Archaeo Notes

Coastal Pre-History – Ecological Questions and Issues

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"History and especially prehistory is not given to us – we must earn it by diligent, imaginative, respectful, and honest inquiry into the remains available to us". Dincauze 1990.

The intent here is to frame questions and outline observations from my own reading on Indian activities before and through the periods of European settlement that are pertinent to major issues in ecological and conservation interpretation and practice. Our ultimate goal is to interpret the structure and dynamics of the landscape and environment and use this to inform current management practices in conservation. Thus, interpreting the direct and indirect effects of humans on both is critical. However, it is clearly necessary and interesting to understand more broadly the nature of and changes in human cultural and subsistence practices over this period. Although the material below is loosely organized by topic there is no particular hierarchy or flow to this organization.

In many ways the basic issue comes down to what Dina Dincauze identified as the **Basic overarching question** in her 1980 paper – what was the land tenure, resource utilization, population structure and population size of Indian groups and how did this change. What I would add is how did these translate into direct (e.g., forest clearing, burning) and indirect (e.g., hunting or land-use impacts on vegetation that result in increases or reductions in particular wildlife species) drivers of landscape conditions and changes?

How did enviro shape people + people in turn shape the enviro + how adapt to this?

Context – Some ecological and conservation interpretations of Indian impacts

The reason that we are interested in Indian activities is that people have clearly always been important drivers of landscape conditions and changes. However, the nature of these impacts and the scale and intensity at which Indians managed their landscape is highly debated and has changed markedly in the last four decades. These interpretations are important because many individuals and groups use the pre-European period as a baseline or target for current management or as a reference against which they interpret modern conditions.

Here is a sample of some examples of this.

1. State of Connecticut Division of Forestry Information Sign (direct transcription)

Native American Use of Prescribed Fire

Native Americans burned extensive portions of the forest every 1 to 3 years in order to make the forest habitable. The grassy understory which followed the fires provided improved forage for game animals such as deer and turkey. Travel became easier and the increased visibility aided in defense. Forests with thick woody understories, so prevalent today, were limited "to swamps and areas temporarily uninhabited by Native Americans".

The Connecticut Division of Forestry is utilizing controlled fires at this site to replicate the effect that the Native American fires had on the forest. The goal is to restore the forest to a semblance of that of the pre-colonial era. Repeated controlled fires will be used to replace the woody understory with a herbaceous one similar to that found when the Europeans first settled New England.

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2. Interpretation and Management of Sand Plain Ecosystems

http://www.umass.edu/nrc/nebarrensfuels/index.html
(Patterson and Crary – UMass and National Park Service)

"Lightning-caused fires are rare on Cape Cod, but even before Europeans arrived in the 17th century, Native American Indians used fire for a variety of purposes including clearing away underbrush, promote berry production for their own use and to increase food for wildlife. After the Pilgrims arrived wildfires have been widespread on the outer Cape until the last half of the 20th century have been more successful." (sic)

"Prior to acquisition by the National Park Service in 1961, the Lombard/Paradise area had been logged and grazed, but not cultivated. Over the last 100 years the forest has experienced gypsy moth defoliation every 20-30 years, most recently in he early-mid 1980's.

Decades of fire suppression altered historic fire cycles and allowed wildland fuels to accumulate, again raising the threat of wildfires which could threaten cottages within the Seashore boundaries."

"In 1986, the National Park Service in cooperation with the University of Massachusetts/Amherst initiated applied research on the effectiveness of varying season and frequency of treatments on forest composition, fuel loading, and fire behavior..."

Montague Sand Plain – "The primary purpose of the site is to protect and preserve an outstanding example of a xeric (dry) outwash pitch pine-scrub oak barren natural community, its associated biota and its ecological processes.

Paleoecological evidence strongly suggests fire was a common occurrence on the Montague Plains from 500 to at least 2,000 years before European settlement. Throughout North America, prehistoric Native Americans used fire as a landscape management tool to increase browse and mast for game species, drive game, increase production in certain food-bearing plants, ease travel through the wilderness by clearing

underbrush, communicate among groups, facilitate effective defense of their communities and territories, and, once agriculture was adopted, to clear and fertilize crop lands. Fires have occurred in every month of the year on the Plains, but are most frequent in April and May. This pattern is consistent with the fact that the lowest average relative humidities in the region occur in April and May, that leaf-out of deciduous species on the Plains has not occurred leading to very low fuel moisture conditions, and that this period corresponds with the Massachusetts legal open burning season."

3. **Denevan (1992)** *The pristine Myth: The Landscape of the Americas in 1492*

Describing New England, the Midwest and the southeast - "Agricultural clearing and burning had converted much of the forest into successional (fallow) ground and into semi-permanent grassy openings (meadows, barrens, plains, glades, savannas, and prairies)".

Some Basic Questions Raised in my Mind from a Reading of the Archaeological, Historical and Ecological Literature

What was the population size and distribution at various spatial scales?

Are the basic estimates of Cook, Whitney etc. worth using? Do we believe the existing numbers and differences within our region? e.g., for MV, ACK, E LI and the Cape?

Lots of numbers to pick from but some I'm not sure that the range isn't pretty consistent. Within the coastal area there seems to be some consistent agreement regarding regional variations in the relative densities of people, e.g., lower on the Cape, much higher on MV and ACK.

James Mooney: 5 NE states – 22,100; LI and NY E of Hudson – 12,000
Cook – family 4.6 people; village 100-250, etc.

Gookin 72,000 pre-epidemic; Snow adds 8000 for the Potumtucks and 13,000 for LI and E of Hudson.

Willoughby (1935) – 24,000
Russell (1980) – 75,000
Cronon (1982) 70 – 100,000

Decline due to disease was 55% (Snow 1980) to 75% (Cook 1973).

Bragdon - 1650 estimates that Indian population had dropped to 10% and European population of NE was 18,500

Starna – Pequots declined from 13,000 before contact to 3000 in 1636 due to 1633 small pox killing 55-75%. (1616-1619 disease didn't extend W or S of Narragansett Bay).

Snow and Lamphear (1988) – estimates of population decline from disease. 1616 – yellow fever, trichinosis, bubonic plague

Nausets 12 before epidemics; possibly 2100 on entire Cape (DD 10.28.04)

Wampanoags – SE Mass from Cape base to East above Plymouth and W to E shore of Narragansett Bay – 4-5000 people before devastating impacts of 1617-19 disease.

ACK 2-3000 people at Contact (DD 1.26.05)

More importantly – how were these people distributed across the landscape?

Many of the more recent (last couple of decades) archaeological studies and some of the ethnohistoric materials suggest that groups were fairly mobile and plastic before European contact, moving and varying in size and composition seasonally, exhibiting great ability to disperse rapidly from what were really temporary encampments, and varying in size from small family groups to "villages" of up to 200 people. The permanence or ongoing re-use of particular sites, the size of groups, and the changing subsistence base are obviously all of great interest as they would largely determine the types and intensities of ecological impacts on the landscape. For example, the depletion of wood resources, the clearing of forest for horticulture and settlement purposes, hunting and other forms of gathering, etc.

Various materials.

Brendremer (1993) lexicon: task-specific camp (10-100 m^2), temporary camp (100-500 m^2), seasonal camp (750-2000 m^2), village (3 – 10,000 m^2); each differs in size, artifacts, duration, seasonal timing, and range of activities.

Numerous archaeological studies find evidence for house structures: wigwams (14-25' diameter with post holes 3-7" diameter (DD 7.02.04); Shinnecock Hill, LI – 2 structures 15x20' 3' deep and 10x15' and 2' deep with center fire places (DD 7.02.04); MV – 17' diameter house rings with a ridge of earth (DD 12.24.04) and random to haphazard small post holes suggesting repeated use by temporary housing. Lucy Vincent 130 post molds, 31 pits (Chilton; DD12.24.04). ACK – evidence of large main posts (DD 1.26.05) Herrecater site – 14 pits and 26 post holes. Milford CT 100' diameter shelter with maize and 150 burials, many of which are children (DD 5.14.04; Postcontact?). Few reports of long houses, i.e., very large structures or very large post holes.

Major sites on MV (Head of Lagoon Pd, Shores of Menemsha and Nashaquitsa Ponds apparently exhibit uninterrupted native occupation over 1000s of years. (DD 12.24.04). In general, almost every pond, watercourse and estuary on the island show evidence of people over 1000s of years.

Size of shell middens is strong indication of repeated use – Old Lyme – heap extends 800 feet along shore and ranges from 8 to 100 feet wide.

Pequots - Dispersed and shifting distribution of 10-20 house small villages (Starna 1990)

But - Conditional sedentism (Bragdon 1996) with seasonal mobility. Summer near coast, winter in more concentrated populations inlands. Spring/fall dispersed small groups.

What tools were available for manipulating the land, vegetation or water and what motivation would natives have had to undertake this manipulation?

While many conservationists believe that large areas may have been cleared by natives it is not always clear exactly why or how they would do this. The Patterson and State of CT examples cited above provide many possible motivations, but it is not at all clear that all are valid. E.g., in the apparent absence of significant inter-group hostilities the clearing for defense seems weak. For mobile groups some of the others seem questionable also. Critically addressing this with the archaeological and historical materials at hand (rather than citing secondary sources like Cronon etc.) seems like a useful and important activity.

It also seems important to expand the consideration of the ecological impacts of people far beyond just the simple question of whether they cleared areas and burned forests. Since they survived on a complex subsistence base and patterns that effectively utilized the full array of habitats and ecological zones available there impact, though subtle extended well beyond certain direct effects. Hunting, plant (fruit, nut, grass, grain) harvesting, shellfish collection and fishing, encouragement/cultivation of particular useful plants (and animals), wood and stone collection, etc.

We have the early descriptions by John Smith and others of Indians cutting trees and burning areas to clear them, planting among the dead trees, etc. but certainly no descriptions of Indians actively clearing anything large. One could imagine that progressive use of wood, clearing for small fields, and burning could eventually have produced large openings but we don't have much evidence that this happened, let alone would have been desirable from a native perspective. Bragdon (1996) estimates 1500 acres of land cleared for horticulture along the coast per large community (?). Not sure where she pulled this from.

Less obvious tools/practices – e.g., planting or favoring of nut trees (Bragdon 1996).

Russell (1983) - Day (1953) cautioned that burning only occurred in sites inhabited by Indians. Few first hand accounts of fire. Most of these take place in grass and weeds.

Salwen (1973) – deer possibly comprise 90% of the meat consumed in S CT. Apparent tremendous emphasis on white tail deer. Humans probably the major predator of deer. (Important conservation and ecological message for today). Cited by DD for MV, ACK, Narragansett Bay, NY, etc.

Related to all of this – how rapidly did they adopt European tools and materials? The literature is all over the place on this – ranging from statements that iron tools (points, knives, hatchets, etc.) were extensively used by the time of initial ~~settlement~~ contact

(Long Island - Strong 1977) to estimates that this may not have really begun until the mid 17th C.

Was horticulture based on permanent field and short fallow as opposed to true slash and burn?

I am not sure that this is a critical question but it is interesting one that Doolittle has been raising for years and just wrote an interesting review on using good ethnohistorical sources. This subject demands a certain rigor in terminology – e.g., many ecologists and conservationists use the term "slash and burn" casually to indicate any burning in a fallow system of agriculture rather than in the restrictive sense of burning in resprouting woody vegetation.

Doolittle (1992, 2004) - no evidence of true milpa-style slash and burn agriculture. Trees and woody vegetation completely removed from fields and fields were maintained for lengthy periods. Burning and hoeing occurred in preparation for planting, but this involved removing grassy and weedy vegetation, not resprouting trees, vines and shrubs as in Central America today. He cites Wm Wood – fields in crops for 10 years and Roger Williams – Indian term for "fields worn out". Fertility was presumably maintained by intercropping and rotating with beans.

Champlain 1605 at Boston Bay "there were also several fields entirely uncultivated, the land being allowed to remain fallow. When they wished to plant it, they set fire to the weeds, and then work it over with their wooden spades".

Patterson and Sassmann (1988) – describe a shifting slash and burn agriculture. They describe fire most advantageous to a stationary agricultural land use (also Cronon 1982). [This type of interpretation, if true, is one reason that it is important to know whether permanent or semi-permanent villages occurred in association with horticulture. This may just be a casual use of "slash and burn"]. Patterson and Sassaman (1988) - Maize agriculture more important along coast than inland or along rivers. [I don't see that other archaeologists still believe this].

This, of course raises the entire question of the importance of horticulture and maize.

Arrival of maize to New England was a non-event (Dincauze 1990, Chilton 1999). Appearance of maize does not equal reliance on farming (Luedtke 1988). When the English destroyed native cornfields apparently they anticipated that this would cripple the Indians – it didn't due to broad spectrum of foods, proving that maize was not a critical staple (Strong 1997).

Broad spectrum hunting fishing, gathering with supplemental horticulture. (Carlson et al. 1992, Dincauze 1990, Chilton 1999, 2000, Strong 1997)

Striking in the reports from Deena – although there are precious few reports of maize finds (and these usually involve single or just a few maize kernels or a cob), many

of the reports and interpretation suggest that horticulture was supplemental or important. Why is there this disjunct between archaeological finds and interpretation? (All of the various reasons that evidence of horticulture might be lacking, overlooked, or destroyed?).

W side Menemsha Pd – cornfield with 50 hills and very black soil with bones and shells, presumed by Guernsey to be aboriginal – but was this prehistoric? (DD 12.24.04)

Is it reasonable to interpret much of what we read from historical descriptions as representing changing subsistence, settlement and cultural practices arising from the many impacts of contact that occurred over a prolonged period before settlement?

Does this explanation reconcile many of the differences between the historical document record and the archaeological record?

While many people do not go as far as Ceci in ascribing the practices described historically to contact there does seems to be a tension between the notion that many native cultural practices were enduring through contact and the historical period and the thought that there was tremendous social upheaval as a result of disease, trading and economic opportunities, and conflict resulting from European presence. Many authors seem to suggest that the following kinds of changes occurred as a result of progressive influence of European goods, trade, conflict, etc.: development of a more formal tribal or large group organization (Strong 1997); increased sedentism and year-round villages (Thorbahn 1988, Ceci 1980, Strong 1997, Chilton 1999); increase in maize horticulture both for trading and subsistence (Ceci 1980, Chilton 1999); increased trade (Ceci 1980, Chilton 1999); increased hostilities among native groups; development of fortified villages located in defensible sites (Strong 1997); increased risk of disease with more concentrated and larger populations (and obvious exposure to new diseases through contact with Europeans, especially European children); concentration of villages at the coast and in harbors and bays used by Europeans (Strong 1997); increase in centralized (individual leader) power (Ceci 1980, Strong 1997); increased group and village sizes (Ceci 1980, Dincauze 1990); a progressive decline in the availability of native wild foods due to European presence (Strong 1997); and realignment of existing native group dynamics (Pagoulatos 1988, Dincauze 1990, Bragdon 1996, Strong 1997, Chilton 2000 – this remains a major question). These are obviously interconnected in complex ways.

Relevant Bits and Pieces

Some people describe no evidence for permanent villages before contact (Strong 1997). In others minds historical documents are consistent with an absence of a nucleated pattern of settlement; the term "town" used loosely (Luedtke 1988).

Defeat of Pequots 1636-1638 left a power vacuum (Strong 1997).

McBride 1990 – Pre-contact sites show little evidence of being selected or constructed for defense. After contact the development of fortified villages on hilltops occurred. Sites like Fort Hill and Mystic Fort were also different from Precontact sites due to the large number of wigwams (70 vs <30 in nonfortified sites; DD 5.14.04)) Roger Williams describes the Pequots establishing new cornfields on LI and possibly Fisher's Island in preparation for war and the anticipation of CT fields being destroyed. On Long Island Fort Massapeag (mid 17th C) and Fort Corchaug (1635-40, 1660-65) appear to be clearly associated with European Contact.

Bragdon (1996) has a good discussion of the different origins, geographical coverage and perspectives of the various European writers at the time of settlement. She and Brendremer (1993) interpret the increase in political centralization as occurring before European contact due to population increase, increase in reliance on maize, increased influence of Hopewellian culture and the gradual filtering in of European trade goods from 1500 onwards.

Notes on Bias in Ethnohistorical Materials

Reasons for European bias in their writing and reporting – (1) explorers and settlers couldn't read the landscape and cultural activities as the practices were all foreign and the much wilder state of nature was completely unfamiliar to them (Dincauze 1990, Strong 1997); (2) propaganda, bragging, and specific agendas for reports back home (Russell 1988, Strong 1997), (3) explicit instructions to report back on economic potential including soil fertility, timber, etc., led to exaggeration or a single-minded focus that overemphasize the actual importance of particular features or activities. E.g., reports may have given undue focus on maize agriculture due to the European interest in documenting the perceived fertility of the region. This, in term led to the assumption that farming was a central subsistence activity (Bragdon 1996), (4) climate/environmental (as well as cultural) change coincided with European exploration and settlement (Dincauze 1990), (5) Explorers and settlers needed to justify the taking of land and mistreatment of natives (Strong 1997).

Pagoulatos (1988) – Roger Williams is a traditional source of great insight into native customs but his observations date to late 1630s after native systems were already drastically changes by epidemics, wampum, fur trade, and hostilities.

Dincauze (1990) – Don't accept English and Dutch narratives on horticulture, the reliance of the population on maize, or the hostilities among native groups as representative of earlier times. Resist the temptation to read the archaeological record in terms of the historical records as there are few historical accounts and they contain extreme biases.

Arguments for Late Woodland Cultural Shift Independent of Contact

Numerous studies suggest that there were changes in population size and distribution and subsistence patterns in the Late Woodland period and that these represent

adaptations to environmental changes or influences of outside (native) cultures through increased trade, etc. [All of this is made problematical by the fact that Contact seems to be defined solely by the presence of European goods. In the absence of such materials, sites are deemed "pre-Contact". And even when there is a mixture of materials some studies apparently ascribe that to "mixing". Some authors (e.g., Loparto et al. 1987 see a continuity of sites and practices from LW to CP, emphasize that there is little material change across this horizon, and so downplay the whole thing]. Basically the Contact Period appears to remain as poorly understood in our region and across SNE.

Dunford (in Little 1988, as summarized by DD 2003), describes a decline in shellfish production from A.D. 1000-1300 that he ascribes to overuse and increased runoff of freshwater. This is followed by increased intensification of agriculture around A.D. 1500 (evidence?) representing a fundamental shift to a dispersed single-family "farmstead pattern" (his term) along estuaries. This might be what Champlain documented: scattered wigwams with corn, beans, squash, tobacco, fallow land, burning of weeds, etc. Or perhaps what Champlain documented were actually temporary and easily disbanded. Or he may have documented something more permanent but triggered by direct and indirect effects on contact (see contact timeline at end).

Other studies suggest that a shift in shellfish use on Cape Cod from year-round to primarily winter and early spring may representan adaptation to horticultural activity during the summer (but little evidence? MacManamon 1984 a,b; DD 10.28.04)

Other explanations (from DD 2003) for increased number of LW sites (and population): (1) long-term influence of the development of pottery (beginning about 3000 BP), led to increased use of gruel (seeds, nuts) for weaning, which in turn allowed earlier weaning and an increase in fecundity; or (2) A.D. 1000 climate amelioration including a longer growing season and warmer temperatures resulted in increased productivity, which in turn allowed more sedentary lifestyle and a transition to increased horticulture. With Little Ice Age deterioration in climate horticulture might have intensified to cope.

Does the coast represent a distinct cultural region?

With access to the unique maritime resources and given the distinctive environment and vegetation of the coastal region it is easy to believe that there might be a suite of unique adaptations, cultural practices and ecologically important activities characteristic of coastal peoples. (In fact this is difficult to deny). But archaeologists seem to differ widely on this subject, from Ritchie's (1969) declaration that there is no such thing as a discrete or uniform coastal culture, to the old coastal/inland dichotomy, to Bragdon's (1996) tripartite interpretation (coast, upland, river) to Brendremer's (1993) even more fine-grained sub-regional differentiation. Chilton (2000) – finds the tripartite model refreshing but still too coarse grained. Presumably there was a continuum in activity across southern New England, but can we or should we see our coastal region as standing out? If so, how, and what difference does this make ecologically?

Related to this – how extensive was trade, interaction, movement and sharing of materials across eastern North America and up and down the coast? A coastal location would clearly appear to facilitate both trade and more extensive occurrence of interactions with foreign groups (ultimately including the very earliest contacts with Europeans). Did extensive trade among Indian groups facilitate the long distance passage of European materials down the coast? For example, when European explorers documented Indians off of Maine wearing Spanish clothes, using a Basque-like boat, and speaking with some European words how much of this was derived from direct contact and how much through trade?

Do the coastal people stand out because of their earlier and much stronger exposure to European influences? Isn't there the possibility that they may have begun changing under the influence of European encounters (direct and indirect) many hundreds of years before inland groups? Is this important?

If the coast is distinctive how much intraregional variation was there?

According to Chilton (1999, cited in DD 2003) New England archaeologists argue that there may be more variation within the subregions of New England than there are between them. Strong (1997), Starna (1990) and others identify the Eastern Long Island groups as closely tied to those in CT, Rhode Island, and even the Cape and Islands and less closely related to the Western Long Island and NY-NJ groups. E.g., Starna identifies the Pequots as extending from E Long Island and New London area north to the Thames and Connecticut Rivers to the border of Rhode Island. What is the nature of these distinctions and how much variation do we see within our region? Are these differences of use (e.g., some of the smaller islands may not have supported year-round settlement so may have experienced different impacts, etc.) or are they intraregional cultural differences?

DD (7.02.04) – overall coastal NY is quite similar to other coastal New England areas. Adaptation to estuaries, use of semi-permanent dispersed settlements, and diverse subsistence base that involved little evidence of maize.

DD (12.24.04) – MV similar pattern of temporal changes in population size to SNE, except relatively more Woodland sites.

Do we need to look at Maine or the NY-Canadian long house groups before we see really different patterns?

Variation in Disease – early impact (1617-19) East of Narragansett Bay on mainland; Narragansett Bay to W hit later as was MV and ACK. Latter due to relatively late settlement – MV 1642; ACK - 1659.

Possible Boxes to include somewhere within our text.

Box 1 - Reconstructing Pre-historical Activity.

In general I think that it might be interesting to include a short description, as a separate box, outlining methodology in a graspable way for each section.

Outline of the approaches used in this study emphasizing the value of complementing research archaeology (data recovery excavations) with information from site examinations, intensive surveys, and ethnohistorical materials. Intensive surveys provide information on areas with few or no materials as well as the sites with rich material. Provide a broader base for developing site models and landscape distribution of activity and impacts.

