Coastal Pre-History - Ecological Questions and Issues

DRF March 29, 2005

“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?

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.

If you have any comments or wish further information contact:

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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 the 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.”

   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.

Brederemer (1993) lexicon: task-specific camp (10-100 m²), temporary camp (100-500 m²), seasonal camp (750-2000 m²), village (3 – 10,000 m²); 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—
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).


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 turn 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 interpreted 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 “apparelled 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 Hunt with 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/TDM-native-am.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 & Ancestral 8-26-10

Clay cooking + storage pots - cook starchy seed plants - produce weaning

Coastal development - 4000 - mud flat development

LA - steatite; E-MW - clay pots ↑ pop'n

LW - large storage + trash pits 6×6' - careful burials

Disease '50
3-2K BP ↑ pop'n - unknown causes; ↑ shellfish; snow; 2000; oysters

45-2300 Rich archaeological period; nut; v. imp.; hidey + acorn; ↑ mobility

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

2000 - ↑ trade + exchange to W

1000 - amelioration, warmer winters, maize diet, sheep supl.

Keegan & Kusan '99
LA - great pop'n ↑; ↑ most foods; 2.8K - esp. cotton

Munoz et al. 2010
Corr - key cultural transitions, human pop'n + climat-driven changes in VVR ecology

B, 11.6, 8.2, 5.4, 3 - isolation, ice sheet retreat, ocean-atmos circ + proxies,

Temp, mag precip climate → veg → ecosystem services

E-M A M-L A-EW E-M H-L

Some abrupt pop'n not 8.25 + 5.25 abrupt 31 + 21 slow LA-LW pop'n

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

Wild food dependence - alternate resource base + site habitability; carryin capacity

W - ↑ fire - human or winter precip, chile annu; ↑ chile + jet, 60+th

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

Uncorr - LW ↑ pop'n - maize adoption

Pop'n Mooney NE - 22,100

Grossen - 72,000

Willows by 1920 - 24,000

Russell 1980 70,000

Decade decline 85% (Bower 1960), 75% (Coop 1370); 90% by 1650 (Brading)

W/ Eur pop'n 18,500

Brander 1942 - village 3 - 10,000 m²; seasonal camp (200-2000 m²)

Temporary camp (100-500 m²); task-specific camp (10-100 m²)
Pequot - dispersed, shifted distribution of 10-20 houses - small village.

Bradley: Conditional sedentarism.

Day 1753 - burning only in Ind. occupied villages. Few first hardwoods of the most in grass + woods.

Patrons: Sassa - five most advantageous trading agricultural lowland.

Strong - burning cornfields didn't catch fire as Enc suspected (Chibnall, 1753).

Breed sapheen resource uti - hub, ke, gef w supply host.

Carlson et al., '90, Disc. '90, Chibnall, '93, '93; Shy '97.

Develop of more formal tribal or large group org, + trade, hostility.

Centralized power.

Political: develop more formal tribal + large group org, increased hostilities.

Realistic native group dynamics: increased centralized (individual) power.

Economic: increased trade, increased more for trade + subsistence, progress in each native food.

Settlement: increased sedentary, ground villages, develop fortified villages.

Defensive walls + gates, conc. of villages at contact + kidnapping used by Raw.

Society: increased group + village size; increased risk of disease.

Roger Wm: great insight - but drastically changed - e.g., wampum, fur trade, hostility.

Dtr: don't accept Etr + Dutch. + or host rescript or hostile as separate.
Bridge - Repetition Change: Different musical someth\textit{em} part

Worse - Disruption Individual effort + emotion + \\
Insufficient with observers - De influencing

Language + Observate | Not these Nothing

Heterog - Leeds town's affairs - Larger people, those with
Heterog. Leeds, etc. etc.

Process - Social implications Independent empirical
But what about? Less languages, more productive - not
Laced! Dallas! Life!

Different situations, issues, witnesses

Armed forces vs. hepatitis
Notes to include in August 13, 2020 draft (Swedenvi)

Ritchie - W side ledge - 200' md

Guanacay - 19' diam huge; Quilena Rd shell ind 100 x 2-4' GHVAC

interior - no soil

L'victor - special place 1500yrs 4½ best rain 18th C

Braction - w th to least sp and he meath th fire presence

Squib - open 1780

_pre-adapted hard maize + crops, easy adapt based; pre-adapted toward

treesh + use, new metiv.

Shellfair - predictably rainy, low risk; sheep, hogs, cats, lobsters

Beans - AMS 4th late 12th C

After 1600 - most vases brought Inds

Pine floors + walls 2½ - 2½' wide 4½ b/c

Little 19th Ark - trenched by, wood, pine, ced, lino, cloth, will

Outwash Plains - no visible core

Storage pit - 6x6'

Great LA pop'n, meat food

5 Nations on 6 but b 1500

Engelbret 93 trek - enow haw wild hods more mo - drew mast + wild plant

form 4-5' now replaced haw/gather. Even trek goods - seen only, less driven

from Stl ov Brown late 1400 - very fresh with

100yr - between arrival of goods/word

Baring Ack Wht - Id - b' - st - ch

Draft with "Mashup"

Add - rear-acc left clay pots back to ween, etc., bird bark - bulks, frizzle to corn

Cult - hibache - not Ag; crops between Ak + hibache Some by Rd - Tasson, R

MiMcol of homo 2000 - just be Sir co. let

Crude Ag so many activities would be seized on - secure, combt - bs + h / 4 run, uncertain

Wrong app. buffer 1x1 mpit 22 bu = 200 bu
Oroplized identities 2008 London

hist sources - all Eur perspective for Eur coniwpmr; noble, royals; competition;
bias. time, location; no Native voice

