asbestos forest, difficult to burn; incidence of natural fire is low. So what is driving this?

Historical interpretation - Native American burning - frequent fires - to clear for Ag, to open for travel, to increase habitat, for defense, offense. Ultimately to manage the land, diversify it support if not create diversity the to maintain diversity + increase productivity. Dichotomized landscape - with fundamental Indians seat in villages
difference between N + S Indians in the south/ centered around agricultural activity - large pop'n, fixed sites, intensive land mgt - need to open land, need to manage intensively for diverse resources, intensive use + need for defined areas of ecological non-friction. Led to extensive treeless areas, broad areas of mosaic - successional ages; open woods; permanent villages.
Edge habitat

Arminat Range of descriptions - most elegant + best articulation - earliest Dwight Millers presentation of later of underlay scholarship
comes from Cronon - more extreme from others - Denevan, Pyne,

Loss of this diverse mosaic - 2 step process - first decline came with decline of Indians - disease and lesser extent

forced concentration of activity – forts etc.
Led to widespread successional change – edge into forest, diversity into monotony, shrubby + woody; grass into ragged plain

Second was English domination of land; bounds into fixed ownerships, improvements of land, rent + tidy, utilized w/ domestic animals applied; edge eliminated, land cleared + edge eliminated; grazing animals competed directly with wildlife like deer

Interpretations directed translated into active conservation management – as our forest area has increased and older forests are dominating the landscape, there is a need to diversify it – apply fire, manage to move from uniformity to diversity; re-instill the variation + conditions present before European settlement or generated in general by human activity.

But look for evidence – first from paleo + history – no evidence of open areas, of dynamic landscape; no grass, no heath, no continuous succession; low fire occurrence varied geographically – with local landscape as expected with soils, veg. topo; with latitude; dominance of long-lived, shade tolerant + mature forest species; not early successionals indeed ↑ grass, ↑ charcoal, ↑ openland taxa with Eur arrival; LT – variation – climate; ST – biophysical

Then archaeo – no villages, no forts, no large settlements w/ dense populations maize + beans – late; never adopted in great quantities; no conflict; no evidence of tools and activity to support large open areas or for permanent dwellings or those accommodating dozens of people. Much evidence for mobility and diversity, dispersed family groups + subsistence not on one concentrated food source.

Fundamental misinterpretation of history of subsistence base, of settlement patterns + these led to misinterpretations of needs, motivations, and therefore to activity. Good use of history + much that is sound just not deep enough perspective to put that history into context + to recognize that it did not provide insight into long continuous activity but one ~~is~~ that captures only a snapshot of highly dynamic cultures + landscape. People + land in transition. People already substantially altered directly and indirectly by Eur encounters.

Cronon - Although central thesis is one of exploring differences between Eur + N American there is another fundamental dichotomy that he underscores. This less obvious because it is embedded in Indian story. But it is a critical element as it imposes a fundamental break geographically among Indians and temporally in Indian history that translates into major behaviors that come to shape the ecological qualities + geog. variation in land.

Distinction between S + N Indians "The crucial distinction between Ind comm was whether or not had adopted agriculture" starts + centers subsequent discussion with that.

While both mobile in landscape + utilize the diversity + bounty of the land - fundamental difference in subsistence, social organization, activity pattern in approach to land and impact. N entirely dependent on land for resources. Small dispersed groupings, highly seasonal al due to severity of winters, lacking in food. Food leads to starvation, population in check and light imprint on land. With mobile hunt + gathering strategy - no sedentary + no need to manage or shape the land.

"farming Indians of SNE" "Their ability to raise crops put them in a fundamentally diff relationship with their environment"

In contrast SNE pop'n, at completely unspecified time had become farmers. They had adopted maize + in part to take advantage of this and in part because of this had become sedentary and assembled into village. Principal groups of few hundred (400) food base - allowed preparation for winter, storage of caloric food for lean periods - led to > survival + ?% increase in population size. Larger pop'n + need to tend crops led to conc villages - permanent structures + this all translated into v. different activities - clearing large areas - families 1-2 ac into immense fields + fallow; 25-60 bu corn - single woman 3/4 family food so mosaic active field + abandoned fields; extensive use of fire to clear forest, rejuvenate fields, open woods, defend settlements, manage land for diversity. Extensive wood collection - so great a need to move in winter. winter in longhouses Corn with them + in trade.

Huge dichotomy - In many ways Indians not that different from Eur settlers

- 1/2 - 2/3 of diet provided by corn, much less need of rest of landscape
- much larger population - 50% of area but 80% of NE pop'n
- product for trade - w/ N Indians + as an initial basis for trade with English + the basis for fur trade
- Need + incentive to manage; much greater need to control land
- quotes on incentives as well as active mgt on attitudes towards land
- Conflict - territory? unclear - fight in winter

Mosaic - intentional management of foodstuffs; not inadvertent product; ↑ productivity (5) 8-22-10

inconsistencies / How was this used? v. sophisticated?

(I) Fire used in 3-4 ways (1) created open woods for travel + defense (quick, low T°, not large trees; improve hunting), (2) clear land for fields → extensive treeless areas when combined with wood gathering (↑ Andropogon) (3) create edge habitat + pastures - cycling nutrients, generating biomass + husbandry - understood only by Timothy Dwight (!) - ↑ birds, small mammals, carnivores, all animals - quote

(II) Scale - limit to specific local areas around villages - local issue vs. desire to spread this broadly

(III) temporal incorporation of maize + assumption of this activity (3-5% duration; Jennings - widowed growth) if no need to manage like this if hunt-gather then when did this lifestyle arise. Implication that it was longstanding - Indians present for 12,500 yrs, shaping land - but, if indeed, tied to farming + maize then according to maize only a couple of hundred of years - so were all these new activity - patterns new? Dichotomy just developed + mgt only for a couple of generations?

(IV) Wildland abundance + geography - Massed in south for diversity + productivity + supported by activity but N had more abundant wildlife due to low pop'n of people. Deer etc. ↓ with Indians + changes in mosaic patterns and yet Indians became big hunters - by 1630s beavers, 1660s turkeys, deer + meat big need by 1630s. Big disease only 1616 so hunting + trapping >> habitat. (biggest assailants of NE furbearers; beaver - sedentary + low reprod rate)
Abundance of deer - with cows, corn etc + forest wildlife w/ people suggest that not habitat but hunting

(V) Disturbance - Ignores beavers - yet 70,000 today despite WC that unimportant
Also hurricanes, ice, wind etc. (loss of beaver like loss of Ind - big advantage to Colonists)
Overall - landscape random, human structures is nonsense

(VI) Underestimates role of mast - people + animals

(VII) Role of ♀ - 3/4 food 50-60 bu corn (Linear w/ feedback - humans respond to nature + then to Nature's response)

(VIII) Movement - Sedentary + farming vs movement + diversity - 60 bu corn + need to carry vs small wigwams + diverse resources

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Archaeologists - long recognition of dischordance between archaeology + history.
Led to major confusion on villages; much of debate on corn + Ag
Conclusion - historical accounts - not basis for full arch. interpretation - much continuity but much change + new. Conclusion - no villages.

Synthesis - Long continuity with rel. little change
V. little diff S + N in overall lifestyle
Local + regional differences - mast in S, beech up N; harsh winters. coastal
Sedentary did exist along coast - due to abundance of resources
Overall - diversity, balance, off nature, small groups (except on coast), diverse resources, maize transient + minor, no Ag, no farmers,

Pop'n fluctuations + active - with biophysical changes - many of largest changes tied to these + ~~culti~~ utilization of new cultural activities.

LA - explosion - warm temp, ↓ hemlock, ↑ mast - pottery + gruel; role of nuts + wild plan (↑ hickory 5K; chest 5K; storage pits)

Transition - decline in sites with moisture + cold — never mentioned by WC - pottery + gruel - Cheno, Poly, Amar.

Iroquois - adopted corn + villages, longhouses, never came to NE - came but rejected - NE aware, utilized some corn but never adopted - concious decision. Ag - liability, difficult, risky, less flexible

Even when NE sedentary - still based on natural, diverse, spread across land so not requiring intensive land use

So w/o Ag, w/o fixed villages, with small groupings + low pop'ns + mobility no need to use land this way + manage it. w/o villages no local area to burn. ~~Way to show~~ agree with WC on N NE

Misinterp - from history; long contact with fishing fleets; trading + exchange; old reorient to coast, to ↑ maize, to trade, to increased permanence, to ↑ pop'n on coast - great need for food. - corn a big part of trade t/o 17th c

Pre-adaptation: trading + exchange; maize; coast - subsistence

~~Eots~~ wampum + Ceci

~~Eco~~ Social, physical, political, economic transformations - trade, conflict, shift to commercial, disease + depopulation. Forts etc. (80K → 12,5K 1675)

Overemphasis on history - accounts compelling; bias in both but big difference - Arch - longer, democratic, (not just in terms of power but those exposed to explorers - beyond those w/ experience, language, outgoing)

WC ecological history is linear - but trajectory not flat - Colonists saw a changed + changing landscape - little understood (WC quote)

So ecological interp - Indians invisible; abundance; natural disturbances; bio physical; diversity great. Beaver much >> impact on forest + landscape than humans. Forests old, structures natural, diversity due to natural patterns - wetlands, natural disturbance; (Pilgrims - good land + forest on CC (earth) but no harbor)

Not no NAm impact - subtle, reinforcing, parallel; fire ocassional - still poss important. Hunting - moose (wolf, habitat?) kept low?

So old forests + largely natural process; LT change climate

No major change with loss of Indians; major change is in loss of beavers, v. local village + new human activity; pop'n didn't ↑ really rapidly but did have major impact on land + hunting + fur trading

Difference seen poignantly in (1) comparison DeGraff graph + DRF in Forests in Time. Successional habitat small scale, gap dynamic and forest based in DRF pre-settlement; predominant condition is old forest. Early succ – gaps, big blowdowns, edges – streams, lakes, coast lines, wetlands. Role of beavers important – wetland dynamics + storms esp. Much less uplands, than early succ.

Natural cycles. Early quotes on forests. 1631 Bradford – wildlife be impor. 1666 quote on # animals + trees NC Barbados cl.

Big increase in edge, rough pasture, shrubland, young forest; opening of forests – fire, grazing etc. with Eur. exploration.

Girdle + clear, coppic,

Vs Degraaf + Wildlife dynamics

(2) Also poignant – Indian quote on peace + love – WC downplays peace + love, Ind emphasizes – hunt, fish + fowling, not corn – no evidence caries, disease, trauma

So need deep history to understand

Lessons from N Americans – continuity, diversity

Lessons from deep ecological history

Rates of change

Ecological surprises

Long continuity + slow change

(3) WC – don't overemphasize Ind + Eng farming

Need to incorporate colonial history + forest destruction + regrowth

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Conservationists – easier to manage for fire + Indian activity than Europeans. Despite the fact that even if WC correct would have been novel, short duration + due to cultural spread from other direction.

Fundamental ecological distinction with Cronon – ??? Natural ecosystems arranged almost randomly on landscape with continuity dependent on this disorder whereas humans systematized this. Imposed order, even if mosaic pattern around village organization and seasonal patterns. Vs DRF natural landscape highly ordered + structured; shaped by geomorphology, soils, moisture, topos; natural disturb no less structured – at multiple scales – regional to landscape; beaver location; fog; hurr etc. Indians only reinforced this; but even Colonists, not ignoring this + today no less – topo, bedrock, soils – Manhattan to local hous;

Changes - Notes

33 natural ecosystem arranged almost randomly on landscape w/ continuity depends on this disorder - human systematized this.

[No - natural landscape - highly order + structured - geomorphology + topograph soils, moisture, water, coast, wetlands - Indians oriented to this, structural it only slightly]

[Sedentary = bases used t/o year; vs permanent + rooted; highly mobile] (what is the definition?)

[Maize + sedentary of coast - sedentary developed first, connected to resources; maize additional resource; pre-adapted + ↑ w/ Eur influence.] Resource conc. oriented there - geographically + seasonally

36 50% Pilgrims died 1st winter

37 Morton "the beasts of the forrest there doe serve to furnish them at any time when they please" Not beasts of edge! p. 47 - 400 people

38 "The principal social and economic grouping for precolonial / New England Indians was the village, a small settlement with perhaps a few hundred inhabitants. ... villages ... were the centers around which Indian interactions with the environment centered." But broke up and reassembled

Mobility was key Winter extended longhouses with many families

"the crucial distinction between Indian communities was whether or not they had adopted agriculture." Ag was S Kennebec R - cites Verr. 1524 DRF - but far N and none as major part

WC - Ability grow crops - drastic implication for rest of food-gather - so start subs. discu there. ME - ½ food River + seashore → nuts, berries → Sept into family bands + hungry in winter - low pop'n still villages

low pop'n - little impact - rel. little impact on ecosystems + stable system homeostasis

"farming Indians of southern NE" - "Their ability to raise crops put them in a fundamentally diff relationship with their environment" - carry pop'n thru winter

"Grain made up perhaps one-half to two-thirds of the southern NE diet, thereby reducing southern reliance on other foodstuffs; in comparison, Northern Indians who raised no grain

As important a contrast Ind + Eur is S & N NE Indian. More imp in terms of understanding "nature" as benchmark for pre-Eur landscape + for guide to mgt

100
40/sq mi. vs 287 7X All based on historical accts

at all had to obtain two to three times more food energy from hunting + fishing."

No W storage - starvation much less serious in S.

(1) Mis understands + misrepresents role of corn; (2) fundamentally new food item for 2-3 centuries 3-5% duration of Indian presence; (3) underestimates role of mast in S - chestnut, hickory, oaks; diversity of foods thru winter; hunting + collecting; (4) Miscasts incorrectly fund diff S+N Indians

(5) mast-fund. difference
Arrival - hickory 5K + chestnut 3K as critical → storage pits from LA pre-adapted Ind for maize onwards; NC - grain - smoothed out seasons vs. - Archaol. - mast pottery assoc. mast + native weeds - Chero, Polyg, Amaranth - not even mentioned by WC

(42) "The crucial role of agriculture in maintaining so large an Indian population in precolonial NE is clear: although agricultural and nonagricultural peoples inhabited roughly equal areas of southern and northern NE respectively, those who raised crops contributed over 80 percent of the total population"

Based on calendar date names - John Pynchon "an indication of how much agriculture had transformed Indian lives then" Eva Butler 1948 pub + Day

(44) Single woman - 25-60 bu corn 1-2 ac. - women 3/4 food

(45) fall - preferred season for going to war

(47) 400 village - 8500 lb deer 7000 lbs bear - 3/4 meat used fur + other materials - so much more than meat "whether or not this meat was essential to economic survival"

(48) "But in clearing land for planting and thus concentrating the food base, southern Indians were taking a most important step in reshaping and manipulating the ecosystem."

annual re-occupation - field for 8-10 yrs so heavy use around village - moved for

(48) winter as summer areas stripped of wood → Verr. 25-30 leagues treeless land Narr Bay; Higginson - thous of treeless ac. near Boston "they were observing the effects of agric. Indians returning to fixed village sites and so consuming their forest energy supply". Roger Wms - Indians more for wood

49 Open + parklike - burning - annual fires - quick w/ low T° - didn't involve large trees - drive game, clear land, fuel off invaders, improve hunting.

50 N Indians did not engage in burning "Because they did not practice agriculture and so were less tied to particular sites, they had less incentive to alter the environment at a given spot". canoe travel so less need for open forest

N forest - not well adapted to repeated fire + too much fuel → out of control

51 Forests burned - ↑ Andropogon; ↑ nutrients, ↑ light, ↑ warmth

"Selective Indian burning thus promoted the mosaic quality of NE ecosystems, creating forests in many diff stages of ecolog. succession". In particular, regular fires promoted what ecologists call the "edge effect". "By encouraging the growth of extensive regions which resembled the boundary areas between forests + grasslands, Indians created ideal habitats for a host of wildlife species"

51 Only Timothy Dwight astute enough to comment on this! only early Am. observer fire created pastures - ↑ available food - attracted animals + ↑ biomass ↑ large + small mammal + birds, ↑ carnivores "In short, Indians who hunted game animals were not just taking the "unplanted bounties of nature"; in an important sense, they were harvesting a foodstuff which they had consciously been instrumental in creating".

"Indians practiced a more diverse kind of husbandry of their own"

(53) WC still emphasized movement as lowering demands + impact on ecosystems

"For NE Indians, ecological diversity, whether natural or artificial, meant abundance, stability, and a regular supply of the things that kept them alive".

Not stable

Moved from habitat to habitat to find most abund. thru minimal work + so reduce impact on land

contrast mobility w/ fixity of Eng - but internally inconsistent w/ S vs N

Central conflict - 2 ways of living + using seasons + interacted w/ environ.

WC correct - but incorrect in interp of Indians; already pushing NE Ind into Ireworld or semi Eur.

Even when sedentary - drawing from diverse resources of water, land, sea - not Ag, no not land based, no need to manage land

Can't have both Ag - 2/3 calories + mobility.

54 Harvest stored below ground - wait return

No surplus property - poor in possession - rich in foods, lands resources

58 * Francis Higginson "neither have they any settled places, as Townes to dwell in"... but they change their habitation from place to place"

59 Winthrop "they inclose noe Land, neither have they any settled habitation"

R Wms "they burnt up all the underwoods in the Country, once or twice a year"

burning woods = improvmt + claim to land

village - political + ownership entity - used various times a year

Sachem - leadr + village political identity but fluid set of relationships

loose hierarchy - larger confederacy for conflicts - village - ecological territory - land of use

Gifts - crucial lubricant "village lands were usually organized along a single watershed" — sense → scale?

67 land used as ecological cornucopia

80 Not one owned + other didn't own land - loved it differently

83 Verr - NVE familiar but wary for trade - Narr. Big. - not =D, nor for weapons, goods

1600→ every exploration - Indians eager for trade - Gosnold - skins beaver, otter, marten, fox, rabbit Champlain - muskrat

NC - Entire argument of trade differential on Verr.

Indians reorient activity to trade; stiff military balance among villages

"It is important to understand how little we know of their early fur trade and its effect" diff Indian groups at different times + ways" - Mid 15th C → fur trade

lessons "learned primarily not from men like Champlain and Gosnold but from dozens of unknown visitors who left no record of their trips"

Explorers - found people speaking Basque, Fr., Eng; Pilgrims - dug grave w/ blond hair in red powder "betokened an already long and continuous exchange between peoples on opp. sides of Atlantic" - disease

Ind migration - filtered out parasites; low pop'n; no domest. animals

How early disease → NA unk - 1616 - but before?

Social disorganization kinship networks >70K to <12K by 1675; NH+VT 10K → 500

political instability → new political leaders; undermine spiritual + religious
caste to take over land

90 As Ind villages vanished – land transformed; field in grass 1620 → forest
regrowth * into "ragged plain" because it tears + rents the clothes of them that pass (Wm Wood)
Old field phenomenon
edge habitats – began to return to forest – resulted in ↓ animal pop'n
[blames ↓ animals on succession, not hunting/trapping – get talks of fur trade
decimating animals – fur trade that depended on Inds.

92 Ind trade – gifts, friendship; maintain political/economic alliances; diplomacy
S↔N; interior ↔ coast;
but v. local; no entrepreneurial class; local among individs + sachems;
new trade – assimilated into this context
many goods reconverted → new uses; became diff objects

Any evidence? "Ag. produce had been the major substance offered by S Ind. in trade w/ northerners"
[No evidence for this – WC just argued that trade is local + small
Colonial – new corn trade – amassed corn – local tax? trade
t/o 17th c – corn – element of fur trade – trade to SNE w/ trinkets →
corn for NNE – furs – but disadv. as commodity – bulky, value fluctuated
✓ w/ production + NNE ability to get own food

95 Wampum – 1st discovered value – Dutch 1622
Traded to N – unclear why such great value – "prestige"
Goods → LI Sound for wampum → N for furs — slaughter Pequots 1637
wampum – military tribute — corn, wampum, furs, prestige
"The one occasion for which furs were accumulated in precolonial times – when they were
exchanged w/ southern villages for corn + other goods" – trade between villages,
98 held in check by need + politics — from Champlain?
Eur trade – changed relations "enough to turn Inds into the leading
assailants of NE's furbearing animals"

Beaver - never abundant in SNE. low reprod. rate, sedentary

[1950s → 70,000 in Mass 2000] - disappear MA coast 1640s

99 1650 - (1636) Springfield MA lost ~~...~~ declined to little worth - v. low after 1670s + King Philip's

Meat trade + need - beg by 1630s

100 Overhunting + ~~loss~~ (reduction) edge habitat - decline some meat spp by 1700

1672. Josselyn. Turkey rare   1694 - closed season on deer

late 1700s - Dwight scarce below 44°

101 1630s - SNE Inds occupy coast year-round to stockpile shellfish for wampum

"new sedentarism" reinforced by conflict → prefer fortified sites

Gookin forced "many of them to get together in forts; by which means they were brought to such straits and poverty"

living in fixed locations - more permanently ↑ disease "relying on a narrow range of foodstuffs"

sold fur - needed cloth; ↑ guns, metal

more perm fields; loss of wider lands, less ecolog. diversity

[But WC actually argues this came earlier - corn 1/2 to 3/4 calories"

late 17th C. - domestic wildlife ↑ cattle ↓ deer "The keeping of cattle on Ind land further decreased the forage available for wild deer herds and so continued the erosion of hunting resources"

104 NNE - fewer Ind so greater conc. of animals - [but earlier: Ag in S led to edge habitat + ↑ resources] so more fur trading

"Low Ind densities meant fewer hunters and for that reason larger concentrations of the very animals Eur. most desired, so that the fur trade was far more active in ME and E Can. than it was further north"

Eur kettles - more transportable

Collapse of old beaver dams - great benefit to colonists - trees dead, good silt, hay - up to 200 acres

[WC doesn't realize this happened naturally]

[Beavers' loss greatest ecological change to NE landscape?] 70,000 in MA

"The death of the beaver in fact paved the way for the non-Ind communities that would soon arrive"

107 WC Indians exaggerated the peace love and harmony of precolonial Ind life.
Mohegans 1798 "The times are Exceedingly Alter'd, Yea the Times have turn'd everything upside down, or rather we have Chang'd the good Times, Chiefly by the help of the White People. for in Times past, our Fore-Fathers lived in Peace, love and great harmony, and had everything in Great plenty. .. But alas, it is not so now, all our Fishing, Hunting and fowling is entirely gone."