For example – Buzzard's Bay area. Relatively few site exams or data recoveries and so it has often been interpretetd as a poorly settled region. But the large amount of material obtained from avocational collections indicates that it is an important core area of native settlement. Rich network of rivers and streams.

Box 2 – History of European Contact with North America before "Settlement"

From different sources cited at back that can be bolstered and verified.

A.D. 1000 – 1300 Norse to Newfoundland, Labrador, and possibly much wider. Norse Greenlanders continued to obtain timber from the Labrador coast until ca. 1347 (Brasser 1978).

1497 Cabot to Newfoundland – claimed it for England

1500, 1501, 1502 Gaspar Corte Reals trips to N NA (Newfoundland?); kidnapped 57 Indians and transported them to Portugal; described Indians as having a sword and earrings from Cabot

1500s (mid) - Basque fishing/whaling camps in Labrador; Red Hook, one of ten semi-permanent camps, held up to 900 people for the summers.

1520 - Spanish slave hunter raids South Carolina; 150 Indians shipped to the W Indies

1524 Verrazano into NY harbor, Narragansett Bay, Block Island. May have spent as much as 15 days in Newport Harbor.

1525 Spanish (Estevan Gomes) kidnapped 58 Indians near Newport RI; sold as slaves in Spain

By 1530 - Extensive summer fishing off NA coast Labrador to Nova Scotia at least; involved the English, Bretons, Normans, Basques, Portuguese

Ca. 1540 European emphasis switches from fish to fur and fish

1550 - 30 French ships to NA annually

1578 - 50 English, 150 French, 100 Spanish fisheries spread down to the New England coast

< 1600 Dutch camps established on Long Island

1602 Bartholomew Gosnold (Brereton) to Elizabeth Islands; describes Indians in Spanish coat, Basque boat and speaking Spanish and French words. 32 people including 12 or more planning to stay and settle. On coastal Maine (Cape Ann?) met 8 savages "in a Biscay shallop, with sail and oars...an iron grapple, and a kettle of copper". One was "apparalleled with a waistcoat and breeches of black serge, made after our sea fashion, hoes and shoes on his feet; all the rest (saving one that had a pair of breeches of blue cloth) were naked. They appeared to have dealt with "some Basques of St. John de Luc, and to understand much more than we". Named Cape Cod on their 15th day. Took in a young Indian armed with a bow and arrow and plates of copper hanging in his ears. They built a storehouse on Cuttyhunk but all left with a load of sassafras.

1603 (and 1606) Martin Pring spends 6 weeks at Plymouth harvesting sassafras. He arrived carrying Nahanda, the Pemaquid sagamore who had been captured earlier by Weymouth and transported to England. Pring's second trip was with Thomas Hanhan

1604 French fur trading post established at Sainte Croix, Maine. (French colony at Port Royal (Annapolis, Nova Scotia) 300 miles from Plymouth. Grist mill constructed in 1606)

>1605 – most voyages brought Indians along as guides and interpreters (Vaughan 1965)

1604 (1605, 1606) Champlain to Plymouth, Gloucester, Chatham, Nauset

1605 DeMonts visit to Cape Cod (Explorations and settlements. Appendix B)

1607 Maine colony at Sagadahoc (Kennebec) – George Popham; 120 English settlers and 2 of Weymouth's Indians; built "Fort Popham", houses, stockade and a storehouse that burned down with all of its supplies. The settlement failed as it was a poor site in a severe winter, they lacked supplies and were attacked by Indians leaving 13 dead, and their sponsor Sir John Popham died back in England. The first Indians they encountered spoke some French. Popham first landed on Monhegan Island carrying one of the five Wawanoc Indians captured by George Weymouth in 1605. This Indian quickly disappeared.

1607 Captain Savalet (France) reported to have already made 42 trips to Nova Scotia.

1608 Captain Edward Harlow captured natives around Martha's Vineyard

1609 Hudson's first contact with Algonquians at Sandy Hook, NJ; brief visit to the Cape (Salwen 1978), then up Hudson almost to Albany; Dutch described as operating trade as far east as Narragansett Bay.

1611 Capts Harlow and Hobson to Cape and Islands (Davistown Museum www)

1612 Dutch trading post established near Albany

1613 Jesuit priests arrived to St. Savior (Mount Desert) as part of missions from Port Royal to the savages

1613 Champlain describes Isle of Sable having oxen and cows that Portugese brought "60 years earlier"

1614 Trading post established in the Connecticut River Valley

1614 John Smith Cape Cod to Penobscot Bay (1616 – Cape Blanc Map). Smith noted evidence of the French being there 6 weeks earlier (Davistown www)

1614 Squanto and 26 other natives kidnapped at Patuxet (Plymouth) by Capt. Thomas Huntwith John Smith; taken to Spain, London, Canada

1619 Capt Thos. Dermer describes vacant plantations after plague. Dermer dropped Squanto in Nahant and made peace with remaining Plymouth Indians.

1620 Pemaquid Chief Samoset greets Pilgrims with "welcome, Englishmen" (Davistown www. This is frequently cited – is it true?)

Davistown Museum www – Ancient Pemaquid
http://www.davistownmuseum.org/TDMnativeAm.htm

Possible Early Visitors to Monhegan Island

Joao Alvarez Fagundes (1520), Gomez (1525), Verrazano (1524), Diego Malanado (1540), Andre Therel (1556), Richard Whithorne (1575), M. Anthonia Parkhurst (1578), Simon Fernando (1577), Steven Ballinger (1580), Don Pedro Menendez de Aviles (1582), Sir Francis Drake (1586), Richard Strong (1593), Henry Hudson (1609), Samuel Annian (1610), Capt. Williams (1610-11), Ed Harlow (1611)

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Notes for Change + Archaeo 8-26-10

2001
Cantwell + Wall — Clay cooking + storage pots - cook starchy seed plants - produce weaning gruels that allow earlier weaning + ↑ pop'n

Coastal development - 4000 - mud flat development

LA - steatite; E+MW - clay pots ↑ pop'n LW - tethered / farming

LW - large storage & trash pits 6×6'; careful burials

Driscauze '90 — 3-2K BP ↓ pop'n - unknown cause; ↓ shellfish? snow 2000 ↓ oysters?, T°

4?-2300 Richest archaeological period; nuts v. imp; hickory + acorn; ↓ mobility

↑ T°, warmer winters, ↑ pop'n, trade, storage pits, ↑ social, ceremonies

3000 - ↑ trade + exchange to W 1000 - amelioration, warmer winters; maize dietary suppl.

Keegan + Kusow '99 — LA - great pop'n ↑; ↑ mast foods; 2.5K - stagnation

Munoz et al. 2010 — Corr - key cultural transitions, human popn + climate-driven changes in terr ecosystems

13, 11.6, 8.2, 5.4, 3 - insolation, ice shut extnt, ocean-atmos circ + processes, E balance

Temp, mag precip climate → veg → ecosystem services

		E-M A	M-LA		LA-EW	E-M	M-L		
Some abrupt	some not	8.25	+ 5.25	abrupt	3? + 2	1	slow	LA + LW	rapid popngr.

M→L maize - only one not T°-Veg linked

Wild food dependence - altered resource base + site habitability; carrying capacity

W - ↑ fire - human or winter precip, dry summer ↑ Chs + Pi, ↓ O + Ht

A → W pop'n decline grad ltol cooling + winter precip w/ deep snow

Uncorr - LW ↑ pop'n - maize adoption

Pop'n Mooney NE - 22,100 Cook - village 100-250

Gookin - 72.000 Willoughby 1935 - 24,000 Russell 1980 70,000

Disease decline 55% (Snow 1980), 75% (Cook 1973); 90% by 1650 (Eraqdon)

W/ Eur pop'n 18,500

Brandemeer 1993 - village 3-10,000 m²; seasonal camp (750-2000 m²)

temporary camp (100-500 m²), task-specific camp (10-100 m²)

Starna 1990 Pequots dispersed + shifty distribution of 10-20 houses - small villages

Braxton Conditional seduction

Day 1953 - burning only in ind. occupied sites. few first hand accts of fire-most in grass + weeds

Patterson + Sass - fire most advantageous for stabilizing agricultural land use

Strong - burning cornfields didn't cripple Ind as Eng suspected (Strong 1997)

Broad spectrum resource utils - hunt, fish, gath wl suppl hort

Carlson et al. '92, Dinc. '90; Chilton '98, 00; Sly '97

Develop of more formal tribal or large group org, ↑ trade, hostilities

centralized power

Political - develop more formal tribal + large group org; increased hostilities; realign native group dynamics; increase centralized (indiv. leader) power

Economic - increased trade, increased reliance for trade + subsist., progressive decl native foods

Settlmt - increased sedent, yr-round villages; develop fortified villages in defensible sites; conc. of villages at coast + in harbors + bays used by Few;

Social - Increased group + village size; increased risk of disease

Roger Wms - great insights - Pagolo - but drastically changed - epi, wampum, fur trade, hostilities

Dinc - don't accept Fr + Dutch as - hort reliance or hostilities as responsible

Archaeology vs history

Different strengths, biases, weaknesses

Archaeo - more democratic in early period as household, site based; daily life.

But site based; less landscape; tools, products - not processes - social + physical; interstitial; organic materials bones etc.

History - based towards actors - larger people, those with language + assertive; not those retiring

Interactive with observers - so influenced

Brief - duration - individual effort + active agency

Archeo - repetition, change, duration; multiple sample periods

Notes to include in August 13, 2010 draft (Sandsvall)

Rifechie - W side Lagoon - 200' md / Mers + Quitsa - almost uninterrupted strip of above 6-18" occ

Guernsey 19' diam house; Quitsa Pd shell md 100 x 2-4'; GH 1/40c

interior - no sites

LVincent - special place 1000 yrs 2/3 lost since 18th C

→ Brereton "with the least sparke he maketh fire presently"

Squib - open 1780

→ Pre-adapted had maize + crops, easy adaptation; pre-adapted towards trade + using 'new material'

Shellfish - predictable, yr-round, low risk; shad, sturgeon, eel, lobster

→ Beans - AMS date late 13th C

→ After 1605 - most voyages brought Inds

Pine floorbds + wainscot - 2-3' wide 0-16x48'.

Little 1981 Ack - treed be, wo, hick, pine, cedr, tulip, Cherry, willow

Outwash Plains - no evidence forest

Storage pits - 6x6'

Great ↑LA pop'n, most foods

5 Nations on 6 but b 1600s

→ Engelbrecht '03 Iroquois - even here wild foods more imp - deer most + wild plants

farming never replaced hunt/gathering; Eur trade goods - seen after 1525; iron, copper from StL or Basque. Late 1600s - reg. trade w/ them

100 yr - between arrival of goods + contact

Rainey Ack Wig - 10-60' b.t Splus

Drift w/ tr. "Mash-p

→ Tuck - reversal - left clay pots back to woven, leather, birch bark - bulky, fragile, diff to carry

Cult. hiphazard - not Ag; crops between fish, etc; Some Yr Rel - Passamas R

MicMac rel homo 2000 → just before contact

→ Ag so many advantages would be seized on - secure, comfort - but health, drudgery, uncertainty

→ Most spp ≥ buffer 1x1 m pit 22 bu = > 300 lbs

→ Creolized identities 2008 Loren

hist sources - all Eur perspective for Eur consump; noble, royal; competition; bias, time, location; no Native voice

Art → ethno → archeo tempts to take on ... ; democratization

Explore Eur motivation

Edit European contact table

Simple table on major periods?

Steatite bowls ~3200 BP · Maize + Beans ~ AD 1250-1300

→ excellence on water

No simple progressive model; not tightly constrained or resource dependent

exposed to much material culture; adapted selectively + applied creatively not nec to original use

Specific episodes - hemlock decline/ oak / LIA-MWP/

Impact - pervasive but subtle; style adaptive

Pop'n small, technology limited + no animals

Conservationists/historians/Ecologists - big impacts Archaeo - small

10,000 yrs! ~ No change

→ Scenes changes - actors with flexible toolkit adapt

No dichotomy Native - Non-Native blur + gradient

Contrast - Maya, Inca, Hopi, Iroquois, Anasazi

Moose - rare due to climate, landscape + forests, or hunt?

Periods - expansion + contraction Ubelaker '92 50,000

Pop'n - Mooney 22,100; Cook - family 4.6; village 100-250

Gookin 72,000 pre-epidem; Snow adds 8000 for Potucket

Willough 1935 - 24,000; Russell - 75,000; Cronon - 70-100,00

Disease decline 55% (Snow); 75% (Cook); 90% (Bragdon)

ACK 2-3000 contact (DD)

→ Contracting area - Cronon - around villages Day - only in sites occupied by Indians

few first had accounts

→ Salwen - up to 90% clear - must consump

→ Eur Impact - tribe + large groups ors, ↑ disease, concen people at coast + harbors, ↑ centralized power

→ Forts - > 70 wigwams Fort Hill, Mystic

As much variation w/in region as before NF

Marshall → W+W Book

Organization

Archaeological interpretation of pre-European

Consequent interpretation of Nature

Natural pattern - space + time; role of climate

Natural disturbance processes - incl. hurricanes +

1635 quotes, reconstructions

European period - overview of regional dynamics +

vegetation change - disturbance processes

Consequences for vegetation + ~~for~~ wildlife, plants etc.

Atlantic Salmon - Vignette of a Species

Conservation Lessons + Opportunities

W+W vision

Translation into Mgt - Wilderness, Cultural - Ag, Habitat

+ Resources

Global Change Future

Legacies

Bra.

Monhegan Is.

H Hudson 1609

Samuel Annins 1610

Capt Williams 1610-M

Ed Harlow 1611

Richard Strong 1593 Sir Bernhard Drake 1586

Sir Francis Drake

Steven Ballinger 1580 Andre Thevet 1556

Richard Whitborne 1575

1611 Capts Harlow + Hobson Cape + MV

1614 Hobson w/ Epenow Capt in 1611 to MV

1619 Dermer dropped Squanto

Champlain 1604, 1605

Martin Prins 1603, 1606

Gosnold 1602 - likes accounts coastline Micmac traders

Raleigh Gilbert 1607-08

John Smith 1614

Gosnold May 14 1502 - ME near Casco Bay; Savage Rock - Cape Neddock - Indians in Basque Shallop

Cuttyhunk - 3 wks builds fortified house

Left June 17 - around Cape Cod. No-Mans - fowl + anchored

Prins June 2 1603 - went into Gulfe (Mass Bay) that Gosnold missed Plymouth + Sassafras

Wm Bradford "They found his [Squanto] place to be 40. mile from hence, the soyle good, and the people not many, being dead and abundantly wasted in the late great mortalitie which fell in all these parts aboute three yeares before the coming of the English, wherin thousands of them dyed, they not being able to burie one another; their sculs and bones were found in many places lying still aboue the ground, where their houses and dwellings had been, a very sad spectakle to beholde."

Vsr

Look at Mulhollad + Donta
MV

DD Synthesis (Deena Duranleau)

7-14-10

DD SNE-NY — Coastal MA, RI, CT, NY — > 2000 project areas + sites thru 2005

MHC - Brona Simon State Archaeologist; Cult Res Mgt reports

NPS surveys,

develop Biblio Essay

Region holds together well - difficult to separate

Prevailing view - Dincauze (1990), Snow (1980), Braun + Braun 1994

Paleo 12-10 — tundra + parkland; hunting, woodworking, food processing; small bands, seasonal wandering < 25,000 pop — fluted projectile pts, scrapers, drills

EA 10-8 - id by projectile point style - drills, choppers, hammerstones, anvil stones, bifacial celts/adzes; ↑ woodworking + nut processing; continuity - ~~[illegible]~~ seasonal wandering; defined territories; less exotic lithics → ↑ local material

MA 8-6 Decid forest + still rapid sea level; territories; control-based wandering; winter interior, spring migr. fish, summer fish/hunting; ↑ special purpose sites; celts, gouges, grooved axes; knives + scrapers, atlatls; local material for canoemaking, fishing, food proc.

LA 6-3 - small, numerous encampments; broad environ; ↑ fish + ↑ acorn/nuts, Mast forests; pop'n fluctuation # sites + richness; ↑ sedentary

Trans Ar - 35-2500; diagnostic pts; steatite bowls; control-based work

E+M 3-2, 2-1 - combined; stabilized sea level; resource-rich estuaries; base camps; w/ special purpose summer sites - coastal shellfish harvest, winter camps - hunting - small streams + ponds

larger sites may have been used year round

Advent pottery - defined Woodland - storage + cooking easier + more efficient

↑ outside trade - Ohio Adena + lithics - N, S, W

LW 1000-450; ↑ larger site trend, heads of estuaries; multi resource

Contact 1500-1650: main villages - semi-perm, moved every 12 yrs or so; seasonal to family farmsteads w/ fields, ↑ wampum, but little other A

Consistent points - wooded + part of sheltering + located for resources + for environ.

(12-28-10)

DD Region holds together well CC → LI

V low P+EA; ↑MA to peak LA; ↓E+MW; ↑LW - even higher in LW than mainland

Contact 1500-3500 | Men, Squib, Quitsa, Lagoon - continuous year-round occupancy "villages" G, B+S, H, R.

2000 CC+I look like do, coast out 0.5 → mile

Guernsey - Men + Quitsa - uninterrupted; soil black w/ debris - shells, bones, charcoal

house rings (Quote) artifacts - shells, pottery frags, steatite pot rim + pts E, M, L W ≥ 3000

3 cemeteries 1 w/50; 1 10-15; 1-30 - apparent pre-hist + post contact as one horizon stones one horizontal total

W Men - precont. shell middle + 50 hill corn hills - presumed precontact v black soil 1/4 ac. 6" deep

Guernsey + Hooten 1912-13 - eroded + excav. materials 2 burial's Pease's Pt E shore Men. Bay

Doug Frederick ✓ R.S. Peabody Fdn, Andover
Byers + Johnson 2 sites Chilmark / GH 1930s

At time - 22 shell heaps around Men + Squib Pds explored 2 before destroyed by erosion

1 Hornblower Shell Heap - SE Squib Pd - would have been wooded; hilly - protection from winds + shell heaps - Oyster, scallop, quahog + clam - from Pd, brooks, sea birds, sea mammals LA → LW poss MA Post-holes

(1950s Gale Huntington Dukes Co Hist Soc. Norton site VH MA → Contact)

(Quote) scrapers, hammerstone, net sinkers, drills, knives, awls, gouges, choppers, pestle, hoe pipes - food process, tool manuf, woodwork, fish + spear hunt

2 Squib Cliff Shell eroding - v. sim. artifact roughly contemp SW Sq Pd

Forest adapted hunting strategy - "surrounded on north, west + east sides by what would have been heavily forested highlands that provide shelter from the northwest winds"

(1st chrono - cult hist for SENE + model human adapt to environ)

① Horn II ✓
Ritchie - N shore amphi in heavily wooded; 5 strata - core to WR to open w/ sea - shellfish + spring herring or alewife. molds 2-3" 7-8" deep Modern comp + diff structure

2270 - LA "small group - adjusting to coast"; then 2150 - tlo yr possibly; then M+LW then LW - all suggest most or all of yr 1 char corn

② Peterson N shore depression LA projectiles → EW deer, oyster → E+W → LW - deer, shellfish, clam ~ continuous

③ Howland - E Menem Pd - faces Neast - over freshwater + protection - many post molds ~ random succ, overlapping

V. few sites > 500 m from water; vast majority w/in 200 m

Buzz Bay MA-11 LA-29 EW-15 MW-20 LW-23 contact 4-5500 people

Notes 10-12-10

MM + EC Late Archaic - Nuts, nutting stones, mortar + pestle (shoreline stab)

Burial ceremonialism - ↑ pop'n

Followed by resource stress

Community-wide archaeo surveys - Chilmark, WT'is, Oak Bluffs, Edg

Database Historic Maps - U of KS - Library Congress

Aquinnah - Oral Histories - Linda Coombs

Deena - Notes

Orient to use many ecological zones - coast, river, terrestrial

W - less mobile than A; still seasonally mobile; winter use shellfish

Outer Cape ossuary - LW wide range botanical + faunal, not maize dependent

Pop'n ↑ - better weaning foods (nuts, chenopod); pottery better than soapstone + wood; ↑ female fertility, ↓ birth spacing; climate amelioration 1000 AD

Contact - same sites as earlier + semi-sed though hard

Buzz Bay - inland using coast short-term

Salisbury 1993 1524 Verr 15 days w/ Inds Narr Bay then Abenakis Casco (pleasant vs confrontational)

Morgan 1999 Pre-Col architecture in ENA - Lower Miss, Fla, Oh Vally, Tenn, Apps + Piedmt — No mention NE

Appendix of Comp Sites - Stonehenge, Acropolis, Angkor Wat, Piazza San Marco, St Peters Sq, Giza

Foster + Cowan 1998 Gordon Day - For Ecologist; grew up Barre VT; USDA Newark Expt Station - Bartlett + CT (Dartmouth Res Assoc Anthro)

1989 Sturtevant + Quinn 1566 - First Eskimos kidnapped to Europe woman + child broadside

By 1560s >1000 Basque annually 6 mos. 15-20 ships Straits of Belle Isle

Frobisher Baffin (looking for Ore) 4 captives; 1 home 1576 "Now with this new prey... ~~the~~ Captain Frobisher returned homeward, and arrived in England." "desirous to bring some token from thence of his being there" Lok 1577

George Best → 1578

Chilmark
Mulholland et al. '98 — well + excessive drained near water ; MW 1st large shell middens

LW hort C+B; more perm settl.; not due to corn; hunt gath

MM et al. 1979 — S coast sites - fewer - sampling + less development; Pds need breaching to improve shellfish (Watcha + Long)

Herb + Cherau '00 — MW t/o SNE ↑ Seden, shellfish, pop'n, trade ; LW larger middens

Chappy - substantial yr round pop'n ; village - multi-fam + special purpose camps + work areas

limited access to sites   Plains - 1 site near Little Pd

DD — ↑ native conflict - doc by explorers

NY - Staten Is - Estuarine develop + stabiliz ~11 K

Davistown Mus — 1560 > 30 boats   St Malo + Cancel

Morison — 1578 50 Eng 150 Fr + Basque 100 Spanish in Nfld

1586 300 boats

Brasser '78

DD — > 2500 sites MA, RI, CT, NY Region holds together

MM 1979 — Relate pop'n density + cult develop to vegetation; diversity + density of veg (site)

Guernsey — Menem + Quitsa Pds "almost uninterrupted evidence of aboriginal occupation" ✗

soil almost black w/ decaying debris   Vincent Farm to 1 ft

2 house rings 17' diam ridge of earth 2' × 6"

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

GH wigwams to 1817

Pits id by green grass   shell md Quitsa 100 × 2-4' GH ¼ ac 18"

Unfinished Indian canal Oyster + Watcha - both formerly connected to sea

Huntington — Lagoon Pd 2 extensive sites - head of Pd + near Bass Cr (abund before settl., spring, protected, good Ag + fish)

(W)

Demeritt 1991 — Gulf ME - some corn cult.
Assump - once Ag avail would spread to where environ halted
LIA ↑ variability 1730-1829 Std Dev frost free 31 days 1880-1979 - 16 days
↑ risk consecutive failures - crops
Planting - not just biophysical; cultural - decision
Dietary diversification + use sites to limit damage
Ind turn to maize only after disease + ↓ pop'n, fur trade

Kasper McBride 2010 — "living with the land" not "living on the land" knot, clover, sumac
Patterns of continuity Prehist → contact → 18th C wild plant use cont.