Art > ethnoarchaeology to be an of h, democracy

Explore Eur mobark.
Echil European contact table

Simplify table on major periods?

| Steadily bowls W3200 BP | Males + Beams AD 1250 - 1800

exclusively on water

No, simple progressive model, not tightly constrained or resource dependent, not one to original use, exposed to much material culture, adapted selectively + applied creatively

Specific episodes = hemlock decline/L1A-MWP/

Impact = pervasive but subtle; style adaptive

Pepin, small, technology limited + no animals

Conservationists/historians/Ecologists - big impacts, Anthropologists - small

10,000 yrs. ~ no change

Scenes changes - actors with flexible toolkit adapt

No dichotomy Native - Non-Native blur + gradient

Contrast - Maya, Inca, Hapi, Iroquois, Apo sac;

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

Periods: expansion + contraction

Bolster 42 50,000

Pepin - Moosena 22,100; (Cook - family 4:4, village 100 - 250)

Goolin 72,000; pre-epidemic; snow add 3000 for Abenaki

Willoob 1935 - 24,000; Russell - 95,000; Cronen 100 - 10,000

Disease - decline 55% (snow); 75% (Cook); 90% (Abenaki)

Elk 2 - 3000 contact (D.S.)

Contracting area - Cronen - around villages - Day - only in s.lake occupied few first had contact

Salmon - up to 90% clear - not consume

Eur Impact - tribe + large groups; tribes; discource. conquest people at coast + hereditary centralism

Porta, 270 witness, Fort Hill, Mystic

As much variation w/in tribe as before N.F
Archaeological interpretation of pre-European

Consequent interpretation of Nature
- Natural pattern: space + time; role of climate
- Natural disturbance processes - incl. hurricanes +
  1835 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 Nat: Wilderness, Cultural - Ag, Habitat
  + Resources

Global Change Future

Legacies
Bog.

Men began ks.

H Hudson 1609

Samuel Annins 1610

Capt Williams 1610-

Ed Havelow 1611

Richard Strong 1593   Sir Bernhard Drake 1586

Sir Francis Drake

Steven Ballinger 1580   Arche Tuval 1556

Richard Whithorne 1575

1611 Capt Harlow & Hobson Cape to MV

1614 Hobson w/ Eperow Capt in 1511 to MV

1619 Pemur Dropped Squad
Champlain 1604, 1605
Martin Pring 1603, 1606
Gaspé dated 1602 - Met accented coastline Micmac traders
Relief Gilbert 1607-08
John Smith 1614

Gaspé May 14 1602 - Me near Cape En - Sausage Rock - Cape Neddick -
Indians in Basque Shelled
Cutabouk - 3 weeks builds fortified house
"Left dwell - around Gas Head, No-Nan - fowl & anchour
Pring June 2 1603 - went into Gulf (Mass Bay) that Gaspé missed
Plymouth + casualties

Wm Bradford "They found his [Squanto] place to be 40. mile from here, the sable goat
and the people not many, being dead and abundantly wasted in the last
great mortality which fell in all three parts about these years before
the coming of the English, where thousands of them died,
they not being able to bury one another, their souls and
bones were found in many places lying still above the ground
where their houses and dwellings had been, a very sad spectacle
to behold."
Look at Mulhollan & Dentz

Debra Duranteau
Synthesis

9-14-10

Coastal MA, RI, CT, NY > 2000 projet areas + sites thru 2005

HHC - Bronx Simon State Archaeologist, Cult Res Natl report

NPS survey

Region holds together well - difficult to separate

Prevalent view - Dinosaur, Snow, Bronn - Bronn 1990

Paleo 12-10 - tundra + parksland; hunting, woodworking, food processing; small

bonds, seasonal wandering x 25,000 pop

EA - 10-8 - ID by projectile point style - drills, scrapers, hammerstones, adz, stone

bifaces, celts/adzes, fishhook + netting; conchal - probable

seasonal wandering; limited territories; less-stable lithics + wood-mch

MA 8-1 Decid forest + still ranked 4 levels; territories; central-based wandering

- winter inter-reg area for fish, shellfish, fish

Special purpose

Celts, gouges, ground stones, knives, choppers def sting local units

for consumption, fish, food pone

6-3

LA - small, numerous ceremonial round rooms; fish + pacamid

Mack Forests; pop - hunting + fishing + richlands + farmlands

Trans Ar - 25-2500; diagnostic pts; steatite bowls; central-based wandering

E + M 8-2, 2-1 - combined; ppt; Grid sea level, resource-rich envir

base camps; w/ special purposes; summer sites - coastal aboriginal harvest

winter camps - hunting; small stones + pebble

Large sites may have been used year round

Adurval pottery - defined Woodland - fishhook, shellfish + rock effec

outside trade - Otic Adzes + lithics - N, S, W

LW 1000-450; large site trad, heads of salmon, multi-occup

Contact 1800-1850: main village - semipermanent, winterized + 12 yrs &

seasonal to family construction with foods; wampum, but little others
Consistent points - wooded & part of sheltering + located for resources + for envir.