108 "Edge habitats once maintained by Ind fires tended to return to forest as Ind pop'ns declined. But edge environments were also modified or replaced - and on a much larger scale - by clearing, an activity to which Eng settlers, with their fixed prop boundaries, devoted far more concentrated attention than had the Inds." Whether edges became forests or fields, the eventual consequences were the same: to reduce - or sometimes w/ Eng livestock, to replace - the animal pop'ns that had once inhabited them. The disappearance of deer, turkeys, and other animals thus betokened not merely a new hunting economy but a new forest ecology as well."

source of misconstruction - a la Miller

109 ME + NH - along Rivers - WP on old forest fires
116 Forests maintained fertility - so ↓ w/ clearing
(1) Girdled forest - cut + girdle - describes process - plant among trees, burn for few yrs, trees eventually removed - long years
(2) Cut + burned - use of fire to clear land - borrowed from Indians - but applied for diff purpose + much more widespread
open land - clearer + more subject to burning - & snow   Simmons, eg?
127 "One must not exaggerate the differences between Eng and Ind agriculture."
"their most imp crop was the same maize grown by Inds"
big diff was use of animals

131 1666 Sam'l Maverick "It is a wonder to see the great herds of Cattle belonging to every Towne ... And with all to consider

Wm Wood "The timber of the country grows straight and tall, some trees being twenty, some thirty feet high, before they spread forth their branches"

other "good ground, in abundance, with excellent good timber"

CC typical forest - scrubby trees

but Pilgrims more favorably than J Smith - excellent black earth + good forests - but chose not to settle [due to harbor]

Regular burning maintained PP forest

Protected areas → WP, hem, beech

Effects of fire - not limited to CC

"Indians made sure that they were very wide indeed. Throughout NE, fires which destroyed substantial portion of a hdwd forest created the conditions of full sunlight which species such as birch, wp, and various shrubs needed in order to flourish."

When T Morton wrote of riding thru a forest with little or no other wood growing "he was prob. describing the site of an old forest fire"

WP - 5' diam 250' tall

31 Pre-col. Landscape - "a patchwork"

deep time - Indians here for 12,500 yrs

unique linear sequence

Gordon Day 1962. English-Indian contacts in New England. Ethnohistory 9: 24-40.

Samoset's Welcome Englishmen greeting Pilgrims

Gosnold's 1602 shallop + "saucie with my Tabacco"

Unknown # ships to NE, but only 2 encounters - Verrazano + Thevet before Gosnold

Friendly start then terminated - misunderstandings, kidnapping, displeasure at staying

1501 - Italian discs + sword - Indians kidnapped

Hope of finding Indians completely unaffected by Eur trade goods - fruitless

Ethnic units - geography, movement, partitions, regroupings, mergers, dislocations, pop'n shifts w/ disease, physical movements shifting pop'n centers

Eur varied in treatment - some lumped, some divided by watersheds

N area - Kennebec → L Champ terra incognita - no accounts until King Phillips War

Speak differences - Bay, Cape, MV - unclear

Cannot study effect of Eur contact unless we know what pre-contact cultures were + they entities they comprised

entered

Demeritt, D. 1991. Agriculture, climate, and cultural adaptation in the prehistoric Northeast. Archaeology of Eastern North America 19: 183-202

No arch evidence for pop'n pressure forcing Ag adopt

Coastal ME - maize was possible but not chosen in prehistory

Assumption - and Ag developed - would spread rapidly as far as enviro allowed;

ENA - other crop complexes independent + prior to maize from MesoAm much more complex - not simply at diffusion.

Tools - wood, stone + shell

So soil - limits to finely-textured loams - alluvium, sandy loams, loamy sands well-drained + dry in spring

dry - reduces soil T° inertia (↑ germination + seedling growth)

↓ wet + cold - ↓ pathogens + fungi

max growing season

Predictability - most imp.

Northern Flint / Eastern Complex corn - developed ENA NICOOAP

adapted - cool T + short season; short stalk + lvs

Summer heat imp - crucial maturation - grain quality

GDD = Mean Daily T° (F°) - 50 Base 50 Method

Beans - requires fewer frost-free days

GDD ~2000 - maturity threshold for 18th C corn

Infertility - non-issue as swidden not limiting factor

Lit - ↑ variability, ↓ GDD, ↓ growing season + frost-free period, ↓ warmth 1730-1829 std dev. growing season EMass - 21 days

1880-1979 16 days

Enhanced variability ↑ risk of consecutive crop harvest failure

Seed supplies + emergency food some who frost hits - old seed

V. poor

↓ GDD accum per day

Growg season T° began to decline ~ 600 BP

Need monthly or less data to really understand

Fluct around decadal trends - not consistently cool

Planting not just bio-physical - but cultural as people need to decide whether to invest

① Minimize failure - plant on hillsides - prevent frost damage, near lakes, on well-drained sites, S + SE exposure as max summer insolation (Iroquois - moved to hilltop slopes ~ LIA); Crawford Lake - 1.6

Coast - longer growg season - but fog + brisk breeze ↓ T° - only SE can help

Maize ~ absent from most coastal sites (except Ft Ancient)

② Dietary diversification - ↑ meat use, nuts, traditionally gathered resources

In WNE - Indians turned to maize only after contact w/ Eur disease + ↓ pop'n

fur-trade allowed maize purchase

Adoptg As - requires totally diff siting logic + altern of settlmt pattern

adopted to rivers/wetlands + marine resources - poor for corn

Inland - more to gain, less to lose - so extended further N + W

Encounters - transformed human geography

"for the most part, it would seem prehistoric peoples chose clams over corn" - refers to Gulf of Mf

"... before [Eur] encounters transformed the human geography of the Northeast, most aboriginal peoples living along the coasts of the Gulf of Maine lived without maize. A few inhabitants of the southernmost reaches of the Gulf cultivated maize, but

Dincauze, D. 1993. Centering. Northeast Anthropology 46: 33-37

Neast quote - marginal, culturally retarded

Eng bias against people in woods, no perm. homes, no beasts of burden

Iroquois have dominated historical + ethnographic sum as most Algonquians disappear

Iroquois - quintessential Eastern Indians

Alg - dull in comparison to martial + economic accomplishments

Alg sites called villages + horticultural - transformed into marginal Iroquois

No villages - so confirmation of marginality

NE arch - LI part of NE by virtue of geology + geography

"We are not receiving the messages that ancient societies, successful on their own terms far longer than our own might send us."

separate corn + cultural complexity

D'Duran - inappropriate analogy Alg to Iro; belief ag not for sedentism

Cowtwell + Webb - chose not to practice Hort. only varying degree

Ninian 2008 - over stylized hort as couldn't understand mixed model

Bernstein 2006 - continuity; intensive Ag misinterp from comparison w/ Iroquois + ethno history

broad spectrum - new resource added to ever expandy list

Snow 1980 - NE marginal to mainstream of Neast prehistory

entered

Duranleau, D.L. 2009. Flexible sedentism. The subsistence and settlement strategies of the pre-contact residents of coastal New England and New York. Ph.D. Harvard University, Cambridge.

Thousands of gray literature - CRM reports.
Compare Late Archaic + Late Woodland.
Homogeneity - regionally + across time. - similar activities and reuse of site thru time. - successful coastal precontact strategy
Supports Bernstein's hypothesis for long-term continuity
Certain sites or groups of sit inhabited year-round
Flexible sedentism = strategy

Sedentism - part of a continuum of mobility; flexible strategy
LA + LW - periods of social + technological change. - connecty to other groups, practice burial ceremonialism, expandy lithic + storage technologies; confronty dynamic ecological setting.
Greater # sites

Flexible sedentism
Residential mobility
Prior - believe Ag necessary for sedentism - long houses + Ag
Inappropriate analogy to groups like Iroquois - v. diff + >> Ag

Fluid + flexible models - residential mobility - Sedn is one response when resources are available

/ hort corrolate - aggregation, sedentism

Petersen + Cowie 2002 Tracy Farm Vermont - full-blown regional transformation - maize, sedentism, settlements
No-choice agency not "natural state"

Break apart evolution maize + cultural complexity

"domesticated plants in coastal southern NE, with few exceptions were not a significant part of prehistoric diets" - Kerber 1997

"intensive maize horticulture was not practiced in the coast until the Contact period or just before" Chilton 1999

"maize was not a central feature of the coastal economy" Bendremer 1995

Broad spectrum subsistence

Differential reception of maize - knowledge + some use wide range native botanical materials, mammalian birds, shellfish

Maize - Setauket - not - Ceci 1977 - due to interactions w/ Euro.

Setauket evidence - large storage/refuse pits; large pottery vessels - storage, burials nearby, yr-round food evidence, enviro-rich zones, sites affording protection - not nec long houses.
from elements - not people

Cantwell + Webb - not sufficiently impressed w/ value of Ag chose not to practice it, some adopted to vary degree

Ninian 2008 - practices were liminal - possessed characteristics of both cult + foreign - over stylized as couldn't capture their likely - more ordered + managed than were - to fit western dichotomies - accts for lack of evidence.

groups of sites - e.g. Squibnocket - form larger habitation areas - extended village community Herbster + Cherau 2001

Jr Round - Outer Cape (McManamon 1982), BI (Treskow 1997)

Bragdon - conditionally sedtry foragers - argues for estuarine maturity - w/ Dunford 2002 + Gwynn 1982

Sedtry - not threshold evnt, unilinear, not incompatible w/ foraging

Many assumed maize immediately effective + high productivity + allowed for sociopolitical complexity

Flexible Sedtrism - lived in encampment or group of camps for most of year; protected location; access to wide found. botanical, aquatic resources, broad range activities

LA. ~3000 yrs stabilize + consist sea level + enviro- ameliorate,
↑ S veg; S mast forest + fauna; ground-stone tools
↑ trade networks, interpersonal conflict
≤ 500 m wide marine + terr. resource
Dist practice many not on large est - coast + heads of estuaries
Mosaic habitats

Ritchie - forest-adapted hunt strategy → familiar w/ resources marine orient as now
Shift upland → more coastal

V. few inland sites > 500 m wide
Many coastal w/in 200 m

Hornblower II - rugged morainal upland; small, S facing amphitheater, few feet above Pd, "surrounded on north, west and east sides by what would have been heavily forested highland that provided shelter from the northwest winds"
Strata - presumably correlate to times when pond open to sea shellfish + herring or alewife

Squib, Menem, Nashaquitsa, Lagoon Pd - evidence for continuous yr round occupation - "villages" - Guernsey 1916, Byers + Johnson 1940, Huntington 1957, Ritchie 1969, Herbster 2001, H + Cherau 1999, 2001

Indian Neck Ossuary - CC - all ages + sexes - reflects pop'n, remarkably healthy pop'n "little evidence of disease-related pathology and no unusual evidence of trauma" low incidence caries, high freq dental chipping - not ground cereal

Hornblower, Vincent Site - Lagoon Pd, Tom's Neck, Hd of Lagoon Herring Creek, Guernsey - perm villg Men + Nash
Squib Rdge H + Ch 2001 - 4 sites = extended village community

Few diffs archaeol over time
Site re-use = territoriality - increasingly distinct in L W

500 yrs

peopu ↑ LW

Short-term sites remarkable continuity - stable human adaptation over 1000s of years on SNE + NY Coast

More sedntry than expect in LA, less in LW

13 categories of activity - lithic tool repair, hunting, lithic workshop, fishing, shellfish gather, plant gather, food process, cooking, storage, disposal, hort, burial, ceremonial

LA + LW performing the same with rage of activities, demonstrate continuity thru time in subsistence strategy

Chenopod + wild barley - good weaning foods - younger so closer birth spacing ↑ popn

Some variation - more plants on LI Sound, MV, ACK, BI - more fish NY + Narr Bay - more shells

territories or homelands by LA

Overall homogeneity - region + time + re-use Bernstein successful pre-contact strategy

Lithic evidence - hort tools, no ↑ sedentism w/ maize

Designations - LA + LW no longer useful reflective of habitation strategy - use chronology.

entered

Get articles - White

Engelbrecht, W. 2003. Iroquoia. The Development of a Native World. Syracuse University Press.

Periods (precontact, protohistoric, early historic) - has effect of introducing discontinuities where don't exist.

Double + triple wall palisades - "hostilities were a fact of life for Late Woodland peoples in the Northeast, and much of Iroquoian culture is comprehensible as a response to these conditions"

At contact
C NY - nations separated by 20-40 mi. - no time depth = snapshot of Iro development
"this distribution represents a
at one pt in time - 200 yrs earlier pop'n distrib., political, ethnic, linguistic groups differed

Iroquois = 5 Nations - Seneca, Cayuga, Oneida, Onondaga, Mohawk

Iroquoian - incl Huron, Neutral + Susquehannock - spoke Iroq. langs

Hostility predates maize farming - "spirituality + warfare are deeply rooted in the cultures of northeastern North America and are key to understanding Iroq. cultural development."

"the forests and fishing spots of ancient North America were not safe places"

Not clear who bow + arrow introduced - no preserved wooden parts ~ AD 600

Forest environ affected by humans - White + Cronon 1988, White 1984
fires

"How wide-spread and frequent human-set forest fires were in the Northeast remains uncertain" but he plays them up

"Deer were the most imp source of meat in the diet + are the predominant mammalian remains on Iroquoi. village sites"

Passenger pigeon - major resource - underrepresented in archael. sites

Hort = stick Ag = plow

Elm bark canoe

Nuts processed by crushg + throwg into boilg water - meat + oil skimmed off

nuts stored - hickory most imp - also walnut, beech, chestnut acorn

Balance of Nature one by one cultigens added to hunt/gath ways of life

3 sisters - from Sky Woman's grave - maize, beans, squash

adoption a gradual process - farmers never replaced hunt, fish, gath

Ontario - maize along Grand R 6th C AD

NY residues - slightly later

Owasco - 900/1000 - 1350 AD - 2 types maiz

Iroquois 15-17 varieties by 1300 AD maize, beans, pumpkins,

squash, gourds sunflower, tobacco

AD 900 cucurbits + maize w/ little hardy, chenopod, sunflower - Susq R

spread Medieval Warm Period

Isotopes - considerable maize in Owasco 1000-1300 ↑ dental caries

as ↑ CHOs heavier wear w/ less decay before

Andropogon - mold varietal properties

Bean - last to be cultivated ~ AD 1000 in East ~1300 AD Roundtop

long aftr intro of maize

Hasenstab - little ethnohist evidence that old field regularly burned over

also questions ~~not~~ fallow + abandon

by not burng - retain N

Village sites - preference for soils suitable for cult moist or sandy loam high in lime; T° + cold air drainage

Owasco - fortified villages appear

w/ maize + food storage - sedntary life + formation of pellisaded villages w/ longhouses

Mev cleared field, built longhouse + pellisade - extra time due to bow + arrow + ↑ ♀ producing in hort?

↑ sedntism: ↑ for portions of pop'n - ♀, children, old ppl

Warfare - reduced ♀ mobility

Warfare not explained by food resource

Skeletons - multiple arrow = overkill?

Starved Rock + Nicatic CT

Post molds 5-10 cm diam / covered w bark - cedar, elm

Hart 2000 - large longhouse in 13th C only

up to 400' long 15-22' wide - bark layered over vertical posts

cedar ~ 255 wall posts for 74-foot

length varies w/ # families resident - stacked

AD 1380 Howell Hill 334' (Tuck)

1410 410' at Schoff

13th-14th C ↑ houses as pop'n ↑ ↓ end of 15th C + 16th

Some oriented into wind but not fixed

Some double layer w/ moss insulation

Storage - corn hung length of lodge

longhouses built as much to house 3 sisters as people

huge horizontal silos filled w/ maize, beans, squash + othr.

Plus storage pits under berths some > 2 m deep

Corn needed powdrd / processd before eaten; th boiled wood ashd

achieves nutritional qualih ↑ lysine + niacin that can be metabolzd

Pots dvd from thick to smallr thin-walld more effient cooking

family used 4-5 at time each last 6 mo - 3 yr so longhouse

need 18 / dv

Typical villge - longhouses surrounded by palisades - frq on hill tops

or defnsibl terrain. each village dynamic, histo

Ont - palisades, longhouses first in 9th C

NY - 1st in Susq drainage; from 1100-1200 AD move to mor defnsibl

NY + Ont communitis grew over time w/ mor hilltop as group elevat -

defnsiv 100-200 people in 3 houses

16th C - 8-10 ac sites up to 2000 peopl - nucleation of small

communitis into a few core villages

"th primary motivation for construction of thes towns is believd to lie

in th desire for increasd securih"

2000 ~ upper size limit for villges (Snow - one of ≥700)

Soil - key to core area location; defnsibl terrain w/ some shelter

by large hills

defnsive corridor w/in villges by placemt of hus

Corn cribs adjoing long houses

6 families - 324 bushels of shelled corn for year - may be an overestimate by Conrad Heidenreich but instructive

4 bins - 8' high x 4' diam

3 rows of palisade posts - common — ↑ size post molds with time. 16th C - up to 1 foot diam

early 16th C Garoga site - 2' - prob cut w/ metal

Cedar would last 25 yrs

4-10 m tall

fighting platforms between walls, watch towers

↑ perimeter by 2x ↑ area by 4

earth piled around some palisade bases

large middens just outside palisade

clearings ↑ w/ time - firewood collection + burns

Villages last 10-12 yrs 20-50 yrs in 16th C 15 yrs - 17th C

moved 2-4 miles - gradual move

Computer modeling - communities up to 200 people could remain indefinitely in 1 place w/o exhausting soils

but wood, replace structures, vermin

Some sites of lower fertility chosen ~~over~~ but w/ better defense

not resource maximization

No evidence hoards

"Large villages formed crowded islands of population in an otherwise sparsely settled landscape"

Owasco - in small hamlets   Δ - migration or ?

Rich ag soils of Genesee Vally abandoned by mid-15th C - presumably due to warfare - large palisaded villages on hills & F

Wykoff - drought 1280 AD led to some major popl shift

AD 1600 Mohawk pop'n 8110-10,570

Owasco + early Iro - 91-98% faunal remains deer
1400-1566 62-88%   ↓ deer or ↑ time on warfare
plus clustering ↓ deer in area

Haudenosaunee - People of Longhouse or The Whole House
roots of League - pre-date contact - probably for mutual defense
a generation before Eur.

Trade - marine shells before Eur

1525 → Eur goods - Iron adze, iron spikes, copper tubes from kettle

>1580 ↑ glass beads   substantial enrichment by end 16th C

1-2 generations before most NY Iro saw Europe

Eur trade – via St Lawrence –
but also via Susquehanna from mid-Atlantic coast
incl 16th C marine shell

1614 Fort Nassau estab – Dutch trading post
1624 Fort Orange FN destroyed by floods 1617

Trails t/o

Corn – portable for hunters, traders

Birch bark canoes – from Can – common in NY by 18th c
Elm bark canoes – up to 30 peeps

~1 C betwn Eur goods + actual written contact; no site describing
w/o Eur goods. "Van den Bogaert was the first to
leave a written account of these Iroquois.
His journal provides important details,
including the abundance of metal tools in these
nations".

on StL
French – allies to Huron – Champl + Huron attacked Iro village 1615
Huron confed defeated 1649-50

Wampum: "the magnet which draws the beaver out of the interior
forests" Weeden 1884

5 Nations ~20,000 before disease by 1640s 5000

Grant 1907 / 1959

"In 1634 Van den Bogaert observed interior longhouse doors made of split planks with iron hinges"

transfer from:

"Archaeology can uncover information no one thought to pass down in legend form"

Get Article ↓

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eds

M.K. Foster and W. Cowan. 1998. In Search of New England's Native Past. Selected Essays by Gordon M. Day. Univ of Mass Press, Amherst

1st career forest ecology

Born Albany VT; lived in Barre, VT forest service after HS → NY st Coll forestry Syracuse MS - Soil building in plantations

NEast Expt station Barth H NH + CT

Watsman - soil microbiology — Rutgers instructor

Soils + earthworms - PhD + microbes

Dartmouth - Res Assoc anthro

Paper on Eng - Indian Contacts 1962

Dartmouth + St Francis Indians - Quebec

entered

G.M. Day 1962. English-Indian Contacts in New England Ethnohistory 9: 24-40.

entered

✓ all articles are "in" this book

(ed.)