Bernstein 2006 — LT continuity technology, raw material use, settl + subsist
vs Δ - big game × broader economic × Ag broad, persistent patterns
Paleo - may have been ecolog diverse - small game + plants + fish Not so revolutionary
Ag intensive - from comparison w/ Iroq + ethno hist; trop plants - little discern impact
cont long est tradition - broad spectrum new resource added to ever expanding list
Lithic - remark little variation 6000 yrs

LI
Strong 1997 — Artifacts, huge Δ w/ contact - tribal system devel in response Eur pressure, opps,
more consolid, conc power under individ, vs no emergent leader
LI - ext trade NJ + PA Corn etc. little impact until Eur - destroyed native resource
Eur - destroyed corn - no impact
1525 - Spanish kidnap 58 near Newport → Spain as slaves
Before Eur settl - traditional stone industry nearly abd → metal; utility, # trips, trade efficiency
Hudson 1609 Sandy Hook NJ Dutch Manhattan Post 1613 1614 Albany United Neth Co

Ritchie 1969 — S Pts less attractive - exposed, sea molds 2-3" × 7-8" deep
tall forest sim comp, structurally diff 1500, 1501, 1502 - Corte Reals

Patt + Sass — Shifting settl, slash + burn, mosaic fields + forests, meadows + parklike
large open areas in major valleys
Fire most advantageous to stationary LU Ag
Charcoal - intensive LU

Carlson et al. '92 — seasonally mobile w/ dispersed popns; few large settl → localized

Bragdon 1996 — Interreg network of trade; 1st writings + pics from time of great Δ
Mobile + more egalitarian
Coast - conditional sedent based on marine; ↑ polit centraliz before Eur contact as ↑ popn
Maize overblown as Eur seek to assess fert.

Brewel 1993 — Chenopod - most abund seed   Maize ↑ indep. of Eur.

Denevan 1992 — NE, Midw + S "Agricultural clearings and burning had converted much of the forest into successional (fallow) growth and into semi-perm. grassy openings (meadows, barrens, plains, glades, savannas + prairies"

Dunn 1993 — 1614 Squant kid w/ 26 others

Vaughan 1965 — After 1605 most brought Inds back as guides

Pagoulatos '88 — R Wms - traditional source info but late 1620s — epi, wampum, fur

Dincauze 1990 — Resist attempt to read the arch record in terms of historical Don't accept Eng + Dutch description of reliance on hort as representative major realign polit, eco, relig.

Dunford + O'Brien — Early Cape houses pine floorbds + wainscoting 2-3'   W Barn Church 16"sq + 48'

Russell '83 — fear 1st hand fire, most grass; Dog - only where Inds. inhabit

5

DD "evidence along almost every pond, watercourse, bay and coastline of native occupation of MV for thousands of years" X

Ritchie - forest to marine-adapted as increased familiarity (!)

Deer + Marsh Barn Proj - no cult material near pond
Vineyard Acres Golf Dev - 235 ac. interior - no arch. sig. resources

Impacts - fish, shellfish, deer, saplings, firewood, clay

Narr - missed early epi
Disease - differential 1617-19 - up to 100% Plymouth ~ none Narr 1633 smallpox

Buzz Bay MA-11 LA-29 EW-15 MW-20 LW-23 Contact 4-5500

CTR extensive tidal marshes ~2000 BP Shift toward major R in CT after LA

Eur contact forts Fort Hill + Mystic Fort BI - Fort Island fort hist. village

Vast wilderness interspersed w/ conc. settlement

BI - Winthrop + Endicott oak brushwood - no timber 2 plantations 60 wigwams 200 ac corn

ACK - single family + work areas; more marginal sites thru time, late disease as 1659 settlement

LW - ↑ pop'n + more nucleated - waterways
Cape - Some highest densities - W - larger refuse, more sedw, longer intns. use

Wellfleet - Indian Neck Ossuary - no trauma, wide range people, healthy, low caries, low disease

Wm Pynchon Acct Book - 13 mo names - son John handwriting 1645 to thaw; ice in river all gone; catching fish and bears eatable/when Ind corne eatable; ye middle harvest + Ind corne; white frost on grass + ground / sun has strength middle winter
When they set out corn; When women weed their corn; When they hill Indian corn; When squashes ripen

Pocumtuck fort + burned

Wilbur 1996 "Long before the first white settlers came to NE shores intertribal wars were tearing apart the very fabric of Algonquin life"

Ceci 1990 Silar Wood 1828 natural state - used hist sources to project backward; Mooney used Wood - est is 2nd highest 17th c density after Mexico. Each work reinforces last, Post contact assumed stable/static w/ powerful chiefs present for centuries

Wampum 1570-80 sudden + conspicuous appearance w/ Dutch - Iroquois League - White - knobbed whelk + channeled whelk
purple Mercenaria Linni need metal tools as 3.2 mm diam - exchange, rank, currency

Maize storage but no evidence of dependence vs Hudson - large, numerous storage
Hudson - natives "had no house" "always carry with them all their goods, as well as their food"
Long house - "fixed places of abode + dwellings built with beams in the form of an oven... sufficient for several families" vs "temp huts or shanties" "small movable tents"

Decision transhumance hunt-gath to establ more sedentary settlemt in coastal zone area formerly visiting place

Inexp goods Eur → Coastal NY wampum → Inland furs Eur

Ceci 1990 Beaver + otter non-local on Hudson by 1607 Overhunt for Eur - beaver, otter, martin, mink, musk, deer

biennial + bitter veluntina, coccinea, rubra more abund C. glabra, tomentosa, ovalis, ovata
Acorns - annual + edible: alba, prinus, macrocarpa, bicolor, stellata

↑ time on coast to trade No forts prehistory follow Eur model

Prehist - all camps postmolds - no pattern arrangt

earlier brought in
Shellfish - calorically unsustainable Indians needed corn from Inds by ~~1660s~~ 1660s

Corn - manure, land clearance, storage, defense, liming, weeding, fencing

or it does not thrive"
DeRasieres "a grain to which much labor must be given, with weeding + earthing-up

Verr. 1524 - Copper sheets from prior, unkn. explorers

w/ maize; Narr Bay, CC
1525 - Esteven Gomes Fla to NY to ncoast; 1529 Diego Ribero Fla to Lab; showed Gomes area, Hudson

Hakluyt mor
1527 Eng boats explored coast "oftentimes putting their men on land to search the state of those unknown regions"

1529 P. Crignon - 800 km S of Cape Breton to Norumbega + descr. by Giovanni de Verr.

1540 - Fr trading post on upper Hudson Spanish settl. of Albany 1550

Mercator map 1569 - Block Is + Hudson as part Norumbega ; no CC Cape Breton, Nfld, St L

Fr. mariner
1570 - Jean Cossin - World map - suggest coast NY thoroughly explored

1589 - Hakluyt map - trail coast to St L via Hudson + Champ Valleys

1598 Dutch N Hudson shelter

VA Co. Chart 1606-08 remark complete SA + Labrador Eng will

1602 - Gosnold - Ind brought furs to trade beaver, martin, otter, lynx, black fox, rabbit, deer, seal

1604-07 Lescarbot chronicler Fr. colonies ME + NS - NY + RI Inds acct - make beds

Hudson R - people overwint 1612-13 or 1598-1601

overwinter 4 groups - 4 trips each 3 yrs
1613-14 Hudson + 2 Dutch Co boats - 10,000 furs New Netherland Co 1614

Block 1614 - Carto figurative - detailed Cape + MV

1615 - Manhattan Fort - trade

trinkets, goods, cloths, axe, adze, hatchet, kettle, fish hook
1609-24 ↑ exchange fur + wampum yr-round occupation - marketplace

1524-1624 growth + intensification of trade - Coastal NY brought big Δ Ind.

20 mi up trade hous
Block up CT - not nav v. far 1632 - Dutch 15,000 skins Ply + MA - up 1-3 mi obv

EC — Pine Hill - small overlap wigwams seasonal encamp - despite one of largest LW occupation

ceramics - more diverse than Iroq - mobile, fluid social bdry (made at many locations)

Almquist Sage — 4700 ↑ beech-rich N Hdwd; more productive habitat - gem

Mult hemlock ↓

Asch-Sidell — butternut = oilnuts 64% fat 25% protein vs roack 22%/62

Snow 80 — 1605 Waymouth ME - 5 + 2 canoes Nahanda - returned w Pring to ME 1606

Skidwarres w/ Gilbert + Popham 1607 Assacomit + Maneddo - ME w/ Chalons

1606 but taken by Spanish as slaves

Salwen 1970 deer 90%

Paleo → LA discontinuity

Rapid Veg Δ - rapid archaeo Mast Forest = LA 6-3.7

"our understanding of prehist climate + the environs they helped produce is poor"

Iroq inserted into Mohawk 2-4 KBP

Discuss NY - backdrop, source, more info

X "Taken together, it all suggests that in the period aborig NE was marginal to the mainstream of prehist in the E"

Hort - saddle fossil deg

Village sites destroyed by Eu

"There is no quest about the importance of hort in the Late Prehist period of SNE" but no evidence Coon-Ritchie

For NE → X "the last six cent of prehisty appear to have been a period of generally peaceful growth + prosperity"

X "We have yet to carry out the research that will tell us whether or not these environ Δs are prime movers in the shift of settl + subsist"

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

Hart 1999 — No indigenous domest taxa in Neast Maize S Ont 1570 BP Beans 700 BP NY

King — 1000-1200 rel. warm dry; 1250-1700 ↓1°, poss ↑ popn, comp for sites, warfare (↑ westerly flow)

Ohio ↑ rel. on maize after 1000 1050-70%; 1225-80% (isotopes); large pallisaded sites; large storage

hickory - beat, heat in water, skim nuts + oil esp C. ovata - small

CPA large storage - maize, nuts, beans, Chenopod, Sunflower

Hart — SC NY longhouse excav + 100+ pits 830 BP maize beans 400 yrs later (Upper Hud S of Albany Mahican non-forti)

Largy — Nuts - crack + boil; shell to bottom; meat + oil rise; oil - hair

Cassady + Webb — Maize - Milford CT 1240-1260 AD

Bernstein — LI, Fishers, BI - no sig raising or consump maize before 1524 (maize grown - symbolic?) - of all maize sites - much other material

V imp start LA - nuts hickory 46/52; oak 18/52; Jugl 8/52; Corylus 7/52; chest 0/52

specialized features storing + processing nuts No Chest? thin shell - Braud 1993

Chenopod - v. imp, larg process interior river

Millennia - rel. stable economy on coast - divers. resources long-established pattern not interrupted thru Woodl

George + Dewar — Chenopod MW - change morph. domest before corn storage facilities < 5000 BP

CT - Chenopod used + stored; not nec. domest.; floodplain hypoth;

Braud — McBr + Dewar LW ↑ soc + tech complexity, ↑ sedentism, ↑ site complexity, ↑ econ + non-local material

Fish + shellfish predictable, low risk than gr deer nuts

Farmsteads of hist may have replaced warm-weather semi-perm villages mobile from

Coast - rich marine + estuary capable of sustaining large pop'n cond if sedentary tethered mobility, forging base

EC — Bennett 1955 - Maize 65% - but substantial trade Thos 1979 - Pynchon data - transform

Cites WC on msf

invisible village = high mobility high density individ + community dispersal + mob dispersal w/in homeld.

Mobility - strategy to maintain enviro diversity + sociopolit fluidity

foraging horticulturalists, tethered mobility, conditional sedentism

View from 1500

Wigwam, hunt / gather; deer abundant — flimsy

Mast forest: oak, hickory, chestnut

Broad spectrum — Semi-domesticates - sump weed; many plants

Maize - ~~clear evid~~ supplement; available but rejected
potential thru residue - there for 1000 yrs

Benefits of maize not sufficient to make them assume burden

Mobile farmer - too strong — risky; intensive work; commitment - expect more at coast where seed

Health - no trauma, low caries (ground cereal) — many bowls

Amino acids

Clams over corn

>20 plants
100 nuts
Some mollusc fish

Coastal adaptation

corn - new resource to add to list

More abundant + reliable resources

Sedentism without agriculture

Substantial ~~with~~ population without villages

Fish, shellfish, hunting, oak, hickory

MV detail — Drift whales

Evidence along almost every

Repeated use - Sq, Nash

None on interior

Still wigwam + flexible — Verr 1524

Human health

Dependence on coastal ponds - dynamics with these

historic efforts to connect + to sea - prehistoric - unknown

Major site regions - e.g. Lagoon Pd, Tashmoo, Menemsha, Squib, EGP, KB, Sengekontacket, Chap.

ii ✓

Forest efficient economic system

LT Record

LA - richness

Continuity and Persistence

Changes thru Holocene - Periods

Technology - tools + weapons — Soapstone, ceramics

Possible - signif. adapt. — sedentism

Pop'n — burial traditions

Coast + MV in particular - huge dynamic shoreline, islands, storms, oak decline

→ Pop'n change

Coastal Adaptation

1 Q the gradual emergence idea - Pako people equally adaptable; coast came to them;

2. Q the stabilization of coastlines thinking

Where did this come from?

Sites lost; peatlands off the coast; diff habitats

Changing locations over time - Lucy Vincent, Ponds + Lagoons; wetlands formed the turns to ponds

Historical transformation

Two facts → Historical accounts ≠ Archaeological reconstructions
→ Contact - transformed Indian culture

Need to recognize that contact is a process not an event. Multi-faceted, indirect + direct, physical + biological + social components.

Meeting + various exchanges of physical goods

~~Econ~~ political + economic

Cultural - exchange of knowledge, influence on practice, adaptation of practices, incorporation

Biological - disease, organisms - plants, animals, genes

Began in many cases long before direct contact
movement of goods, spread of rumor
Many people who never encountered Europeans influenced by them - disease, copper + metal

Extent + temporal depth greater than commonly recognized - fishing new trading posts, movement of Indians to Europe + back, multiple exchanges - positive + negative; goods - direct, pillage.
Common knowledge that Pilgrims stole from Indian stores, but Indians pilfered from

See evidence - Gosnold 1602 - shallop
Squanto 1614

+ promoted by Eur.

Tribal system developed
Rivalries + frictions – trading, diff Eur groups in

Eur presence overwhelming but natives pre-adapted for rapid change-

- trade + exchange - well established, reduced friction, facilitate survival in lean times; Eur anxious to trade - needed food, wanted furs + goods
- possessed basic tools - corn, beans, squash to support pop'n + sedentism; familiar w/ sedentism
- adaptable - including facility to easily relocate to resources + opportunity; new materials

So could rapidly shift - pop'n centers, subsistence, + would be prone to do so

So contact - period of rapid transition -

Historical accounts - clipping in and sampling behaviors + practices along a trajectory of change. All the normal reasons to be suspect - bias, misunderstanding, seasonality, sampling error, boosterism, lack of democracy
But also actual change - Heisenberg principal - observer changes the observations + the subject

Maize - big impression on Eur - looking for Ag potential, something they recognized, needed food

✓✓

So - consequences for landscape

Landscape forested; inhabited and broken in places - repeated use and reuse, esp. sedentism can greatly alter place - fertilize, remove wood, deforest or thin; fires escape + could be purposeful - fire strikers.

Trails

But integrated into landscape - low concentration, low density, taking from land, using land but not actively shaping + managing; not farming not scaling to acres; no need for large open areas.

Rapidly regrowing vegetation - constant maintenance

Open condition - natural - oak + pine with ericaceous understory. Not multiple layers; beech more prevalent - very open.

Overwhelming natural processes; Inds not managing for oak, slowing changes ↓ moist, less useful taxa

Move seeds possible

Little, Ritchie, Dunwiddie (But Pol + Seed)

Archaeologists - assume forested

Paleo confirms this

What this means for conservation - management not rooted in prehistory. Major shape - historical...

8.8.10

7-22-10

Continuity + Modest Change

i. In the face of substantial change in geomorphology, climate and vegetation, including major reconfigurations of land area, coastline, groundwater, and resources (wildlife, wetlands and mast) and abrupt shifts in dominant tree species human culture changed slowly and modestly. Few abrupt changes (steatite bowls + pottery ~3200 BP; maize and beans ~AD1250-1300; particular points in LA) in technology, subsistence or settlement patterns. Long continuity as hunter-gatherer-foragers, in use of simple and flexible shelters, in seasonally mobile to semi-permanent habitation in small family groups.

Hunting - critical
subsistence
settlement
raw materials
technology

trade + exchange - buffer
politics, climate, resources
housing - flexible
weed - collection
horticulture
Diverse plants
fire strikers
excellent on water

ii Modest regional variation with strongest difference coastal adaptations - transportation, fishing, collecting, scavenging.

Profound transformations
but
broad persistent
patterns

Broad spectrum resource use

No simple progressive model

Great flexibility and adaptability - highly adaptive to changing conditions + opportunities; not tightly constrained or resource dependent.

Remark life & lithics

Exposed to much material culture; practices adapted - to own use, not nec. original use

Particular events/opportunities - mast inland 6000 BP favorable climate thru + Medieval Warm period; slowing of sea level rise - wetlands + stability

But huge impact of the unseen contact

Shattering of, Contact Myth — witnessed contact

1620 - Not contact. Pilgrims not first encounter, not exploratory. Based on > century of knowld of ENA coast, extwsive fishing, whaling, trade + exchange. etc.

Rejection of agricultural myth. Farmers in village + tied to land. Nucleated with corn, beans, squash as cultural identity + long-standing staple.

Underculting widespread and frequent burning, land management on broad scale, tamers of the land.

Kt - "with"

Indians lived in not on the land. Whether conciously ecological or not, tread was light, style was adaptive, impact was pervasive but subtle. Very difficult to see - e.g. beaver, moose, etc. in modern times hard to see

- technology - limited
- no domestic animals
- fire - major tool but contrained
- pop'n small

No discernible impact.

Archaeologists assume forested, rel. little impact

Ecologists / historians - major

In order to understand Native people in the land and their influence
Throw out much learned from schoolteachers, iconic images,
tourist brochures, histories and conservation organizations
Most based caught up with modern archaeol. Archaeol itself too shaped
by history ethnohistory

Mindset
our view of progress not nec. others

- Slow + progressive adaptation to the coast - always coastal
- coast came to the site
- Not people adapting to the coast

More general - Ag dependent + in fixed villages, some forts

- Sedentism = Ag — whereas intens Ag requires sedentism; sedentism implies - accessible food + resources dependable + within reach; settlement location
- Structure of time period — large # periods implies large # of changes — artificial → breaks; progression + evolution

Evolutionary, progressivism thinking — regional uniformity

Δ tools → culture not nec ecological shift in terms of resource base or impacts

Eur explorers - over emphasize Ag as their preconception, also what they desired to see + exploit; what they wanted + needed

- LA - stabilization Sea level - resources, estuaries, shellfish
  Not clear where this originated (which geomorphologist? what evidence on pentlands, shellfish etc.?)

[Only sample accumulation areas] - or areas buried e.g. by ants

- Managed their lands - fire, Ag, orchards, wood thinning
  Freq of burning + widespread, tamers of the land LA = Forest Climax

Mitch 1979

For succ + human pop'n Δ small pop'n | 10-9 immature hdwd forest
Grad ↑ pop'n as forest matures Peak 4K BP -, diversity + density
of res relate to pop'n as all floral spp = resource
Hard ↓ div to climax ↑ pop'n as ↑ resource div. ? Inverse to diversity

- Play changes when the scene changes; actors with flexible toolkit adapted to the changing scene - land config, vegetation, wildlife + resources
- Contact = noun, verb, variable process ongoing process - not one event, not always
- Contact = 1620 - shallop + trousers; English; many predecessors direct, not same people each time or season or context
- Dichotomy - Native / Non-Native
- Impact pervasive / wood - but not immense villages; weirs, houses, fuel, drives
  but subtle, highly adaptive; not fixed or focused, concentrated
  altered wildlife, plants, local composition in or with land; not on it or through it; chronic over 10K, therefore imperceptible;
- Invisible - for many reasons + contrast - other Native peoples - Maya, Inca, Anasazi, Hopi, even Iroquois + esp. with ancients Europe + beyond
  Hunt + gather - dispersed + small pop'n; not agricultural; limited technology applied to collecting + storing resources; no domestic animals;
- Box on fire

Indians - Why do we care?

- imp insights into human culture - distinct from colonists
- successful - 10,000 yrs adaptation in face of huge shifts - no collapse
  hunter-gatherer lifestyle successful for human history
- integral factor in landscape - another factor like climate, hurricanes; part of dynamic - how changing; and - did it change in ways that influenced land

- Important benchmark for conservation - both the state of the landscape and the practices they used. Was moose rare due to climate or due to native hunting? Were deer pops kept in check by large carnivores or by human carnivores? Were rare spp truly rare then? Was veg structured by natn or people?

* through legacies, legends + physical survival - comprise ongoing + imp. part of landscape.

Rapid climate change - up to 7°C over v. short time - rapid melt, rapid ↑ sea level, ice buoyant so unstable, severe on plants + animals

Rapid collapse major parts of ice sheet

Heinrich events - ice break up events, ice into ocean w/ rock & debris

Shattering of Contact Myth

Early Contact — Eur Influence on Indians

Sturtevant + Quinn 1987 entered

1567 - 1st Esquimoes from Terra Nova (↙ N coast St L's, straights Belle Isle Aug 1566) to Europe (Netherlands) - kidnapped from Labrador by French sailors; Woodcut on 3 broadsides - 20yr woman + 7yr girl

Woman + girl in parka, skin boots

Basque - Spanish some French 1540-80s; by 1560s more than 1000 Basque annually in 15-20 ships for 6 mos. rel. few refs to natives

Frobisher looking for ore 1576+78 - Eskimoes on Baffin - found box of nails in Eskimo tent

"the Captain desirous to bring some token from thence, of his being there"

"Now with this new prey... returned homeward, and arrived in England."