DD
Region holds together well CC -> LW

V low PriEA; TMA to peak LA; E & MW; LW - even higher in LW than mainland

Contact 1500-3500

New, Squib, Quaia, Linyon - continuous year round occupancy

2000 CC+L look like do, coast out 0.5-mile "village" G, Btd, Hk

Burnage Men - Guiao - uninterrupted; soil black w/ debris - 4 shells, bones, charcoal

house rings Quote artifacts - shells, pottery frags, obsidian pot rim & pot stones

3 o'clocks 1 w/so; 1 10-15; 1-20 - apparent prehistoric post contact as one fell

W & Men pres. shell midden & 60 hill corners - presumed precontact, v black soil

Burnage + Hooten 1912-13 - eroded & excav. materials & burials Pease's Pt E above Men. Bay

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

erasure

At time - 22 shell heaps around Men - Squib Pt. excavated & before developed by

1 Horn Blower Shell Heap - SE Squib Pt. - would have been wooded; hilly - prehistoric

from winds + shell heaps - Oyster, scallop, quahog + clam - from pel, brooks, sea birds, sea mammals LA -> LW - see MA - Post holes

pipes - food prose, tool many, woodwork, rich & poor, tools Scy, Pt

2 Squib Cliff Shell teardrop - v. slim. artifact roughly compact

O Horn II
Ritchie. N short amphi in heavily wooded, 5 strata - way to WP to open w/ sea - shellfish

spring heavy or alcove, middle 2-3" 7-8" deep cliff structure

2230 - LA "small group - adjust to coast": the 2150 - 1050 ya possible; the M+LW

then LW - all suggest mount or all of yr 1 char corn

③ Johnson N shore depression LA projectile Fw rare, oyster -> Fw -> LW - clay, shells

- continue

⑤ Howard - E Neat - few Natl - our feathrd & protactn - many post molds w/ random

v. Few bikes -> 500m from water, vast majority Colin zoom

Buzz Brk MW-11 LA-24 E/US MW-20 LW-23 contact 4-5500 people
Notes 10-12-10

MN & EC

- Late Archaic - Nuts, nutting stones, mortar & pestle
- Burial ceremonialism - ↑ popn
- Followed by resource stress

Community-wide archaeology surveys - Chilmark, WTIs, Oak Bluffs, Edg

Database Historic Maps - U of KS - Library Congress

Aquinnah - Oval 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 - osuary - LK wide range bo-towed & found, not main dep ground
- Pottery ↑ - better wearing foods; pottery better than scrapings & wood; ↑ formal
- Fertility, ↑ birth spacing; climate amelioration 1000 AD
- Contact - same sites as earlier & semi-end through here
- Buzz Bay - inland using coast short term

Salisbury 1993

1524 Ver 15 days w/ Inds Navy Bay then Abeneakis Casco

In ENA

Morgan 1997 - Pres-01 architecture - Lower Miss, Fie, On Will, Toun, Appa & Pichel - Giza

Appendix of Comp Sites - Stonkley, Atropoli, Angler Wit, Rozzo Saw Monte, Stetler Squ

Dorrino Bio + Assoc Agents

Gordon D - For Ecologist; grew up Balm VT; NASA Mount Exp Station - Bartlett 1972

1997 - Stetler + Quinn

1566 - Real Colonies kidnapped to Europe, warm & child brought

By 1580 - 1000 Basque annually 6 mos. 15-20 ships, Strait of Belle Isle

Looking for Ori

Frobisher Bottom 4 captives; 1 from 1576 "Now with this new prey... the Captain Frobisher"

Every returned homeward, and arrived in England: "Desires to bring some fowls from hence of his
being them." Lot 1577
Well + excessive drained near water; NW 1st large shell middens
LW more perm settl.; not due to corn.

M.M. et al. 1979
5 coastal sites - fewir - sampling + (no) developmnt.; Pts need breakings to improve shellfish
Herb + Charon 130
NW 1st SNE 1 Sedan, shellfish, popu, trade; LW larger middens

Chappo - substantial yr-round popn; village - multi. fam + special purpose; camps + work
limited access to sites
Plain - 1 half near Little Pd

DD
Native conflict - does by explorers
N.F. - St. r's = Eskamik develop + stabilize = N.K

Davesho Hill
1560 > 30 boats St. Malo + Cancal

Havison
1572
50 Eng. 150 G + Beagon 150 Spanish in Nfld
1576 300 boats

Bruce 179

DD
> 2 500 sites MA, RI, CT, NY Region holds together

MM 1979
Polish popn decline + cult develop to vegetation + diversify + decay of veg

Guernsey
Menem + Swiftco Pts "almost uninterrupted evidence of aboriginal occupation" ×
soil almost black w/ despoging debris \view\ Form to 1 ft
2 house rings 13' diam. ridge of earth 2 x 6" ×
1650 "Younger Mayhem" made w/ 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 of"

G.H. wigwams to 1819
Pits cut by grass grass shell mts. Swiftco 100 x 2-4' GH 3/4 ac 1819
Unfinished indians council Oyster + Wifolds - both through connected to Wes

Huntington
Lagoon Pd 2 exclusive sites - herd of Pd + near Bass Cr
Gulf ME - same corn cult.
Assump - one Ag area would spread to when environ halted
LIA variabilities 1730-1820 and Sou front thru 18th, 1880-1984 - 16 days
Risk consecutive failures - crops
Planting - not just biophysical; cultural - descent
Direct sowing: iron + use other 6 limit dump
Ind terr is main only after disease + gap in far fresh

Kamper & Biddle 2010
"Living with the land" not "living on the land" "roots, above, same
Patterns of continuity
Patriot = contact - 18th C wild plant use cont.