Gremillion, K.J. 1997. People, Plants, and Landscapes. Studies in Paleoethnobotany. University of Alabama Press, Tuscaloosa.

p. 13-22. P.J. Watson. The shaping of modern paleoethnobotany. flotation-water separation of archaeobotanical materials

p. 42-62 G.J. Fritz. A three thousand-year-old cache of crop seeds from Marble Bluff, Arkansas.

Ragweed - A. trifida candidate for food production LA/EW Ozarks

Semi-domesticated plants - dependable, managed, storable food late winter + early spring.

63-85 C.W. Cowan. Evolutionary changes associated with the domestication of Cucurbita pepo. Evidence from Eastern Kentucky

Carbonization - how most archaeobot preserved - lignified cell structure best

Wild cucurbit gourds - on floodplain; disturb + scatter seeds to ↑

Nuts - key resource - collect fall eat late winter; much inter ann. variation

Other plants - chenopod, squash etc. even out periods of low mast ?

Bark + plant cuticle in feces

Spring visit to plant garden, left + harvested in fall

Cult = insurance policy relative to nut ?

87-103 G.W. Crawford. Anthropogenesis in prehistoric northeastern Japan.

anthropogenesis - impact environment - critical factor in the success of culture

No longer linear progression

Weeds, grass etc. but no sense of scale of impacts

— over —

— spread risk, diversify options

123-160 B. W. Halder and C. Golard. An evolutionary ecology perspective a diet choice, risk, and plant domestication.

Sharing + regional exchange - effective response to unpredictability in food quest → field dispersion similar hedging of bets

Midcontinent up to 1000 AD - essentially maintained a foraging economy relying on wild foods esp nuts + terr/aq fauna. Native crops not sig food until long after domestication esp. late winter-early spring

Maize Ohio - present 600 yrs before arch visibility increases dramatically present in Ill for centuries before substantial component diet. experimental or minor crop 4-600 yrs

Mid cont - maintained broad-spec econom hunt/gath + cult + domes/ thil made modest contribution to subsistence

As pop'n ↑, reliance on fewer crops

Storage, diverse plants, trade

Sharp decline worldwide in health early farmers rel to hunt-gath

Contrast w/ expectation Ag so many advantages that adaptation waiting to happen

Why did it take so long vs. Hunt-gath - affluent society - Efficiency limited effort vs low P + high E of Ag.

"Why besides externally imposed necessity would foragers give up a secure + comfort means of production for the uncertainty + drudgery of Ag?"

— Graphs

161- P.S. Gardner. The ecological structure and behavioral implication of mast exploitation strategies

USDA - daily energy - 12 oz dry hickory meat; 15 oz acorn, 20 oz maize

Hickory more fat - g or m; important for lndn; Hi - good source am acids

acorns less than maize

7 hickory trees - person for year

Gremillion -2-

Gardner article on mast

10 km radius 4 mill lbs acorns ½ mill lbs hickory

→ copy Fijan

Remove shell + for acorns leach to remove tannic acids

6 lbs hickory

2 hrs ~~shelling~~ pounding into meal; 4 hrs leaching; ½ hr cook / after shells

Variation mast annually – graphs

More than 1 spp – buffer thin trees ↑ P

Imp stored commodity for late winter + spring

Competition w/ animals so pick quickly

Parch on hot stones to ↓ fungi – stir over heated stone

1 x 1 m pit – 22 bu hickory 40 lbs / bu 35% edible = 300 lbs ed.

red oak 680 acorns

white oak 995 "

2200 kcal for 33 mo.

Easy to transport

↑ pop'n aggregation + residue permanence

strategies – crack + pick / crush + boil / smurf + spit

↑ use hickory nuts Middle Archaic – climate Δ ↑ hickory,

↑ nut P + ↓ mast failures

End of Hyps – what happened ↑ mast failures, ↑ interreg.

alliances

Hickory – not fire adapted – so manage otherwise

crossref

Griffin, J.B. 1967. Eastern North American Archaeology: A Summary, Science 156: 175–191.

Theme - gradual cultural development or evolution. Small migrating bands H-G to Ag societies tribes, towns, temples

2 cultural climaxes - Hopewellian + Mississippian

E of Rockies, N° of Gulf - no major barriers to rapid cult exchange

To tip SA by 11000 BP

Shows Paleo - ~~EA~~-MA-LA-EW-LW- — FIS I Mus Anthro U Mich

EA - period of initial cultural A + adaptation to food + industrial resources of post-glacial environ 20% of available vasc plants used knowledge took a long time to develop

MA - ground + polished tools

LA - Consid pop'n ↑, regional adaptations, ↑ interregional exchange raw materials

NY - ↑ grindg stones - poss ↑ acorn + nuts

EW - woodland pottery, burial mounds + Ag

Map 4 Maps: Mississippian - color

Map - Hopewellian + related MW sites - shows LI, cuts off NE

MW - most of ENA - Hopewellian - complex burial rites, earthworks

NC → NE → MN - Hunt - Collect - "did not sig. participate in the Miss. cultural advances and are regarded as LW groups up to the time of EC

"They did, however, have their own cultural developments. The most noteworthy of these cultures was those of the Ivy societies in NY + S Ont and the Siouan groups in MN + S Manitoba

"The details of the cultural development in ENA are unique, but the general trend may be regarded as a common one in human society"

entered

Grumet, R. S. 1995. Historic Contact. Indian People and Colonists in Today's Northeastern United States in the Sixteenth through Eighteenth Centuries. University of Oklahoma Press, Norman.

Giovanni Caboto - Italian, English employ

Verrazano - 1st known account of direct contact

Archaeologists orig paid little attention to contact

Ind - moved from set settlements into more compact + occasionally fortified towns

Storage pits Fort Hill (CRV) - deer, bear, dog bones, nuts, dried berries + carbonized corn - could have held 3200-4000 bushels corn

Squanto - bilingual intermediary English + Massasoit spring 1621, Credited w/ saving Pilgrims Plymouth in first spring - manure fields w/ fish - may have picked up from Eng in Nfld (Cleci 1995

CC - McMahon - distrib of sites corresponds to dispersed pattern of individ wigwams + cornfields Champlain 1616 N Salt Pd, Coast Guard Road, S Salt Pd

Tuck - 1971 Onondaga - larger + more longhouses 1300-1600

Indians

Gookin, W.F. 1947. Capawack alias Martha's Vineyard. Dukes County Historical Society, Edgartown.

Large, nameless village at the head (southern end) of the Lagoon.
tradition, archael. evidence, location etc. identify this Indian site
Vineyard Gazette Aug 19, 1926 Joseph Chas Allen - identified site

Smith family tradition - village on the George Smith farm, E of buildings
claim 400 wigwams
large burying ground to the N; E of S end of Lagoon, graves in
brush + huge middens of shell fish
On W side of Lagoon these are undisturbed.
Site of village has now been under farm cultivation ≥ 2 centuries
many arrowheads + pottery

Site is natural for Indian village - near great spring "Weakt aque, which
now supplies water for 10,000; edge of lagoon
To the N were dense woods Ogkeshkuppi
To the SW is level fertile land runns down to Duarte's Pond,
still a farming region
may have been largest village on island

1674.
Daniel Gookin. Historical Collections of the Indians in New England

Smith Farm- histog worked out - part of Thomas Daggett half-share in
New Purchase, divided 1673. Passed to Joseph Norton → son Isaac →
part to ea of his 6 sons → Jabez Norton the farm → John Smith

entered

Hakluyt Principall Navigations

W.L. Grant. 1907. Voyages of Samuel de Champlain
1604-1618. Charles Scribner & Sons, NY

2005 Elibron Classic Series. Adamant Media Co.

Born 1567 - Devout Catholic, Fervent Royalist fought for Henry IV
- Spanish service as captain to Mexico, Havana
Cartagena - 1599-1601 wrote up

Since Cartier - series of voyages from France to NFld, Gulf St L
fish + fur Normandy, Britany + W + SW France to America
for cod

1573 Anthony Parkhurst > 100 Spanish ships → Cod off NFld
20-30 for whale from Biscay, Portugal - 50
France

"Des Sauvages: ou Voyages de Samuel Champlain, de Brouage,
faict en la France Nouvelle, l'an mil six cens trois
w/ maps

1604 - site chosen by de Monts - St Croix - largely Champ's insistence
poor for colony but defensible
started settlement on St Croix isle not Montreal adjacent

1604-07 outlines quest for N route to China - 1496 John Cabot
+ son Sebastian, Gaspar Corte-real

Cartier 1534+35

Jean Alfonse de Saintonge 1542 from Fr - Labrador
Gulf St L

Holy Cross
Island of Saint Croix - named by Sieur de Monts - 20 ac cleared for flax

describes MA Indians cutting down trees with stone hatchets but having some others thru exchange with La Cadie Indians for furs

Nauset Harbor - sailor went to get water - Inds took metal kettle from him - Indians ran away + jumped from Champ's barque. Inds went to soldier - shot arrows + then killed him. Champ's people shot had prisoner

First white man buried on NE soil

Great thieves - bartered everything of value for pins, buttons

At Chouacoet traded w/ Chief Marchin - presents for Etechemin boy

Gloucester - Inds killed man left on shore

Slaughtered Inds at ~~Nauset~~ - ~~some Inds~~ who shot at Pilgrims
not at Nauset Inds
some Inds

Canseau Harbor "Fishing, both green and dry, is carried on here"

Cape Breton. 1521 Port tried to settle - spent one winter
Nigonis, Fagundes exploration

StL - many Inds traffic in furs

Has a figure of a palisaded village

Guernsey, S.J. Notes on explorations on Martha's Vineyard.

Aug 1912 - 1913 From Menemsha Creek to GHead but focus E + W of Menem Pd, Barrier Be - Squibnocket + Lucy Vincent - LV to w/in 1 mile of GH Light; Lobsterville to Brickyard; Watcha + Oyster Pd WTis

Mayhew estab. colony at Edgartown 1642 (Eur families since 1628) ~ 3000 Ind.

Ind 1674 - 1500 1817 - wigwams still at GH

S shore - Cliff W end Chilmark Pd ~ 30' high. Pit 4 1/2' deep 2 3/4' wide ~ perpendicular; filled - scallop shells, bottom coarse charcoal; fish, bird + mammal bones in w/shells; above charcoal jaw bone dog on foot bones

Nothing on bluff shore from there to Squib bluff - chips only grave described but area clog out

Nothing on Sound side from Menemsha Creek to Brickyard

Brickyard - quartzite chips

E shore Menemsha + Nashaquitsa Pds - "almost uninterrupted evidence of aborigical occupation" - spots where soil almost black w/ decaying clam bits

One on Vincent Farm black soil to > 1 ft

W shore - ancient cornfield 50 hills w/ hills rows retain shape

black soil w/ shells + bone splinters

Sinkers, soapstone pot, ceramics

2 house rings 17' diam ridge of earth 2' wide 6-7" tall. break for door

1650 Younger Mayhew houses "made with small poles like an arbor covered with mats, and their fire in the midst, over which they leave a place for smoake to go out at"

Pease's Pt - 2 graves 50' from shore 1 - double grave - old adult in recline position knees drawn to chest, hands against face; adolescent same position Both right side, face south

3 pits + hearth shells, mammals sim to other pit

7 pits - deer, bird, fish Pits in sandy soil, identify by fresh grass

above - retain moisture

Potsherds

Nataquitsa - near brook hearth + pits bones - clog, deer, turtle, birds, fish

House sits on terrace

In all only 1 fragment of Eur pottery no other white artifacts

Oyster Pd - still has small pop'n of Oysters; brushy + not cultivated so couldn't check well.

Unfinished Indian canal connecting Oyster + Watcha - tradition both once connected to sea before storms closed; trench 30' x 6-10' deep ~ 400'

"The amount of industry required for this undertaking is much greater than we are accustomed to ascribe to NE Indians..."

Historical description of opening passage to sea, allowing fish to enter then blocking to spear

House Rings w/ shell mounds 19' diam x 2-8' scallop, quahog, clam, seasnail

One deposit near Quitsa Pd (?) 100' x 2-4' oysters

GH - large shell bed - 1/4 acre 6-18" another 30 stone

50 stones

3 other burials cemetery small field stones - irregular - looks like pasture

2 small cemeteries near Brickyard - also field stones

some Christian expect most are mixed aboriginal + Eur

GH - supposed to be many single graves - supposedly fires around to ward off spirits

entered

Hart, J.P. 1999. Current Northeast Paleoethnobotany. New York State Museum Bulletin Number 494. The University of the State of New York, New York State Education Department, Albany.

J.P. Hart Introduction

1980s - 1st description of pre-maize agricultural system this + its connection to maize adoption - drove paleoethnobotany

rel. little from northeast "flotation revolution"

most emphasis on maize or lack of

Indigenous (not domesticated)

Gourd - Cucurbita pepo - ME 5695 BP PA - 5400 BP

No indigenous domesticated taxa yet in Northeast

Wild Chenopod NE - 4th-5th c BP

Maize - S Ontario 1570 BP

Smith 1992 - maize-based Ag expanded over large parts E Woodlands - 1100 BP

Northeast - adopted crops indigenous to riverine interior

Q - any indig. plants domesticated in Northeast?

Beans - AMS dates 700 BP - NY

Maize - recovery requires much work - cannot assume earliest dates for maize reflect the timing of its adoption - unless absence firmly documented

Frances B. King. Changing Evidence for Prehistoric Plant Use in Pennsylvania

1000-1200 AD - rel. warm + dry due to ↑ enhanced westerly flow

1250-1700 AD - cooled 1°, ↓ frost-free; ↑ competition for sites

Pose ↑ popn, warfare members of Eastern Ag complex

Hart ↑ envir risk - ↑ mobility, ↓ Ag reliability / + intensify but ↑ social risk opposed

Ohio 1000-800 AD - Squash + oily seeded - sunflower, sumpweed; starchy-seeded chenopod, maygrass, knotweed, little bark

Wymer

Ohio -

Maize - EW AD 425 ; LW - ↑ maize, ↓ nuts, sumpweed, ↑ sunflower

↑ Ag specialization + emph on maize

mid-Ohio - heavy reliance on maize after 1000 AD + squash, beans, sunflower

tobacco + little EAg Complex can be masses of maize, bean, squash seeds

WVA - Monongahela (panhandle)

Post AD 1000 - isotope maize reliance 70% 1050 ; 80% 1225

health problems - caries + other dental pathologies defusive sites; corn grown below

May Palisaded upland sites far from large R valleys - but all use corn

Large storage features attached to house - petal structures

Lots of maize material - cobs etc., bottle gourd ; from large % sites

Small amts nuts - acorn, butternut, hick, bf walnut, hazel

Hickory -

Bash most efficient process - bash, heat in water, skim nuts + oil

esp C. ovata as small nut

CPA - Late Prehist sites - most large subterr storage ; consistent maize remains ; beans ; domest Chenopod ; sunflower

Summary - Squash from LA / EW ; maize, beans + EAC - LW / Early Prehist maize imp crop aftr 900/1000 AD CPA + beans, squash, tobacco*

EAC used Maize consump ↑ aftr 1000 AD ; Introduced ~425 AD

Maize - possibly initially as sacred item

Prob lye process

Q of stress w/ climate aftr 900-1200 Peak

~~D. Cassedy and P. Webb - New data -~~

J.P. Hart. Dating Roundtop's Domesticates: Implications for Northeast Late Prehistory

SC NY - Nice outline of longhouse 30' x 100 m ; 100+ pits may previously excavated by amateurs

Ritchie excavated - undurplayed subsequent material + ascribed too early a date

Mid 7th c BP not 9th 830 BP maize (other sites > 1000 BP)

Beans 400 yrs after maize

T.B. Largy, L. Lavin, M.E. Mozzi, and K. Furgeson. Cornecobs and . . buttercups: Plant remains from the Goldkrest Site

unfortified Upper Hudson s of Albany Mahican

If burn cob of corn - charred kernels remain but cob burns up

In sites - get fwer kernels than cob remains

Maize - seems more abundant than actual recovery - found in post molds etc. - shuck cobs + transporty kernels

Long House Outline - ~10m x 5m Maize date - 340 BP

1448 - 1631 AD
1435 - 1648 AD

pH 6.4 - 7.7

Insects - generally only preserve in anoxic sites - so thy + uncharred botanical remains may indicate bioturbation

Nutshells - may be animals - but large quantities - cultivated

Crack + boil - still used - shells to bottom, meat + oil rise

Oil - hair alone or mixed w/ bear grease

D. Cassedy and P. Webb. New data on the chronology of maize horticulture in eastern New York and southern New England.

Roundtop - old date AD 1070 - now ~1300 AD - Hart

But Ontario, PA, + Hudson Valley - maize ~ 1200 AD - overall exposure of Neast Indians to E expansion of maize for the post 1000 AD period

Pipeline ENY + SW CT - 370 mi. - lower Housatonic near LI Sound -

Milford CT - Wood + Maize 1240-1260 + 1500

Columbia Co, NY. Wood + Maize AD 900 + 1100 AD - Maize - Present before 1000 AD

may have small granary, aboveground or processing area

Maize not common in E Woodlands until ca AD 800 - Smith - "seemingly abrupt and widespread appearance of maize in archaeological record of Midwest and Southeast of AD 800-900" "agricultural economies dominated by corn had been established over a broad area of the eastern United States by AD 1150" B. Smith 1992 Prehistoric Plant Husbandry in Eastern NA

Ca AD 800 expansion of maize reaches well into Neast close to limits of climatic suitability

List of maize dates - map Brendremer + Dewar - many ~1000

10 of 14 dates from NE - older than 1500 AD

Hart - suggests native plants cult w/ maize at first

Neast - not part of Mississippian ranked societies based on maize dominated Ag

Subsistence - substantial focus on hunting terr animals, migratory fowl, fishing, shellfish collecting + gather wild plants

Maize more common at Late Woodland - Household site 13 of 79 features had maize - small amt

"For long stretches of the coastline, maize horticulture may not have been, in fact, a particularly viable subsistence strategy.

Strengthens Snow's succession - maize hort introduced to Neast by Middle Woodland

But maize cult - in Susq + Hudson drainages - beginning Late Woodland that correlates w/ widespread appearance of maize

Divide Mid + Late Woodland ~ AD 800-900 -

Due to ? flotation - but > 100 liters of fill to get 1 maize fragment

D. J. Bernstein. Prehistoric use of plant foods on Long Island and Block Island Sounds. p 101-119

Doesn't include nutshells - as bias - easy to see large, rel. to seeds

No native cultigens ; overwhelmingly non-cultivated spp found

e.g. Chenopod - common but don't appear cultivated as in Midwest

LI - 8 prehist sites - charred plants 7 on N shore

Most sites - few plants even when floated

Thomas - residential base - hub of Woodland settlmt system

Fishers Is - Funk + Pfeiffer extensive recent work - 27 prehist sites prior to LW v. small < 400m² 5295 BP→ ; larger + more LW

BI - few botanical remains so far - hickory

Did coastal Algonquins raise + consume maize in sig quantities before 1524 AD - initial Eur arrival - general date. No - based on arch. evidence

Marginal at best - Ceci - most found is post contact

5 Fishers Island sites - maize + hickory nuts - no direct date

At all maize sites - much other material - + wild plants dominate

Hicks 46/52 oak 18/52 Juglans 8/52 Corylus 7/52 Chest 0/52

Beginning w/ Late Archaic - a few plant foods were very imp - including esp - hickory, acorn + Chenopod w/ others lesser

Nuts - esp hickory - most widely distributed 47/59 sites

Specialized feature for processing + storing nuts

Chestnut - not at any sites (thin shell - Brendtremer 1993)

Chenopod - may have been most imp seed spp

- evidence - large-scale collection, processing and storage of chenopod at interior riverine sites - not yet coast

Decades - assumed that after AD1000 - active tropical cultigens long history despite relative lack of evidence

Maize arrived

Maize was grown - not cultivated. Possibly somewhat even after maize - broad spectrum +

So

Millenia - relatively stable coastal economies - diversification of resources - long-established patterns - not interrupted by W developments.