Lost 5 men. Held natives as hostages, never found his men - brought 1(4) back-died

Salisbury '93 entered

1524 - Verrazano 15 days in Narragansetts Bay w/ natives; then Cascos + Abenaki

Jaffee '99 entered

Trade/exchange - critical importance to Ind - ritual exchange, localized + regional trade pre-adapted for contact, trade; but shift from reciprocity + gift, ceremony to economic relationship; linked Ind to Eur economy

pre-adapt to take advantage of opportunity, to use non-native materials; to reorient activity to Eur; survival - exchange + trade

Wampum - ceremony, symbol + prestige → medium of exchange

Commercialized Ind cult practices - e.g. trapping - not related to need (diverted activity from direct needs)

Cogtwell + Wall 2001 entered

Hudson - NY Harbor 1609 — 1624 - Dutch West India Co - fur-trading operation (Fort Orange - Albany)

Trading rapidly shifted inland as coastal furs used up — wampum/furs/trade inexplicitly linked — coastal Inds many wampum - exchanged w/ Dutch for trade goods

Dutch trade to N comm for furs - furs to Eur.

17 epidemics affected Mansee 50-91% mortality - personal + demographic tragedy often rebuild community with others, family members or traditional leaders

Strong '97 entered

McBride - EI fort - post-contact - response to conflict

Vaugh 1965 · Capt Geo Weymouth (Roster chronicl) 7-18-1605 returned from Plymouth w/ 5 Indians (kidnapped)

Sir Walter Raleigh 1587 returned from Roanoke with two Ind (sailed)

After 1605 - most brought Ind as guides

1606 Henry Challons - took 2 Ind to cabb NVA Col. taken in W Indies by Spar

John Popham sent M Prins + T. Hanham explore ME took Ind Tahanedo (stayed in Aw)

1607 ME colony Sagadahoc = Ft St Geo

1608 Capt Edw Harlow captured several on coast + MV

1614 Thos Hunt seized 24 sold - Malago

1616-17 2 1/3 Ind died Penobscot R → Narr Bay "divine providence made way for the quick + peaceable settlement of the English in those nations

Strong 1997 1500s - Port kidnapped 50 Beothuks to Port as slaves (enslaved)

1502 - Eng Nfld - 3 as proof of landfall

1525 - Spaw kidnap 58 in Narr Bay → Spain as slaves

Basque - 10 whaling port 1000 men each summer

Dutch may have had base camps on LI before 1600

Champlain - CC Inds - Eng clothes + speaky fr + Basque

J Smith - Ches Bay - Inds w/ hatchets, cloth, Eur goods

Befor Eur settl switch to mtl

↑ trade + networks; conc people near ports; larger pop'ns under individ sachems; transformed loose alliances of small groups into tribes + confeds

Alcohol - Henry Hudson

1609 Hudson - Nfld → Penob Bay → CC trade w/ Ind → Ches + Del Bay

Sandy Hook NJ - 1st contact Algonquins NY Bay attacked by Ind

1616 Adrian Block - little record wintered 1614+16 on Manhattan

By 1540 Eur emphasis shifts from fish to fur

MV

cont. Guernsey — entered

Oyster Pd + Wetcha Pd - tradition - both once connected to sea before storms closed OP - still Oysters; Ind cutting aboard. canal to connect

House rings + shell mds 19' diam

Quitsa Pd - once shell md 100' x 2-4'

GH - shell bed '54 ac 6-18" deep

entered

'98 Mulhollad et al.

Chilmark; 2 Maize sites (MV) Peterson - Chil; Horn II - GH 1160 AD

DDuranleau — entered

Region holds together;

MV "evidence along almost every pond, watercourse, bay + coast line of native occup of MV for thousands of yrs"

Repeated use: Squib, Nash, Men, Lagoon; huge middens

Interior 235 ac. Golf. no arch. sig resources; none near Little Pd

Sea Level 1.2 mm/yr to 3500 BP .85 mm since; CTR ext tidal marsh at 1500-2000 BP as stabilized - tidal flats, salt marshs, assoc. coastal system 3-2500

Grad shift forest adapt habitation to coastal

Verr 1524 "They change their habitations from place to place as circum. of situation and season may require; and this is easily done, as they have only to take with them their mats, and they have other houses prepared at once"

R Wms - vast wilderness interspersed w/ settlmt

BI - oak brushwood overgrown; no good timber

Wellft - Ind Neck Ossuary - range of people; healthy; no trauma; low caries (not grow cereal); low infect rate + disease

2000 Herbster / Chern — entered

Best sites - wetld margins - EGP, KBy, Chipp. Plains - one large site around Little Pd
Nunnepog = fresh water - EGP? Edg Cntr rich

MV — 4 pre-h sites incl. Mashacket - top of core / 4 sites on W bluff

2000 Herbster/Cherau	Greatest potential - Wetland margin EGP, Kat Bay, Sengekontacket Pd, Chap Is
	MW - ↑ shell, trade, sedw, pop'n Limited access to ponds - undocumented
	Nunnepog - Fresh Pd - Prob EGP Little Pd - 1 large site
WF Gookin '47	V. Gazette Send Lagoon Pd - trad. site - id. Joseph Chase Allen 8-19-26 ided site
entered	Large burying ground to E of S end Lagoon - huge middens + gravestones
	W side Lagoon - great undisturbed - Natural site - great spring - Weahtaqua,
	N - dense woods Ogkeshkuppi; SW level fertile ground to Duark - poss.
	largest village on island.
MacQuarrie 1999	1st NE Arch HV - 180 yrs Lucy Vincent - EC most imp site 30 yrs; special place on landscape 1000s yrs
entered	12' erosion / yr 2/3 lost since 18th C most 500-1000
	1995 - human remains - Randy Jardin - working w/ EC teeth
Bungey 2009	Chilmark - 3 beaches - LV, Squib, Men; 5-10' / yr
	Bldg Inspect - if 500 ft here ~ 50 yrs
	"the exiguous historic records flesh out the skeletal facts of arch"
Ritchie 1969	MV - No prof arch. sites. "Populated from the mainland"
entered	No interp of changing landscape context - old sites have interior culture - Arch forest adapted
	Discontinuous use of sites - pond openings, shell fish
	High canopy (Brereton) Cheever "wonderful plague"
	Verr 1/2 p quote "this is easily done as they have only to take with them their mats" cf. "change their habitation as circum. of situation + season may require"
	Pilgrim wigwam - double mat, wood bowl, earth pot, baskets - full acorns - parched acorns
	Brereton "with the least spark he maketh a fire presently"
	Horn 11 - amphi; forest hd; herring/alewife 1780 open; Herr Cr. Men → Squib young salt med
	2-4" post molds; deer; bay scallop - mobile + deeper water; hard nets; quahogs - bottom long + soft - burrow; Oyster euryhaline - tolerant
	Offshore - cod extensive off No Man's
	Poor under. climate + sea level - ↓ 16' No Squib/Men

"abodes seem to have been flimsy dwellgs of mat- or bark covered poles of indeterminate size + shape"

Pratt Site - Howard Ave Tis Ben Luce Pd sheltered by large trees primeval forest
1/4 mi to lagoon 40 post molds "flimsy homes"
Overhunt easily obtained hard shell fish → deeper waters
Cunningham W side Lagoon - 200' shell mnd ; minor intermittency of habitation
every level deer - young + old "discount conservation practices"
"No sig Δes subs. pattern 750 yrs"
Hearth ltr, turtle sanded floors
MV- basic framework NE CC pt of departure
Paleo. by same cool moist boreal
9000. Pine low popn progressive adaptation to marine envir
6 O-P-OH xerothermic, ↑ most cultures - deer, turtle
Graph Δ abund shell hard
"Group newly arrived at coast" - took while to learn shell fish
LW- "Corn + cultigens imp part of food"
Rise of farms major demogr Δ but no Δ
Perennial residues over normal inland cycle of subsistence - as abund shell
S Shore Ponds - less attractive than N Shore as open to sea

Huntington 1957 entered Lagoon Pd - connected orig via Bass Creek to sea - 2 big sites
head of pond + near Bass Creek - No Eur exam - springs ; narrow beach 20' above

Guernsey 1916 entered LVB. 30' cliff; 4 1/2' + 2 3/4' pit Men → Nash Pds → "almost uninterrupted evidence of aborig occupation" black soil in many places due to decaying debris
fields; corn hills, bone, shell; house rings 17' diam ridge of earth 6"
1650 Young Mayhew houses "made w/ small poles like an arbor covered w/ mats and their fire in the midst, over which they leave a place for smoke to get out of"
Pease Pt - 2 graves 3 pits + hearth can tell by grass - retain moist.

Ag Myth → Conservation

Capece 2001 TTOR entered

Quote - 1000s yrs Wampanoag - drastic changes; large-scale burning, hunting, Ag; mosaic; savannas

Chilton 2010 entered

Beans ~ AD 1300

Mobile farmers; maize prev after 1250 AD; 550BP Tehuacan Valley; not all accepted; Chenopod, knotweed, sumpweed; no evidence domestication

Soapstone bowls + storage pits 3500BP - LA; highest pop'n to that pt

Holding IL 2000BP; Lower Gr L AD500; NY AD600; S Ont/NY AD1000 dietary

Most NE dates 1300-1600 Ingalls NH 1015-1159 May be S+L + CFR & S

"No evidence for sedentary yr-round farming vill in NE" "no evidence for intensive maize hort until after Eur colon" But yr-round habit in protected harbors beginning LA - yr-round accessibility marine + terr resources

Maize ↑ - cult A, LIA/MWP

Lith 2010 entered

1290-1390 - used saltwater shell middens; limestone etc on alluvial plains fr ↑ maize because

ACK 1659 27 Puritan families 1500-2500 Inds

Pre-adapted for Ag - sed lifestyle; familiarity w/ crops + domesticates; inclined towards trade + exchange; adaptation of new materials into life + culture; grouping to attraction, ↑ pop'n + other activities like trapping + trading, less on oth food prep.

ent Dincauze '90 - resist temp to read arch record in terms of hist record
fear of latter + extreme bias; No understandg, transformed condition,
major social, political, relig. realignmt

Ag Myth

Bernstein 1993 ent — Arch evidence for prehist Ag - virtually absent from Narr Bay

Vale 1999 ent — Myth - humanized landscape; pristine - fund. characteristic of ...

DD - Dunford ent — archaeo visibility low - as 1 family
1500 - Ag intensified - single household = farmstead w/ hort fields, pits, shell middens

DD — Pottery 3000 BP - allowed gruel, seeds, nuts, worms

Bradmer '93 ent — Altho maize arrives LW in NE little appant Δ subsist until 16C
High degree cultural + environ continuity contact → precontact
Men - deer fall/early winter; cut poles, clear land, fish - communal; women - plants, crops, shelters, mats, butcher, clothes, child
Little evidence - pre-contact warfare - not defensible locations, no trauma, no fort, villages
Shellfish - predictable + low risk + lo yr, shad, sturgeon, eel; lobster - not archaeo
pit w/ lining - 35 sunflower + 150 chenopod + maize hundreds - 14 C
nuts - hickory most common; beech - inner bark → bread
Chenopod, polygonum, portulaca, rumex,; Andropog - gerardii lined pits
Ag - ↑ risky   rapid dispersal slow adoption maize
More cult inland

Sidell 2002 ent — Amphicarpa, Amb trifida, Polygonum, Cheno, Desmodium, Helianth, Elymus, Hordeum, Solanum ameri.
Beech - seldom found

2002 Petersen/Cowie ent — Ag - ext adopt; sis over most of Neast, some of largest Δes; full blown regional trans. Most profound Δ to occur among Natives; few/dense sites
so hard to find, buried, disturbed

Petersen + Cowie — AD 1000-1300 extensive adoption of corn + subsistence farming (maize - beans - squash); some of largest Δs social, regional transformation
Few, large, denser so diff to find; buried, disturbed
"The most profound changes to ever occur among Natives in the Northeast prior

1992 Denevan NE; McEwen + S "As clearing and burning had converted much of
ent the forest into succ (fallow) grad + into semi-perm grassy openings (meadows, barrens,
plains, steads, savannas, prairies"

to the arrival of Euro. - ~~arrival~~ were arrival

Hart + Means 2002. Conc people - enough hands for all tasks - Ag → nucleation
ent W L Erie - no nucl. by 1300
S Ont nucl village by 8th c Longhouse 13th; C OH R Basin - variable 900 → 1150-1200
upper L OH R B - Freq by 1000 nucl. vill 1000-1200
NE. Oldest maize 1100 BP lower Hudson R Lower CT R 1060 BP - Selden Neck
Coastal - Highland Site CT · 835 BP Freq 13th C AD large amts 15-16th c
No nucleated village - v. late prehistory or Eur Contact most after 14th c
5300 liters soil - flotation → 19 maize
Bean date project 51 AMS dates - not arch visible until after late 12th C
250 yrs before maize been intercrop w/ squash - desc. by Eur settlers
AMS - completely Δ history of beans + interp m-b-s system

Carlson et al. 1992 Broad spectrum - hunt, fish, gather; seasonally mobile settl patt; pop'n dispersed
ent w/ few major settl until contact 16th c - trans/ual contacts; disease?
1638 letter R Wms to J Winthrop 4 major 16th c epi to Narr.
ent
Doolittle '92 Not true S+B Champ 1605 Bos Bay - "there was also ... burned weeds"
Bragdon 96 - Eur eyes deceived; land underused; orig - mobile + egalitarian
ent Maize - big impression on Eur - tool to judge fertility assumed cultural subsistence
St Lawr 12-18th C Eur goods - Lab + Greenld?

Dunn '93 Squanto 1614 kidnapped Capt Thos w/ J Smith +26 natives → Spain → E London → Nfld →
ent Plymouth w/ Dermer

Vaughan 1965 - After 1605 most voyages brought Indians to NE as guides
ent

entered

Starna 1990

Thomas Morton 1637

"But contrary wise in short time after, the hand of God fell heavily vpon them [Indians], with such a mortall stroake, that they died in heapes, as they lay in their houses and the living; [sic] that were able to shift for themselves would runne away, & let them dy, and let there Carkases ly above the ground without buriall. For in a place where many inhabited, there hath been but one left alive, to tell what became of the rest, the livinge being (as it seemes) not able to bury the dead, they were left for Crowes, Kites, and vermin to prey vpon. And the bones and skulls vpon the several places of their habitations, made such a spectacle after my comminge into those parties, that as I travailed in that Forest, nere the Massachusetts, it seemed to me a new found Golgotha.

vacuum in leadership + competition due to Lr

Little 1981 - treed at Euro; beech, wo, hick, pine, cedar, tulip, cherry willow

Outwash Plains - no evidence of forest

1659 Mayhew "to take wood for use of him

Extensive quotes Beech Woods Freeman - WP native

Bernstein 1993 ~~Verra Cano 1993~~ Bernabo 1977 + Thorbahn + Cox 1988 expand open fields ~1000 ~1200 BP

Dunwiddie - Oak + some P, Be, Ma, Hi, Myrica

1780 12-16K sheep PP reintro 1847

Some forest clearance ~1000 BP ↑ corn, beans, squ

Grazers v major factor expand + maintain open, treeless landscape

Patt Sass Burn - mosaic of forests, fields in various succession; shifting settl + slash + burn; opened large areas in major valleys;

State of Land on Contact

Ritchie '69 ent	Brereton "climax forest of offshore Is of MA in precolonial time presently a diff and shifty spectacle from the modern cutover woodlands + shrub wlds
Dunford+OBrien '97 ent	Early Cape Pine floorboards + wainscoating 2-3' wide; Oak 16"+48', cedar felns
Day 1953 ent	Village site 2-150 ac. systematic firewood cuttings; cornfields 2-6 mi along rivers fruit orchards 150 trees; plant nut trees Fire - park-like extensive treeless + brushless ar.
Braghton '96 ent	Eur - deceived by land - native hort + hunty - less obvious impact - unfenced NA Ag had huge impact on Eur - told to evaluate fertility - so ag stand led to assump Ag central subsistence
Treskov 1992 ent	Verrazano 1524 - BI forested + well populated; clear - gone by 1800 1633 ethno descriptions - traditional practices or conveying traditions Quartz cobble industry
Butzer 1992 ent	idyllic ecological esuilib Sale 1990 - people in harmony w/ nature; refrained from delib. alter. of env
Donevan '92 ent	NE, MidW, SE "Agricultural clearings, burnings had converted much of the forest into successional (fallow) growth and into semi-permant grassy openings (meadows, barrens plains, glades, savannas al prairies)
Patterson/Sassaman '88 ent	humans >95% fires - shifting settlement, slash/burn; fields in succ stages, corn imp fire - most advantageous to stationary landuse generalized burns not local site

Continuity + Modest Change - No Simple Progressive Model

Engelbrecht '03 — Iroquois - 5 nations - only traceable to 17th c; uncertain time depth; change pop'n distrib, politic, ethnic,

Cantwell + Wall '01 — Q inevitability or desirability of progress

Strong 1997 — "forest efficient" economic system
Quote - such effic use of environ - no rush to adopt hort even wh[en] plant domestication introduced
Little dramatic change - little need to alter hunt/gath - long period experimentatio[n]
When ~~Ind~~ Eng destroyed fields - Ind ate from forests

Chilton '99 — DDincauze quote - No dramatic Δ w/ maize - settl distribution or size
Problem with dichotomous models
"mobile farmers" (EC), "foraging horticulturalists" (MMul '98), "tethered mobility" (Heck 92)
"conditional sedentism" (Dunford 92)
Wood + Josselyn - fish, shells, berries, meat, beans, corn, ground nuts, chest, acorns, beech, hazel, berry
Joss - "towns th[e]y have none" always movi[ng]
EC - Mass Alg - much greater pottery diversity than Iroquois - due to small groups + high mobility? Many locations thru yr
Don't look for data to conform to models - typo-test

Deneran '92 — Decline occurs w/ Euro cult vs, in a sense fluorescence as Inds pre-adapted + evolved to new mode that fit w/ Eur, then collapsed

DDincauze '90 — No evidence that wild plant use declined w/ maize

Little 1988 — 1000 AD Hort ↑ w/ few other shifts; ↑ popn + sedentism

sedntsy, hierarch, track + territoriality emerge w/o bl

don't require maiz

Bragdon 1996 - Modern estuaries - stable social group, not villg - widespread

pattern S coast - no sig contrib maize 1300 AD

broad subsist base

Inland - wetlands

Hickory + acorn v. imp

Brewdimer '93 Econom stable 2000 yrs before contact - diverse wild plant + anim

Ceci 1980 Shift - local Algong to more complex settlmt pattern + soci-l org

w contact; larger sites; yr round; w ampl

Snow '76 Late prehistoric - subsistence econ - diversified pattern of hunt, fishing

shellfish, plant coll + Ag Deer most imp

2.

broad spectrum resource utilizatn

Bernstein 2006. Continuity in Arch record - familiar pattern subsistence, settlmt

raw materials, sim technol - 1000s of yrs

Change emphasized - Paleo virt No evidnc - possibly ecolog diverse, not impoverish

large mamm. Arch - broadn econom base; W-Main Ag

Broad persistnt patterns large, small, plants, fish so Arch not so revolutn

Plant domest - late, little discern impact, esp Tropical pl-s

> 20 plants, > 100 vert > doze molluscs Corn - new resource to lng list

No woodld Economic Transformation

Lithic Industry - remarkable lack of variation over 6000 yrs

Reject Hist accts + application Iroquois to Alg

Ag not only settld lif

Kasper + McB 2010 - High degree cont pre-contact → 18th C Lives w/ lal

LW broad coexist many groups sust plant mgt; wild plants dominant

"The new forest had produced a bounty of nuts. The squaw was quick to prize the meat of the walnut - and the oil that could be extracted. Acorns could be stored into meal for winter storage. Roots, seeds, berries and bone marrow could be pulverized into a mash and used to fortify stews."

LA - Stone bowls - unique to NE (Northeast? Eskimo?)
Fine craftsmen (woodlew) - distinctive - bowls, plates, cups

Bow + arrow - possibly LA - 500 BC or earlier

Adena culture — pottery

Sizable villages with cleared fields

Links change to cool + moist to agriculture — thick humus + good soils

Groundnuts — Apios tuberosa

Jerusalem artichoke — Helianthus tuberosa

Hickory - crushed + mixed w/ water - oil to surface + preserved

Acorns - white - shelled + stored, boiled w/ ashes to remove bitter

Fundamental ecological distinction with Cronon

33 - Natural ecosystem arranged almost randomly - with continuity dependent on this disorder

Humans systematized this - imposed order, even if mosaic pattern around villages + seasonal

DRF - natural landscape - highly ordered + structured - geomorph, soils, topog; scales; natural disturbance - regional to landscape

Beaver

Humans - reinforced this - Indians to colonists to Manifest

DRF - Gradients vs strong + sharp distinctions

Early Contact Impacts

DDinc 1990 — Eur Biases - failure to understad people; changed conditions - seperate 16th + 17th C peopl from early; disease; realign political, economic, religious

Huge social change; tribal system developed; conc near port; Eur settl destroyed rich source of wild foods so ↑ maize, b, sq; early extensive Ind trade - NJ + PA - LI

Strong 1997 — LI 13 tribes - tribal system developed in response to P from Eur - reactive + accomodate

Daniel Denton 1670 "... a Divine hand makes way for [the English] by removing or cutting off the Indians by wars one with the other or by some raising mortal disease." "Extinction Myth" gods will

Cano - tulip / sycamore — Eur reports: didn't understand landscape, own agenda

Eng thought destroying corn would decimate Indians; didn't — justify fatty land,

1988
Snow + Lamphear — Ind pop's not large enough to spawn own diseases; no domestic animals

1616 - ↓ Fever, trichonosis, bubonic plague — 1633 small pox - first to move inland

1616-19 + 1633-39 ↓ NA pop's 86%

1630s - children brought disease

Starna '90 — Ind in transition shifting towards more complex adaptive system

10-20 houses in area;

Not disease free - Tubers, syphillis, dysentary, viral influenza, Pneu, rickets

Amer leishmaniasis, round worm, salmonella parasites Gen. healthy

2000
Chilton et al. — Archaeologist cite historians about fire, landscape, wildlife

Ubelaker '92 — Σ = 50,000

Brend '93 — smallpox, malaria, yellow fever, measles, chicken pox, whooping cough, scarlet fever, diptheria, plague, typhoid fever, poliomyelitis, cholera, oncocerosis, trachoma, trichinosis, tapeworms

E.S. Chilton Office 7-23-2010

Dowe He 1997 Annasnappet Pd 9000 yr timeline veg, clim etc

Good ✓ Cherau 1996 Gay Head Wampanoag Cultural Systems 18th C

McBride + Cherau 1996 GHW - Community Structure + LU Patterns

MV Archaeo - Glover + McBride

Cherau - Pease + Pease 1870 GH Map showing Common Lands Partition

Dukes Co Reg of Deeds

✓ Chilton 2005 Farming + Social complexity in the Neast

✓ C + Doucettes - 2+

Chilmark Master Plan 1985 — No text only maps

Maps Des Sources 1776 - Squib Pd - Open ; TGP open

Chilmark Pds - connecter

Map of shoreline erosion Squib, GH, MV Moraine

Lots of Maps Clifford Kay - Surf. Geol; Thrust Fleter

Historic Resources Map

Shellfish + Fish Resources

Veg Cover

✓ Dincauze Paleoenvironmental reconstruction in the Northeast. the art of multidisc. science, Foundations of Northeast Archaeo

✓ A capsule prehistory of SNE - Book Chapter

Dean Snow et al. In Mohawk Country. 1996

Mohawks - one of 5 → 6 nations in Iroquois confederacy - upstate NY

↳ Emoat Mohawk R Valy W of Alban

most numerous in early 17th C

Developed in 1980 - large project SUNY - U Albany + Oneonta

Need to understand personal perspectives - Jesuits interested in conversion, English offices in recruity, political, military Dutch. merchants

Mohawk Valy - major corridor Atlantic Coast to interior

primary conduit contact Dutch, thru Eng w/ Mohawks + Iroq

Stretched E-W like imaginey longhouse

Much movemt

Von Bogaert. barber surgeon - from Fort Orang to investigate fur trade ↓; negotiate new prices earliest detailed description - 1634

saw 4 villages in process of moving - 7740 people; new ones only 2830 earlier record of interior W of Hudson

daily journal, remarkable chronicle - vivid + compelly

1624 Dutch W Indian Co. trading post - Fort Orang - followed short-lived Fort Nassau

1634 VB - describes loss to smallpox

saw one castle - no pallisades - 16 houses 50-80 steps

saw 120 beaver pelts at beaver meet

another on hill 32 houses 80-100 steps ls

4th - 55 houses some 100 steps

Houses full of grain + beans 3 rows of petuns

French brg timber axes, French shirts, cu-ls, razors

entered

Loren 2008 Table 2.1 Add to existing table.