Barnsley 2006
LT continuity technology, raw material use, utilize + subsid
as A - big game & broad economic x Ag - broad, parasitic patterns
Ptolemy have been eating divers - animal game + plants + sea. Not so revolutionary
Ag in use - some comparison with iron + others hints + trap plants - iron disease impact
Cont long eat traditional - broad spectrum new resource added to our capacity list
Latin remark L. IC variance 6000 yrs

Strong 1777
Artifacts, huge A w/ contact - tribal system deal in response Eur pressure, apps,
more centralized, coerc power under individual, vs no coercive leader
LT - eat trade NL + PA
Corn etc. little impact, with Ay - destroyed native resources
Eur destroyed corn - no impact
1825 - Spanish bishop SB near Newport on Spain as classes
Before Eur settle - trash trail along indunch near b shaw - ncv, util, fish, trips, trade efficient
Hudson 1807 Sandy Hook NJ
Dutch Manhattan Post 1812 1814 Albany United Neth to

Ritchie 1967
S TVs less chesive - exposed, soil molds 2-3 x 7-8" deep
Fall forest slim comp, structural shift 1500,1801, 1832 - Carl Reuss
Post & Sars
Shiftly settl, slash + burn, mosaic Gala & farms, meadows + park-like
large open areas in major valleys
Fire most advantageous to station LV Ag
chars on - in water LV

Carlson et al. 72 Seasonably mobilized dispersed people; how low settl -> control
Bradley 1976 "Intensive network of trade; 1st writer + picks from time of sail"
Mobilized more egalitarian
Coastal conditions sector based on marine; role centralize behind Eur control/1714
Matsis overthrown as Eur seek to access fort

Breul 1983 Chagops - most aborig. seed Make Indep. of Eur

Denevan 1992 NE, Molu & "Agricultural clearing and burning led converted meadows to
forest into successional (fallow) wood and into semi-deciduous grass open
(t) meadows, barrens, plains, slats, savannas + prairies

Dun 1992 1614 Squant lived w/26 others

Vaughn 1965 After 1605 most brought Inds back as sunk

Pq otho's 84 R Ware - traditional source info but like above -epi, waterman LV

DeAcu 1996 Russel attempt to read the word record in terms of historical Don't accept
Endo's Dutch description of Mawa on harl as representative major realion politics, etc.

Dun & O'Brien Early Cap houses, pin floor, hole, wainscot, 2-8' W Barn church 16' sq +48' or

Russel 1893 fear 1st hand fire, most grass; Dry - only where Inds inhab.
"Evidence along almost every pond, watercourse, bay and estuary line of native occupation of MV for thousands of years."

Rissh: forest to marine- adapted as increased familiarity

Deer + Maid Boon Proj - no cult. material near pond

Vineyard Area - Golf Bluff - 125 acres, int. - no arch. ties. resources

Impacts - fish, waterfowl, deer, beavers, firewood, clay

Disease - differential 1617-19 - up to 1000, Plymouth - none. Narr. 1632 smallpox

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

CTR extensive tidal marshes - 1200 BP Shift toward major R in CT after LA

Earliest forts - Mystic + 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 1700 ar. gro.

ACK: single family, work areas; more complex sites, later time, lake disease as 1659 settled

LV: 9 popn. + more method - winnow

Cape: semi-historic dwellings - W - longer residence, more social, longer tenure. use

Wellfleet: Indian Nut Obscurity - no trauma, wide range people, healthy, low carvings, low disease

Wm. Pynchon Act Book - 13 mo. names - son John handwriting 1645 to town - in riv. all gone by fish

and ferries outside. Few ind. corn. Ind. able. use muskets 

When they met out corn. When women used their corn. Whisky hill Indian corn. When squawhs riper

Squash called fart + burned

Wilbur 1776

"Long before the first white settlers came to MV shows intertribal wars were tearing apart the very fabric of

Coci 1790

Siler Weed 1815 natural state - used hist. sources to project backward; Money used Weed - not in 2nd highest

presort for cotton;

already after Mexico. Each work reinforce last. Poor contact assumed stable, stable w/ powerful chiefs

Cocagne League

Wampum 1610-80 sudden + conspicuous appearance w/ Dutch - Whisk - knotted wth + channelled wth

exchange, trade, currency.

purple Marion's Linn. need metal tools as 3-2 mm. diam

Main storage but no evidence of dependence vs Hudson - large, numerous storage

Hudson's natives "had no house" "always carry with them all their goods, as well as their food."

Long house - "fixed places of abode & dwelling built with beams in forms of an own... sufficient

for several families" vs "temp huts or shanties" "small movable huts"
DeSoto transformed harvests into ships, more sedentary settlement in coastal zone, not near visitat
European goods. Euro south NY mapped wintel here for

Beaver $ after non-local on Hudson by 1607. Overhaul for Euro: beaver, ox, horse, meat, milk, cloth, tobacco, velvet, deerskin, rum, more and.

Acorns - annual and edible: ala, prunus, macaroni, broccoli, chelate

Time on coast to trade - no forts, previous follow Euro model

Present - all camps postenoides - no pattern arrangement

Shirley - colonially unsustainable - Indians needed corn from Indo by 1660s

Corn - manure, land cleared, surgery, deforestation, liming, weeding, fencing.

DeRastez "a grain to which much labor must be given, with weeding + earthing-up.

Verr. 182 - Copper ahata from prior, unbr. explorers

1588: Eleven Games Flie to NY to receive 1613 Diego Geraldo Fls to Lab; showed map to, Hudson

1532: Engr book, map to coast "officious enough their men on land to search the staked forests".

1529: P. Crispin - 800 km S of Cap Breton to Nfornbrraod land east. by Giovanni de Verr.