D.R. George and R.E. Dewar. Chenopodium in Connecticut prehistory: wild, weedy, cultivated or domesticated? p. 121-132

Midcontinent- chenopod domesticated before maize + beans
morph changes vs weedy - ↓ testa thickness, ↑ seed volume, smooth testa surface - from reticulate - before 3000 BP

No similar changes in NE None E of Appalachians

Chenopod- was imp for subsistence 3000 BP →
was associated from earliest w/ storage facilities + semi-perm occupation; some morph like domesticated
But don't claim domesticated - too much uncertainty
~~Chen~~

Chenopod- CT use assoc w/ ↑ duration + intensity residential occupation
Anthro environments- created by numerous reoccupation-
⅔ favorable to Chenopod- created + maintained
floodplain hypoth for domesticates - Smith

J.C. Brendremer. Changing strategies in the pre- and post-contact subsistence systems of southern New England: archaeological and ethnohistorical evidence p 133-153

Maize hort - arrived NE ~ 1000 AD begin of LW

McBride + Dewar 1987 - LW - pattern increasing social + tech. complexity-
↑ trend to sedentism, ↑ site complexity, ↑ improvements ceramic tech, ↑ non-local lithics + adopt maize

But maize, beans, squash - non-event so little obvious change (McB + Dewar)

LW food prod - broad-based hunt + gathering subsistence system emphasizes
marine + estuary resources
~~Mai~~ Lavin - more imp inland as less abund resources - lean months
+ storage
Argues for regional variation - CT R maize - sig hort by 14th C AD
subterr storage - maize, beans, sq - not nec staple or majority
of caloric uptake - but substantial investment ~~of~~ in maize
So suggests regional complexity

Beans + squash - only at a few sites in NE
Domest sunflower - conspic. absent - undoc. in ethnohistory NE

Argues - maize conc. in CT R sites - coast marginal + poor soil + poss. even
traded + large sedent villages - estuaries + tidal marsh

Fish + shellfish - predictable, low-risk resource, available all year except
when estuaries freeze - caloric import debated
Nice discussion spp + strategies
Hunting - ~~wt~~ deer most abundant

Exploit nuts + terr animals imp
Coast + upland - no evidence maize imp. - large non-hort sedent villages
of foragers on coast + lower CRV

Farmsteads of ethno record may have replaced warm weather - semi-perm
villages

Coast - rich marine + estuary resources - capable of sustaining rel. large perm villages - despite unprod. soil (women bury w/ other things)

Inland - maize as fewer resources, better soils

tethered mobility, foraging horticulturalists, conditional sedentism, mobile farmers

Early Contact - maize imp - Verr 1524

McBride + Bellantoni 1982 - Changes independ of Eur contact

Corr - pre-contact settlmt + subsistence systems, post-contact political + social systems, + environ. so much continuity LW → Contact

Nipmuck - Neset Hills; Pequot + Mohegan - E coastal zone + low CRV

Podunk, Wangunk, etc. mid CRV, Manesia - Block

→ Large palisaded Peq + Mohegs - after contact + CRV, Narragansett, BI hunt, gather + intensive maize

↑ warfare, territoriality, pop'n

Maize became intensive hort in fort. villages

Has Pynchon calendar

Coast - large sedent. villages sustained by

Lavin + Brewdirmer
argue for CRV maize

E.S. Chilton. Mobile farmers of pre-contact southern New England: The archaeological and ethnohistoric evidence. p. 157-176

non event → intensive

dichotomous approach (inland vs coast) unhelpful

~~tobacco~~

Intensive maize not on coast until or just before contact

Terms - vague - what % calories etc.; staple?

240 kernels/cob 1500 (max) = 6

Trade of maize - further uncertainty

Pits - many w/ wild plants, faunal ≠ proof of

Little evidence "planting fields, gardens or other site-based activ

"Seventeenth-century accounts of the Native NE dict belie claims of maize specialization - hunt + gath = core

Bennett - 1955 - maize 65% total diet - but from a time of substantial trade w/ English

Thomas 1979 - heavy maize - based on Pynchon calendar - but by mid 1600s - substantial transformation by Eng, Dutch, Fr + other natives

Cronon - 2-3 mos. dispersed = mobile farmers

Cites WC on mgt of landscape

Lower CRV - sig warmer

No evidence for settled village life in interior NE; also LI (Cecil)

Coastal Mass - Luedtke 1988

Invisibility of villages may be due to high degree mobility

No large semi-perm settlmts. Dispersal within a homeland

high degree of individual + community dispersion + mobility

Mobility - strategy to maintain enviro diversity + sociopolitical fluidity that ty depended on

Wigwams - small 1-2 related families

Moved frequently

Pine Hill - 100 kernels

post molds - small overlapping wigwams - prob seasonal encampmt despite one of largest LW occupation

20 pit features 1m x 1.5m deep - not refuse

1 w/ maize 1442-1518 AD

maize role uncertain

Ceramics - support diverse diet + no maize specialization

~~this~~ also more diverse than Iroquois - highly mobile w/ fluid social boundaries - much of reg location

dietary supplmt

Need hypoth tests - maize

Subsistence - kaleidoscope mosaic

H. Almquist-Jacobson and D. Sanger. Paleogeographic changes in wetland and upland environments in the Milford drainage basin of Central Maine in relation to human settlement history. pp. 177-190

Holocene

Lower Penob.

Most dramatic Δ 4700 ↓ hemlock ↑ beech-rich N Hdwd forest

created more productive habitat for upland game important to natives

↓ hemlock ↑ beech, small oak, pine

Multiple ↓ hemlock before - 6700, 6000 w pine + ↑ fire

↑ spruce ~ 2000

↑ use of beaver 5000 - 300 - food, fat + pelts

Changes in wetlands + ↑ N Hdwds assoc with changes - people

hdwds - benefit beaver + deer

N. Asch-Sidell. Prehistoric plant use in Maine: paleoindian to contact period. p 191-223

Looks closely at veg history + nut trees

Bennett 1950's ethno look at food economy - SE Inds all w saw wl maize 65% calories, fish/game 20%; ME - no maize E of Kennebec so gradient between

Butternut = oilnuts - 64% fat + 25% protein red oak 22%/6%

Mid Archaic - acorn most ubiquitous

butternut, acorn, beech, hazel w some

Cites Cronon - SNE burned 1-2 per year "extensive areas of forest" to keep partially thinned canopy - ↑ grass, herb, shrubs ↓ N spp - beech, hem, SM, RM

N- less as relied on canop + N spp less adapted to fire i.e., spp found!

"wood analysis ... lends support to Cronon's assessment."

All entered

Hart, J. P. and C. B. Rieth. 2002. Northeast Subsistence-Settlement Change AD 700-1300. New York State Museum. Albany, NY.

Early Prehistoric Period AD 700-1300

ent. ✓ C. B. Rieth. Introduction pp. 1-10.

SNE - People explain lack of village sites - destroyed by development or burial deep in floodplains.

Beans - archaeologically visible AD 1300

Large multifamily longhouses SC NY - only 13th c AD

Cultural Research Mgt - Uncovery sites in historically lower priority areas

separate chapter

Archaeobotanical contributions Maine

✓ Sidell, N. A. Paleobotanical indicators of subsistence and settlement change in the northeast. pp. 241-263. [v. peculiar]

"evidence of anthropogenesis"

anthropogenesis - effect of human activity on vegetation - seldom addressed

Yarnell 1964 - landmark study - Indian infl on distrib, habitat + genetic variation - plants in Great Lakes - used 20% of flora

Minnis 1978 - wood charcoal + seeds archaeobot as rel. measure of veg. disturbance

Model - ① clear pristine veg ② less diverse ecosystem of cult. fields must be maintained ③ abandoned + successional cycle established

↑ Ag ↑ weeds

Yarnell 1984 - Food plants grouped by biotic comm: ① open degraded ② clearings + thickets ③ open woods ④ mature forests

ENA - undisturbed veg described "original forest pattern" Braun '50 (sic)

14 nut spp only 3 widespread - beech, red oak, hazel

Group trees into plant communities/habitats - dry open woods, disturbed woods/thickets, bottomland forest

Mesic forest - NHd - Hem - WP SM + Be + Hem; rich soil, shade tol.

YB, BB, WP, Ostrya, Hornbeam

Dry open woods - O, Hi, Chest - fire tolerant spec unlike SM

Disturbed woods + thickets - clear cutting or fire - Pin Cherry, Choke Cherr,

Black Chern, Hawthorn, Poplar, Sass, P Pine (RM birch?)

Floodplain / bottom - Ash, elm, bu Hickory, alder, willow

Need flotation for charcoal - nature of surrounding veg

regional diff in wood charcoal corr. to regional diff veg

"both wood charcoal and food remains that human activities may have altered the natural vegetation of the area through time" (evidence)

— girdle non-productive spp. - ↑ nut P,

Gardner 1997 - possible mgt for nut trees - mast exploitation

Nutshell diversity - use of nuts related to available spp - esp oak + hick

wood charcoal + nuts (were) related "rough corr"

But many sites - little nutshell recovery

Corr - adoption of maize + # seeds / gm charcoal

Plants - Amphicarpa, Chenopod berlandieri, Desmodium, Helianthus, Elymus, Ambrosia trifida, Polygonum scandens;

tobacco, Hordeum pusillum, Solanum americanum

Grass seed from pit lining, mat making, fire starting

Do weeds + other seed plants indicate openings for prob Ag - thicket + openings

weeds + nuts = open woodland

Beech - seldom found at archaic sites

PP in bottomland - indicates fire

J.B. Petersen and E.R. Cowie. From hunter-gatherer camp to horticultural village: late prehistoric indigenous subsistence and settlement pp 265-287

ent.

AD 1000-1300 extensive adoption of subsistence farming maize-beans-squash hort - sig event for most Northeast quickly brought some of largest changes to affect indig societies

Predated Eur contact - most cases

Non event + continuation of MW patterns → LW with little consequence of cult crop adoption - run counter to ethnohistoric

ethno
Paleoethnobotanists - few
Tonya Largy
Nancy Asch Sidell
Cindy Heilweg

LW: Coinfact - fewer, fewer, larger settlements - so rare + not easily found
Disturbed by historical activity; deep burial in floodplains
Squash much earlier, beans much later
500-1000 yrs maize Ohio + S Ont → NNF
Isotopes - Eelgrass - C^4 → lobster

Full blown regional transformation - sedentary settlements based on hort vs continuation of mobile hunt-gath

Hort, tech transform, social aggregation, increased sedentism
Champlain - Cape Cod
S+W ME unequivocally horticulturists before 1500s, 1600s

4th
Most profound changes to ever occur among Natives in the Northeast prior to the arrival of Europeans were those related to the local arrival of maize-beans-squash hort
Transformed society - subsistence + settlement, crop storage

ent. ✓ ✓Chilton, E.S. "towns they have none": Diverse subsistence and settlement strategies in Native New England. pp 289-300.

ent. ✓ ✓Black, D.W. Univ New Brunsw Out of the blue and into the black: The Middle-Late Maritime Woodland transition in the Quoddy Region, New Brunswick, Canada. pp 301-320

Importance of climatic + enviro. chge - imp but too gradual to precipitate abrupt cultural reconfig.
"In the future may be poss to link climate Δ to cult + archae Δ

Long distance exchge w/ people - Labrador + Nfld to NNE

Coast - tough climate for corn - even today

ent. ✓ ✓Hart, J.P. and B.K. Means, Maize and villages: A summary and critical assessment of current Northeast early late prehistoric evidence pp 345-358.

Conc of pop'n in settlmt - one strategy to ensure enough hands + ability to handle all tasks as needed. °° ag → nucleation.

Maize - W Lake Erie freq 750-1000 AD no nucleated villages by 1300
S Ont - common 900-1000 AD nucl. vill by 8th C, longhouse 13th C
Ohio River Basin - imp by 850-900 but variable among pop'n - 1150/1200
Lower Upper Oh R B - Freq 1000 AD + nucl vill 1000-1200
Susq R 1245-1300 imp; hamlets by 750; nucl. forts 1250

NE - Oldest maize 1100 BP - lower Hud R
Lower CT R 1060 BP Sheldon Is
Coastal 835 BP Highland Site CT
Freq - 13th C AD large amts some sites 15-16th C
No nucleated villages until v. late prehistory or Eur contact
Upper CT R 850 BP most in or after 14th C

W → E + S → N apparent trend in earliest maize
W Br Susq 775 AD 890 - lower Upper Ohio R
1000 - Upper Susq 900 - S NE
1200 - NE 1350 - ME

Nucleated villages - not in most regions until well after visible maize, maize imp in diets

> 5300 liters of soil from midden - flotation → 19 maize pieces

Bean dating project 51 direct AMS dates
Not arch visible across northeast before late 13th C
250 yrs before maize - beans - squash intercropping systems described by Eur explorers
AMS - completely changed history of beans + interp of maize - bean squash intercrop
Wood dates suggested avail. by 100

entered

√Hart, J.P. 2008. Separating the three sisters. Legacy. The Magazine of the State Museum of New York 4:10-12

3 sisters diorama - 500 BP

3 crops originated elsewhere

Charred deposits on ~~[illegible]~~ shards - phytoliths
Hetty Jo Brumbach (U Albany) + Bo's Thompson (U MN) - AMS residue

Maize in NY 2300 BP

Squash 3000

So both much older + longer before mainstays - no immediate transformation in diet - just simply incorp into existing diet

Beans - no phyto yet 700 BP VT → IL so 1700-2300 go a th

3 sisters not a group until ~ 1300

Simple progression H-F-G → As not terrible

See that WPine, meat + Corn-Squash in same pot

May have seeked pots

Hart, J.P. 2010. Pottery Change. Legacy. The Magazine of the New York State Museum 5: 7

Coiled → pinch pottery changed slowly - Coil peaked around 450 AD diminished to AD 1200 Gradual

Consistent w/ other evidence - refutes long held idea of major change in people AD 1000

Gradual Δ + adjustment to local social + enviro conditions

Differences in timing b/o state

entered

Randy Jardin 508-889-4955

Herbster, H. and S. G. Cheray. 2000. Archaeological Reconnaissance Survey, Town of Edgartown, Martha's Vineyard, MA
PAL Report No. 1106.

Edg 34.69 mi² 27.01 land

Particular attention Chappy + Katama 13 historic 10 new prehistoric
8000 yr history

Prehist sensitivity greatest - along major wetland margins -
Great Pond, Kat Bay, Sengekontacket Pd, Chappy

Hist NA sensitivity greatest - Chappy

EuroAmer - Great Harbor + transport corridors

4 CRM projects

burials Donta et al. 1993 Chappy C 1999

Edg Gr Pd H+C 1998 Katama Bay H+C in prep.

Oak Bluffs Macpherson et al. 1999

Before - only 1 prehist interior site; likely due to undersampling

MV - more prehist resources than any other section of SNE

Designated Ind lands - historically set off from areas of Euro-Am Development

Chappy - Peninsular Island

Great Plains - v. well suited to farming + Ag

Coves + Neck v attractive to Ind - Oyster, EGPd, Poucha

Fields - ditch + mound

Gravel operation - center of Katama

MA 25 on MV Felix Neck

LA Many sites ↑ pupn 5 in Edg

EW 18 on MV

MW 3 Edg

LW Agg into large complex villages in Neast. NE model family groups

Hort prob imp w/ shell,

Martin Pring 1607 - stockade Chappy

NA on Chappy - Sachemship Pahkehpunnassoo

Trail - skirted N shore EGP + OP - connect Chappa w/ Nunpaug, Tatemmy + Nashowakemmuck

No Contact Period village sites in Edg.

Edg area - initial Eur sett

4 sachemships 1641 who sett

1st Settlmt MV - Great Harbor 1646 → Chappy part

Katama peripheral - part of Edg Plains

1662 - 1st mention Plain Rd (Katama Rd)

Chappy - excellent grazing land

1703 - 250 great cattle + cows, horses, oxen, sheep

taken over in fall, back in spring - Swimming Pla

may really be meadows

Chappy meadows"? divided by Eng ~1668
But occupied by NA into mid 1700s

1670 - One of Mayhew's Proprty Towns
1671 Eds incorp undr NY
Whaling, wind grist mill
1765 945-1035 + 86 Ind on Chappy

1790s operated as county seat
1509 residts 1830
1

Dr Daniel Fisher (1799-1876) N Watr St Oil + candle factory
"largest in world" 1850 - annual prod = 118,000 lbs candles +
13,200 barrels strained + refined oils
1855 - 360 men on whly Supplied Govt lighthouses to Civil War
DF = founder + pres NY National Bank
1899 - only 7 Inds on Chapp

no idea what happened to it

1659 - Earliest Ind church in Commonwlth
1674 - 60 Ind familes 360 Chapp

1891 - Wasque Bluff on Walls map

Ind forced into N Neck - poorer soils, no forest so harvested peat

1652 - Thos Daggett + Wm Weeks - Whale Cutters for the year
1653 ⇒ voted that drift whales would be "cut out freely, four men at a time, and four at another and so every whale, begining at the east end of town"

Drift whale ind flourished in 17th + early 18th C.

Edg

1738 - Offshore whaling commenced on MV - Jos Coas - relocated Diamond (sloop) ACK to Edg 20 ac. + wharf; thew James Claghorn, John Harper etc.

Not as successful or popular as ACK

1775 - 12 vessels 720 tons; mostly provided personnel - captains + officers

One of most successful Peter Pease 1732 b. - W Indies to Old

Deep Sea Whaling Golden Days 1820-60

Appolo (Edg) 1st - 1816 Jethro Daggett

1860 - 11 Edg ships 5 Edg barks 2 schooners

Most oil processing - Edg wharf; by early 1800s - replaced ACK as port for many vessels

2nd largest industry - general fisheries, maritime products, by products

1. Largest

As whaling ↓ fisheries ↑ - sales to Boston + NY

Mattakeset Herring fishery v. profitable. dug creek Mattakeset By to EGP

1920s > 50 boats

19th C saltworks

Pennywise tar industry - also known as "Dark Woods"

Eds - much less tourism than OB or VH

Manhasset Lodge 1873 K Pt served by OB rail

Harbor View 1891

1652 roads - S skirting ponds + N - Chappy to Swge to VH old Ind trail

RR row 1874-1896 - winter storm damage

---

27 PreHist 9 Hist

Chappy - not intensively sampled by professional

Tom's Neck Burial

"cultural deposits have been identified in virtually every portion of Chpy

Ed
Gr Pd - too private

Green Hollows Area - Katama - good archaeo site

large cleared

Felix Neck - Cluster of sites MA → LW overlapping with shell middens, trash pits, hearths + Major's Cove

Possible burial, Contact Per Village

Little Pd - one large site nearby - routinely collected for avocational

Proximity to Oyster Pd should be good

MCSF no professional + ~ no avocational

Prehist sites can include - village locations, seasonal hunting camps, lithic quarries, shellfish harvesting areas + burial grounds. - not visible on surf

Hist - standing structures, cellar holes, wells, brick + stone, household good

entered

Maps - 1776 Desbarres; 1831 Dunham; 1845/53 Boyle + Whiting
1858 Walling, 1866/70 Ind. Lands (Pease + Pease), 1897/8 Hodgdon
No bibliography or Appendices

Herbster, H. and S. G. Cherau. 2002. Archaeological Reconnaissance Survey Town of Aquinah. Technical Report PAL Report No. 1335

PAL 215 Lonsdale Ave Pawtucket

Submitted to MV Commission MA Hist Comm. - Freeders
Tribal Historic Preservation Office Aq Planning Bd
Wampe Tribe of Gay Head/Aquinnah Proj. archaeol
PAL staff - Deborah Cox, SC + HH, Jessi Halligan, Randy Jardin

Info on file at PAL - temporary curator Edg - H+C 2000
Town-wide surveys - Chilmark 98, WTIS 99, OaE Bluffs 99 - Mitch

Town: 3437 ac 301 ac.
3 CRM surveys on WTG H/A Tribal Trust Lands - 33 prehistoric + 23 historic arch sites - Glover + McBride 1991, 92, Glover '93
10 prehist + 5 hist sites last 2 yrs - CRMs undr authority of Town Hist + Arch Res Protection Bylaw
CRMs complement archae studies - based on surface finds + along bluffs + sand banks CRM may in interior

Levitas 1980 - arch, ethno, hist record of GH Indian community

Proprietors Record; GH almost exclusively NA; not incorp until 1870 so no town records but my primo source
1860-78 common land + individ. lot surveys Pease + Pease 1870
1897-98 Hodgdon topo plan - individual lot divisions + structures
MVHS Library + Dukes Co Intelligencer
Collectors; Jill Bouck - MV Museum Curator - archae @ Yale knowledgeable

1982 - MHC + Carnegie Museum Nat Hist - examined over 10,000 artifacts + identified 32 unknown sites Bouck et al. 1983 - Prehistoric Cultural Resources + Site Locations MV

MADUKES www.vineyard.net/vineyard/history - genealogies, land maps, old photos

WTGH/A research: great info - Tribal elders + reference works

Typical sites - sandy soils on terraces, knolls, fields

Sites before 1990 - coastal ponds - avocational focus

Predictive models - factors for prehistory + historic

Thorbahn et al. 1980 - highest rank 300 m of low ranking streams + large wetlands

Mulholland 1981 - modern wetlands - habitat for wildlife + veg

Dincauze + Meyer 1977 - ≤ 15° slope + well drained; good drainage

Difficult - separate repeated short-term v contemporaneous occupat LT settlement

Aquinnah Model - A full range of environments, more balanced than other towns many interior sites as well as coastal pds + coastline

CRMs - broader reconnaissance survey + range of sites

Use known to predict unknown - assumption

Historic - Predict 3 functional categories

Domestic + ag - arable land, 150 m water, transportation network

Maritime + Land Industry - inlet, harbor, stream, transport, natural resources

Commercial + Institutional - near settlement + transport

Historic - 39 sites known - house/farm + burials
most in Old S Rd community - Cntr of A
+ near Tribal Trust Ldy

Arch Sensitivity Maps
Known sites + undisturbed areas, well drained
Site locations not shown

A - Peninsula 40.78 mi² 185' max.
Marine scarp 75-100 mill Cretaceous - Tribe owned
6 drifts Moraines 500-900' thick
A Cliffs w/ rolling hummocks to SE - drops to SE + pds
~~four~~ W - compact sand + clay - clay near surface + supports
streams - E of island - sands drain
Blown sand - cuts off some brooks - dam w/ poor drainage -
ponds, bogs, swamps

M+S pds form peninsula - connected by Herring Creek - small
tidal waterway
Ponds - Black, Occoch, Lily + many unnamed
Black Brook - N-S from estuarine interior wetland to Sq Pd
Areas - Coastal Pds, Shoreline, Lobsterville Rd + E Beach, Old SRd/NSRd
+ Lighthouse Rd

Coastal Pds - ≤ 30' - most (230 ac) - AWamp Tribe - trust + cons. land
contains majority of previously known sites - avocational + academic
archae. - from erosion + middens

Shoreline - beachfront, cliffs, wetlands + bogs, low rolling sand dunes + stratified bluffs large wetland - Lobsterville

1 prev known arch site - A/C lim

Old/New S Rd rolling terrain - elevated knolls + knobs w/ low wetlands 15-160'

may wetland pockets

30 prev. prehist + 25 hist

Lighthouse Rd rolling hills punc by high broad knolls

one large marsh 4 prehist sih + 4 hist all CRM

Lobsterville / E Pasture scrub uplands punc by wetlands

several small lithic jds No prev arch site + 1 histor.