1441 Port. travel to W Africa reestabl. slave trade

1450 Printing press invention spurs wide distrib. of Nav tables, maps, [nautical?]

1450 Iroquois 5 Nation Confed founded

1492 CC San Salvador, Cuba, Hispaniola

1493 CC 2nd voy - PRico, Jamaica

1497 Giovanni Caboto (John Cabot) - Nfld + Lab. Britain claims all lands as Cabot to NE before F+D

1500-01 Gaspar Côrte-Real explores Nfld - 57 captive

1518 Spanish priest Bartolomé de las Casas - advocates indigenous rights and supports import Africans as slave labor in New W. Atl slave trade started

1524 It. Giovanni da Verr - charged by King Francois I France - search for Asia route lands near Carolinas - records coast Georgia → Cape Breton to N Scotia

1526 King Alfonso of Kongo writes to Port King John asks to end kidnapping people

1539-42 Hernando de Soto Entrada makes way thru interior SEast

1534- Francois I charged Cartier to probe Strts Belle Isle in Nfld reported by Basque Fisherman 1534, 1535, 1541-42

Algons - Micmacs + Innus seemed to Cartier familiar w/ trading practices w/non-natives - Bay of Chaleur people held furs up on sticks

1540s- French sailors intermitt contact w/ Abenaki + Mid Atl [illegible]

1604- Trading post Quebec

1604-05 " " + settlement at de Monts on St Croix ME-NBr border

1605 Port Royal settlement

Micmac traders adopted shallop traded Lab → Mass as middlemen

1609 - H Hud Staten Is, Man + H River

-Over-

1570s - > 350 Basque, Port + Fr. ships off Nfld Banks annually

1607 Jamestown

1585 Roanoke 1587 Roan Is. w/116 men, etc. lost

Acorns

McShea/Healy — Manna from heaven ; 96 vert spp consume ; many habitat suitability models

Acorns · function BA + weather; pollen limitation

Fat storage critical; high E (lower than Juglans

Preds decline in low years

Abrams — Clark + Royall paper : Be-Ma → WP-O 1400s

many ↑ charcoal, ↑ O ; not all ; diff separate T°, fire, Oak ; Inds ↑ fire + cache

Dey — quilt-like pattern - prairie → inland ; variability fire critical

↓ fire w/ human disease; peak w/ settlers — 10-30% SFE forest bft

Dey — Oak regen probs ↑ on rich site ; fire peak aftr Eur invasion

light compensation 2-5% ; saturation 30-50% ; ht + diam growth 50-70%

Shade tolerants max Ps 5-10%

taproot → deep watr

drought fol - large root system; low transp ; can maintain Ps at low leaf moisture

low acorn yr - insects + mammals consume all

get v. large

Xeric sites - advanc regen can accumulate ; sprts - indivd root systems can

root reserves ↓ w/ defoliation — ↑ sprouting to 5-20 cm

Oak — Mult agents, predisposition, pest disturbance; ↓ acorns

acorns

Spring defoliator - remove foliage aftr big expenditure CHOs ; ↓ root health

Koenig & Knops — Masting - intermittent P of large seed crops, not bimodal ; much indivd variation,

rel synch w/in popn ; pollen P + dispersal limitation

facilitates generalist predators

General synchrony w/in group of oaks, asynchrony between ; keeps variability low

success

"normal" masting, not strict ; seq. variability — predator satiation + pollination

Kirkpatrick/Pekins — highly digestible, high E, low protein ; staple, staff of life; store well, no nutrient value over time

Chestnut - lower fiber + higher N ; similar protein, fat, ash — more reliable production - June flowers — RO ≥ 50% fall-sprty deer + turkey diet

RO - higher tannin + fat ; low, crude protein 5-8% ; leached — 14-23% vs 3-9% RO

Tannins - phenolics, precipitate protein, cause Neg N balance

up to 50% spring diet N4 - equiv to 40% corn — critical spring resource

Turkey 15-55% ME - 72 acorns ; deer - optimal for fat deposition + winter survival

Dispersal · scatter hoard - jay ≥ 1 km squirrel

Eat more WO, cache RO eat WO embryos

Feldhammer - Deer will take large to sound acorns

Vaughan - Bear #1 preference up to 13-76% CA 24-66% PA

May provide bulk of calories; fall bulks up

Turkey high spg. to fall

Smith + Stepanian - hick/walnut high protein often only part eaten

RO - high lipid

Van Lear + Brose - thick bark, dormant buds well below soil surface

Martha's Vineyard Archaeology

New England-wide map

To illustrate gradients in population and suggest variation in subsistence; broadly – different resources North to South; upland to valley to coast.

Relate to climate and vegetation and topography (vallies)

Introduce concept of invisibility of people.

Background questions and interests – Why should we care?

(1) Rich culture. Fascinating interplay people and nature

(2) Culture continues today – relate past to present.

(3) Shaped the land – vegetation and wildlife. Cannot understand nature (?) past without true globally understanding people. Subsistence management, resource (??) so need to understand – Population – size and distribution, annual pattern, subsistence patterns. What tools; what foods? What manipulation of land cultural understanding essential for understanding of nature.

Critical: Unlike Neolithic and iron age man or even some SA groups – no domesticated animals other than dogs. Active, deliberate management versus opportunities.

Question: Agriculture, sedentary or seasonal, sea, wetlands, uplands and when

Three broad periods

Pre-contact; significant changes – culture, population, etc. and cultural exchange but largely driven by physical environment, slow change; cultural variation and influences not hugely different.

First period – interpret long-term record in terms of changing land configuration and changing climate and vegetation.

Necessary change in geography and substance pattern with change in vegetation and climate.

Oak decline?

Show periods with timeline of config change maps and climate and vegetation.

Show moraine versus outwash in these.

Integrate some maps with Deena's data to show how incomplete the coverage is for various periods. Dots of sites versus region for 10, 8, etc.

Create island vegetation map?

Could do same for vegetation map, create island vegetation map? Expand vegetation types across landforms.

First period – very slow change; significant overall transitions with major changes in implements, fauna.

Factors driving change: climate/vegetation – e.g. 5000 BP Hypoth cultural exchange – materials from outside including the arrival of maize. Hard evidence glosses the cultural influence and exchange.

Horticulture – supplement – little evidence for reliance, major dependence or associated changes in lifestyle – large population increase; permanent settlements; fortified villages: large fields.

Ecological consequences – dispersed activity and seasonal movement, relatively small population; no permanent settlements and structures; no intensive Ag; so no need for large clearance; no extensive horticulture and large cornfields.

No domesticated grazing animals (food or work) so no need for large grasslands; no animals to alter woodlands and reinforce human activity and keep areas open or alter vegetation; also no power outside of human activity to work on the land; only humans. Open lands – require ongoing work and effort.

Even influences thinking on fire.

Little need for land clearance and direct human needs. If used – for modification of landscape to favor particular foods and resources – plants and animals; deer and browse, mast foods, etc.

Weeds, weedy spp.

LT – reinforce oak dominance, berries and open foods.

So impress on land is light = subtle.

Seasonal sites – openings for shelters.

Trails

Plant collection – alter rel. abundance

Plant introductions and plantings – mast trees?

Management? Selective removal, planting – e.g. trees – understory?

Hunting – selective removal – food other products; any estimates? Removal of competitors, predators.

Critical - humans major predator of many animals. Insights for the rest of New England, people major determinant of wildlife – no mammal predators.

#2 Contact – Period of huge transition; rapid change cultural, biophysical, resources, physical access, also climatic; conflict – Native-European, Native-Native.

Hemlock Decline/Oak Decline questions

How did this alter – climate, environment, vegetation, and how did humans respond? Multiple impacts. And did people play any role in this? Periods of transition – represent opportunity for new behaviors; provides challenges; provide new range of spp. abundance and distribution.

Climate – warmer, longer season, milder winters and climate droughts and stress; change in freshwater abundance; drop in groundwater interacting with sea level rise, stream flow; influence on spp. abundance.

Freshwater impacts – Stream flow changes, lake level changes – lead to spp. changes; alternating wetlands.

Wetland formation – availability of new resources – plants and wildlife. New habitat, big change in spp. abundance. Whole new resource -- terrestrial.

Ponds/lakes – not much value relative to wetlands. Wetlands new in region – semi-permanent but dynamic.

Upland Vegetation

Shift Hemlock not Martha's Vineyard – oak, pine, etc.

More favorable for wildlife; food for e.g. deer and turkey and people; plus more game for humans.

Shift Oak – beech – less clear, mast for mast, but much less undergrowth. People didn't manage against beech – difficult to burn (litter)? Suggest not able to manage with fire? Beech more inimical to people?

But also – long transition – succession. Young forest to mature forest conditions – 250 years? More open land? Weeds and open land plants due to temperature and drought, thinner forests? People could have (but didn't?) Prolong this?

Opportunity for Natives to manipulate the land - in transition plus more vulnerable.

What kind of wildlife response?

Interaction - climate change x sea level.

Does this effectively, interior to coastal, represent a substantial change for Indians? Does the island life lend to a substantial change on a 100 mi2 island? Do they become more coastal dependant? Do they interact less? More?

Major question – Indian periods

- Island response
- 5K response
- Horticulture?

But two substantial changes occurring simultaneously. Island x 5K?

Contact - Timeline? Pilgrims, Mayhew, Christiantown, King Phillip's War – Lengthy period.

Norse, Gosnold, Champlain, others – without records through Mayhew – arbitrary.

Colonial dominance – integration, assimilation, minority role.

Context – Coastal Region – exchange, interaction, shared environments. Need coastal region through time.

Sea level. Once was all unified and geared toward a very different coast.

Use that and Martha's Vineyard coast change to describe periods.

Banks map – Period 2 Poe. No (??) Also Champaign or Brereton (?)

Historic maps- Christiantown, Cheppy, (??) and description.

Contact

Davistown Museum ME

Coastal ME - Pemaquid region, Possible Spanish or Basque seasonal traders + fishermen early-mid 16th c

Polyglot pre 1620 community - inter tribal warfare 1607-1618; then pandemic
competition + fur trade Micmacs

Eng fish + trade after 1550

Ethnohistory of NA communities - radically altered before by 1600

Spiess 2001 - maize mid-15th c; Indian corn - component of basic econom central coastal ME

John Cabot 1497 - discovered N America - Sponsored Henry VII

Sebastian Cabot 1509 - " Hudson Bay

Verrazano - imp cartography ME + Gomez 1525

Cartier St Lawrence River 1534

Vast fisheries - St Lawrence + coast Nfld, Labrador.

Secrecy of voyages

Bristol fishermen fishermen - no record

Morison 1560 > 30 boats from Saint Malo + Cancel

1578 50 Eng, 150 French + Breton, 100 Spanish in Nfld

Chevet - 300 boats 1586 No records

1607 Fort Popham - Mouth of Kennebec

Muscongus Island (Louds Is.) - home of Samoset - Wawenoc Indian greeted Pilgrims at Plymouth 1621

Many ME fishing communities 1607 →

Gosnold 1602 / Weymouth 1605 - Indians spoke broken Eng + Basque shallop

~~Eter~~

VSE

Champlain 1604, 1605

Martin Pring 1603, 1606

Gosnold 1602 - likely encountered coastline Micmac traders

Raleigh Gilbert 1607-08

John Smith 1614

Gosnold May 14 1602 - ME near Casco Bay ; Savage Rock - Cape Neddock

Indians in Basque shallop

Cuttyhunk - 3 wks builds fortified house

Left June 17 - around Cod Head . No-Mans - fowl + anchored

Pring June 2 1603 - went into Gulf (Mass Bay) that Gosnold missed

Plymouth + sassafras

Wm Bradford "They found his [Squanto] place to be 40. mile from hence, the soyle good, and the people not many, being dead and abundantly wasted in the late great mortalitie which fell in all these parts aboute three yeares before the coming of the English, wherin thousands of them dyed, they not being able to burie one another; their scull and bones were found in many places lying still aboue the ground, where their houses and dwellings had been, a very sad spectakle to beholde."

extend MV Bib

Citation

Anonymous. Undated.

Wampanoag Way — undated

An Aquinnah Cultural Trail. ↑ Map and brochure produced by Wampanoag Tribe of Gay Head (Aquinnah). Aquinnah, MA

Wamp - several tribes incl. Aquinnah + Mashpee CC

3000 people at encounter in 1500s

Now - 901 members 300 on MV

477 ac ancestral land - much set aside for common use/benefit

Celebrations - Cranberry Day, Legends of Moshup Pageant

Self-govt, language taught originally in Moshup's cellar hole on cliffs - now Bayer's Hill

Cranberry Day - most imp holiday - was held in Lobsterville where bogs found; cranberries → New Bedford

2nd Tues Oct - lunch around open fire

W Tribe - Beverly Wright Chair Berta Welch Pres. Ag Cult Ctr

Indian District designated Nashequitsa Pd to Cliffs - 3 tribal overseers

1870 District → town of Gay Head - Mass Gen Ct - despite great objections. ID common lands taken by state + divided into private parcels. Some common land

3 town-elected selectmen - tribal members

1987 - after two petitions - federal ack. of tribe - partial restitution for acquisitions

1998 - town name officially changed - by state leg.

Govern - Tribal Council - chair, vice, sec, treas, 3 members - all elected

Chief + Medicine Men - traditional members of TC - life time

27 affordable housing units 3 stores + shellfish hatchery

Events - MV, Master + Plimoth Plantation

Moshup Trail - 1958 Herring Creek - 19th century - Menemsha to Squib Pd to ocean

1890 - Pavillion on GH see sites

Wetu = wigwam - dome-shaped made of cedar saplings set in ground, bent together, fastned w/ vines + inner bark rope covered w/ bark or reed mats

Fallow - yearly meets to decide when to plant + where to turn livestock

N, S + E Pastures - common pastures

Middl, South + Old East - grazing + divided by walls into Hog Pasture, Middle Pasture, Fatty Pasture - (best fed for livestock)

N Past - cranberry bogs - wiped out 1938

Menemshe - occ part of Aquinnah - if Men Creek marked

Waskosims Rock + Middle Line - sep Wamp from Mayhew property

Middl Line - straight line Wask → Mew Pd

Now - sep Chil + W Tis

Wamp - among first Harvard scholars - Caleb Cheeshahteaumuck grad 1665 + Joel Iacoomes (Hiacoomes) - killed in ACK shipwreck before grad - Father was Hiacoome - 1st native convert 1643 - helped Thos Mayhew convert others went on to be pastor

↓ dried tubers - yr after grad

Sachem Pahkehpunnassoo - Chappy objected - nearly killed by lightning bolt so converted

Katama = maidw - walked into sea w/ lover - ofw tribe

Christiantown - 1659 - 1 sq mi set aside for converts;

Alleys - tribally owned

File

12-29-10 ①

>2500 sites

DD 2009 Indian Neck (Wellfleet) Ossuary CC - all ages + sexes - reflects entire pop'n

remarkably healthy "little evidence of disease-related pathology + no unusual

evidence of trauma" low incid. caries ; high wear + chipping - not good (cereal)

Few diffs over time ; site re-use ; remarkable continuity of site use over time

stable human adaptation over 1000s of yrs SNE + NY Coast

More sednt than expect in LA, Less LW

LA + LW - same wide activities

Geog variation - more plants LI Sd ; more fish MV, ACK, BI ; more shells NY (Eng Narr)

No ↑ sednt w/ maize

No use periods

McMahon CC - dispersed patterns of wigwams + cornfields - N Salt Pd,

Coast Guard Beach, S Salt Pd

DD Pop ↑ better weaning nuts, chenopod, soapstone > wood (Pottery >) ↑ female fert ↓ spacing

climate amelioration pop'n ↑ 500 BP

Ritchie - less attractive - exposed to sea

MM more perm sites - not due corn; few S coastal sites - not breached

MW ↑ Sedn, shellfish (Popn trade), LW larger middens

No large multicomp sites in interior - short term

predictive models - drainage not soil texture kettle pds - low sensitivity

H&C 2002 sandy soils on terraces, knolls, fields "wherever well drained, elevated + level soils are located in proximity to existing wetlands or poorly drained depressions"

Paleo - 1 fluted / 4 unfluted pts - local collectors; EA - few pts - Aq, VH, OB

MA - >25 sites; Aq, Men Pd, C/WT line ; shell midden, Lagoon, Norton, (Cartwright) TGP

LA many more ; pop'n ↑ ; ↑ generalized use ; swamps, streams; tidal: 3 distinct cult'l trad; MV - all 3

small stemmed esp; +/o MV Pds, shallow shell midd; expedient tools All coastal pds

7 interior find spots

EW - fewer sites; poss ↓ pop'n but confusion as artifacts continue

File
12-29-10 ③

CRM Chilmark - Gtt

Garhard Site - 72 pts; 21 features: 6 post molds, 3 shell midds - close above Men. Pd

E Pasture site - adj. w/ sim artifacts, middns MA, LA, LW

Squib Ridge 5000 yr

Herring Cr - LA →

Adjoins Allen Farm LA - LW - Mill Br enters Chilmark Pd
Lucy Vincent Beach - 130 post molds, 31 pits, 2 burials; some similarities to Squib cliff

all avocational
W Tisbury - less excavation as less developed + less work; Cell Tower + easement - nothing

17 precontact around TGP + Mill Br; Tiasquam R, Blackwater Bd - Inds moved to Kiahtown

Best site - where Tiasquam + Mill Br enter 2nd E side Town Cove -
both possible Paleo, def LA - LW

T/OB - L Tashmoo, Lagoon, VH, Sengekontacket + Duarte

Huntington - Lagoon + Bass Cr - Lag Head - LA → LW

Ritchie - Vineyd 300 yds - W of Bass Cr. - deer, hooth hen, turkey

Pratt - dwsn format protection - molds no pottery

Cunningham - 2 16' circ structures

E - 255 ac. ✓ acres Golf Develop. Project - no sites - interior

Little Pd - Deer + Meint - 2 2500' areas - nothing

Quote - discussion - every pond, bay etc. + 2nd Q - almost every area has evidence

File

12-29-10 (3)

Woodland - ceramic vessels, hort, new pts, ↑ coastal use, maj shell midden

EW - 18 sites

MW - more common sites; ↑ sedw, ↑ pop'n, social complex, ↑ regional trade, prolif ceramics

LW large complex villages elsewhere - NE model - extend family groups

large shell middens

1642 - Mayhew 1500-2000

Hornblower Harry + Ralph - Summer residents, avocational excavations

W side Mw Pd - family property Squib Ridge

H+C 2000 Chap & Kat 8000 yrs

MV more prehist resources than any other section SNE + Desig Ind lands

1652 Thos Doggett + 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 east end of town"

Drift whale industry flourished in 17th + early 18th c.

"Cultural deposits have been identified in virtually every portion of Chappy"

Felix Neck MA → LW

Pre-Historic Human History

Map of sites and regional divisions

Mulholland et al. 1998 Chilmark

unusually high freq of prehistoric sites

well or excessive drainage near water - highly suitable; < 300m FW or 75m coast

MW 2000-1000; LW 1000-400 ybp LW incl. larger villages

Tisbury Gr Pd in E + W part of town; sampling bias along coast

95 sites Cape + Is.

MW - large semi-perm to yr round settl. 15 large shell middens; local cultigens

LW - hort corn + beans; occ. imp but widespread; more evid of perm settlement

144 sites C+I

or used most of yr; not due to corn but ↑ pop'n, conflict; hunt/gath/fish

Eur contacts - 15th C It, Port, Fr explorers

MV - 4 sachemships - Chapp, Gay, Nunne, Takem Nan - 2

semi-sedentary horticulturalists - late spring to autumn along coast in dispersed groups

Gosnold 1602 - Brereton indicates evidence of previous Eur contact - goods + furs

1500 (Ritchie) to 3500 (Cook) pop'n ↓ 1616-17 w/ plague or hep

Harlock area - Paint Mill Br - no sites Prospect Hill / Roars Br - 1

1959 Mulholland et al. WTisbury

Brackish coves - periodic incursion across barrier beach - impairs shellfish

5 sites near 7 Gates high potential in WT

Few sites on coves E of Tisbury Gr Pd; Long Cove + Witches need breaching

perhaps seldom breached - so not healthy shellfish + no alewife

Probably many more sites than record - as little development

Herbster + Cherau 2000 Eag

highest sensitivity - wetland margins - Great Pd, Katama Bay, Chap Is.