1540 - Fr trade post on upper Hudson Spanish sold to Albany 1550

Mercuri map 1567 - Block Is + Hudson as part Norway, NY, no CC. Cap Breton, NfW, S

Fortman

1570: Jean Cassin: World map suggest coast Ny thoroughly explored

1583: Hauluyt map of coast to St L via Hudson + Champlain Valley

1588: Dutch NA Hudson catch

V4 Co. Chart 1606-08 remov complete SA & Libano. Eng will

1602: Swanson: Ind brought here to trade: beaver, marton, alder, lynx, black fox, rabbit, deer, seal.

1604-05: Lessebus: Chronicler France. ME + NS - NY + RI Inds on NT - make beef

Hudson R: people overwnt 1612-12 or 1631-01

1618-14 Hudson + 2 Dutch Co. book - 10,000 hrs. New Netherlands Co 1614

Block 1611 - Cart Huyburh - Detailed Cap BF

1612-15: Name Hoa Fort - trade

1614-24: Pelman buy at wampum yr-round ocean in - market plan

1624-1625: growth + cultivation of trade - coastal NY brought by Ind.

Block up CT - not rev. in. 1632: Dutch 15,000 skins 20 mi uptrade from Pls to MA - up 1-2 mi obt
EC

Pine Hill - small overtop Watkins seasonal weare - despite one of largest LW occupations

Ceramics - more diverse than Iraq - mobile, fluid social being

Amonat Says 

4700 Y bce - rich NHD; more productive hab. - 3000

Nuti human &

Ash-Sidehill

bulwark oil nuts 64% fat 25% protein vs Rock 2260/63

Snow 80

1605 Waymouth ME - 5 - 2 cancers

Nahawde - where w Prisc to ME 1606

Stewarts w/ Gilbert + Popham 1603

Assassin 1603 w/ Cholos

1605 but later by, Special as above

Salwen 1970 clear 90%

Palo = LA discontinuity

Repeal Verg A - repeal allowance

Next Forest = LA 6-3.7

"our windblown oof patience climat i.e. survivors to help future is poor"

Iraq insulat d by Nahawde 2-4 KKP

Discuss NY - backdrop, source, more info

"Talke together if all suggests that in the period aborig NE was marginal by

mainstream of prehist in the E"

Hort - sodfail lands

"There is no quest of bldg impo of

Villages destroyed by Ew

Hort in 1940s Peois period of SWEC

but no dance Coon + Riff

For NE

"we have yet to carry out the research that will tell us white or not this environs

are our prime resource in the shift of stuff & subsis"
View from 1500
- flimsy
Wigwam, hunt/gather; deer abundant

Most forest: oak, hickory, chestnut

Broad spectrum
Semi-domesticate - sump weed, many plants
Potential thru necessity - fun for 100 yrs
Maize - clear-void supplement, available but rejected risky; in twelve work; commitment - expect
Mobile farmer - too strong, mom at coast when

Health - no trauma, low caries (ground corn)

Clams over corn

Coastal adaptation

More abundant and reliable resources

Sedentary without agriculture

Substantial with population without villages

Fish, shellfish, hunting, oak, hickory

MV detail

Drift whale

Evidence along almost every

Repeated use - sq. Neah

None on interior

Still wigwam + flexible Very 1524

Human health

Dependent on coastal pond dynamics, with these

historic efforts to connect = to see prehistoric

unknown

Major site reasons - c1-5 Lagoon Pol. Tashmoo,
- Nanemish
- Squib, EGP, KE, Spenolekciit, Chip.
Continuity and Persistence
Changes thru Holocaust - Periods
Technology - tools + weapons Soapstone, ceramics
Possible - signif adapt. Bedewam
Pap'in burial traditions
Coast + MV in particular - huge dynamic
shoreline, islands, storms, oak decline
Pap'in change

Coastal Adaptation
1. the gradual emergence of idea - Paleo people equally adaptable; coast came to them;
2. the stabilization of coastlines thinking
Where did this come from?
Site's lost; peatlands off the coast; diff habitats

Changing locations over time - Lucas Vincent,
Ponds + lagoons; wetlands forms the turn 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

- political + economic

Cultural - exchange of knowledge, influence on 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

Extrat + temporal depth greater than commonly

recognized - trading posts, movement of Indians
to Europe + back; multiple exchanges - positive +

negative: goods - direct, pillage.

Common that Pilgrims stole from Indians stores,

but Indians pillaged from

See: Gospodin 1602: Shillop

Squanto 1614
Tribal system developed
Rivalries + frictions - trading, diff Eur groups

Eur presence overwhelming but natives pre-adapted
for rapid change:
  o trade + exchange - well established, reduced friction,
    facilitated survival in lean times; Eurs anxious to
    trade - needed food, wanted fur + goods
  o possessed basic tools - corn, beans, squash to
    support pop'n + sedentism; familiar w/
    sedentism
  o adaptable - including facilit. 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 cards sampling
    behaviors + practices along a trajectory of
    change. All the normal reasons to be
    suspect - bias, misunderstanding, seasonality,
    sampling error, boost, lack of
    democracy
    But also actual change - Heisenberg
    principal - observer changes the observation
    + the subject
    Maze - big impression on Eur - looking for Ag potwls,
    something they recognized, needed for
So - consequences for landscape

Landscape forested, inhabited and broken in places - repeated use and reuse, esp. sedum can grow in all places - 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 forming not scaling to acres; no need for large open areas.

Rapidly regrowing vegetation - constant maintenance.

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

Overwhelming natural processes; land not managing for oak, slowing changes & moist, less useful taxa

More seeds possible

Little, Ritchie, Dunbar (But Puit + Sis)

Archaeologists - assume forested

Paleo confirms this

What this means for conservation - management not rooted in proximity. Major change historically...
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 ~10250-12000; 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.