1912-13 Guernsey + E.A. Hooton - coll. Men, Nash + N Squib Pts eroded + excavated materials - stone + bone tools, pottery, shell middens + pit shaped features 2 burials - Peases Pt Eshori Mem Bay

1930s Douglas Byers + Frederick Johnson R.S. Peabody Fdn, Andover Hornblower Shell Heap Site, Squib Cliff Shell Heap - 1st prof. sci info

1950s Gale Huntington Duke to HSoc. - Norton Site - V. Haven - showed Mrd Archaic → Contact

Rifkin 60's - 6 sites Chilmark +VH - estab. 1st chrono, cultural-histor framework for SE NE + model of human adapt to marine resources

Witchbrook Site? Headwaters streams into TGP

Paleoindian 12,500 - 10,000 BP

small bands - sophisticated + specialized lithic technology

points, scrapers tools, drills, gravers

diversified seasonal hunt + gath ranged over great distances resources along glacial lake margins

MV - one of more elevated land forms - rivers + wetlands could have attracted NA Pine forest

small group highly mobile H/G migrating seas

No in situ material on MV - 1 fluted + 4 unfluted pts from this period - local collections (Bourck et al. 1983)

Early Archaic 10 - 7,500

1 bifurcate based pt Saxifrax site in Aq

isolated find. Some pts in local collections - from Norton site + OB

So potential for these sites

Middle Archaic 7500 - 5000

Warming + ecosystem diversification

settlmt - planned seasonal movemt possibly oriented around riverfstream

fish/gath/hunt + new tools - net sinkers, gouges, adzes, plummets + atl-atls (Dinc '76)

multi-seasonal settlmt 1 in Aq interior

>25 MV sites - several E side Mem Pd, Baldwin Cove - C/WT line

maritime adaptation - lowest shell midden layers

subsistence stabilized then diversified

Pts from Norton, head of Lagoon, Witchbrook Site into TIS Gr Pd headwaters of streams

Intensive Hunt + fish, esp anadramous fish
Poss adapted to maritime
2 pts on Tribal Treat Lds

Late Archaic 5-3000
Many more sites - Pop'n increase + continued trend towards generalized exploitation of resources wide ecological niches
MV- near swamps, marshes, tidal flats, streams - coast + interior differentiate on pts
3 distinct cult traditions - Laurentian, Small Stemmed + Susq.
MA- all 3 but SS predominant quartz - marsh + wetland
T/O MV majority - ponds + shorelines - often w/ shell middens

Ritchie - MV- 1st evidence LA Laurentian + SS
Some Susq also found
Vineyard Site - steatite + 4 diagn. pts
emphasis on marine
Dog burials - Horn II + Frisby-Bruther
SS = Squibnocket culture to Ritchie (now know that SS used into LW). Ongoing studies at Squib - SS in LA + Woodland
expediency tools easily reedily fashioned from quartz, quartzite
All coastal pd sites - LA thru Woodland)
7 interior sites - find spots - hunt/collection

Early Woodland 3000-1600 BP
Woodland - most prevalent esp for GH/C
EW generally fewer sites - poss ↓ pop'n but also

continuity of SS quartz pts so confusion

Woodland - ceramic vessels, bort + new pts, increasy use of coastal resources. Mag shell middens

EW - 18 sites - 4 Ritchie - Pre H, Peterson, Vmcnt, Howell I
several Ag coastal + 1 find spot interior

MW 1650-1000

More common than EW. ↑ settlem-, ↑ popn; greater social complexity; ↑ regional trade; proliferation of ceramics H, F, G; ↑ shellfish

LW 1000 - 450

Aggregation into large complex villages t/o Neast

NE - much more modest settlemts - extended family groups moved seasonally; large shell middens

Avocational - focused on midden sites; intensive use of harbor margins + promontories

Ritchie - knives, side scrapers, drills, strike a lights, celts, pestles, sinkers awls, points, fishhooks, pipes corn - bort of some type

<1990 few interior sites since much work by for Tribe + landowners

interior use - tributary streams, assoc. wetlands,

connect historic Wamp tribal development to prehistoric patterns - settlem + resource exploit. development research - invaluable on dynamics of hV + settlem

Historic Period

Verr.

Gosnold - GH - Dover Cliff

Pring 1603 - Edg Harbor; stocked Chappy Bluff

Few Contact Period sites - 1 Squib Ridge, also Hourn II + PraH-Tis

Gov Mayhew, son Thos Jr + Rev John Eliot converted Ind.

1642 - Mayhew Edg ~1500-3000 natives (1616-17 plague poss. 6's effect)

Aq - 1 of 4 sachemships

Mittark (at 1642) ruling sachem; his father Nohtootsaet

1647 Thos Mayhew Jr death 300/1500 MV natives Christian

Aquinnah - most resistant but Mittark converted by 1667

Mittark - magistrate of Aq until 1683

1698 Congo meeting house

Aq encouraged to organize politically according to NE Christian Indian town system

1674 Gookin 600 Prayg Ind families on MV + ACK; 6 PI MV villages

strengthen intertribal alliances

King Philip - son of Massasoit - supreme Sachem of Wamp Nation

Aq did not join - Islands on periphery of war zone; ~~Hitto~~

Mittark + Aq council - K Philip - enemies; MV Inds formed a militia under British flag (followed by Gov. Mayhew).

MV native loyalty - kept them from moved to detention center - Deer Is + Mashpee

10 reservations or Christian Ind comm on MV after KP War

1687 Aq penin sold Josiah Mittark (son) to Thos Dongan Gov of NY (Earl of Limerick)

1687-1711 Ag - manorial system; land leased to natives

1711 Transferred to NE Company - branch of Corporation for the Propogation of the Gospel (England) to establish reservation. Ditch - 4' wide + 2' deep - across neck + "set within thorns and barberries". Corp. Gate at entry. Natives - tenants, Corp = landlord, public excluded

Oldest Baptist Church America early 1700s
also Congo Church on Old S Rd

1712 Samuel Sewall diary - 58 houses Ag - mixture framed houses + wigwams; barns, animal pens farm, fish, sheep, cattle, oats, barly, wheat, corn, pump.

1727 Ag natives (10 chief men) quitclaim 800 ac Neast of penin bordry Men Pd to Corp who leased to Eng farmer Gave Natives legal basis for occupation of WTS part of penin.; paid 1 car of corn/family every Nov 1

1747 - 112 natives ; sold grain etc; laborers in whaling
1786 - 203 1776 map - several parcels w/ structures
1802 240 1 Surrounded undivided / common law
1807 Freeman - 142 26 framed houses, 7 wigwams, 3 barns, 2 meeting house mean huts
1776 - MA control; Inds wards of state w/ little independence or control

State Acts 1811 + 1828 - Inds = inferior status, incapable of self gov't; could not sell land

Aq rejected this, forced overseers to resign; defacto autonom

Act of 1859 - Aq had independent law regulating internal affairs = Indian Traditional Law

19th c Aq natives - active New Bed, ACK, Falmouth whaling

1838 - 235 pop'n 1831 native land = 2400 ac

1845 - whaling collapsed + most had given up corn; ↓ self-suff most purchases New Bedford + RI as easier over sea

Brickworks - Irish Mitchell, sold to Nathaniel Harris + sons

max output - 17,000 bricks/day - to chilmark + off Island 3 kilns

supposedly - remains of narrow gauge RR near old clay pit near Menemsha Pd

1861 - natives - no more individ sales; 100 tons sold to support poor

General Court 1855 - 3 commissioners - bounds Native lands followed stone wall dividing Nashaquitsa + Aq since 1714

Pease 5 yrs to sort out land

1870 227 tribal members

1871-78 Pease + Pease rest of common land divided couldn't divide cranberry lands or clay cliffs

Incorporated

Native language retained to 1780s

Landscape wide open

1878 4 sheep 48 cows 42 oxen 71 cattle 29 horse

1870s Lobsterville began w/ ↑ Lobster industry
safe anchorage inside Dogfish Bar - small boats
before dredging of Men. Creek
Double row cottages N of intersection Lighthouse/Lobsterville
village attracted buyers from t/o region NYC

1890s GH Clay Co. shipped to mainland from wharf near Lobsterville
revenue to town

1871 South Rd constructed N of Old S Rd (exists Co Rd)
many new blds + relocations up hill

Late 1800s shift to non-tribal ownership; 1895 - 18 ~~...~~ non-tribal owners
1916 - 1/3 land non-tribal; increasing shift to individ
ownership
1840s → GH cliffs sight seeing
N shore dock "Steamboat Landing" - OB folks dug clay camp west

1920s Old S Rd Community almost completely abandoned
25 native house sites from 18th, 19th C in/near Tribal Lands
1915 - 175 → 1940 - 127
Main Road paved 1930s
1950s electric + telephone to Aq - ↑ non-natives
Moshup Trail 1956 for houses + access + Lighthouse Rd
1972 Tribal Council reactivated (~~dormant~~ dissolved 100 yrs)
1987 - Federal tribal recognition - 1st E tribe

1938- destroyed 18th/19th C clay wharves, Steamboat Landing + principal cranberry bogs

1960s large summer estates

Summer Pop'n 1350 201 year-round 30 horses

1998 GH → Aquinnah

17th C Native settlmt - oriented towards salt ponds; dispersed houses or hamlets of related families

Early 19th political/social division - w/in tribal group; Congo vs Egptian kin lines

Old South Rd - access to farmland highly intermixed w/ wetlands +/o mix of farming, fishing, tourism

Ag Wampo - "Gay Indians" excellent seamen + whalers; major contribs to regional whaly from early drift whales to deep-sea on New Bed, Falmouth, Mystic

Many houses - large oak timbers from shipwrecks

Native adept of wetu or wigwam to framed dwlgs: Crofter-style

Short-lived mill - location unknown

Some sites - continued Wampanoag land use Archaic to early 20th C Herring Creek parcel (S shore Mem Pd)

Prior to survey 50 prehist, 31 hist sites

6 " 7 " " added CRM

8 6 this town-wide survey

many locally known not state documntd

MVHS (Bill Boucke) - relationship w/ artifact collectors

Peter Van Tassel

Randy Jardin

Tribe retains control over site location

Albert Fischer - good collection

Recorded 3 of Guernsey's sites

J+K - N edge Men Pd - dunes + cranberry bogs

P - avocational shell heap + NA cornfield (Guernsey)

Toad Rock - off Moshup Trail - connected to Moshup, meeting place

Arch Predictive Models

Many interior + coastal sites

56 prehist - 43 isolated find spots or low density artifacts

single projectile pts or lithic chippy debris

13 - more complex, high density, multi-component

8 shell middn sites along eroded beach fronts

some ag assoc. w/ these sites

Wshore Men Pd - recorded by Harry + Ralph Hornblower - summer residents who recorded shell middens across island + excavated

a couple on family property - Squibnocket Ridge

Shell middens - up to ½ mi from saltwater

Squib Ridge Chilmark - LA → W shell midden, trash + storage pit, hearth + lithic workshop on upland terrace + knolls over coast + Sq Pd utilitarian + ritual

similar at Horn II, Bl Pd Brook, Herring Cr, Gerhard

Also near water

Both = well-drained sandy soil Drainage Not soil texture - sand vs rock vs moraine

Guernsey J large shell midden ¼ ac. w/ pottery + tools

K 2 shell heaps + charcoal

P - heap + workshop, occupation + ancient cornfield

"The hills + rows retain their original shape, some fifty hills being counted. Several of these were opened, showing the soil to be very black and full of broken shells + splinted bone"

Coastal Pds - expect small special purpose camps to large village-like multifamily habitations

Pd shores - ceremonial sites (C R Jardin)

burial features above Sq + Ch Pds

Low sensitivity areas - bluff pds

Shoreline - some eroding artifacts from dunes + knolls

Zacks Cliffs - clay cliffs not as high - sandy tops + artifacts

E of Squib Rd (chil) multicomponent site in eroded bluff
hearth, pit, stone, bone tools, pottery, burial

Interior knolls adj coastal wetlands + stream drainage

Old S Rd / New S Rd
small sites t/o where well drained MA → LW
mostly projectiles + chippy waste - hunt + gather resources

small knoll over Black Brook - chip debris, SS pt, possible camp

So far no large multicomponent sites in interior
prob more short-term activities w/ habitation + ceremonial use more to coastal pd maybe

Prehist expect "wherever well-drained, elevated + level soils are located in proximity to estry wetlands or poorly-drained depressions

Harpoon Hollow site - W of Rd immed N of State Rd S of unnamed Pd - report by R Jarvis - chip debris
expect middens, post molds, pits

Historic Resource Model
Site info also restricted to Tribe

Town Boundy 1714 fieldstone well - estab by Society for Propagation of the Gospel in NE 3'

Cut granite blocks - N of South Rd — 1993 photos - Men → Squib Pd — could be part of 1714 Gate

1714 ditch also by Society

NW Corner Mew Pd - could have narrow gauge rail - to clay pit on W side Clay Pit Rd

NE side - reported 19th c in house fdn

Toad Rock - created when Mashup turned pet into stone to protect from 17th c settlers. Community meeting place & meeting cntr.

Clay Pit 1500 ft² cleared where Clay Pit Rd forms 90° orange + red

Vestiges of orig fishg community N Lighthouse Rd intersect w/ Lobsterville Rd

Daniel Nevers - Land Back prop 4 cellarholes, barns, ditches

Huntington, E. G. Preliminary report on the Lagoon Pond site Martha's Vineyard, Mass. Massachusetts Archaeological Society 5(2)-63.

Lagoon Pd - former connection via Bass Creek to sea - tidal waterway ~~fi~~filled in; now conn to VH Harbor by dredged + rip-rapped channel.

2 extensive sites - head of pond + near Bass Creek - Prob perm village

Head of Pd - abandoned before whites

Other - Nobnocket - continued sub-sachemship of Tekem

Excav - Head of Pd - no evidence of Eur.; Extensive springs, high land winter protection, excell ag land, + fish + shell fish

Narrow beach 20' above water

at least 3 cultural groups

1. Lowest - corner removed slate pts - slate uncommon on MV - ~~native~~ not associated w/ shells

3. Top - many stemmed pts, much shell + deer most common

2 copper beads - just like those in Brewton

entered

Steven F. Johnson. 1995. Ninnuock (The People). The Algonkian People of New England. Bliss Publishing, Marlborough, MA.

Great tribal people

Early Archaic culture gave way ~5000 BP to a new group migrating in from west → LA people who opened soapstone quarries

Ag 65-85% of person's daily food

Verrazano - cornfields over 1 mile long

1621 - Pilgrims found fort w/ 40-ft poles set close together, ditch 4-5' deep + bridge to only entrance

entered

Kasper, K and K. McBride. 2010. The spatial significance of plants. SAA 2010. 24 pp.

NA - often characterized as highly reactive to changes in biological environment and passive to Eur. colonization

Collab - Mash community, Hf, VMass, UConn

Patterns of continuity pre-historic → contact high degree continuity pre-Contact → 18th c

LW + Contact - may Alg specific groups coexisted on regional scale + participated in semi-sed settlmt, occupied sites on seasonal basis Pequot - 250 mi² homeland

Spatial Regional - community - household

NA sustainable plant mgt wetland, woodlot, open field

Weeds vs crops

Household - incl. space w/in settlmt site - hearths, activity areas

MP 250 sites 50 systematically excavated 10 historic/NA

10 - single component, discrete features + activity areas, 100% exc. large amt plots

Mohawk fort site - ~~fortified~~ place of refuge King Phillips war 1675-76

Wild plants dominant - goosefoot, sumac, knotweed - continues well into 18th c "living with the land" no "on the land"

Similar plant use + land use thru historic period

But how to take further - ubiquity of spp, small differences

entered

S. Krech. 1999. The Ecological Indian

Pleistocene ~~Extinctions~~
Hohokam + Emil Haury

Eden How to reconcile nature, Edens + people living + farming
Exhausted soil + demand for wood.

Nutritionally stressed by reliance on maize - protein of remarkably low quality

Health has vanished when scrub oak grasslands no longer burned

- entered

✓ H. Ingstad and A.S. Ingstad. 2001. The Viking Discovery of America. The Excavation of a Norse Settlement in L'Anse aux Meadows, Newfoundland. Checkmark Books, NY.

1261 Greenland voluntary under N rule - N = Kola penin, Iceland, Orkney, Shetland, Hebrides, Faeroes, Isle of Man

E Settlemt - 400 farms 23 churches

W " 83 " 3

Total at peak ~ 4000 people

1721 Hans Egede N missionary - sailed to Gland, expected to find people - only ruins

1300s Ivar Bardarson to E Settlemt - only watered sheep + cattle E Settlemt intact - so W emigrated

1410 crew stayed 4 yrs - intact w/ no problems?

until ~ 1500 - mingled w/ Eskimos, emigrated, died

Greenland ship in Labrador as late as 1347 - Markland

N America - Davis Strait - narrowest at 250 mi. - Baffin Is Route - N to Disko - W to Baffin @ Clyde Inlet → S to Labrador to Nfld

Earliest mention 1075 4th book of ~~Greenland Saga~~ History of Hauksbok

Vinland - island w/ grapes + wild wheat

1130 Book of Icelanders - mentions Skraelings on Vinland

Bjarni Herjolfsson - adrift on Iceland → Greenland - sees unknown shores heir sets out to find land - settles w/ 35 - after discovery Helluland, Markland, Vinland - built houses - grapes

Erik the Red 985/986 colonized Greenland

Leif stays 1 year

Thorvald Eriksson to Vinland w/ 30, Live in Leif's house

killed by Skraelings people stay 2 yrs

Thorstein Eriksson - abortive trip - crew of 25

Thorfinn Karlsefni 65 men, 5 ♀ - livestock trade + fight w Skraelings live in Leif's houses stay 2 yrs

Farmers, hunters, explorers, excellent seafarers

Didn't actually know what grapes looked like?

Biarni - missed Gland Nfld → Labrador → Baffin

Leif retraced route - opp direction coastal sailing

Helluland - Flatstone Land - Baffin

S of Hamilton Inlet - beautiful beaches Markland no grass

L'Anse aux Meadows - beautiful grass

Erik died of plague on return to Greenland

Both Eskimos + Beothuk Ind (extinct 19th C)

Vinland - vin - old Norse pasture same in Shetlands

grass of utmost importance grapes + wine - later addition

Land of Meadows

George Decker - fishermen from LAnse aux Meadows - took him directly to settlement 1960 - mounds

Excavations 1961-68 9 house sites

Wife's archaeological report - 1977 - The Norse Discovery of America - section of this book.

Marine terrace 4m above ; shallow water so whalers + fishers settled elsewhere

Arctic maritime conditions due to Lab Current that splits on Nfld mean Aug T° 50-55 ; much fog ; ice until June

Was forest nearby

Bog on

Driftwood Bay Épaves Bay

Turf houses up to 24m

entered

Lavoy, T. B., P. G. Burns, E. S. Chilton and D. Doucette. 2002. Lucy Vincent Beach: Another look at the prehistoric exploitation of piscine resources off the coast of Massachusetts. Northeast Anthropology 64: 67-73.

LV - Poko → C

Almost all W + LW

Flotation - recovered herring, which isn't in Ritchie's sample.

Fish bones - 2,225 - 1388 identified

surprised by low occurrence striped bass - seasonality or other bias?