Woodland - most prevalent sites, esp near large salt ponds on S coast

MV

MW t/o SNE - ↑ sedentism, pop'n, shellfish, trade; LW larger shell middens, extended family groups; coastal sites - found thru develop't erosion; interior - plow

Nunnepog = "fresh pond" prob. Edg Gr Pd - perhaps few hundred people

Herbster + Chew

Chappy - Substantial yr round pop'n, small special purpose camps + work areas to large village-like multi-family habitation.

Great Pd 4 sites but underdocumented as limited access; ponds rich + fingers between heavily used

Katamc - 4 sites on bluffs

Plains - one large site around Little Pd

MAS area + Edg Cnter rich + important

Notes for EC Chapter

3-24-05

Stoss 1997 Social changes w/in and among Native groups underwent huge chages with contact - so much that is described may be artifact.

Tribal system developed + changed w/ contact in response to pressur from Eur, opportunities etc., resist accomodat; constrict near ports inter group alliances + more pop'n under individ leader loose groups → confed

Eur arbitrarily imposed names

Ceci - sedentary + hort on LI only after Eur; contraction of hunt + gath terr. lack of structure, no emergt leaders

Mortuary customs chage late 1500s

LI - extensiv trade network to NS + PA

hort - corn, beans, squash - little impact on LI until Eur settl, destroyed rich sourc of native foods etc.; no massiv Δ

Eur observation - take w/ caution

- little understandg of landscape or culture
- own agenda for reports
- need to justify taking of land
- gain profit or attention by bragg

no fortified villages

No LI evidnc of villages w/ 600 people 20-200 wigwams 10-15' long houses 20×60' few in LI

Champlain - one of few renditions based on 1st-hand knowledg corn fields, long houses + wigwams - poss not literal

LI - small amt corn - supplement

When Eng destroyed corn - thought it would decimate Indians - didn't

Cabot - Nfld 1497; 1500 - Portugese kidnap 50; Eng 1502 -
Verrazano - NY harbor 4-17-1524 Narr Bay 1524
1525 - Narr Bay - Spanish kidnap 58 - near Newport → Span - slaves
Basque - mid 1500s 900 in summer at Red Hook, one of 10 port
Dutch - may have had camp on LI before 1600
Geoge Weymouth - 5 Ind → England

Befor Eur settl. - traditional stone industy nearly abandoned
nearly all metal - arrowheads, knives, hatchets - utility of goods, number of Eur trips + contacts + efficicy of trade

Hudson 9-04-1609 – Hudson 1st contact w/ Algonquins, Sandy Hook NJ

NY Bay, Albany

Dutch estab post - lower Manhattan 1613

Block - 1616 1st acc. map of LI

1614 Albany - United New Netherland Co.

By 1540 Eur emphasis had switched from fish to fur

Defeat of Pequot's 1636-38 left power vacuum

LI - 1st epidemic - 1633

Snow + Lanphear 1988

Josselyn 1663 - 1630s pop'n from 30,000 to 300 disease

1616 - MA Yellow fever, trichinosis or bubonic plague

→ 1633 small pox - first to move inland

→ Pop'n estimates of decline

Doolittle 2004

No archael evidence or ethnographic parallels for slash + burn, shifty cult or swidden; many refs to slash, burn + shift - not together

Perm cult - no stumps etc. slash + burn only w/ axes

Champ 1606 - Gloucester - slash, burn + plant; fallow

abandoned fields refs - due to disease

Winthrop - rocky fields

Wm Wood - fields in crops for 10 yrs R Williams - Indian term for field worn out

Aband fields log to reforest, developed into grass not sprts, large fields, no stumps

Floodplains - not uplands; only into uplands when forced by Eur.

Treskov 1992

~4000 BP. slowing of sea level rise - allowed estuaries + salt marshes to develop

BI - Verrazano - forested + well populated 1st island

1636 John Endicott to revenge Oldham murder - destroyed 60 wigwams + 200 ac. corn

Chilton '99 LW - radical Δ lifestyle - large semi-perm villages, maize hort, extensive trade network all visible

maize - non event → intensive use, range of opinion

coast - intensive maize only with or just before contact; ↑ w/ trade

basic SNE pop'n unit = village few 100s

Luedtke 1988 appearance of maize ≠ reliance on farming

historical docs consistent w/ no nucleated pattern - "town" used loosely

Russell 1603 Martin Pring 6 wks in Plymouth loading sassafras.

Pease + Beans w/ natives. ≤ 1 ac gardens w/ vegs, tobac.

1604 Champlain Plymouth, Chatham, Nauset - Nauset 500-600

1614 John Smith Cape Cod → Penobscot Bay 40 villages

1619 Capt Thos Dermer vacant plantations

Winthrop cult fields - Middletown, Wethersfield, Htfd, Enfld, Windsor Suffield, Agawam, NHamp, Hadley, Hatfield, W. Hf. Deer, NField, Vernon, Newbury,

Block 500-600

Russell 60,000 MA, RI, CT, NH

75 total

Ritchie 1965 — S shore Pds less attractive than N shore as open to sea

flimsy dwelling molds 2-3" 7-8" deep

tall forest - v. diff. structurally than today - sim comp.

deer + shellfish

1500, 1501, 1502 contact w/ Corte Reals

no specific, discrete or uniform. Coastal Culture

Patt + Sass — 95% fire - human lightning fires rare

corn ag rel. more imp along coast

burning → mosaic of forests + fields in succ. stgs

shifting patterns of settlement sleash + burn

hunting areas modified by fire

some meadows + parklike due to fire - cleared + opened major areas in river valleys

Fire - most advantageous to stabilizing land use (Cronon) agriculturalists

~~gatherers~~ charcoal is SE coast - prob. intensive LV practice

Carlson et al. 1992 — broad spectrum hunt, fish, gather; seasonally mobile settl pattern

pops dispersed w/ few large settl until contact

16th C many transient contacts - could have brought diseases

1616-19 90% mort in SNE; most localized

1535 - Cartier — Roger Wms 1638 letter to J Winthrop - 4 epidemics in 16th C to Narragansetts

Cook 1976 — Exclude ME (v. diff) + VT (little info + few people CTE to Champ)

James Mooney - 5 states - 22,100; LI + NY E of Hudson + S Albany - 12,000

Box on his calc. - family 4.6, village 100-250, wigwam, longhouse etc.

Doolittle 1992 Not true slash + burn; milpa - Champ 1605 Boston Bay "there were also several fields entirely uncultivated, the land being allowed to remain fallow. When they wished to plant it, they set fire to the weeds, and then work it over with their wooden spades". weeds not trees cleared; Champ - plant among stumps then remove. complete clearing, long cult + large fields

intercrop + rotate w/ beans can compensate for manure

Thorbahn 1988 semiperm w/ hort few villages, many sites

Villages 1. diff to find 2. destroyed by Eur 3. didn't exist - no agric-based economy until 17th c Ceci 1980 Villages - post-contact

Tripartite model of settl interconnected by interregional network of trade

Bragdon 1996 1st writing + pictures - from time of great Δ - ↑ pop'n conc.; Ceci trading respons

Docs + Archaeo data - differ

before contact - more mobile + egalitarian (Pequot War 1636-39 def)

Early 17th c - info more ethno + Euro, less archaeol. - pop'n losses - confusion w/ ethnic boundaries, succession, politics, economics v. diff to do good ethnog

Winslow 1595-1655: most complete + one of earliest descriptions; sympathetic - but

Analysis of early writers Different writers cover different people [Box?]

Eur eyes deceived - native hort, fish, hunt - less obvious impact - land viewed as underused

Gookin pre-epi 72K (Snow adds 8000 Pocumtuck: 13000 - LI + WofHud

1650 - 10% w/ highest conc on MV, Nan, coastal CT, RI

1640 - 13,500 Euro. ↗ N, River w/hort, Coast - 3 distinct ecol. regions eco social pattern

Q - ① reliance on maize hort ② nature of settl ③ level of sociopolitical integration

Coast - linked, small-scale sedentary societies w/ complex sociopoli integration developing prior to widespread reliance on maize; conditional sedentism based on marine + estuarine

simple chieftains cycling thru periods of greater/lesser complexity 500-1000; increase in political centralization before Eur contact due to pop'n increase, ↑ reli on maize, wampum trade dev, ↑ infl of Hopewellian state + grad filtering in of Eur trade goods since (1000) 1500

Brady cont — Ethnohist model - seasonal mobility - summer coast + winters in conc. comm inland spring fall - fish + hunt small groups

X — NA maize ag - huge impact on Eur as all told to evaluate fertility led to assump that farming a central subsistence activity

Thorbahn - only mid + low CRV - evi. for village based subsist — Will the Eastham Mass R.,

B - stable social groups < 200 occupied estuaries much of yr - not vill; Boston, Cape,

ACK - little - no evi substant use — fully committed to hort by 1300

Yr Round w/ perm maize - Morgan Sit, Rocky Hill (1170-1370); Meadow Rd site Farmington R; Bark Wigwam + Agawam site; Springfield VT; Guida Farm, Palmer

Maize at 40 SNE sites — arrival = non-event

>1300 AD · coast dispersed individ farmsteads + widespread maize — doc. by Champlain

use children to guard fields; worms, weed, animals, bird fed

St Lawrence area - 12th + 13th C Eur goods - Greenland + Labrador?

Landscape - visible signs of social + cultural mgt; burn, nut plant

coast - naturalized impacts systematic + extensive - pop'n dens + ecological interp

coast - 1500 ac cleared for farms + hunt per comm.

Brendtro 93 — regional patterns - sites → regional system

site type (McBride '84, 92): task-specific camp (10-100 m²); temp camp (100-500 m²) seasonal camp (750-2000 m²), village (3-10,000 m²) - size, duration, activity artifacts, seasonal

large political alliances - post contact; little evi of pre-contact warfare

pop'n - Willoughby 1935 - 24,000; Russell 1980 - 75,000; Cronon 70-100,000

decline 55% (Snow 1980), 75% (Cook 1973) ~ stable economies for 2000 yrs before contact

Lower CRV salt marshes + estuaries ~ 2500 BP

Chenopod - most abundant seed — Beans - 8 sites Cucurb - ?

↑ maize independ of Eur — Maize prehist — 13 CT, 12 coastal + E NY, 9 MA, 2 N NY, 2 VT, 2 NH, 1 ME

Denevan '92	NE, Midwest + S "Agricultural clearing and burning had converted much of the forest into successional (fallow) ground and into semi-permanent grassy openings (meadows, barrens, plains, glades, savannas and prairies)"
Starna '90	Pequots - E LI + New London N to CT + Thames R watershed to border RI 10-20 house small vill dispersed + shifting no large inland sites 1616-19 disease not W of Narr so not to Peq after war 1000 1633 small pox 55-95% mort 13,000 before contact 1636 ~3000 Morton 1637 plague quote
McBride '90	Mash Peq - only hilltop forts - all other sites undefensible Roger Wms - Peqts estab new cornfields on LI + poss fishers in prep for war + anticip of other fields destruct by Eurs
Dunn '93	1614 Squanto kidnapped at Patuxet (Plymouth) by Capt Thos of Smith's fleet w/26 other natives → Spain → ? → Eng; Lived near London → Nfld back to Plymouth Eng w/ Thos Dermer
Chilton '00	revolutionary effect of Eur Society on Native Soc - not resolved KB Tripartite Model - refreshing after dichotomous Coast/In but still too coarse grain
Chilton et al. '00	cite Cronon + Whitney on NA impacts - circularity No evid yr round hort villages in W MA
Vaughan 1965 -	After 1605 most voyages brought Indians to NE as guides 1602 - Bart Gosnold Brereton 1605 James Rosier - complete acct 1607 ME colony at Sagadahoc George Popham 1608 Capt Edward Harlow - captured natives around MV 1614 Thos Hunt - 24 Indns

Pagoulatos '88 R Wms - traditional sourc of info but late 1630s - system already drastically changed by epi, wampum + fur trade

Bernstein 1993 Narr Bay - sig. disturb of pre-contact landscape
↑ Amber etc. ~1100 BP Bernabo harbor Thorbahn + Cox 1985 ↑ open fields

Dincauze '80 Need to know LW/contact - land tenure, utilization, pop'n structure + size

'90 LW "Farmer's Period" 1000-250 BP
- LA - 5.5 - 3
4700-2300 BP richest archn period ; nuts, hickory etc. ; ↓ mobility, ↑ pop'n
larger pop'n + communities ; more localized ; ↑ trade
1000 amelior climate ; warmer winters + longer grow seasons
crops - dietary suppl - no dramatic Δ
Eur settl - coincids w/ deter climate. Don't accept Eng + Dutch narratives on hort + reliance as representative of earlier times or hostilities
Resist attempt to read archael record in terms of hist record - few of latter + extreme biases
• lack of understanding • transform in social + envir conds • disease
• major realignment of political, economic, religious realms

"History and especially prehistory is not given to us - we must earn it by diligent, imaginative, respectful and honest inquiry into the remains available to us"

Little '88 Dunford - sealevel rise stabilised ~3800 BP - allowed barrier beaches, estuaries + embayments to develop

1997

Dunford + O'Brien — Black, deep mold soils - Wm Bradford; good soils disappear hdwds grow!

10 K sheep Barnstable Co late 1600s

Early Cape housing - pine floorboards + wainscoting 2-3' wide

W Barns church oak 16" sq × 48'

1998

Mulholland et al. — Wampanoags - E Algonquians - ~21-24,000 1650 - ↓ 10%

Brereton / Gosnold - Eur contact. Eur goods + furs trading evidence

MV pop'n 1500 (Ritchie) to 3500 (Cook)

Ceci '80 — response LI to contact - larger sites, ↑ # seasons or yr round, forts, wampum, sites for trade + wampum (whelk + hard clams)

Emily

Russell '83 — Dey 1953 - cautioned - only burning in places inhabited by Indians

Roger Wms - only mentions accidental fires

Johnson - thick woods @ Plymouth; some burning - open areas?

Wood + Morton - inconsist; only near settl

few 1st hand accts fire; mostly in grass

Salwen '78 — deer poss 90% of mammal meat S Cl

Hudson - brief visit to Cape 1609 1614 - John Smith

Brasser '78 — Norse Greenlanders cont to acquire timber from Labr. coast → 1547

1497 - John Cabot claimed Nfld for Eng

1501 - 2nd trip Gaspar Corte-Real - 57 Ind to Port; Indians had sword + earrings left by Cabot centered on Nfld Bank

1530 - fishing Labr to Nov Scot - Eng, Bretons, Normans, Basque, Port

1550 - 30 Fr ships annually

1578 - 50 Eng, 150 fr, 100 Spanish fisheries down NE coast

1575 - dry fish Nfld - Lab

1519 - fur trade

1520 - Spanish slave hunter raids SC - 150 Ind shipped to W Indies

maps NE → FLD

1524 - Verr.

1525 - Estevan Gomes - capt 58 Ind NE → Spain

1604 - Fr trade Sainte Croix ME

1607 - 120 Eng settlrs + 2 Weymouth Inds - Kennebec; settl failed; 1st Ind met spoke some fr.

1607 J Smith at Ches Bay - met Indians w/ hatchets + cloth, received overland presum from fr traders to N

1609 Hudson Dutch trade operated as far E as Narr Bay

1614 7 Nauset kidn - Thos Hunt + 20 Pawtuxets incl. Squanto

Lack of sig contact before 1580

Fur trade great Δ annual cycle

1610 VA natives had abandoned stone industry - thos. of iron hatchets

1643 NE ♁ still using shell + wood hoes

Day '53 large tracts of undisturbed forest

Haviland + Power 194 Dutch obtaining furs in Hudson by 1612 CRV- 1614

Face of NE on Contact

Jaffee 1999

Edward Johnson 1656 - First history of NE "A History of NE or The Wonder Working Providence of Zion's Savior in NE"

"... remote, rocky, barren, bushy, wild-woody wilderness, a receptacle for Lions, Wolves, Bears, Foxes, Rockoons, Bays, Bevers, Otters, and all kinds of wild creatures... a place that never afforded the Natives better then [sic] the flesh of a few wild creatures and parch't Indian corn inch't out with Chestnuts and bitter Acorns..."

Strong '97

No rush to adopt Ag as efficient use of Enviro

Take Eur obs w/ caution - little understanding NA culture; own agenda; need to justify taking land

Champlain maps - poss. not literal

Denevan '92

16th C NA - "humanized" - cumulative impacts of 15,000 yrs growth - forest struc + comp; grasslands created; wildlife disrupted; locally severe erosion; roads, fields, settlmts

Environ recovery after depop - less obvious impact 1750 thn [illegible]

Ind ≠ benign

ENA - much of forest into succ. growth + semi-perm openings; wide spaced trees

Pristine, virgin, wilderness, empty = invention 19th C romantics + primitive writers

Treskov '92

BJ - Verraz found it forested + well-populated

Dunford + O'Brien '97

Good soils disappeared; early w/ clearing + sheep; Early houses - pine f boards + wainscot 2-3' wide W Barns church - 16' x 48'

Chilton

Living in the Land - Not Managers or Farmers

Strong '97 — "forest efficient" economic system

E Russell '83 — Day '53 - large tracts undist forest; only burn in places occupied by Inds; R Wms - only accidntl fires; few 1st hand accts - most in grass

Salwen '78 — deer poss 90% of mammal meat SCT

Rejection of Agricultural Myth

- Chenopod + maize mobile farmer - pre-adapted LW Ind for transformation w/ Contact
- Maize residues - John Hart; maize present for 1000+ yrs - but not adopted so integrated into H-G-Collector lifestyle

Donahue 2004 — Inds maintained mast forest - climate would favor N spp.

Corn, beans, squash - up to 65% calories; longhouses

Indian master key = fire : waterway, wetland, meadow, swamp, hort land, pine land

Fuelwood - 15-30 cds / family; 210 bu corn / family

Cantwell + Wall '01 — Ag critical issue as tied to enduring images of primeval landscape

"Nevertheless, the one thing for which there is no clear archaeological evidence is full-scale farming. This is troubling because so much of conventional wisdom argues for a necessary link between the adoption of maize agric and the development of a sedentary village life". "But along the coast, there is remarkably little evidence for a reliance on maize, beans and squash and equally little evidence for large villages" Dinc-1993 Separate Ag + sedentism + cultural complexity +

May have shifted to move on coast to take advantage of new trading opps w/ Eur

Critical - enduring images of primeval landscape

LW - more careful burials near settlements + 6x6' pits

Bone isotope - C3 plants - upper range poss. limited maize - good teeth

Perm comm ≠ Ag reliance Brooks fund. myth

Benefits of hort ≠ sufficiently impressive to make assum burdens of intensive farm inland groups diff - no marine

1998

Hutchinson et al — Maize - minimal SFIA before contact; gen ↑ 800-1000AD; coastal GA ↑ ~1100 ⇈ contd

" deficient lysine + tryptophan - + causes ↓ bioavailability FE

Strong 1997 — Perm settl. doesn't imply Ag

"Corn, beans and squash, the three sisters so important to the Iroquois, never made much of an impact on LI utils after the Eur settlmts destroyed the rich sources of natural foods, medicines and supplies". "Natives made such efficient use of the enviro that there was no rush to change from the old ways when plant domestication was introduced"

LI settlmts 20-30 people, random wigwam array never 500+ people

Deneven 1992 Pyne 1982 "the virgin forest was not encountered in the 16th + 17th C; it was invented in the late eighteenth and nineteenth C"

Ritchie '69 flimsy dwellings of mat or bark-covered poles 2½-3" diam
diet dom by deer - clams, oysters, bay scallops

Carlson et al. 192 Broad spectrum - hunt, fish, gather - seasonally mobile, dispersed
1993 Marginal - no villages, lived in woods
Iroq have dominated hist + effaced scene as Alg disappeared; dull vs Iro fighting, archit

DDinc. 1990 - By Eur Settl - LIA - so can't accept Eng + Dutch narratives describing hort

Centering = 1993 + cult crops as representative of previous times; new relationships → new activities + hostilities Resist ready archaeol record as historical record

Mulholland et al. 1998 - LW ↑ perm settle + people + conflict - not due to Ag

Doolittle 2004 - "No evidence swidden/ fallow/ shifting; one cleared - perm.
v. difficult to create fields so maintained them

Demeritt 1991 "For the most part, it would seem prehistoric peoples chose clams over corn"

Rubertone 2001 R Williams only saw men, articulate, not all ages + gender

Merchant 1989 SE Indns - 1605-1675 - 65% cal. grain; 10 animal + bird

10 - fish + shellfish 8 nuts + legumes

corn-bean-squash evolved intricate polyculture - highly succ. inter

dependence diffused N

DD - prevailing view Dincauze 1990, Snow 1980, Braun + Braun 1997 (Paleo →)

Herb + Cherau '02 GH - more interior sites as more wetlands + pds (tributary stream)

EW - fewer sites; MW ↑ sedent. ↑ pop'n, social complexity, regional trade

LW other regions - aggregation into large complex villages

Shell middens up to 1/2 mi from salt wtr

Habitation + ceremonial to coast, short-term interior

H + C 2000 MV - more prehist resources than any other section of SNE

Drift whale industry flourished into early 18th C

EC 2003 - Some archaeos - dependent relationship farming, sedent + social complexity

Dincauze - retarded backwd

~~Iroquois - exemplars LW lifestyle - Iro centric~~

~~>AD1200 palisaded - intertribal warfare villages >100 longhouses~~

NE Sedent paved way for hort, not other - few longhouses; loose political structure

had knowledge + tech to be sedentary farmers; flexible, egalitarian,

McShea / Healy - Acorns - high E, store

Kirk / Pekins - highly digestible, low protein deer, bear, turkey compet

~~Johnson 1995 - 65-85% daily food = Ag Verr - cornfields → 1 mile~~

Mann 2005 Widespread Ag by AD 1000; palisades common by 1600

Widowed land - native spp explode as ↓ Indian;

Edenic realm of New World - due to explosion after ↓ Indians

inadvertent Eur creation; old ecological regime collapsed

Eur created wilderness changed lands + ecosystems they created

1-25-11

Duraoleau — ↑ trade network; >2500 site; ↑MA to LA peak, ↓ E+MW, ↑LW; flexible sedentism = strategy

Byers + Johnson — 22 shell heaps around Men + Squib Ponds

DD — Sedent = continuum of mobility; groups of sites on MV extended community

LA+LW periods social + technological Δ, burial ceremonialism, expanding lithic + storage tech

flex sedw - groups of camps thru year

Continuity in short-term sites stable human adaptation over 1000s of yrs

Use dates not periods; NE + NY hold together; LI; Appal → Stonehenge, Ankor Wat, Acrop, Giza

Morgan 1999 — NE not mentioned - pre-Columbian architecture Lower Miss, Fla, Oh Valley, Tenn

Herb + Chev '00 — Chappy - substantial yr-round pop'n

Guernsey — Wigwams to 1817; ↑ risk consecutive crop failure; ↓ growing season T°; Coastal ME 1780-1829 - 21 days; 1880-1979 16

Demeritt '91 — Maize only after disease etc; LIA impact; uncertainty std dev. growing season

Strong '97 — Eng destroyed corn - No impact; Adopt Ag - would need Δ site; LI. No forts, no large villages

Patt + Sass — Shifting Cult

Vaughan 1965 — after 1605 most brought Ind guides

Dincauze '90 — No evidence wild food use ↓ w/ maize arrival; Resist temptation to read archae record in relation to ethnohist - major trans forward

Dunford + O'Brien '90 — 2-3' floor bdr

De Rasieres — Corn "a grain to which much labor must be given, with weeding and earthing-up or it does not thrive"

Gosnold — 1602 Inds brought fur to trade

Hart — longhouse - 100+ pits; Eur accts + comparison to Iro led to Ag emphasis; most emphasize cultural change; No good app'ing Iro to AIS

Bernstein — Remarkable lack of lithic variation over 6000 yrs; LA nuts v. Fmp 46/52 oak 18/52, Jugl 8/52 Corylus 7/52 chest 0

EC — Pine Hill - Wigwam overlap, seasonal

Callaway '90 — 1607-15 MicMac + E Abenaki fought for middleman position in trading Nova Scotia to NF

1609 Champ joined Montagnais, Algonquians against Mohawk - protect fur trade

Thomas '90 — Bennett - maize 50-60% calories ~300 lbs / person; 400 people - 80-100 ac fields

w/ fallow 330-550 ac → 990-2220 if unprod. relocations - explains spaces

in CRV "maize must be considered the primary staple food of the CTV Indians from late Sept to Ny

SNE 200,000 - 300,000 ac. under cult over 50 yrs

Verr. "They change their habitations from place to place as circumstances of situation and 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"

Weinstein 1994 Carbo rich nuts → butters, creams, meals, oil, gruel

Block CTR fort. villages may be due to Iroq raids

No trauma/death precontact

Bourque 1995 after 4500 - rapid cooling + swordfish

Champlain 1604 "grass pastured by oxen and cows which ~~~~ the Portuguese carried there more than sixty years ago" Isle of Sabl Rumor?