II. Modest regional variation with strongest differences coastal adaptations - transportation, fishing, collecting, scavenging.

Broad spectrum resource use

Remarkable resilience: No simple progressive model

Exposure to much material culture; practices adapted - to own use, not necessarily original use

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

Particular events/opportunities - most inland 6000 BP
favorable climate thus + Medieval Warm period;
slowing of sea level rise - wetlands + stability
Shattering of Contact Myth - witnessed contact

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


Undercutting widespread and frequent burning, land management on broad scale, takers of the land.

KE - "with"

Indians lived in not on the land. Whether consciously 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 constrained
- pop'n small

No discernible impact.

Archaeologists assume forested, ref. little impact

Ecologists/historians - major
In order to understand native people in the land and their influence
Throw out much learned from school-teacher, iconic images,
tourist brochures, histories and conservation organizations
Most bosen caught up with modern archae. Archae it self too shifts
Mindset by history ethnography
our view of progress not neat others
More general - Ag dependent + in fixed villages, same forts
whereas native Ag requires destruction; evolution implies-accessible
food = resource dependent + within reach, settlement locations.
Large periods imply large # of change
Evolutionary, reconstruction thinking
A tool = culture not nec ecological shift intime of resources.
Our exploitation ever emphasize Ag as their preconception, also
what they desired to car + exploit, what they wanted + needed.
LA = stabilization. Sealed - resources, estuaries, shellfish
Not clear where this originated (which geologist? what evidence on pentlandites,
shellfish etc.?)

Only can be accumulated every 3 - 4 years buried esp. by ants

Managed their lands - fire, Ag, orchards, wood thinning
Frequent burning + widespread, tomers of the land + fire = Forest Climax.

Mitch 1979
For supe + human pop'n A Small pop'n 10-4 10-1 10-2 10-3 10-4 10-5
Grad pop'n as forest moves Proc 4 KBP, diversit + diversity
Of veg. relate to pop'n as all flora spp. known
Horiz dir div in climor grad pop'n as grad env + climor inv.

Play changes when the scene changes; actors with flexible tool kit adapts
the changing scene - landconfig, vegetation, wildlife + resources
Contact = noun, verb, variable process ranging process - not one event, not always
Contact = 1620 = ballet + troupe; English; many predecessors, direct, not same
people each time or season or context

Dichotomy = Native/Non-Native
Word but not isolate villages; weirs, houses, fuel, driving

Impact pervasive, but subtle, highly adaptive; not fixed or focused, concentrated
Altered wildlife, plants, local composition in or with land; not on + or
through it; chronic over 10k years impossible; possible;
Invisible - for many reasons + contrast - other Native peoples - Maya, Inca,
Anasazi; Hopi, even brood + esp. with, even, Europe + broad
Hunt + gather - dispersed + small pop'n; not agricultural; limited technology
applied to collecting + shaping resources; no domestic animals

Bex on fire
Indians - Why do we care?

- Imp insights into human culture - distinct from colonists adaptation
- Successful - 10,000 yrs 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 pop's kept in check by large carnivores or by human carnivores? Were rare spp doesy rare thru? Was veg structured by rain or people?

* Through logics, legends + physical survival - comprise ongoing + imp. part of landscape.
Rapid climate change - up to 7°C over v. short time - rapid melt, rapid loss of trees, ice breakup, so much snow on plants + animal.

Rapid collapse major parts of ice sheet

Heinrich events - 50 break-up events, ice into ocean w/ rock debris.
Shattering of Contact Myth

Early Contact Eur Influence on Indians

Sturtevant Quinn '87
1567 - 1st Eskimos from Terra Nova to Europe (Netherlands) - kidnapped from Labrador by French sailors; woodcut on 3 broadsides - 20yr woman + 2yr girl
Woman + girl in park, skin boats
Basques - Spanish some French 1540-80s; by 1560s more than 1000 Basque annually in 15-20 ships for 6 mos, rel. few refs to natives looking for ore
Frobisher 1576-78 - Eskimos on Baffin - found barrel of nails in Eckerfort
"The Captain desirable to bring some tokens from those, of his being there."
"Now with this new prey... returned homeward, and arrived in England."
Lost 5 men. Hostile natives as hostages, never found his men - brought 14(?) back alive

Salisbury '93
1524 - Verazzano 15 days in Naragansetts Bay w/ natives; then Casco + Abenaki
Preadapt to take advantage of opportunity to use non-native materials; to monetize activity
Eur; survival - exchange + trade
Trade/exchange - critical importance to Ind - ritual exchange, localized + regional trade
Pre-adapted for contact, trade; but shift from reciprocal city + gift economy to economic relationship; linked Ind to Eur economy
Wampum - ceremony, symbol + prestige = medium of exchange + diversified activity
Commercialized Ind cult practices - e.g. trapping - not related to need

Cautwell '97
Hudson - NY Harbour 1609 - 1624 - Dutch West India Co - fur trade opens
Trading rapidly shifted inland as coastal fur used up; wampum/fur 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 Ma民生ce 50-90% mortality - personnel + atmospheric tragedy
Often rebuild community w/ girls, family members or traditional leaders

Stron '97
McBride - BI fort - post-contact - response to conflict
Rostor chronid

Vaugh 1965. Capt Geo Weymouth 9/18-1605 returned from Plymouth w/ 5 Indians

Sir Walter Raleigh 1587 returned from Roanoke w/ two ind

After 1605 most brought ind as guides

1606 Henry Chalons took 2 ind to estab NYA Col. twice in Wanake by Span
John Popham sent M Pring & T Harham explore NE took ind Tahunorda