Goosefish/monkfish - 73%; Shad 0.1%, Menhaden 13%

Scup 4%, Porgy ~ 6%; Sturgeon ~~=~~ ~2%, Sea bass 0.2

Striped bass 0.1 (1 sample), Cod 0.1

Goosefish - up to 1.5 m caught - usually in deep water on banks, sometimes they strand; menhaden also strand

Most spp seem - reliable source of food - most appear to be spring thru autumn use

Lucy Vincent - may be Guernsey Site A - couldn't find his field notes

entered

✓ Lavin, L 2004. Mohican / Algonquian settlement patterns

Most ~~the~~ hypoths derived from early Eur. docs + maps + negative arch data

Blaeu map
1635 New Netherland Dutch map - 2 palisaded villages w/ double row quonset-shaped houses "mode of fortifying their houses among the Mohicans". supporters - Mohicans in palisaded villages w/ longhouses like Iro

1978 Brasser - yr-round pal. villages - w/ pop'n leavy part of yr

1980 Snow - also - stockaded hilltop villages Mohic

But - no stockaded arch sites

So Bender + Curtin - highly questionable → Mohic dispersed t/o S homeld in small unfort. household groups 1-2 houses

Goldkrest - LW - heart of Mohic territory

lots of native plants; sig nut processing - butternut, hickory + maize

charred wood ~~●~~ - discusses Indian land clearing !? possible land-clearing for horticulture - open woodland !? elm + bottomland plant

100s of post molds 1-60 cm deep - ovoid 8×11 m; 4×11 m rectangle AD 1400s

few features - sparse pop'n + semi-sed occup; often inundated small, unfortified; small family groups summer - E fall deer, nuts, fresh shell fish, fish some fields max 50 people

No palisade

The Iroquois were true farmers; Also, their people were foragers and fishermen as well as horticulturalists

Supports Bendu + Curtis - dispersed, unfort. hamlets

Similar to other sites in region

Kraft - The Lenape - Upper Del "There is good reason to assume that these people lived in small dispersed unfortified farmsteads, rel. free from the fear of aggression, at least until the coming of Eur. settlers" Kr. It 1982

Sim in NE

Russ. Handsman Housetowns "numerous small hamlets, paired wigwams, and isolated houses are present all over the lands... Many of these settlements were small and tended to blend with their immediately surrounding environments" 1989

evidence for Native American houses is rare for NE as a whole"

most 6.5 m oval or circ

Ezra Stile 1761 Niantic res - 7-12 people slept- extended fam

Where >1 structure in molds - nucleated or repeated use

In contrast Iro - large yr-round palisaded villages. More + larger longhouses large sed pop'n concentrated at heavily fortified villages towns 30-100 m lg communities 100-3200

much more hard material >> reliance on hort. true farming

entered

Table 2.1 Timeline

Loren, D.D. 2008. In Contact: Bodies and Spaces in the Sixteenth- and Seventeeth-Century Eastern Woodlands. Altimara Press New York.

contact - DRF = verb; ongoing process influencing already dynamic cultures (indirect as well as face to face); lengthy + complex relationships small + large scale, entanglement of cultures; "early colonial" not contact

creolized identities not acculturation, not passive, unilateral

Imperial agendas - economic, religious, political/strategic

Synonyms ~ encounter, confrontation, exchange, influence, integration (of things), modification

artificial divide pre/post; historical/pre-historical

archaeology of historical process protohistoric

contact sites = native Eur sites = historic

creole - colonial settlements = pluralistic entrepots - Eur, Native, black, mixed

historic sources - all European perspective; written for Eur consumption; noble + royal, general commercial; aware of competing groups; models of writing + portrayal, bias, timing, location.

Archaeo - ethno - images: To fully interpret requires specialized background and knowledge of authors, context, artistic models + modes etc. However art is readily consumed by literate + non-literate; ethno readily absorbed by many, archaeo most difficult Tempting to take art + ethno on face value; fill major holes of archaeo - gender roles; clothes, use of implements, etc. interp of material culture. Art - e.g. Renaissance notions - form, figures etc.

Archaeo - democratizes; reveals unportrayed; quotidien; biased but not filtered from outside; daily life, not ceremony; common person; biased towards most common

Bias of historical practices of archaeologists, historians (scientists, collectors, museums)

Excavation vs sampling vs collection (filters, categorize)

No real mention - pre-contact indirect influences, changes in subsistence settlement, housing, power, aggression; impact of Inds → Eur on ideas or their influence back in NA when they return

NAGPRA - N. Am. Graves Protection + Repatriation Act

Publish + Federal Register + return

No single account of past; silence + filtering in many records

Major common problem - correlate ethnohistoric + archaeo records

Archaeologists tend to give priority to written documents over their own archaeo findings - 2 independent sources easy, broad in scope, familiar lexicon

Illustrations - often extracted from text; engravings derived from original art, much of which is lost

archeo - visual - ethnohistoric

Maps, pictures, writings - bounded + controlled spaces + people;

"new land use patterns + land tenure practices impeded earlier native activities" Nassaney 2005

Indians mocked Eng for exhorbitant trade (vice versa)

1524 Abenakis mooned Verr's crew

Use of practices + materials - went both ways

Gifts + exchange - orig. diplomacy → economics economics

Eur - wanted furs, needed food - completely revolutionized Native + non-Native

Materials refashioned + used in diff ways - coins → ornaments; copper bowls to ornaments, weapons; religious artifacts → orn.; lead - melted;

Eur came to New World to create the kinds of communities they left, with improvements

Iroquois - Five Nations - Seneca, Mohawk, Onondaga, Oneida, Cayuga - coalesced int Haudenosaunee Confederacy in 16th C

Extensive existing trade networks - moved Eur goods before face-to-face contact

Extensive use of Natives as guides, interpretors, informants + slaves in navigation

1620 Puritans - NE a virgin wilderness "vacuum domicilum" open for settlement

Intermarriage - prohibited in Mass.

Berdache - common - third gender - anatomically correct - act like other gender

Champlain - to get furs + look for opportunities

Emergence of scientific illustration w/ NA exploration

Natives - Noble Savages or Barbarians

Women silenced

Natives often wore Eur garments - e.g. Gosnold - 6 Micmacs one w/ waistcoat, breeches, stocking + shoes

cloth widely used + desired

Most preservation of Eur fabric - in association w/ metal

Mixed Eur + NA materials

Change in work as: adapted cloth, clothes, materials; metals; as ↑ furs + food

entered

MacQuarrie, B. ~1998. Scoop by scoop, team unearths Vineyard past. Boston Globe

Lucy Vincent EC 2m x 1m pit; HV prof; most imp MV arch project in 30 yrs ~35 = 1st NE Arch at HV in ~100 yrs

EC was math major

LV- "special place on the landscape for thousands of years"

12'/yr erosion 2/3 lost since 18th c

4 instructors + 14 students most 500-1000 1 tip 2000

Plowed, market tip, English smoking pipe; Indian elk flint - so fashioned own flints

1995- human remains - Randy Jardin - Wampe- first spotted teeth of skull in cliff - works now with EC

Diana Doucette - HV grad student - field director

Ceremonial significant site - high place near sun for burial

1996 - 2nd burial

Tobias van der Hoop - don't move or excavate bodies

Bungey, S. 2009 Lucy Vincent's Disappearing Act. Vineyard Gazette July 10

3 town beaches - LV, Squibnocket, Menemsha since 1995

Martina Mastromonaco - Chilmark beach superintendent

3' from dunes near beach walkway - threatens wetlands

Douglas Cooper - consultat geologist - 5-10' per yr.

Cooper Enviro Service - consult w/ Chilmark homeowners

Whale Hill - W of LV - houses moved back. Bldg inspector Leonard Jason ~~if 5~~

"If your house is 500 feet from the cliff, then you have about 50 years"

entered

Merchant, C. 1989. Ecological Revolutions, Nature, Gender and Science in New England.

Discusses role of beaver

Trade quickened in 1580s - Indians of St Lawrence R produced sufficient furs to lower beaver hat prices

Ecological repurcussions of diminating beaver - ↓ muskrat, ducks, mergansers, other habitat, browse, open land.

Shifting cult - mimics natural patterns. - poly cultural groupings of plant foods - "women had a direct impact on the environment"

New fields cleared w/ fire ; abound 8-12 yrs

65% carolies - grain products SE Indians 1605-1675

10 animal + bird

10 fish + shellfish

8 Nuts + legumes

79. Corn, bean squash - evolved intricate, highly successful interdependencies - diffused N from Mexico 3-plant polyculture - optomized weed + pest control

Hort + H-G evolved in symbiosis w/ local ecology

upset by Eur - new spp + activity.

Mitch + Elizabeth 9-8-05

3-5000 Late Archaic peak - sites, trade
climate, nuts + forest composition
nutting stones, mortar pestles

5-6K Shoreline + river stabilization - fish + shellfish resources

beans after corn + squash

LA - sites are everywhere
Dincauze paper on LA; Capsule prehistory

"Mast Forest Archaic" — snow
Burial ceremonialism LA due to ↑ pop'n
Intergroup violence

LA followed by resource stress.
ceramic + soapstone ~3K subsistence?

Regional young forest

Site density Phase 2-3 w/ dates

MA → LA wetland → more general

possibly due to appearance of wetlands

8-7 much sites
7-6 few

6.5-7 highest hemlock

15-20K at contact

7-8-10

Mitch + EC
9-8-05

Late Archaic 5-3000 BP

Resources, trade, climate, nuts, fruit, nutting stones, mortar + pestles

Shoreline stabilization - shellfish, fish resource

Diseases

Mast forest Archaic

Burial ceremonialism - pop'n ↑ intensive riverine

Wetlands

Followed by resource stress

E-7 many sites 6-5-7 high hemlock

7-6 few

15-20K at contact

entered

1996

✓ Moeller, R.W. Some thoughts on Late Woodland Ecology. Archaeological Services, Journal of Middle Atlantic Archaeology 12: 61-66

LW subs in Northeast - plant domest + intensive hunting + gathering forest edges - > diversity for human exploit + consump

Transition - band level H-G → village-based hort - difficult w/ severe repurcussions in Ind soc.

Relationship hort, vill + ↑ pop'n LW - recognized by all arch.

"The observed relationship among hort, villages, and increasing pop'n during LW times is recognized by all archaeologists

Need to understand + reconstruct environ. practices to understand subs.

Traditional - adaptation to trackless wilderness → stockaded Ind vill surrounded by dense forest, idyllic life = myth

Deneva - pristine myth - early observers unaware of human impact obvious to us today

Pyne virgin forest myth

Myth due to open nature of NW Eur; most obs after Eur. gained footfhold + Ind pop'n declined, forests filled w/ dense understory

Myth of unobtrusive Indian - romantic, not scientific lit

Tension in Ind times - due to depletion of trees + competition for arable land; huge labor investment - firewood, corn

Caldwell 1958 "primary forest efficiency" - began Archaic - finally learned to exploit a wide diversity of natural resources - now known Paleo used diverse

Mosaic envirn w/ diverse econiches

Assumes corns from swamps - people in decid forests

Paleo - didn't know thy could create openings; minimal edge

Edge effect - occurs whn closed forest is cleared for livg space, firewood + construction materials. New edges - greatest diversity

Destroyed virgin forest to live

as ↑ pop'n needed more resources → hort, high cost

Fire use - great antiquity. - most envirn destructive practice - indiscrim use of fire to clear for hort + aid hunt + fish + defense

Q role of climate vs humans in drivg major Δ

RM - extnd this back thousands of yrs

Human intervention caused major shifts - veg - difficult to remove plants

Advent of hort → massive envirn disruption + social disruption

NY + PA - first lith maize thy couldn't live w/o → villages + war

soils depleted as forests cut

More Food ↑ sedntism from bands → villages - tied to land → new politics

W/ no fert - slash + burn → intnse comp for land; protect fallow land by putting village on it

↑ Hort → ↑ intensification of hunt/gathr

Hints to a society on the verge of collapse - subs regime depleting resources faster than replenished. Then the Eur arrived

endnote

✓ Robert Moeller. 2003. Two Thousand Years of Indian Lifeways in Connecticut. Connecticut's Heritage Gateway. Connecticut Humanities Council

Paleo → Archaic. Big shift in culture, lives, tools with environ
Decid trees → more diverse foods ↑ survival; tools for
belly + limby trees, dugout canoes; fishing; grind seeds + nuts
cooking Larger sites, more re-use, more people
more ceremonialism

Woodland: ground + polished stone tools, ceramics, villages, domest
plants, bow + arrow Domest + Villages - v. late

V. little insights into most recent prehist period

"Because the Woodland villages were located in the places first cleared and settled by Europeans, these villages were destroyed without a trace before being studied and recorded.

W sites look midden to A

Domestic plants - v. late - lived easily on H-G + did not need Hort
supplement diet

entered

Wm N. Morgan. 1999. Prehistoric Architecture in Eastern North America. Univ. Press of Florida. Gainesville

Lower Miss; Fla; Ohio Valley; Upper Miss; Tennessee, Appalachian and Piedmont,

No mention NE

Appendix of Comparable Sites: Stonehenge, Giza, Acropolis, Angkor Wat, Piazza San Marco, St Peter's Sq.

Samuel Eliot Morison, 1971. The European Discovery of America. The Northern Voyages. Oxford University Press, NY

Erric the Red - left N for Iceland, feud so explored Greenland - named as would attract "if the country had a good name"
AD 985 - returned to colonize w/ 12-15 boats Icelanders
E + W settlements both on W Coast

Biarni Herjulfson - 986 - missed Greenland - hit unknown land flat and wooded - Labrador + Baffin Is.
In Tale of Greenlanders saga

Leif Ericsson (# 2 son of Eric) - looking for wood -
1001 - 35 men - 1st found Baffin - South to level + wooded country w/ broad white beaches - Markland. Land of Forests - Wonder Strands - beach - 35 mi strait of Labrador - middle of barren stretch
To S - Belle Isle
Set up houses; salmon; grazing; meadow
Ingstad - excavated 2 great houses 70 × 55' layout
primitive ironwork - bog iron;
Steam bath 75-90 people; food as leave
Site used by 2 further expeditions from Greenland
small village
V few Esk or Indian

Thorfinn Karlsevni 1008 3 ships 250 men - stopped at LANSE AU Meadows - Snorri - 1st white child

Karlsevni

sailed south stayed on coast over winter

interactions w/ Indians v. bad; fighty, so left after 1 more winter

Captured 2 native boys in Labrador - took to Greenland,

baptized them + taught them Norse

1013 3rd + final attempt Karlsevni → Greenld

Freydis (f) + 2 others in ships to L'Anse au Meadows

murders etc. took produce from land to Greenld

Gave up because of hostile stealing

Greenld - last bishop visited 1372

N ship visited 1406 + 1410 - only wild celtk

Ivory trade for walrus undercut by African elephant

Black Death 1349 in N

N prominence on wane ↓, English raided land

↓ To

1497-98

John Cabot - Genoese (probably) no account

Cabot - know little, no portrait, no writg; son Sebastian usurped;

Nfld - June 24 1497 5 mi from L'Anse au Meadows travelled 500 yrs later

saw snares + fishnets

Beothuk Indians - Gaspar Corte Real kidnapped Nfld 1501 to Lisbon - had broken

gilt swords of Italian mfr + silver earrings "made in Venice" - prob. left by Cabot 1498

JC Took cod, saw large trees + "cult fields" - prob. blueberry bushes +

low shrubs saw no Inds.

2nd trip - departed May 1498 - Bristol + not heard of - 4 ships

Gaspar Corte Real

1500 · 50°N "a land that was very cool and with big trees" - Nfld

1501 · returned; "Terra Verde" - Nfld - kidnap 57 Indians to Lisbon - Beothuks

Gaspar - never heard of again

1502 · Partnership Anglo-Azorean Syndicate - 1st record
few trips

Not clear that Sebastian Cabot ever went there - possibly w/ father in 1497

Jean Denys from Honfleur

Fishermen 1504 earliest date for French (Breton or Norman) may Port by 1506 as King imposed 10% import duty

1520 - João Alvares Fagundes - S Nfld + Gulf St L

1521 or 1522 Colonists Port. under Fagundes settled on Cape Breton at Ingonish - Indians hostile after 18 mos.
Breton fishermen destroyed lines + houses 1526-30?

"Formerly the Port. sought to settle the land, which lies the lowest, but the natives of the county put an end to the attempt and killed all who came there" Jean Alfonce

John Rut 1527 - Hawke Bay Lab. - S to St Johns, found 10 fishing vessels - 7 Norman, 2 Port + 1 Breton
went to Nova Scotia + NE - freq. landing now, then West Indies

Rrchard Hore 1536 London Nfld so well know
chartrd 2 ships Trinity + William to catch cod +
give London gentlmn a pleasm voyage - "first tourist
cruise" 30 gentlmn
cannebalism

1508-10 La Pensée from Dieppe + La Jacquette from Plémeuf
on Grand Banks
1509 - Norman vessel landed 7 Ind slaves at Rouen from Tierra Nova
La Rochelle 1523 - 5 ships to Nfld
1559 - 49 " > 10/yr for 26 yrs
1534-65 ≥ 100 from La Rochelle

Most fishermn accustomed 2 fishg trips/yr 1st day-Feb start
returned who full; thru April-My return Sept.
"wet fishig" no need of port;
1519 - first estab of base on shore for curg food

Verrazzano Tuscany - 30 mi S of Florence - Verr castle Giovanni ~1485
La Dauphine - royal Fr navy - Fr banners
Journal died not survive - daily notes
Interpreted Pacific Ocean as W of Outer Banks (Pamlico Sound) interpreted as
Isthmus - much narrower than Panama - perpetuated in maps

= Arcadia

Kitty Hawk NC - snatched a young child to bring home - unknown future

Pulse = beans Missed Chesapeake + Delaware Bays

Anchored off shore every night

NJ - coast green w/ forest

NY Bay + Narrows Natives "many people" "clad with feathers of fowls of divers colors" very cheerful, shouts of admiration - weather drove off

Triangular Island - Block = Luisa ~ size of Rhode "full of hills covered with trees, well peopled, for we saw fires all along the coast"

[Ile of Rhods Rhod-Island = Roger Wms] RW mistook V's allusion to Block Island as to Aquidneck - Island in Narr Bay

Indians v. friendly - 2 weeks; ~~heard nothing about Miguel Corte Real who was there 13 yrs earlier~~

Indians Wampanoags - friendly as had taken Aquidneck from Narragansett + needed allies

"goodliest people" "of fairest condition" women "very handsom and well favored"

Wore great copper plates - obtained thru trade from Great Lakes did not wait iron or steel for stone

mourn + sing in death admired houses + corn fields

Cape Cod "eminente promontorio" have no grain

Abenaki - ME crude + evil manners ground nuts - hunt + fish

Suggests earlier visits by raiding for slaves foreigners -

N - Orambega Norumbega Abnaki - quiet water Near Acadia

3rd trip - Anchored off Darien - taken by Caribes; killed, cut up + eaten on shore while brother looked on from his boat "sawed ruddy blood" with fraternal

Esteran Gomez ~~1524~~ 1525 - Abenaki friendly in June
sailed up Penobscot cruised to RI, mapped bays, saw White Mts
kidnapped Indians around New York
"filled his ship with innocent people of both sexes, half naked"
liberated in Corunna
NE area on Diogo Ribero's 1529 world map - Tierra de Esteven Gomez
"many trees and fruits like those of Spain, and my rodiallos and
salmon and sole, but no gold"

Myth of city of Norumbega on Penobscot
David Ingram - Eng sailor 1567 - set ashore w/ 2 others
on Gulf Coast - walked by Indian trail to Maine 2 yrs
picked up on St John R New Brunswick - city w/ stone
Champlain killed rumor

Spanish Nfld fishing 1540 - significant / Britons, Normands, Dieppe, Roun, La Rochelle
English + Banks + Nfld 1552 - 200,000 ducats/yr
wet fishing - Sp, Port, Fr of Biscay - salted catch + sailed home - cured on shore
Eng + Irish - too foggy - + had to import salt - dried on shore
2 crews - boat + shore had shallops to fish
Dry fishing led to Fr fur trade

wet - left Jan/Feb returned April + May
back June → Oct

Whaling - as early as 1527 off Nfld - harpooned + dragged to shore
20-30 Basque boats by 1578

Walrus kills off Magdalen

Frobisher - Esk woman, child + man - died after 1 mo in Eng

Mulholland, M. 1979. Processual cultural ecology of the Middle Connecticut River Valley. Forest succession and human population change in a temperate forest environment. Anthropology Research Report Series 18 ↓ University of Massachusetts, Amherst. 56 pp.

Poor preservation - human remains, faunal remains, marine resources due to acidic soil. So development of pop'n estimates is very difficult
Use # sites + # diversity of artifacts as proxy. , or also just #

Freq of artifacts + changes - freq + spatial distribution of hr artifacts either
Small pop'n w/ immature decid forest 10-9 BP
Gradually increasing as maturity forest ↑ in biomass
~4 K BP Pop'n peak - until 2000 BP ; subsequent declin

Relate to diversity + density of veg. Expect inverse relationship
w/ diversity (# spp) + pos w/ density (abund.) - all floral spp = resource
Horn - div ↓ to climax (4KBP!). Diversity ↑ after 3-4 K
As ↓ diversity - diet breadth ↓ ; ↑ competition so ↑ pop'n to defend
human pop'n ↑ as ↑ resource density

Late Archaic ~ forest climax
Swigart W CT ↑↑ projectile pt Early Archaic to E Woodland
EA 7 sites / 14 artifacts LA 26 / 1441 (46 / 1637) EW 8 / 21
MM + Dincauze - CT R + coast ↑ EA → LA
Spp diversity inverse to pop'n

Mitch Mulholland 6-18-99

Jill Boucic - Curator of Archaeology - Dukes Co. Hist. Soc.

Mitch has

→ DeBares map for entire island - Atlantic Neptune Co.