Largay et al. 2002 - Lucy Vincent may be Guernsey site A - couldn't find not

Chilton 1996 PhD - contrast 2 Algonk + 1 Mohawk Iro
CTV people maintained fluid + mutable subsistence, settlement + social relationships depl
had access to same info + technology
sharing info w/ Iroquois. Not less advanced / No large thin walled pottery
fluid + mutable Active Agents of Social Change

Sturtevant + Quinn 1989 1567 - 1st Esquimo Strait Belle Isle to Netherlands

Chilton 2010 Chenopod, Knotweed, sumpweed - No evidence domesticated until after Eur col.
"No evid for sed. yr-round farming vill in NE" "no evid. for intens maize prod

Bredemer '93 Cultural + environ continuity; little maize; little evid for precontact warfare, defensible locations; pits w/ sunflower, Chenopod + nuts

Peterson/Cowie 2002 - fullblown regional transform w/ AG - most sig event in Neast - diff to find sites
1000-1300 - ext adopt of corn-beans-sq

Hart + Means 2002 - S Ont nucl vill by 8th longhouse 13th NE - none
NE is "dreary and uninteresting"

Cantwell + Wall '01 Conventional wisdom - link maize Ag + Settl

Capece 2001 "...a substantial proportion of MV was open at this time" More quote

Chilton '99 MA - much greater pottery diversity than Iro - due to small groups
Don't look for data to fit NE to model

Engelbrecht '03 Lots of Iro info - maize < 50%; moved villages 15-20 yrs; long house
No eyewitness accts devoid of Eur influence - 100 yrs 1634 - lots of material

R Wms - vast wilderness spaces interspersed with settlemt

~~Bellantoni DD - BI Fort Island - hist fort village~~ ~~Fort Hill - Mystic - McB~~

DD Truro - Corn Hill - no precontact site

Do Hemlock decline + LW stand out as anomalous?

Munoz Key cultural transitions, human pop'ns + climate-driven changes terr ecosystems

Changes well-defined - insolation, ice sheet, ocean-atmos circ, E balance - T° + precip

Subsistence + pop'n size LA/LW - period rapid popn growth

Every transition except LW = climate + veg

Resource base + carrying capacity - wild food dependence

8.2 Laur Ice Sheet Collapse Δ moisture ; 5.5 dry + mast

↓ A→W grad Hol cooling ↑ lake level, deep snow + winter precip

Uncorr - LW - maize

Cantwell + Wall 01 Cooking starchy seed plants - weaning greats ↑ pop'n ; LW ↑ storage pits size

read 250 oysters for daily calories - Characterized as Outlier in E. US "a marginal, culturally retarded" society

Dincauze '90 Pioneer etc. LW-Farmer feelgood system - don't accept Eng + Dutch - hort - or hostilities "resist temptation to read arch record in hist record ↑ trade ceremonial"

47-2300 richest period arch - nuts, hide & pole ↓ mobility, ↑ R ↑ Pop, amel climate, ↑ Storage pit

3000 ↓ climate, ↑ trade, ↓ pop'n; why? ↓ shellfish? snow?

1000 - climate amel, warmer winter, lger grow season

Keegan + Keegan '99 LA - sect popn ↑ ↑ mast

Pagoulatous '88 ~~R Wms - traditional source on native customs but late 1630s - often drastic Δs to native systems - epidemics, wampum, hostilities, fur trade~~

Denevan '92 Quote - much of forest - succ + semi-perm grassy openings — Pristine Myth

Chilton/DD L Vincent - 130 post molds + 31 pits

DRF How + why would Inds clear something large?

~~Salwen 1973 - Deer 90% meat consumed SEF~~

Luedtke '88 Appearance of maize ≠ reliance on Ag - Eng destroyed Ag fields didn't cripple Inds — Strong 1997

~~Ceci Maj impacts of Eur Contact - ↑ trade, conflict, formal tribes, movement, sedentism, forts,~~

~~Richter 2001 villages, disease, ↓ area, ↑ forts + conc villages~~

~~Did coast represent a distinct cultural region~~

~~Day 1962 Hope of finding Inds completely unaffected by Eur trade goods - fruitless~~

Ceci '90 — 1539 Pierre Crignon sailed 800 km S of Cape Breton to Norumbega
land discovered by Verr

Hudson 1609 - upper Hudson - evidence of brass etc., competition - trade

1613-14 Man. overwinter 10,000 furs 3 Dutch boat

Hart '99 — Indigenous - not domest?
Cucurbita pepo ME 5695BP PA 5400

King 1000-1200 AD rel. warm/dry as ↑ W flow; 1250-1700 cool 1° ↓ frost free ↑ competitio. for site

Climate - Pop'n ↑ from warm; then conflict for resources

Ohio - maize AD 425; heavy reliance after 1000 corn squash, beans, sun, tobac E Ag Complex

WVA after 1000 70% 1050 80% 1275 ↑ health probs

Many pallisaded sites up above R vallys where corn grow; large storage bldgs attached to house; lots of maize, gourd debris cobs etc. at many sites

C PA consistent maize remains T° stress after 1200 peak? - 9-1000 maize v. imp initially sacred intro 425 big ↑ >1000

Hart Roundtop — Nice longhouse outline; 30×100 m 100+ pits; beans 400 yrs after maize

Bernstein — millennia - rel. stable coastal economy long estab pattern
BI, LI, FI - FI 27 prehist sites v. small; ↑ # + size in LW

No native cultigens Coastal Alg - no sig consump maize before 1524

At all maize sites - much other material - esp. Hick 46/52 oak 18/52 dugl 8/52 Corn 7/52

Chenopod - may have been most imp maize - symbol

George + Dewar — No evid for Chenopod Δ in CT like midcont but much used

✓ Bread — broad-based lith Δ may ↑ CTR maize by 14th C as fewer resources; not stapl

Argues conc maize CRV; marginal - coast - large sedent villages
large non-hort sedent villages rich marine + estuarine R - sustain lary pop
Coast fish + shellfish - low risk resource; avail all yr except freeze

larger more sedent despite poorer soils

Chilton — Little evidence - planting fields, gardens, large pits
Dichot unhelpful coast/inland; need specific % consump.

Bennet '55 65% diet - from time of extensive trade; Pynchon calendar - substantial trade Thomas 1979

Cites Cronon on landscape mgt

Hemlock - threshold w/ multiple

"We have yet to carry out the research that will tell us whether or not the enviro Δes are prime movers re the shift of settl(?) and subsistence"

Chilton '99 — Invisibility of villages due to mobility. No large semi-perm settlements

dispersed w/in homeland; Individ + community dispersion

Mobility - strategy to maintain enviro diversity + sociopol. fluidity - dependent on

20 1x1.5m pits 1 w/ maize

Pine Hill - one of largest LW occup - small overlappy wigwams - seasonal occup

ceramics - support diverse diet + no maize specializ. more diverse than Iro

Almquist-J + Sanger — ↓ hem ↑ beech-rich (+ O, P) Nfld; more P for game animals; mult ↓ hemlock

6400, 6000 w/ pine ↑ fir spruce 2000

Asch-Sidell — butternut 64% fat + 25% protein RO 22/62

M Archaic → acorn using; butternut, beech, hazel

1605-75 — 65% grain; 10 animal; 4 veg/fruit; 8 nuts/legumes; 9 shellfish; 1 eggs

Snow 1980 — Periods; Economic subsystems - social, technological, ideological

By time of Champlain - St Lawrence R already altered   N- perm villages

Nahanada - kidnapped by Weymouth 1605 - returned next yr w/ Martin Pring

Skidwarres - returned w/ Gilbert + Popham 1607

Squanto - may have learned fish fert in Eur or Nfld   rapid Δ; lower carrying capacity for game

Tundra - optimal for H-G; large pop'n   ↓ Pine maximum   discontinuity Paleo → EA

6000 - xerothermic oak forest highly favorable - deer, turkey

Social connections - gift exchange + reciprocity

Flucs T° + Precip - may have been imp.   Most Forest Archaic 6-3700 O, C, Be, Hi

Climate - winter survival + wildlife carrying capacity

Extensive trade network   "the last six c of prehistory appear to have been a period of generally peaceful growth + prosperity"

Q? → NE can only be understood in context of NY as NE poorly understood + people from W

system Ag like Hudson single cultural form — "Taken together, it all suggests that in the period aboriginal NE was marginal to the mainstream of pre-history in the East"

"Funk regards the condition of the teeth to have been abnormally good for an Indian population; further evidence that they still maintained a diverse diet"

Ag sites + villages destroyed - "The most unfortunate aspect - large cultural village sites all at places favored by Eur"

Contrast w/ Iro - peaceful, no fort, dispersed, less hort

"There is no Q about the importance of hort in the Late Prehistoric period of SNE

corn - Ritchie   corn ↑ pop

Timeline - how to improve
2nd timeline - MWP → WS T°

Tuck 1984 | Maritimes - ↑5KBP; 3500 BP ↓ water T° Gulf of ME, ↓swordfish (unk why)
prehistory flows smoothly despite appearance of breaks
Water T° ↓ - Sanger due to ↑sea-level, cold water into Gulf of ME 3.5K
some reversion bulky clay pots to leather, birch bark, woven container
Cult occ just before Eur arrival - haphazard operation between fishing
and gathering No evid Ag ; sig Δ just before contact

in Gremillion '97 Hasdeo + Golaud | OH R V - 4-600 for maize to take hold to add sig to subsistence
sharp decline world-wide in farmer health rel. to H-G; as ↑pop'n ↓#crops
H-G affluent, E efficient, low E vs Ag - preconception Ag seized on
"Why besides externally imposed necessity would foragers give up a secure
comfortable means of production for the uncertainty and drudgery of
Agriculture?"

Gardner " | 7 hickory trees/person/yr 10 km radius 4 m lbs acorns ½m hick
shell, leach, pound 2 hrs, 4 hrs leach ½ hr cook ; parch on hot stones ↓ fungi
thin trees ↑P ; compete with animals 995 wo
1x1m pit 22 bu hickory - 40 lbs/bu 35% edible - 300 lbs RO 680 acorns
Easy to transport ↑ Hick MA w/ ↑climate + hick ↑nuts ↓ failure
End of Hyps - ↑mast failures ↑conflict interreg alliances
Hickory - not fire adapted so manage otherwise

Loren 2008 | contact - ongoing process; influencing already dynamic cultures ; entanglement
of culture; creolization; not acculturation, not passive or unilateral
artificial divide pre-post exchange
historic sources - all Eur perspective for Eur consump; readily consumed also maps
art ; archaeo v. difficult: use to fill holes of archaeo interp of material culture
Archaeo - democratizes, quotidien, most bias to common
Gifts + exchange - from diplomacy → economics
Iroq - extensive movement of goods before contact

Village lands organized along a single watershed

Cronon - Distinction S vs N Ind as imp as Ind v Eur; DRF - more crit imp to understand Pre-Eur

DRF - LA critical - Hick arrival; bowl + processing technology; storage pits

Hemlock ↓, Oak ↓ flourish of mast mast + weed - pre-adapt for corn

Scenes change - actors with flexible toolkits adapt + Pop'n Aes

No dichotomy - native vs non-native periodic expansion / contraction

Starna - Pequot village = 10-20 wigwams → consolidation 70 Fort Hill Mystic

McManamon 1989 Archaeology of CC. NSPS Cult Res Mgt Survey 17

Timeline Wm Pynchon acct book (John) 1645 corn calendar

Wilbur 1996 "Long before the first white settlers came to NE shores intertribal wars were tearing apart the very fabric of Algonquin life"

Ceci 1990 Real dichot history vs archaeology; assumption 17th C sources "natural state"; assume sedent = maize true Owasco + Iro; Iro - wampum sudden w/Dutch; LI - no prehist pits or cribs

Long houses "fixed places of abode and dwellings built with beams in the form of an oven... sufficient for several families" Jameson 1909 Delaet in

vs "temporary huts or shanties", "small movable tents" Van der Donck

post mold differences No forts prehistory all = camps

Subsistence model - Ag imp economic model → villages, ↑ pop'n, ↑ social complexity

shellfish calorically impossible

Iroq - high yield area Hudson 1609 upper Hudson - storage houses beans/corn

De Rasieres 1628 "a grain to which much labor must be given, with weeding and earthing-up, or it does not thrive"

Feldhamer 2002	Deer will take large % sound acorn
Vaughan "	Bear feed high in hops oaks #1 preference bulk up in fall

Useful / General

Engelbrecht '03 — 62-85% 91-98% faunal remains; famly needed 7 hides/yr
Iroquois - deer most imp meat source in diet; beaver, passenger pigeon
wild plants more imp than records indicate
farming - never replaced hunting, fishing, gathering
maize < 50%; isotopes, ↑ caries - carbs; corn boiled in ash; lysine + niacin to metabolize
longhouse - up to 400' x 15-20'; 255 posts; posts ↑ size over time
moved villages every 15 to 30 yrs
model - 200 people could live indefinitely in 1 place - went too far for hulwood
Eur trade goods - small amts appear aftr 1525 - iron adze, spikes, copper
early material from St L or Basque? Late 1500s reg trade w/ Fr web
100 yr between arrival Eur goods + contact - No eye-witness accounts of
culture devoid of Eur goods ~~material~~ 1634 - absurd. material
1595-1605 black women in cemetery - up Susq?

Strong 1997 — Pits - lined Andro ger - mold resistant or bark incl hemlock

Mulholland et al 99 — Christiantown/Indian Hill unit - no prehistoric sites
W Tisbury - highest potential - TGPd Shellfish Prod ↑ by occ. breach
Coves - paucity of prehist sites - seldom breached - few shellfish, no alewife runs
perhaps sampling - no developmt

Black 2002 — Climate Δ - too gradual to precipitate abrupt cultural reconfig. "In the future
it may be poss. to link climate Δ to cult + archaeo change"
Long dist exchange Nfld/Maritm/Lab - NNE

Rainey 2010 — ACK Wigwam - semi-spher; 10-60' diam; bent sapl, tied, woven mats, skins
mat or skin door; bark
Verz, Champ, Hudson, Gookin, Wood, Joss, Willms

Arch - local/seasonal ~~arch~~ artifact collectors; Members Mass Arch Soc; Univ field school,

Nav Hist Assoc: CRM - 60 since 80s

Quidnet site - Little 66 7-10cm post 22 in 4.75 m arc, many pairs

Relocation regularly; not static; one site center ridge pole: footprint

unchanged over thousands of yrs

1982 orig pub — J St Crev.

Little + Andrews 2010 Drift whales - The Kindness of Moshup - "fond of sea + expert mariner

Dutch + Eng Whale Fishy - 13th Biscayan or Basques

No whales S Del reported before 1750; Eng settl - Indians did not know how to whale at sea

could strand whales in embayments

Basset 1792 MV "Moshup, their legendary whaleman, was kind to them, by sending

whales etc. ashore to them to eat"

Drift whales - numerous enough, never went to sea 1/yr today - but less abund 13 tons

Laws regulate drift whales - ACK 1673 all to Inds more possessive whale than land

1620 - Ind cut whales into rands Wms "the Natives cut them out in several

parcells, and give and send farre + neare for an acceptable present or dish"

No drift records - Salem, ME, E NJ, S of Del

Rt whale distr. drift → alongshore → pelagic no sink temperate, slow, rich oil

Alongshore + pelagic whale centers up to 1829 - parallel drift whale distrib. - not

mercantile + fishy ports - Phil, Boston, NY, Salem - Ack, N Bed, Sag Harbor

Ind MV, ACK, CC, LI - key role growth Am Whaly

Supply Rt Whale + labor pool Ind w/ maritime aptitude + interest in whales

SENE + ELI, poss Del Bay - more Rt than any other E Coast S of Gulf StL

SE exp. — quarts, ↓ inertia — frost

Bernerith 1991 - Soils - well drained - warm, dry in spring, ↓ path of fungi; hillside + near lake to min

"

entered

C.C. Mann. 2005. 1491

Neolithic Revolution - invention of farming - cannot be overstated
reinvented by N Americans

NE - ecological crazyquilt - wet maple forests, shellfish studded tidal estuaries, highland woods, mossy bogs cranberries + orchids, sandbars, fire swept stands of PA.
"tremendous variety even within the compass of a few miles" — Cronon

Widespread Ag by AD 1000 distinct mix farm + forage
big variation w/in region

Hole for chimney - not surprising as just coming into use in Britain
most houses - central roof holes

Defensive palisades - common by Iroquoian's ofc

1501 - ME Gaspar Corte Reals - ~~the~~ abducted 50 Inds,
2 with bronze sword + 2 silver rings from Venice

Verrazano, Morton - people beautiful statue, no pox scars
Squanto prob saw Pring, Champlain + J Smith

Hunt kidnap Squanto + 19; stopped at Cod kidnapped 7 Nauset
Malaga - taken by priests; got to London, stayed w John Slany,
shipbuilder w/ Nfld investments; S Nfld west with Dermer to ME
then back to England, Back to ME, then MA
200 x 40 mi cemetery hepatitis A

dieties allied against them

Back to S ME, walked back to MA telew as captive to Massasoit

Widowed land- native spp exploded as Indian imprints lessened

Passenger pigeon- competitor to Indian

Ind- hunted deer, turkey, pigeon - to remove competition for acorns also raccoons

Pass pigeon exploded after Indians — not evident in archaeo sites

Edenic nature of New World- due to explosion after ↓ Indians- largely an inadvertent Eur. creation

The ecological ancient regime collapsed

Destroyed NA + ecosystems they had created

Dark forest of HDT something they never saw

Europeans created wilderness

Cronon - Changes - no wilderness for thousands of years in NE

But should build for the future, not recreate the past. Gardening for future

Archaeo Notes

Table - Add

all entered ↓

Overview - Basic Chronology of Periods

Jaffee 1999 — Portable round houses / 14-16'; left frames behind; rolled + carried mats

Cantwell + Wall '01 — Clay cooking + storage pots - cook starchy seed plants - weaning gruels, allowed earlier weaning + ↑ pop'n

MA - Shell Middens 250 oyster for daily calories

LA - sea level 60'; Transitional - before clay - steatite 4000 - mud flakes dainty

E+MW - clay pots, ↑ pop'n; LW - T Tethered to Land - farming

LW - large storage pits + trash pits more permanent 6x6'; cranial burials; heavy ceram

Strong '97 — Plant domest, ↑ sedy, ↑ trade network, new pottery + projectile pt:

— Feel good system, popular terminology

Dincauze '90 — Pale Indian = Pioneers 12-10K no direct evidence hwt/ eat elephants

EA = Late Pio - 10-8 9K - max summer T° w/ colder winters

MA - Early Settlers 8-5.25

LA Developed 5.5-3 Richest archael. per.; 4.7-2.3

EW/LW Late Settlers 3-1 3-2 ↓ pop'n - unknown; related to shellfish?

LW Farmer's Per. 1-.25 Snow 2000 & Oysters - T°?

4700-2300 - richest arch period; nuts v imp - protein/fat; hickory, acorns; ↓ mobility

a: ↑ resources ↑ popn; Ames. climate, warmer winters + longer O season more trade, more localized; storage pits appear; ↑ social ceremonial

3000 ↑ trade + exchange esp to W; ↓ climate? & upland sites - larger (walled); ceramics > soapst

1000 - climate armel; warmer winters; longer snow; maize - not dramatic; dietary supp stpl not economic

N

Little 1988 — 3800 BP - Sealevel stabilized - allowed barrier beaches, estuaries + embayments

~ Every CT site dev

Keegan/Keegan '99 — Paleo (B Jones) 18 sites 2 rigorously excavated; ~~every site - deer~~

LA - great ↑ pop'n, ↑ mast foods TA (2.5-2.0) - soapstone; EW first pots

3.6-2.5

All entered ✓

New England as Backwater Archaeologically Ignored

Morgan 1929 — Book on PreColumbian Architecture in NA - examples from Lower + Upper Miss, Fla, Ohio Valley, Tenn, Appalachian + Piedmont - nothing NE
Appendix of Comparable Sites - Stonehenge, Giza, Acropolis, Angkor Wat, Piazza San Marco, St Peter's Sq

Cartwell + Wall '01 — NE "dreary and uninteresting" DDinc - "a marginal, culturally retarded outlier in the Eastern U.S.