1607 Me colon Sagadahoc @ Ft St George
1608 Capt Edw Harlow capt'd several on coast + MV
1610 Thos Hunt seized 24 sold - Mohegan
1616-17 2/4 ind died Pendacent R -> Narr Bkg. "Divine providew much wey for
the quiet & pacific settent of the English in temn nation

Strong 1597
1556 - Port kidnapped 50 Beothunks to Port as slaves

1502 - Eng Nfld 3 as proof of landfall
1576 - Spans kidnap 58 in Narr Bkg. -> Spain as slaves

Basques - 10 whale porpoise 1500 new each summer

Dutch met here had been camps on LI before 1600

Champlain - CC Inds. - Eng clothes & specky Ft + Behar
J Smith - Chec Bkg. - Inds w/ hatchets, cloth, Eur goods

Before Eur met switch to mtb

↑ trade + network; conc Ordv new ports; larger pop's under individ
sachems; transformed loose alliances of small groups into tribes + confed

Alcohol - Henry Hudson

1609 Hudson - Nfld -> Pendacent Bkg. -> CC trade w/ ind -> Chec + Del Bkg

Sandy Hook NJ - 1st control Algonquins NY Bkg attacked by ind

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

By 1540 Ew emphasis shift from fish to fn
MV

Oystre Pd + Witch Pd - tradition - both now connected to sea below
storms closed OP - still Oystre? - Ind can't get sound to rooms?

House rings + shell mdr 19' dia
Quitsa Pd - once shell mdr 100' x 2-4'
GH - shell bed "54' or 6-18' deep

118

Mathewson et al. Chilmark; 2 Maisie sibs Petersens - Chil; Horn II - CH 1160 50

D Duranteau 118

Region holds together;
MV 'evidently along almost every pond, watercourse, bay + coast line of
native course of MV for thousands of yrs'

Revised use: Squib, Nash, Men, Lagoon; huge marshes

Interior 2.25 ac. Golf: no arch. no resources; none near Little Pd

Sea Level 1.2 mm/yr to 2.500 BP, 185 mm above; CTR est tidal marsh

at 1500-2000 BP

Grad shift Great adapt habitat to coastal

Verm 1524 "They change their hibernations from pond to pond as circumstance of
abtention and season may require; and there is cause to show, as they have
and be held with them their mchhs, and try to have after house prepared etc."

RUMSA - vast wilderness interspersed w/ water

BI - Oak brushwood evergreen; no seed Jupiter

Wellftr. lost Neck Obsv - range of people, healthy; no trouble; low
Carries (not green cables); low salinity - all new

Best site - models on - EGP, KBY, Chipm. Plains - one large site

Nanupky = fresh with - EGP

Eq'd all rich around little P
Humbler/Chuuk


MV = if still trade, stay open
      Limited access to ponds - undammed

Minneapolis - Fresh Pd - Prob EGP
      Little Pd - 1 large site

Trans 1947

Send Lagoon Pd - trad. site - id. Joseph Chase Allen 8-19-26 ideal site

Large burning ground to E of S end Lagoon - huge middens + gravestones

W side Lagoon - small undisturbed - Natural site - great saving - Weathasug

N wide woods Onkeshkuppi; SW level forbik around to Duarke - poss.
      largest village on island.

MacQuarie 1917

Lucy Vincent - EC most imp. site Bo gisj; special place on landscape 1500 gyc

121 erosion/yr 212 lost since 18th c most 500-1000

1915 human remains - Round Jardin - working with EC tech

Bungay 2009

Chilmark - 3 beaches - LV, Squib, Men; 5-10'/sv

Big Inspector - if 500 ft hour = 50 yr

"N the curious historic records flesh out the skeletal facts of arch"

Ritchie 1969

MV - no prof. arch. sites, "Populated from the mainland"

No interp of changing landscape context - old sites have inferior culture - Arch fault

Discontinuous use of sites - pond openings, shell fish

High canopy (Brevon)

"Cheever "wonderful plague" their note"

"Here is easily slow as to how only to take with the reign"

Very rare quote "change their habitation as circum of situation season" my

Paradise: Wiguam - double met, wood bowl, earth pot, baskets - full acorns

Brevon: "with the local speck he made a fine pestle" i

Horn II - amachi; found it; here, abode 1980 open; here Co. Men = Squib was.

1920 + soft - burrow; Oyster euhalii - tahl

2.2" post wood; deer; bay scallop - mobile + deep water, hard nuts; further bottom

Offshore - lost erdwheel off Nomolu

Poor under. climate = sea level - 1 lb No Squib Men
"abode ser to have been flimsy dwellings of wet or dark concealment of indeterminate era + style."

Prehistoric Site - Howard Ave Tib Bu Luco Pal sheltered by large trees, primeval forest

"Flimsy home"

Overgrown earth为啥 hatred dwell where she sleeps with

Cuny with Wide Lagoon- Zoo 50' all mud; minor interment of habitat

evolve deer - young told "discontent conservation practices"

"Nasu Am subs. petter 350 ye"

Heat Mr, bury "sanded house"

Mv - Basic framework NE CC pt of deposit

Palo - by some cool moist bowl

9000. Pin low popn. progressin - dephtism to moving conic

G - B-D-H Moronic, most coler - deer, fowl

Graph A about shall level

"Group newly arrived of deer" - dart which b learn a hill gale

LW - "Corn +Skeleton imp part of fed"

Rise of farm major element A but mg A

Perennial residence over normal initial cycle of subsistence - as usual

S Shores Ponds - less attractive than N show as open to easy

Huntington Lagoon Pal - connected orig via Bass Creek to sea - 2 bras.