1770s maps for Falmouth ? detailed

Liz Chilton - HU - field school on MV

100 Test Plots

Community wide archeological surveys Chilmark, W Tisbury, Oak Bluffs

town-wide MHC + MVComm

advertisement for Edgartown ~ $8500/town

Richard Burk - MV W Tisbury Historical Commission

MV Commission

Database of Historic maps - U. of KS - Library of Congress

→ Mass Archives - Word file at UMass - MM has

entered

Archaeo refs

Munoz, S.E., K. Gajewski, and M.C. Peros. In Review. Synchronous environmental and cultural change in the prehistory of the northeastern United States. Proceedings of the National Academy of Sciences. Draft

New enviro + archaeo records 13.5K →

Correspondence - key cultural transitions, human pop'n, + climate-driven changes terr. ecosystems.

Large Δ terr eco structure + comp. - well-defined transitions - 12, 11.6, 8.2, 5.4, 3 KBP - changes insolation + ice sheet extent influenced ocean-atmos circ + E balance → altered T° + timing + mag of precip climate → veg → ecosystem services

Human pop'n size + prehistoric subsistence

Not single cultural/enviro Δ

ME → PA 71 pollen 40 charcoal SCD - 500-yr intervals

Hisotope → T°; lake-level → effective soil moisture

CARD - Can. Arch. Radiocarbon Database - searchable - 35,000 1887 C-14 dates

type + taxonomy of material + assoc. cult. material

Timing regional cultural transitions - Freq Distri - 1st time majority of dates in histo → later cult. period (determined by them)

So cult period not objective

Temp freq of C-14 dates → proxy pop'n size; larger pop'n → more cultural carbon Taphonomy; investigator bias

corrected using taphonomic model

P, A, W - E, M, L → some transitions rapid, others slow

P-E 11.25 E-MA 8.25 (abrupt) M-LA 5.25 (abrupt)

LA - EW (gradual) - 3 E-MW 2 M-LW 1.

LA + LW - periods of rapid pop'n growth

Every transition except M-LW (maize) = climate + veg

Δ spatial pattern T° + Moisture → shift veg + SCD

Cultr - wild food dependence - altered resource base, site habitability, carrying capacity.

P. sedge, Picea, Pinus + high fire (dry summer?)

EA - 11.25-8.25 - ↑ D, ↓ P + high charcoal - drier + warmer

MA - 8.25-5.25 - ↑ moisture, (summer), low fire, high Ts, ↑ mesics Be + Cary

LA 5.25-3 ↓ Ts, high mast - O, Cary

W - ↑ fire (authro?), or winter precip w/ dry summer; ↑ Ches, ↑ Pi - w↓

Coincidence cult/climate Δ + climate/ecosystem

Y Dryas end 11.6 - P→A transition Spruce parkland → Closed O+P

Laur Ice Shelf collapse 8.2 - major Δ moisture ↑ Ts + Be E-MA

Hem decline M-LA + ↑ pop'n - driver

LA mast spp - max abundance

Pop'n ↓ A→W grad Hol cooling + ↑ lake level + Winter precip + deep snow

Uncorr - LW ↑ pop'n (1-0.5) maize adoption

Some veg dynamics

Peros et al pop'n reconstr approach - Freq radiocarbon dates

spline to smooth + O→1

Pollen - interpolated 250-yr intervals - ave value major taxa at regional scale

SCD over 500 yr

Charcoal - scaled O-1

entered

S.J. Pyne 1982. Fire in America, A Cultural History of Wildland and Rural Fire. Princeton University Press.

Opens to fire history of the Northeast. Burned-over districts

Starts w/ aboriginal description T. Dwight 1821

WPA 1938 - "perhaps the most outstanding national enterprise in emergency hazard reduction. The feared conflagration never materialized but residual debris that escaped immediate cleanup did contribute to the infamous 1947 fires in Maine..."

Dwight - a major source - incl. W NY; Ind annuals

MV Archaic ✓

Richardson — Looked in the right places. Maritime adaptation in Northeastern N America and the Central Andes

Ritchie - mollusc evidence MV - progression of adaptation thru time. Easy shallow water quahogs only in LW - burrowing soft shelled clams, mobile scallops fish + mammals

Didn't use sea level data, mentions briefly

Doesn't discuss island separation

Because - found no evidence before LA and all Fla to Labrador sites post-date 5000

So interp that maritime adaptation only LA or later

Similar/analogous in Peru

1960s major advances oceanog + geol. relative to plate tectonics — first discussion of sites below sea level

Salwen 1962 - "completely possible that whole segments of coastal prehistory lie hidden under shallow coastal waters"

Hiatuses - often explained by low density of food or time lag for coastal people to gain knowledge of marine resources

NE - low resource carrying capacity of environ - responsible for sparse Late Pleist #.

Paleo + MA sites do exist - filled out Ritchies work

by 2005 - 9 fluted pts + 6 bifurcates w/in 10K - MV only a bump on a vast continental shelf visited sporadically

MA - 1st major MV occupation. - Witchbrook WTis

"Drowned sites" - Tuck explains absence EA-MA

Belle Isle + L'Anse Amour - Labrador - tech + faunal - mixed

terrestrial + maritime econom - sea mammals

Lower Hudson - shellfish by 7000

Drowned continental shelf Northest - mammoth, mostodon, walrus,

must ox, giant moose, horse, giant sloth, tapir

+ peat + oysters

Resources for Hunt-gather on coast for 1st inhabitants

8 K BP shell mdw off LA/TX

Deer Island oyster midden ~6100 Tuck 1991

Need to look at maritime adaptation from inside out

"maritime way of life was established as early as people

were inhabiting the W Hemi"

technology - fish hooks, cucurbit floats, sinkers

Changes Gulf Stream + rising sea levels - profoundly affected coastal enviro

+ distrib + avail of marine resource

Sanger 1975 - prior to 3500 BP - swordfish deepwater cod + clams

pwhtl - as ↑ sea level, ↑ tidal amplitude + upwelling →

colder waters ~3800 no swordfish + quahog.

Chang oceanographic + ecology conditions can be major factor

in demise Maritime Archaic

~~Late Maritime Arch~~

Late Maritime Archaic 4200-3500 - longhouses +
↑pop'n social + economic complexity
Fitzhugh 1995, Hood 1995

"There is now no doubt that as soon as the first intrepid Ice Age hunter-fishers entered the W Hemisphere they took advntg of the bounty of ocean resources"
11-12-5 K Monte Verde

The submerged cont shelf is the last frontier of the arch record for the missing 5000+ years of maritime + terr. adapts in the W Hemi, theft is prior to the stabili of sea lvl.

Major shifts ocean currnt + TO responsible for societal changes Neoat NA + Peru
as water gets colder + ticks south

5-28-11 ✓
Archae

Ritchie + Funk (entered)

Early longhouse @ Rowdtop

20-25' across 2½-3" diam saplings

20' poles bent over + lashed together

arch ~ 10-12' high

1964- Tuck + Richardson

Owasco ~1070 AD - Ritchie - ancestral to Owasco

Largest of Early Owasco

Good evidence corn cult + beans + squash - sedw farm villag

Large houses 80 × 26' 92 × 22' (73' main + storage or annex)

Bates - stockaded hamlet ~ 50 people, one builds

maize ~ 1200 AD

~1390

Kelso - low flat-topped rise east of creek + lake

2 overlapping villages 2 ac. each both double palisades

Post molds 3-5" 3-12" deep

8-12 houses 20 × 24 22 × 24 14 × 18 16 × 17

18 × 27 32 × 26 18 × 20 22 × 128, 22 × 112, 22 × 128

3" diam wall molds 3-12" apart

Getman - most food storage above ground

stockade ~ 1 ac (51,800 ft²) 2 rows molds

3+" diam

— over —

Garoga Defensive wall at narrow part of ridge

2 walls 6' apart 9-27" diam

Houses

20 × 154 8" diam

20 × 212 149 × 20

225 × 20 204 × 20

187 × 20 212 × 20

187 × 20

layout 3 sets of 3 houses each

1550-1600 AD

~600 people (>700) Mohawk Iroquois site

few pieces of brass - incipient proto historic

French as Dutch not there until 1609

Cartier had contacted Laurentian Iroquois by 1534 + 1535

Hochelaga + Stadacona

At least 9 longhouses - village planned unit

Palisade - posts to 2' diam

Clusters of villages

Increase size of houses → Middle + Late Ontario Iroquois

Trend to larger villages

Warfare + assoc. sacrificial cult commenced Mid Owasco

ritual cannibalism anthropophagy

"War of Iroquois" 1642-1675 may changes due to European

fur trade led to concentration of villages near colonial settlements

entered

Ritchie, W.A. 1969 The Archaeology of Martha's Vineyard. A Framework for the Prehistory of Southern New England Natural History Press. Garden City, NY

MV - no prof archael., sites largely intact except amateurs
Island "populated from the mainland" - [strange notion that people came to MV, rather than lived there continuously].
[Other interesting aspect of book - doesn't interpret sites in context of changing landscape context - old sites with interior hunting cultures - but they were interior. Might have been a [coastal culture on the coast]
Archaic - forest-adapted deer hunters

Reconnaissance Sept 1962 w/ Jim Richardson III
who attracted him to MV

Sites - discontinuous use as pond openings varied + Δed seafood
Shellfish - cultural but heavily supplemented - semi-sedentary family/ extended family

Kettle Pds - Seth's, Old House, Harlock, Frash + Dodger

→ Brereton - high canopy forest - impressive assemblage - climax
→ forest of offshore islands - stark difference w/ modern cutover woods

Wampanoags - Algonkian - E Narr Bay → S Plymouth Co, W Barnstable
+ Islands; mainland 2400-2000 MV 1500

Cheever 1848 - providence of God in plague killing Indians 1617
named in King's patent for Eng voyage "wonderful plague"

Massasoit - chief; d. 1662 - 2 sons King Philip = Metacomet
SNE confederacy 1675-76; Wamp on Is - neutral

Quotes Verrazona - 1/2 p 1524 on looks; Brereton 1602; Miles Standish 1621
Pilgrim - description of wigwam - houses - sapling trees, bended over
round, double matted; wood bowls, earth pots, baskets

full of acorns + fish; diverse unknown seed;

mats - flags, bulrush, sedge

Verrazzano - 1524 - Circular 10-12 paces circum = 25-35 ft = 8 - 11 ft diam

no regularity in architecture - straw roofs

"change their habitation as circumstances of situation + season may require" "this is easily done, as they have only to take with them their mats, and they have other houses prepared at once" 25-30 people

Verr hunt - snares + bows - latter chief implement (not specifically described by Pistonic)

Brereton - strike fire mineroll stone + Emeric stone

"with the least sparke he maketh a fire presently"

Pilgrim - found pits w/ corn + beans + "parched Acorns"

Cod, lobster (no soft shell seafood mentioned), eels

Verr - dugout boats - sharp stones - cutting down trees + hollow out

WR "the exiguous historic records flesh out the skeletal facts of archaeology" can be sure acorns + other seeds in pits; shellfish dried

3650 yrs occupancy

Hornblower II N shore Squibnocket - Henry Hornblower II

S facing amphitheater ~ 100 × 100' 2' asl - rises 50' beh.

Assumes landscape heavily forested when occupied - shelter to N+NE wind, open to S

1780 map - Squib Pd open; assume annual herring/alewife run

Δ use w/ opens, salinity etc.

(2)

Herring Creek Menemsha → Squib Pd - artificial to allow spawning run

1964 James B Richardson, Frank Shambach (HU grad student), James A. Tuck (Syracuse Univ Grad Stud)

25 days 325 ft² Bert Salwen - Asst Prof NYU, Michael Mosley (HU Grad Stu)

[Only can sample areas of accumulation] Bruce Bourque (Undergrad U Co)

"strike-a-lights" Well trampled floors - shells broken

Sites abandoned, eroded, overgrown

Highly alkaline pH 8 good preservation of osseus material

One carbonized corn kernel + 1 carbonized acorn — not pollen

Post molds 2-4" 4-8" deep; blunt base

microbands of hunters

perennial residents or use thru year

Earliest - deer hunters - started to use shellfish

Variation in shellfish use - motivation unclear - bay scallop - mobile + deeper water - hand nets; quahogs - on bottom; long + soft shell clams - burrow

Δ in salinity + T° Oyster - euryhaline - tolerate dilution by freshwater; young need saltier

Plant remains ~ non-existant
— but sig part of diet

Dog - hunting

Offshore fishing technology - cod 4' 50 lbs - was extensive cod fishery at Nomans Land 4 ½ mi. + big cod off Squibnocket

Lots of continuity - strata + cultural groups

Javelins - short throwing darts + hand held spears; crude pts

"Squib Culture" - shared across Algonk - ENY + S-Mid Atl

No discrete Coastal Archaic Culture - roots in NE forests

Poor underst. climate + sl - 3000 - cooler + moist - assume ice melt ↓

16 ft ↓ - no Men or Squib Pd - but Δ in bathymetry?

500' Kehle

Pratt Site - Howard Ave Tisbury - along Ben Luce Pd

Sheltered "by large trees of the primeval forest"

1/4 mi to Lagood Pd - source shellfish

Dog burial

Hearth over human burial

40 post molds 1 3/4" - 4" — most 2-2 1/2" — 3-8" deep — 5-6" blunt conical base

"distribution of the molds is such as to preclude the possibility of determining the size or outline of these doubtless flimsy homes".

beaver incisor - chisel shaped incisor edge

primary game - deer bear, muskrat

~2400 BP

Overharvest easily obtained sp - hard shell - required going into deeper water for oysters + scallops

Lowest levels - microgroup of hunters

Later family unit - blood or marriage 10-15 people

"abodes seem to have been flimsy dwellings of mats or bark-covered poles of indeterminate size and shape"

Cunningham - W shore Lagoon Pd

natural gully - debris but also shelter

200' shell mound

Dog bones - used as food as bones prevalent

Some camping directly on forest floor

Post molds - many + some form circles oval + round 16' diam

2 1/2-3" diam 7-8" deep - blunt - sim construction - all phases of occupation - overlap even within stratum

Minor intermittency of inhabitation

Every level - deer predominates - older individs preferred, also young + fawns "discount the probability of conservation practices"

Grey fox - all levels - suggest large, stable popn + trapping or hunting at night

Discontinuous

"there were no significant changes in subsistence pattern at the Cunningham site throughout the long span of its history" >750 yrs

Windsor Site Main St VHaven - one of largest

faces Lagoon Pd

Dog - stunned carcass tossed in midden

Post Mold - 2½-4" (3") 3-6" - no meaningful arrangement

Steatite cooking pot — only 1 found + undated - preceded pottery

Weak surviving Laurentian occupation interfaced with + submerged by infiltrating Squibnocket cultural group

Heath Hen + aboard turkey

More continuous occupation w/ fewer + shorter breaks

Brief interval stone → ceramic pots

Peterson N shore Squib 35' above pond 4/10 mi - NE - HII

hollow w/ spring-fed brook

4070 BP - 1 C aftr HII (2070 BC)

1 rolled copper bead sanitation + comfort

Sanded areas - house floor Post mold - no pattern

Cultural modification - series of small progressive changes

Sig chrono/cult corr w/ H II
Changes shellfish - Δ ecology? Δ cultural? Learning?
Deer major constituent all strata

Howland E shore Menemsha Pd 5-8' asl small, spring filled pond 1 ac.
Not plowed Cron
Large # post mold 2 1/2 - 3 1/2" random, successive, overlapping patterns
Poss rectilinear pattern 9 1/2' + 5' - dubious
Mink 920 BP
Lagoon Pd - Norton Site - Huntington
1913 Guernsey - meager finds nothing of especial significance
1936 Douglas Byer & Fred Johnson Hornblower Shell Heap
1 1/4 mi. SE H II SE corner Squib - 2 midden accretions
Squib Cliff

MV - provides basic framework SNE + E Mass
CC - probably place of departure for most groups which visited MV

Paleo 11,000 - unreported for CC + Islands - Clovis - rich big game - primary subsistence - cool, moist open boreal-to tundra
9000 - Pine - Δ in game capacity → low human pop'n, few sites
6000 - O-P + O-H - Xerothermic - restored favorable conditions - esp to mast eaters deer + turkey;
4000 Squib - et al
Graph of Sig abundance of shells - hard clam - Squib
Early adaptation to coastal environ; but knowledge for wide utilization of other spp. "Group newly arrived on the coast"

Assamus took which for newly arriving group to learn to catch soft clams + thru bay scallop

Squib - small open communities near seacoast or river self-suff - no evidence of fish

Transitional - intro of steatite

Correlates w/ NY Sth

Vinette pottg - marks EW style
"arrives on island 4 C after CNY - probably lack of a log

MW - hunt-fish-collect near imp of fish

LW "Corn and other cultivars were certainly an important part of the food of this stage." ~~Which, on the coast, also included shellfish~~

Notice people of MV participated in cult elev. of SNE

Palco - only 2 MA sites

p 237 ~~* + below, on th~~ exclusive use of quahog reels on novelty of littoral enviro to those primarily forest-adapted hunters, esp the Laurentian groups who were the first comers to the island.

Progressive adaptation to marine environment

Earliest Archaic - Laurentian tradition - 2270 BC - mainly forest-adapted

"Corn was found in the latest dated horizon, but the appearance of ~~the~~ agriculture on the coast and its interaction with the marine ecology remain to be elucidated. It is, however, manifest even from our limited data that significant demographic changes were associated with the rise of farming here as on inland sites in the same area".

+ used of cliff sites

Perennial residency over normal inland cycle of subsistence activities - as ample shellfish

Dan Richter. 2001. Facing East from Indian Country

Heard mangled tales + received rare + novel items long before they saw Euros

Cabot took traps or snares + needle, Verrazano a young boy as proof of exploits + possible interpreter

Verr - NE- waiting w/ furs they knew Euros would want

Many wrecks + lost cargo

1534 Cartier St Johns - surrounded by 300 natives - ready to trade

took 2 men to serve on return trip. Returns in year from Britain

Beaver + goods - shifted people from manufacture + artisanry; stopped hunting except for beaver - so ↑ need a goods

Changed power, wealth + social dynamics Large areas no beavers by 1640s

3 sisters beans - AA lysine + tryptophan + zein in maize - nutrition; releases niacin with lime

Jacket Cover - Landing of Henry Hudson - Robert Weir

Shows dark walls of River bluffs, ship w/ full sails

Indians on shore, canoes going out

Rubertone, P.E. 2001 Roger Williams

Williams could not notice or comprehend what influenced + sustained the Indian life. Only saw limited people - mostly men, public characters, articulate ones. Circle of contacts, not age/gender

Arrived Mass 1631 Banished 1635 Providence 1636; Publishes Key in 1643 A Key Into the Language of America

Uses John White image of Secoton (NC) to illustrate a village - big fields, main avenue, longhouses, Quonset huts

entered

↓ see if can locate

Salisbury, N. 1993 Introduction. pp 9-13 in Algonkians of New England: Past and Present. Dublin Seminar for New England folklife. Annual Proceedings Boston University, Boston

1524- Verrazano into Narragansett Bay - spent 15 days w/ Indians. Thru → Casco Bay - Abenakis
Earliest account of NE Indians

Beautiful vs cruel; pleasant vs confrontational

entered

pp. 61-140 in

Sturtevant, W.C. and D.B. Quinn. 1989. Indians & Europe
Univ of Nebraska Press, Lincoln + ed. C.F. Feest.

1st Eskimos in Europe (from Terra Nova) Netherlands 1567
kidnapped by French sailors in Labrador

3 versions of a broadside w/ woodcut of woman (age 20) + little girl (7)
Captured August 1566 fr woman-parka in skin boots
Greenlanders met 1585
Frobisher - saw Eskimos - no contact. Found a box of nails in an Eskimo tent

Basque 1540-80s mostly Spanish some French - refer to region on N coast St L, Straight of Belle Isle as Terra Nova

By 1560s - more than 1000 Basque annually in 15-20 ships for ~6 mos - v. few references to natives + encounters

Frobisher - met Eskimos on Baffin Island in 1576+77
took 4 captives - took 1 hostage home brought "new prey"
"Now with this new prey... the said Captain Frobisher returned homeward, and arrived in England
"the Captain desirous to bring some token from thence, of his being there" Lok 1577

George Best 1578

Frobisher looking for ore

→ To incorporate May 2011

/ Mark Q Sutton. 2004. An Introduction to Native North America. Pearson, Boston.

→ Lewis H Morgan mid 1800s - comparative study of Iroquois League of Iroquois
Began or led to evolutionary theory in anthro
→ "Unilinear Cultural Evolutio

1497 - Eng fishing cod off Nfld: possibility Basque cod fishing predate Columbus
1004 Leif Thorvaldsson - Leif Eriksson - colony in Nfld

Examples of generalizations
→ Northeast Indians in Northeast "were primarily farmers"
→ "warfare was a common, important aspect of Northeast culture"
defense of territory ↑ after Eur.
"Most Neastern groups practiced an economy that included both Agri + h-g. The ag system employed a slash-burn technique"
→ "for most of the year, many Neastern people lived in long communal houses, often referred to by their Iroquoian name, longhouse.