1928
MacQuarrie — EC - 1st HV NE Arch - 100 yrs

Archaeo Figures + Tables to Include

Table Shellfish from Ritchie - duetincorporate % in text as example of how many species drawn from + idea of preference

Table Vertebrate - Ritchie Use #s in text - example of diversity of spp, overwhelming abundance of deer - frequency, # bones + #/% of animals

Ritchie or other excavation - showing overlapping post molds + features?

Table - Indian Periods; include climate

Paleo EA/MA/LA EW/MW/LW C

Hort
Shellfish Fishing
Lithic Workshop + Tool
Hunting Plant Gathering

Deana Maps ② Sites by period ③ Activity Hort vs tools vs Meat etc.

see other side

① Seasonality of Use - Short-term, Seasonal, Sedentary

Table - North American Explorers and Contacts with Indians. From "Atlas of North American Indians" Indians and Explorers

Whale strandings - Drift Whales - From Betty Little

* Map of ethnohistoric locations - all shaded the same

"Moshup went away nobody knows whither. He had no conversation with the Indians, but was kind to them, by sending whales, &c. ashore to them to eat."

Figure - Oldale + O'Hara curve - sealevel vs periods

Deena → E Chilton talk Figs

Seasonality LA vs LW LW more sedentary but only 11%

LW shared sites - Only 6% unshared + 71% shared with LA

LA vs LW Seasonal Activity - identical except 7% short in LW

LW Seasonal vs Short Term - Great difference much more than LA & LW and short-term may fewer than seasonal

Poss - Corn sites

Synthetic Diagram → Through Time

Sea-level change

Ratio of Land to water in Coastal Zone

Lake level (moisture index)

Temperature

NA sites

Major Taxa Spruce - Pine - Oak - Beech - Grass

Charcoal

edits 1-25-11

Maps. Whaling, and drift whales. Alongshore and pelagic whaling ports (1715-1837; from Little and Rainey 2010, modified from Starbuck 1964) and Ethno historic drift whaling locations north of New York, (shade all the same areas). Dots on Ack for 1947-1980 location Show ports as inset? Get data from Starbuck

Map of maize finds in New England (Chilton and Rainey 2010). Shade area of GDD?

Map. Distribution of ~~Palco sites~~, fluted points, mammoths and mastadons (Snow 1980)

Not for publication

Archaeo sensitivity - All Chappy; within 150-250m of coast, within 150m of site. Map all sites (Herbster + Cherau 2000).

Wampanoag Map "Noepe" Place Names (shaded by elevation) Mass Cultural Council MCC

Use MCC map consulting Banks

Roads from that map

Show modern place names as listed

Q - what are names Banks uses?

Definitions in borders / separate table

Graph / Timeline Nut yield - Ohio white oak, red oak, hickory
1962-1970 (Nixon et al. 1975)

Figure / Illustration Contrasting Iroquois and Algonquian
Orleans or other Champlain depiction
Caughnawaga or other Mohawk / Iroquois depictio
Ritchie Roundtop excavation 1964 (Ritchie 1978)
60-80' longhouses
Ritchie MV site wetu wigwam

8-03-04

Historical Archaeology -

Mass Arch. Services - good strengths thru

Bob Paynter - Post-modern; Marxist

oppressed people

Oral Histories - Aquinnah

Linda Coombs

Mashpee

DD - circularity ?

need certain pop'n size to warrant particular

Generalities

Site Files for the Coast - Each State

Backyards

Amateurs etc.

Archaeology of CT ~~Softcover~~ Wm Keegan

Bill Starna - SUNY Oneonta - accts.

David Silverman Princeton, Native Land transfer

Algonquin People of LI

Elizabeth

Deena — Focus on Phase 3 studies materials so far

Pulse Late Archaic then decline then pulse to LW
LA more sites than LW

Rel few changes to LW

Maize 1300-1500 AD

Synthesize + re-evaluate conclusions

GIS - Archaeol of CT
GIS person + state archaeologist

What about no-context materials?
Amateur site files - most of the files

Most CRM - Phase 1 + 2

Dutch Archives in NY

An Agawam fragment. p 98-101

William Pynchon account book - 13 names of month - 2 same month so 12

important for dialect - only specimens we have

Handwriting = son John

Written late 1645

1. When they set Indian corne 5 corn
2. When women weed their corne
3. When ye hill Ind corn
4. When squashes ripe + beans eatable
   When Ind corne eatable
6. ye middle between harvt + Ind corne.
7. White frost on grass & grain
8
9. middle work
10. sun hath strength to thaw
11. ice in rive all gone
12. catchy fish

Look at Mulholland + Donta MV

Checked 10-10

DD Synthesis 7-14-10

DD SNE-NY Coastal MA, RI, CT, NY ≥ 2000 project areas + sites thru 2005

MHC - Brona Simon State Archaeologist; Cult Res Mgt reports

NPS surveys,

develop

Biblio Essay

Region holds together well - difficult to separate

Prevailing view - Dincauze, 1990 Snow, 1980 Braun + Braun 1994

Paleo 12-10 tundra + parkland; hunting, woodworking, food processing; small fluted projectile pts, scrapers, drills bands, seasonal wandering < 25,000 popn

EA 10-8 Id by projectile point style - drills, choppers, hammerstones, anvil stones, bifacial celts/adzes; ↑ woodworking + nutprocess; continuity - restricted seasonal wandering; defined territories; less exotic lithics - ↑ local material

MA 8-6 Decid forest + still reqd sea level; territories; central-based wandering; winter interior, spary misc. fish, summ fishing; ↑ special purpose celts, gouges, grooved axes; knives + scrapers effects; local material for canoemakes, fish, food prep.

LA 6-3 small, numerous encampments; broad environ; ↑ fish + ↑ accumulation Mast forest; pop'n fluctuation - # sites + richness; ↑ activity

Trans Ar - 35-2500; diagnostic pts; steatite bowls; central-based wand

E+M 3-2, 2-1 - combined; stabilized sea level; resource-rich estuaries base camps; w/ special purpose summer sites - coastal shellfish harvest, winter camps - hunting - small streams + ponds

larger sites may have been used year round

Advent pottery - defined Woodland - storage + cooking easier + more efficient

↑ outside trade - Ohio Area + lithics - N, S, W

LW 1000-450; ↑ larger site size, heads of estuaries; multi-season

Contact 1500-1650: main villages - semi-perm, moved every 12 yrs or so seasonal to family farmsteads w/ fields, ↑ wampum, but little else

Terrestrial, marsh, coastal, pelagic, fresh, salt + brackish

L00

more nucleated LW + Cont.

Diff to id w/in contact period

MV - studies conc - GH/Chil + Tis/Off "evidence along almost every pond, watercourse, bay and coastal line of native occup of MV for thousands of yrs".

Ritchie - forest-adapted hunters to marine-oriented (as ↑ familiarity!)

Repeated use - Squibnocket, Nash, Menemsha, Lagoon - thru continuous, yr round huge shell middens, many cemeteries + small maize fields beginning 12th C

Vineyard Haven Golf Course 235 ac interior - no archaeo GIS resources - varied native habitats

Impacts - shellfish harvest, deer, fish, saplings for wigwams, firewood, clay,

Possible overuse local resources

+ Deer + Maintenance Barn Project - no cult material - near pond

Regional Diff - Interior LI exploited more than other interior areas

M LI - LA Mt Sinai - appear seasonal - camps

Storage features, middens, hearths, post molds

7-12-10

DD-Buzz Bay — Fall River – Wareham + New Bedford

Few prof studies — All Wampanoag = Pokanokets – Mt Hope RI

Heavily affected 1617-19 epidemics (up to 100% in Plymouth area)

Much less in W + S — 1633 - smallpox

Contact 4-5500

Drainage = imp core area for Native Settlmt – Archaic + Woodland

MA-11 LA-29 EW-15 MW-20 LW-23

DD - CT — By MW semi-sedentary ; LW → villages — 8.4m 8000 yrs / 3 m last 3500

4000 BP - coast formed — 1.2 mm/yr to 3500 BP ; .85 mm since

CT R extensive tidal marshes 1500-2000 yrs BP

3000 pop'n before Pequot War

Fortified village - Eur contact. — Fort Hill + Mystic Fort — 70 wigwams

unfort. villages + smaller encampmts

Inter-regional trade networks, semi-sed

[DRF post-molds ≠ sedentary]

Shift towards major rivers after LA

DD-Narragansett — Gradual shift - upland forest-adapted habitation Archaic to coastal by end Archaic + W - formation estuaries

Narr Bay - part of system of rivers → Cont Shlf through BI Channel

Free from early epidemics — ~ 7800 men ~ 20,000

Verrazano 1524 - white open plains 25 to 30 leagues "They change their habitations from place to place as circumstances of situation and 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.'
R. Wms 1643 also

Vast spaces of wilderness interspersed with settlement concentrations

Contact - shift - move to saltwater ponds (marshes) along coast
by 17th c positioning themselves for extended periods - producing wampum
+ ↑ trade Pagoulatos 1990

BI. No Paleo, EA, MA - most Woodland Bellantoni
Fort Island - fortified historic village - year-round + horticultural
subsistence : hearths, native pottery, copper, glass beads
maize
Winthrop description John Endecott - 10 mi overgrown with
oak brushwood; no good timber 2 plantations 60 wigwam
200 ac corn

Deep sea waters, salt + inland wetlands, woods cod

~~Little evidence in general of yr-round~~ residence
LIA impact

As

7-12-10

DD-ACK

4 total sites to date recovery level of analysis

before 6000 BP ACK + MV small hills on west coastal plain

moderating climate - warmer winters / cooler summers

Erosion - conc of N sites; loss Sern

Paleo - 12-10 5 fluted pts - no habitation ; 10-8 EA-4; 8-6 MA-12; 6-3 LA-58; 3-2 EW-20

2+-1 MW-16, LW-28 (1000-450)

No Archaic sites professionally excavated, analyzed, published

LITTLE - sites correlated w/ season due to high wind + directionality

Winter - S + SE (NW wind + solar); summer - equal distrib.

Potential for site zones (1) <200 m (2) 1 km of shellfish habitat, (3)

More complex

hill crests, knolls, cliffs (4) sandy plain

As shoreline stabilized 3-2,500 BP - tidal flats, salt marshes + assoc. creek

systems formed - shellfish, wetland

Deer, rabbit, coon, dog, turkey, otter, turtle, muskrat, tautog, cod hickory, hazel,

Wigwam floor Maize 1440-1630; 1495-1670

Luedtke - Field Stake. 145 ac - single family campsites + processing area

Wide open area - no physical restriction. Unique to ACK?

Marginal sites used as land area ↓

Seasonality - plants, fish spp, locale

Similar stable C + N isotope - lobster, eel + maize

Most info - Plantation 1620-1675 period - 4 sachems ; Wampanoag federation

~2000-3000 contact ↳ ~300 families

White settlement ~1659 so protected from disease

7-13-10

Archaeo Notes DD

Cape Cod MHC - intensive (locational surveys) - by Cultural Resource Mgt archaeos
on lands with known or probable sites; if positive → site examination
to determine boundaries, time, eligibility for Natl Reg. Historic Plac;
data recovery exam (to salvage info)

Cape - some of highest densities in state esp LW
Paleo (12-10) material; MA (8-6 k) 1st habitation; LA (6-3) more
sites but still short-term, low density; small mobile
EW (3-2) + MW (2-1) more sedentary pop'ns; larger ↑ size, longer-large
more intensive use
Leporto 1987 - little material Δ LW → contact
But how to differentiate? Are both materials mixing or cultural incorporation?

Truro - Corn Hill - no precontact material
Wellfleet - Indian Neck Ossuary - large #, range of people - healthy, no
trauma, low caries, not ground cereal diet + low infectious disease vs contact

By looking at intensive surveys, site exams, data recovery - id. areas used
+ not used
M → LW Δ shellfish W, Sp, Su → W + early Sp (Outer Cape + 1 Inner Cape) may
reflect add of hort; or Δ pop'n
LW + C - ↑ pop'n + more nucleated - along estuaries - rel. large
pop'n; Nauset Outer Cape ~1200 people pre 1616
1600 AD ~2100 on Cape 1674 AD ~1250 (Cook)
Conc along waterways - use terr, marsh, coastal, pelagic,
fresh, salt, brackish

7-15-10

DD + Archaeo Notes

NPS pubs - McManamon 1989 Arch of CC - NSPS Cult Res Mgt Stud 17

ACK - Wigwam site - 1st for ACK; also contact site close to pre-contact + mix native artifacts, domesticated animals, Eur 18th c but not interp by arch as historic native site.

From Deeno

Fig. Coastal site distributions through time.
Maps from Dina Duranleau of coastal region
(shaded but with coastline)
Paleo - 12,500 - 10,000 6 panels
Early Archaic 10,000 - 7,500
Middle Archaic 7,500 - 5000
Late Archaic 5,000 - 3000
Early Woodland 3000 - 1500
Middle + Late Woodland 1500 - 450

Graph of #s to see trends

Fig. Archaeological evidence of Indian activity.
Maps from Dina Duranleau.

Lithic Activity (Tool and Workshop)
Hunting
Fishing and Shellfish 6 panels
Plant Gathering
Food Processing
Horticulture

Fig. Indian site use over time. A single map
from DD's work
L Woodland sites that are also Late or any Archaic sites ~ 124 71%
" " " " overlap with other time periods 40 23
" " " that are unique

Indian
Consistancy of activity through time.

Bar Chart. Percentage of LW and Late Archaic sites demonstrating different activity.

Lithic, Fishing, Shellfishing, Storage, Hunting, Burial
Horticulture.

Maps
Figure. Temporal distribution of Indian activity in the coastal region. From DD data.

3 panels
Short-term activity
Seasonal
Sedentary

Deena ↑

Human period
Munoz Figure Climate phase

Human population, vegetation change,
Temperature, Lake level, Charcoal
Hemlock

Map - Munoz region vs Native Groups

Graph - Sea level versus Indian period

	– Not W of Narr B?
	Timeline – Disease 1616 MA – Yellow Fev or bubonic / Snow + Lanphear 1988
	1633 smallpox
	Pequot War 1636-39
89	woman + little girl
Sturtevant + Quinn	1566 Eskimos kidnapped by French sailors in Labrador taken to Holland
'99	but also less development
Mulholland et al.	Few sites on coves E of TGP as need breaching – perhaps seldom breached
H + C 2000	Chappy – substantial yr round – village-like multifamily
	↑ native conflict before Eur
DD 2003	LW ↑ why? Pottery – gruel nuts, chenopod, weanng / fertility; climate 1000
MM 1979	Good discussion preservation; acid soils; relates pop'n to sites + artifact diversity
	diversity
	to vegetation productivity; pop'n decline 3000;
	Peak LA then decline then ↑
Guernsey	LV site; Eur families on MV since 1623; mayhew colony at Edg 1642
	Ind: 1642 - 3000; 1674 - 1500 1817 Wigwams still at GH
	Wood Chil Pd – 30' high pit 2 3/4' x 4 1/2' deep; scallop shells, charcoal; fish, dog, bird
	E shore Menem + Nash Pds – "almost uninterupted evidence of aborig occupation"
	House rings – Oyster Pd, Men?
Huntington	Lagoon Pd site near Bass Cr – prob perm villg; Hd of Pd – extensive sprgs
Bragdon	Eur overemph maize as evaluate fertility
McBride '90	sites undefensible except 1 fort
	at Patuxet (Pli) Thos Dermer
Dunn '93	1614 Squanto kidn. Capt Thos – J Smith's fleet w/ 26 others → Spain / Eng → Nfld → Ply w/
Vaughan '65	aftr 1605 most brought Inds as guides
Dinc '80	1000 Amelior climate; warmer winters; longer Grow Sea
	most in grass; few 1st hand
Russell '83	R Wms accidental fires only; Wood + Morton inconsist + near settl obs
Brasser '78	Norse cont to get timber at Labrador 1347
McShea / Healy 2002	Acorn = manna; 96 verts – critical part of many habitat suitability models
Abrams	Clark + Royall 1985 – Be-Maple → WP-O w/ Iro; Abrams – many papers Oak ↑ fire ↑
	Quote – Ind pop'ns ↑, also fire, ↑ oak
	root health outbreaks – few consec. seasons
Oak 2002	Oak paths – spring defoliation – aftr tremendous CHO expenditure compromise
Koenig Knops	Mast – intermitt; asynchr among intrapop ↓ ann. variability overall
Kirkpc + Pekins	high digest, hi E, low protein Grouse, turk, deer, bear, pigeon, raccoon, and

Linda - Please type + send me the file done emailed + also saved on S. drive

MV Indians - Illustrations

I-1 ~~Fig~~. ~~Same~~ Map of Plymouth harbor in 1606 by Samuel Champlain depicting scattered Indian wigwams with associated gardens, surrounding woodlands and water depths. The Individual wigwams were temporary structures 15-20 feet ~~out~~ in diameter and housing an extended family of 6-20 individuals. The scene likely depicts a seasonal encampment, of numerous family groups arowed the productive ~~habitats formed~~ landscape ~~that~~ with access to the stream, estuary, and shellfish beds, woodlands and maritime habitats. ~~The~~ In Champlain's depictions of New England encampments there is no apparent regard for defense.

I-2 ~~Fig~~ Samuel Champlain's ~~de~~depicting of the joint French and Huron attack on ~~the~~ a ~~the~~ fortified ~~Indian~~ Iroquoi village in ~~the~~ northern New York. The village consists of more than twenty long houses, which ranged from fifty to a few hundred of feet in length and each containing a dozen ~~of~~ families or more. The village is positioned in a highly defensible location and surrounded by a substantial multi-layered palisade that afforded protection from fire, arrows and bullets and direct assault. To thwart these defenses the French have constructed a raised battlement that provides cover and perspective.

I-3 ~~Fig~~. Reconstruction of a ~~the~~ wigwam constructed of overlapping layers of bark over a light frame of poles. The bark, mat or hide covering could be removed and readily transported to another location in order to relocate the encampment.

I-4 ~~Fig~~ Illustration of an Iroquois longhouse constructed of substantial timbers with internal supports, ~~and~~ cross-members and arched roof frame covered by slabs of bark. The substantial, permanent structures included large internal or attached storage areas for food and supplies

I-5 ~~Fig~~. Archaeological map for William Ritchie's Cunningham site in Vineyard Haven. Numerous small post molds are scattered in a largely haphazard fashion along with ~~the general~~ concentrations of shell and fire-broken stone. Ritchie has sketched the apparent outline of circular wigwams that are approximately 15 feet across.

I-6 ~~Fig~~ Archaeological map of William's Ritchie's Roundtop site in Union, New York ~~the~~ depicting post molds, storage pits, other pit features and hearths. The post molds form two or three overlapping outlines of longhouses that are approximately twenty-five feet wide and more than one hundred feet long.

with maize

I-7 ~~Fig.~~ Location of all archaeological sites in New England and New York. The sites broadly lie within the warm and temperate southern and lowlying part of the region. Modified from Chilton and Rainey 2010.
[Add some GDD data?]

I-8 ~~Fig.~~ Modified Munoz et al. Proposed relationship between climate, vegetation, lake levels and ~~trans~~ cultural changes during the post-glacial period in the northeastern U.S. ~~The first~~ The population increased rapidly during the Late ~~Glacial~~ Archaic period when ~~drou~~ warm temperatures prevailed and mast-bearing species (oak, hickory, hazel) thrived; it declined during the cool moist Early and Middle Woodland and then rose again in the Late Woodland period with the slight warming through the Mideval Warm Period.
The number of sites in the coastal region from Long Island through Cape Cod parallel the estimated population trends for the Northeast. [Include sea level reconstruction]

I-9 ~~Fig.~~ Distribution of major Indian groups in New England and ~~adj. New York~~ adjoining areas ca. 1600 ~~A.D.~~
Adopted from Meinig 1986 and Wilbur 1996.

~~I-10 General relation~~

I-10 Vegetation dynamics around the Crawford Lake Ontario Iroquian site. Associated with the expansion and concentration of the ~~are~~ population ~~and int~~, creation of large fortified villages and concentrated deforestation, ~~forest creation~~ for agriculture there are substantial changes in the vegetation and major episodes of grass pollen and maize pollen. ~~The Est~~ Following European contact these indicators of forest disturbance decline until widespread European settlement, expansive deforestation and increase of many weedy taxa including the non-native Rumex.

I-11 ~~2.~~ Vegetation dynamics on Martha's Vineyard depicting no apparent opening of the forest landscape ~~before~~ European settlement.

I-12 Map of Martha's Vineyard depicting Wampanoag place names. Modified from the Massachusetts Cultural Council. Definitions for the place names are as follows:

I-13 ~~Locat~~ Evidence for the importance of Drift whales in the New England coast, including:

locations of known drift whales from ethnohistoric sources in the 17th c (Little and ___ 2010), the location of Drift Whale Rights on Nantucket and Martha's Vineyard 1668-1772 [base maps show ACK and MV as in 1600s] and known along-shore and pelagic whaling ports of the U.S. 1715-1839 (from Starbuck 1964).

I-14 Distribution and number of archaeological sites over time for the New England coastal region. From less than 60 sites through the Middle Archaic the ~~number~~ peaks in the Late Archaic (463) drops nearly in half through the Early Woodland (251) and then increases substantially in the Late Woodland (908). There are relatively few Contact period site. Modified from Duranleau (2009) and Chilton et al. (2009)

I-15 Examination of the materials from archaeological sites in Coastal New England displays strong tendency for the re-use of sites over time and relatively ~~lit~~ modest change in site selection over time. ~~be~~ More than 80% of sites in the Late Woodland period had been occupied ~~used~~ previously: approximately 70% of these were used in the Late Archaic period some two to ~~four~~ five thousand years earlier. Modified from ↗ copy from I-14

Archaeological

I-16 Evidence for Indian activity at New England coastal sites ~~indicates~~ supports the contention that subsistence was based on a broad spectrum of ~~re~~ resources from hunting, fishing and collecting and that horticulture played a modest, supplemental role. Modified from

I-17 Across the coastal region of New England the vast majority of archaeological sites include materials and artifacts indicative of short-term or seasonal activity typical of a mobile population based on hunting and gathering. Nonetheless more than 50 (45%) sites indicate longer duration of use that were characterized by the scientist involved as sedentary. The majority of these are clustered right at the coast and on estuaries or coastal ponds and bays.