→ Case Study for Neast - The Iroquois
"One of the best-known NAm groups is the Iroquois..."
"The Iroquois exercised great political power in the Neast and even influenced events on the world stage"
Towns - up to 2000 ppl

Holyoke Center 350 • 1350 Massachusetts Avenue • Cambridge, MA 02138-3486 • Phone: 617.495.1814 • Fax: 617.496.5333

Summary from 2003 DD

As much diversity within subregions as between

Champlain account 1605 - field w/ corn, squash, beans, tobacco, fallow, fire, houses

Quote → get

Semi-sedentary villages

↑ LW - why? (1) Pottery production - boil gruel - nuts + chenopod weaning - ↑ fertility ; (2) climate amelior 1000 AD - ↑ production

↑ native conflict before Eur settlmt - documentd by explorers

DD - NY

11 K BP Staten Island

Estuarine development + stabilization

Fisher's Island 70 x 300' midden - shells + all kinds of tgs

entered

P. Thomas. 1990 In the Maelstrom of Change

Fort Hill Hinsdale fortified village 1663-64

Ind tribes pictured as stable, well-defined, political units with identified boundaries + leaders

Unstable, fluid, dynamic several small sachems

tribe = fleeting reality

Map not frozen in time but fluid situation

Bennett - maize - 280-340 lbs per person 50-60% calories

"maize must be considered the primary staple food of the CT Valley Indians from late September until May

400 people - 80-100 ac. fields much more with fallow

320-580 ac. more if unproductive 990-2230 ac.

+ periodic relocations

Ecological rationale for 25-mi spacing in CT V

No fortified villages - missed by archaeos? As long common W of NE

SNE - 74,250 - 130,500 ac under periodic cult over 50yr period

222,570 - 297,000 ac. if assume other factors

some competition for suitable hort land

Conflict w/ Euros over planting fields

rapid movement of Euro goods into interior

direct commerce w/ Indians for 50yrs by 1620

entered

✓ Travers, M.A. 1957. The Wampanoag Indian Federation of the Algonquin Nation. Indian Neighbors of the Pilgrims. Christopher Publishing House, Boston.

Neolithic people

Diorama - Bronson Indian Museum Attleboro

Under Sachem Massasoit guided Pilgrims thru 1st 40 yrs

ACV, MV, Narr Bay - CC to S Mass Bay

Wampanoag = Coastal or Eastern People

3 principal villages - Sowams (Warren, RI), Montaup (Mt Hope) Bristol RI
Kickemuit (Swansea, MA)

1st by Colonists - Edw Winslow + Steph Hopkins 1621 to Sowans + Massasoit - claimed 30 villages under his leadership

~1616 massive disease; 1615 cruel attack by Tarratines (Penobscot) and ~1616 by Narragansetts

Lists tribes in Wamp Federation - many already decimated

Wm Penn + others Indians similar to Jews, the Indian tribes that roamed the wilderness of NA descended of lost tribes of Judah - Roger Wms - based on similar manners + customs + language Hebrew + Indian

"First American humans"

"whole area of the Pokanoket county as an expanse of wooded splendour with here and there a clearing or meadow around the various villages of the aborigines and each village connected to the others by a network of footpaths"

Wetus, open village, clearing + cult fields
\ coneshaped w/ 1 family to elongate 20-100'
Village 3-4 ac ; woven baskets w/ corn

Food- fish, fowl, game, corn, beans, peas, squash, ground nuts,
berries, acorn
corn or samp - meal + currants
succotash - corn, beans + fat +/- fish
clambake - shellfish, lobster, crab
community steam bath
medicine men - paid in wampum
tabacco
corn - dead herring in each hill; watch houses w/ kids
women - set, planted, weeded + tended crop
Each family - own plot - up to 3-4 ac.; weeded + neat
plowed together + built some stonewalls
Seasons marked by planting / ripening fruits + nuts
Happy + gregarious
Moved villages seasonally, who flies pleased them or chief did

Money = white + black wampum
Pits - corn, maize, nuts, dried meat parched

Warriors + fighting

"The early Wamp lived an idyllic life here in the forests and bays of
Mass ..."

Many animals caught in heavy snow

Winter moved inland

"... the Wamp strike one as being a happy lot with a definite culture, and very unlike the savages that generations of the unknowing have been led to believe."

Atrocities? Recall Buckenwald, Warsaw + Hiroshima

Wm Allen Wall 4x7' paint Gosnold w/ Wamps at Smokis Rocks - New Bed Fy

complete 1842 - Old Dartmouth Hist Socies + Whaly Museum

Verr "They live long and are seldom sick

Thorfinn's rock between Mt Hope + The Narrows

1619

Dermer reclaimed 2 French who had shipwrecked off coast + cared for by Ind for 3 yrs

First Encounter - attack from Mike Standish -

Samoset - from ME called for by Massasoit - learned E from fishermen - knew Squto who spoke Eh

1st T-Dy Fall 1621 - Massasoit w 60-100 people - brought skins deer

1st Encount at Nauset 3 days befor Plymouth
scouts perty from Mayflow.
exchanged shot + arrows Aspinet

Samoset from ME - learned Es from fisherm
described plagues + brought Squanto on 3rd visit
Taken by Hunt in 1614 sold to slavery ; released to
London where worked for Slainie
1619 back w/ Derm
Taught Es to cult corn + catch alewives
fert gardens w/ fish
Jealous + schemy for power
Played Inds against Es Massasoit wanted him killed so
stayed close to Es

Describes all 30 tribes

Marshpee - still some claim dispendus

Josselyn describes MV - no permanency of villages; 50 wigwams
suddly son

Nunpaugs - on Gr Harry Pd - Masb achkat
Takemmy Inds on Great Tis Pd

Ind burial grounds - near GH light, Abel's Neck, Molitaihak Hill
Vague records - Norse visited 1000 AD + Verr. 1524
Ed Harlow 1611 took Epanow + one other
Epanow - seasonal → Es, told of gold + escaped on trip back

Last Remnants

1861 Mass Search Report - John Earle takes of intermarried w/ negroes

1861 Wamp Census

Chappy Tribe	74	Gay Head Tribe	204
Christian Town	53	Deep Bottom Send	- 13
Marshpee	403	Dartmouth	111
Henry Pd	67	D.	
Fall R	78		
Middleboro	7		

" As was destined; ... the so called Indian Plantations and Reservations soon came to their inevitable closing, and the Indians as a group no longer existed in Mass.

e-g Fall River - land to Water Supply

"So this too, met the fate of the other groups of Inds, descendants of the once Powerful Wampanoags Federation of the Algonquin Ind Nation"

Last chapter of book on Aquaw - provides a metaphor for "symbolic moment of the capitulation of one culture to another" Passed symbols and heritage of Tribe to his captor Capt Benj Church "final act of submission as a tribe" placed a bundle of deerskin with broad sachem belt of R+W

wampum w/ history + events of tribe "Holy Eucharist" or
"Torah" of the Indns + belt w/ moose hair; Totem of Wolf
1676 → in 1677 shipped by Gov. Josiah Winslow to King Charles II

Belt 9" x ~ 5'

Took Annawon captive - later head cut off

"There, in this last chapter, the reader has the story of the last official act of submission performed by the Wamp as a tribe." Henceforth they were no longer a Federation of people, with a purpose, or leaders.

"Remnants of their tribes who did not submit to the colonials wandered as refugees to the north lands and to the west and were absorbed into the tribes of the Algonquin brothers who later were persuaded to side w/ the Fre in devastating the Eng villages to the North."

"The white man's blood was left intact in the Potanoket County where it flourished and prospered"

Various Deeds

p. 193 The Remnants of the Race

18th c wigwam disappeared, small remnants + refuge groups. Some to Reservations

"Thus, the Wamp Indian was drawn away from home, and in many cases became so involved in pursuits that contacts w/ family + friend were lost forever"

Each report wards of state "Chappy, Christiantown, G.H., Marshpee, Harwich Pol + Troy of Fall River

"there is not one person of unmixed Indian blood"
intermixture white + black
"foreign blood early introduced too permeate the whole mass"
"lost their identity as a distinct class"
more negro than white in mass - unfortunate
"the mass appear to have sunk into that state of constrained apathy"

Ind Notes

Tritsch 2001 Copicut

Taunton River drainage - a sig. cove area

Pokanoket Wampanoag declined after King Phillip war
on both sides. Those oppose the English were
banished. Allies into praying Indian town.

Many converted to Christianity - some to Eur. cultural habits

Conforti - Wampanoag Woodlands

Fall River Indian Res

Tuck, J.A. and R. Grenier. 1981. A 16th-century Basque whaling station in Labrador. Scientific American 180-190.

Single successful whaling season could cover cost of vessel + profit

Sailed in spring - as early as early April

Pursued whale in shallops

mid 1570s v severe weather - caught overwinter 1574-5 1576-7

Preferred spp - Baleen whale = right whale - slow + floated

1977 Tuck went there w/ Barthom + Wally Kenyon from Ontario museum

found tiles, blubber encrusted walls, glass etc.

Saddle Island

Low wet areas - excellent preservation

Big pits of whale artifacts - bones etc

entered

Tuck, J.A. 1984. Maritime Provinces Prehistory. National Museum of Canada National Museum of Man, Archaeological Survey of Canada, Ottawa.

Prehistory flows smoothly despite appearance of breaks

Palco - prob not mastodon but caribou, fox, hare

exploited coastal resources in late spg to early fall

fish, birds, seals, other mammals, shellfish

But even later people w/ big shell mounds - exaggerates import of shellfish - other food more imp

After 10 BP - only scant traces for thousands of yrs

~5000; some suggest pine forest inhospitable for animals + humans

Late Archaic

Late Pre-Ceramic - 1st abundant evidence of human habitation ~5000 BP

LA - known as first hort but even when this is true - little ⌂ in hunt-gath lifestyle

Why ↑ ~5KBP unknown - poss due to mixed coniferous/hdwd - from NE bringing Laurentian People

Mainstay - deer or moose Beaver incisors - sharpened in varnish

Maritime Archaic - abound. wood working - axes, adzes, gouges

Disappeared 3500 BP

~3500 - Gulf of St. L - drop water T° - ↓ swordfish. D. Sanger - due to ↑ sea level, ↑ cold water into Gulf

Clay pots - from S - improved cooking & may have allowed some new foods; but bulky to carry + heavy, fragile; in some areas people gave up clay pots + reverted to traditional wares, leather containers bark bowl

Cult - near St John R - just before Eur arrived
no evidence Ag practiced in prehistoric times
Haphazard operation - crops below fish + gather

Pit houses - dug in 50cm - otherwise like wigwam

Yr round settlmnts Passamaquoddy Bay

Sig changes just before contact - abandoned yr-round coastal villages into summer on coast - due to enviro Δ or contact result
Summer coast residence poss due to Eur trade + fishing

Pit houses replaced by conical wigwam
Abandon clay for birch

middens - good preservation due to alkaline enviro

MicMac - relation homogeneity 2000 BP →

Burials - oval stone hemisph - red ochre - bodies gone

enjoined

Tuck, J.A. and R. Grenier. 1985. Discovery in Labrador: A 16th Century Basque Whaling Port and its Sunken Fleet. National Geographic 168: 40-71

1534 Jacques Cartier's voyage of discovery - met a French fishing vessel in Lab Harbor

1560-90s Red Bay 1000 men 5 mo. whaling season - up to 500,000 gals whale oil per yr ; ave ship 50,000 gallons

Selma Huxley Barkham persuaded Tuck + Grenier to explore
moved from Canada to Spain - learned Spanish

16th c Basque chalupa - 26' w/ 6 thwarts - whaleboat - couldn't withstand Northeast sleighride - put elrogue on line - follow whale until lanced to death towed to shore

Tryworks - operated 24 hrs - one preserved 30' long ; 6 huge cauldrons

12 Basque whaling ports - Red Bay most active - Islands used w/ lee side for tryworks + cooperages

Barkham - great compilation of great records - people's names, sailors, cargo, # whales

Red Bay garden filled w/ red tile ; hard black covering on stone wall - blubber ; cooperage on shore ; oak ; preassembled

Indian artifacts - unclear if trading or scavenging off season

Cemetery - 125 men 20-40s ; dried whaling ; some during winter ;
3 masted 250-300 ton ~ 50' long ; workhorse

San Juan - Basque galleon 1565 found 1978 Grenier ; at anchor ; ~55,000 gals. oil
Barkham's archival work pointed to it

Oil - lubricant ; light ; soap ; addition to drugs
1 barrel ~ 2030 annual salary of carpenter
much of gear + ~ half of cargo salvaged by crew after storm

heated suits

San Juan ~1000 barrels; ready to sail home

barrels floated - pulled off planks

astrolabe in one ship

Basques severely reduced Labrador's stock of whales - just as did to own whales in 15th C.

Killed > 15,000 whales off Lab in < 50 yrs - may have contributed to right whale endangered status

Also - whaling more hazardous + more freeze-ups over time

Spanish Armada 1588 - absorbed ships + men

Basques - unknown origins - not Fr or Spanish ethnically

lived crest of W Pyrenees between F + S - Bay of Biscay

at least 5000 yrs; language + blood - distinct people

aided Columbus, Magellan; + Bolivar was Basque

entered

Encyclo Canada - station started 1543, peak 1560s + 70s
15-30 ships. Right whales

✓ James A. Tuck. 1988 Wet sites archaeology at Red Bay, Labrador

Wet Site Archaeology

1579 - Eng closed ports to Basque whale oil → crisis

Straits - resource funnel for many spp. + attracted many people

Early 1500s codfishery → whaling 1500s Basque running out

1530s cash crop → > dozen S Labrador harbors

Tuck - started 1977 Selma Barkham archival research

Buitres = Vultures

Red Bay = Butus Boteres harbor

Parks divers - 3 large whaling ship + small pinnace + even smaller whalers cold water + radily accum silt. some of best in world

Shore stations around RB mid 16th - early 17th C.

>15 ; wharfs for flensing whales

tryworks - stone structure held copper cauldrons

coopers - lived there w/ N comfort life

crew living quarters

latter 16th C - industrial scale whaling

up to 1000 whalers at Red Bay during peak w/ >1000 scattered also S Labrador

Both Inuit + Ind material in context w/ Basque

Seasonally visiting abandoned camps for goods

One bog burial → clothes

Encyl Canad:

sheltered bays on deep water where whales could be maneuvered

Cauldrons heated w/ blubber from which oil removed

Oak + beech casks

Lookouts - substantial to spy whales

Cemetery > 140 people

1565 San Juan de Pasajes sank in storm with 1000 casks

Staves from Britany, casks built like Bordeaux + dismantled to Basque Country; reassembled, hooped + filled w/ 225 litres oil

4 other whalers

entered

Turgeon, L. 1990. Basque-Amerindian trade in the Saint Lawrence during the Sixteenth Cntury: New documents, new perspectives. Man in the Northeast 40: 81-87.

1578 Anthy Parkhurst - Eng. vessels 350-380 - 150 Fr, 100 Span, 50 Port, 30-50 Eng, 20-30 Basque whlrs

French >200 vessels prob 500 10-12,000 mw

Nfld fishery "was one of the two major areas of Econ. activity in the New World"

before 1580 - two good records of trade as small scale + hidden

1580-1600 6 ships outfitd 1584-85 for trade in Basque (joint whaling, salmon + trade)

Whale stocks in Straits Belle Isle depleted 1590s so switch to furs and up St L

Hakluyt - 5 St Malo vessels - returned 1587 w/ furs - v. profitable

"trade between fishermen & natives existed to some extent from the 1540s on, but it only became a commercial venture in the second half of the century":

Copper kettle - major item

1584 Micheau de Gonnarsabal merchant of Basque vessel Marie de Saint-Vincent

1212 lbs of kettles ≈100 of real copper, 1932 knives, 50 axes, hats, swords, + cloth for Canada natives

1582 - "large quantities of knives of diff sorts"

nearly pure copper

paternoastri (beaded objects)

50,000 glass beads

1586 - 209 kettles 1587 - 200 more also Canada

beaver especially

1586 - mentions 10 barrels of pelts of many sorts

copper kettles - freq in Basque - not Norman - Florida trade

1565 - Fr ship (Aigle) in La Rochelle for Fla - bracelets/rings, mirrors, bells, earrings, scissors, bells, knives, axes, + pins, needles - sewing goods

Finished + unfinished goods

1542 - Clemente de Odelicia - "Gran Baye" - exchange of deer + wolf skins for axes, knives + other trifles

entered

/Laurie Weinstein-Farson. 1989. The Wampanoag. Chelsea House New York

Indian Thanksgiving Paintings

L.G. Ferris The First Thanksgivins

Jennie Brownescombe. 1914 The First T at Plymth

Wampanoags known to neighbors as Pokanoket "place of clear land

From Bradford, Williams, Winthrop - Primarily farmers but also hunt, fish, gather Farming now

Wamp on CC, MV, ACK - relatively untouched by King Phillip War

2 centers - Gay Head + Mashpee

Martha Simon - Fairhaven MA area - last Wamp in area

1857 - Albert Bierstadt + visited by HDT

entered

ed.,
L. Weinstein. 1994. Enduring Traditions

SNE + LI 193 people / km² horticulturalists w/ supplemental activities
attuned to hort annual cycl
Eur + Ind vied for trading rites w/ each other
Carbo rich nuts acorn, butter, black walnut, beech, chest, hazel, hickory
shell, pound, mash → butters, creams, meals, flours, gruel, oils – food + flavor
salves, ointmts, vinegars

cultural + geographic
Block 4 voyages 1611-1614 enormous mapped info - 1610 Velasco map
from Hudson 1609-10 and Block 1614
Block - CTR fortified village - may be due to Iroquoian raids - as none other
before the acc to McBride
No trauma deaths precontact - SE CT ↑ conflict following trade (Pequots)
Materials in refuse all from w/in hundreds of yds

Narr Bay Bernstein 1990 - complete absence corn, beans, squash despite
Narr oral tradition + 16th + 17th records - familiar with corn but
not a dietary staple
Bernstein NB - residential stability strong by 1000 BP, sedentism w/o Ag
possible + densely packed coastal pop'n
Surprising # people assume Indians gone or assimilated - still here.

Holyoke Center 350 • 1350 Massachusetts Avenue • Cambridge, MA 02138-3486 • Phone: 617.495.1814 • Fax: 617.496.5333

People · File

Wigglesworth Obituary – Memorial

Charles Palache HU Friend from college on

May 6 1945 Æ-1885 7th EW

1904 → HU Geology grad 1908

1910 Curator Gardner collection photographs 7 yrs

1911-1915 asst in Woodworth's course

PhD 1917 on MV

1914 Honorary Custodian Mineralogy Boston Soc. Nat Hist

1919 Director of Museum – NE Museum Nat. History

↳ 1940 emphasized local minerals

Gemology – Am Gem Soc

IE HQ Gemological Institute America

Wilbur, C. K. 1996. The New England Indians.
Globe Pequot Press, Guilford. Second Edition (1978)

Great Illustrations. No mention of Cronon

Quiet revolution 5000 BP - stone bowls, worm
crockery stews:
Adena traders - brought knowledge of pottery + revolution
vegetable - maize. By 300 AD - whole new
culture - Ceramic Woodland Period - "Algonquin"
Squash - back bone - pottery, farms,
sizable villages grew up, cleared fields
Roads due to rocks + geology, - so built stockades
Men became warriors - pursued a bloody course of destruction
"Long before the first white settlers came to New England
shores intertribal wars were tearing apart the very
fabric of Algonquin life"

Long houses used in winter
Ceremonial houses to 200 feet

Villages - ave size 100 tribespeople -
Wigwams clustered around open central space

Fortified villages - Willoughby 20 - refortified in late 1605-16%

Countryside - quote Morton - burn twice a year.

Loose-knit happy + easy-going days of Late Archaic people were over

Perhaps Adena from Oh introduced their highly developed social levels to NE

↑ Popn + wealth

Family, Clan, Class, Tribes (numerous villages)

Tribal Council, Band

Distinguish N + S NE Tribes

N - short changed on summer's warmth

so all emphasis on hunt, fish, gather

seasonal shift

W Abenaki - had Ag - moved every 10 yrs to defensible promontory

all w/ stockade by 1600

SNE Life no longer depended on good fortune in hunt, fish, forage

dry + preserve food; no need extensive seasonal movement. Settled around

garden; each semiperm village - longhouses w/ protective stockade

Pequot fort 2 ac 400 people + some wigwams esp at outlying sites

wealth of crops - attractive

move every 10 yrs

Pocumtuck of Deerfield - fired 20-mi hunting lands so thoroughly - deer could be spotted 4 mi away + fields for clearing

Many w/ gardens some distance from village

Winship, G.P. 2010 (1905)
Sailors narratives of voyages along the New England coast
1524-1624, General Books, Memphis TN

David Ingram, companion of Sir John Hawkins. Took refuge in storm. Slave trading who attacked by Spanish in Mexico N of Gulf, 100 men set on shore, 3 walked to E ME coast picked up by French fur trader Near Cape Breton

Gosnold 1602 Ship - The Concord

encl C.

C. Vecsey + R.W. Venables. 1980. American Indian Environmtl Ecological Issues in North American History. Syracuse

refer to Calvin Martin 1978 Keepers of the Game. wonders how Ind broke sacred covenant w/ animals - proposes Inds blamed animals for diseases

Does fur trade undercut enviro ethic of Indians

Wilbur Jacobs "I am convinced that Indians were indeed conservators. They were America's first ecologists"

through fire, silviculture - grown beans + corn
balance of nature

51 Beaver completely eliminated NY - 1640