- No Eur ever - springs + barrow brush 20' show

head of pond & near Bass Creek

Guernsey LVA - 30' cliff. 4'12 + 23'6' split. Man = Nash Pal - "almost uninterrupted 1916

entire survey of aborig occupation" black soil in many places due to debris debris

fields; corn, hills, bone, silt, house rings 17' aim ridge of earth 6"

1850 log Muuk house - made w/ small poles like an arbor covered w/ mirror

their fire in the middle, over which they learn a place for smoke to get out of.

Pease Pt - 2 acres b'ls plus which can fit by gross, retain much
Ag Myth → Conservation

Capece 2001

Ruole - 1000 yrs. Wampanoag - drastic changes, large-scale burning, hunting, Ag mosaic; savannah

Chilton 2010

Beans ~ AD 1300

Mobile farmers, maize prev. after 1250 AD; 550BP Tchacacac Valley, not all accepted:

Chenopod, knotweed, sumpweed; no evidence domestication

Sedentary bowls + corn pits 3500BP - Li; highest pop'n to that pt

Holding IL 2000BP; lower Gr L AD 500; NY AD 600; S Ont/NY AD 1000 dietary

Mont NE acres 1300-1600 Ingalls NH 1018-1159 Mad 88.78 + CHB 4.5

"No evidence for sedentary yr-round farming, vill in NE" "no evidence for inferior maize hunt while after Euro colon" but yr-round habit in protected harbors begins LA - yr-round accessibility marlin + fur resource

Maize f. cult A, LIA/HWP

Lith 2010 1250-1350 - used salt/ash, shell middens, limewax etc on alluvial plains & across

ACK 1859 27 Puinito families 1600-2000 Indo

Pre-adapted for Ag - sed lifestyle; familiars' w/ crops & domesticates;

inclined towards trade & exchange; adaptation of new materials into life & culture; grouping to attention, 3 pop'n + other activities like trapping & trading, less on eff & fed crop.
Dinosaurs' feet - resist temp to read arch record in terms of heat record
few of latter + extreme bias; No understandbly, transmuted condition,
major social, political, e.g. relocation

A 9 Myth

Berea 1985
Arch evidence for prehist A 9 virtually absent from Navr Eq

Valle 1999
Myth - humanized landscape; pristine - fund. characteristic of

DP - Dunford
1500 - A 9 intensively - single household = founded w/ harvest fields, pits, skull

Do Pecos 3000 BP - allowed curing, seeds, nuts, winter

Broadacre 1932
Althea Many arrive; Ll in NE little apparent A but little with late

Gr1
High degree cultural & economic continuity: contact - present
Cut poles, cleared, fish: community
Men: dig, fall, early winter: women: plants, crust, shelter, roots, butch, clothes, cloth:
no fort, village
Little evidence: pre-contact water furn - not definable locations, no traces
Shellfish: predistilled 1 low risk flow, shed, shurce, e.g., lobster: not archeo
pit with linings 3.5 sunflow +15 shovel pit manic hundred - 15 c
nuts: hickory, most common; beech: oak - breed

Chenopodium, polyaquum pertuxaca, rumex, A 9: Andropogon: lined pit
A 9 -伙by rapidly dispersed slow adoption more

More cult inland

Siddon 2002
Ampelocarpus, Amb trident, Polygonum, Chen, Desmodium, Helianthus, Elymus, Hou drown

Sidell 2002
Beach: seldom seen

Petersen 2002
Full blown regional trials. Meat preserved A to occur among Navar

Petersen + Cow
AD 1000-1200 extensive adoption of corn + subsistence farming, some of largest A 9 social
Few, large, dozen so diff in hab; buried, distributed

"The most profound changes to occur among Navar in the Northwest prior
1992 Donavan NE. "Midwest + " Ag clear water and burning had converted much of
the forest into grass (follow) and into semi-prairie grassland (corn). Plains, prairie, "Serene, Plain,"

to the arrival of Euro. - arrival

Hart & Meets 2002: Conc people - enough hands for all tasks - Ag = nucleation

W & E - no nucl. by 1200
S. Ont. Nucl. village by 8th c. Longhaustr 12th c. COHR Basin - variable 900-1100-1200

Lowa: R. B. - Freq by 1000 Nucl. Vill 1200-1300

NE - Oldest Main 1200BP Lower Hudson R Lower CTR 1000BP - Season Neat

Costal - Highland 12th c. 1250BP Freq. 13th c. AD large area 15-16th c

No nucleated village. - v. late prehistory or Eur Control most after 14th c

5300 liters soil - flaxton - 19 maize

Bean seed project. SI AMS - not even visible until after 12th c

250 yrs before main been intr. w/ Squash - use. by Eur settler

AMS - completely a history of beans + intr. M-b-E system

Carlsen 1992 - Broad spectrum - hunt, fish, gather - seasonally mobile until petty post in discovered

Egal - few minor settle wth control 16th c - traded w/ contacts - disease

1630 Lower R. Wms. to A Western 4 maize 16th c. n. Ohio to Nw.

Doolittle 1992 Not fur 218 Champs 1600 BP Bay - "fur was also in burned woods"

Bragdon 92 - Eur eyes deceived; land used reused 1 or 2 small + egalitarian

Haiz - big impression on Eur. to b. is just for Vill assumed control inhabitant

St. Louis 12-13th c. Eaur goods - Lisa + Greisid?

Dun 93 Squash 1614 Kidman Camp. Tba. w/ D. Smith - Strat. 1600 - Nw. 16

Alm. 15, 718 Derser

Vaux 1965 - After 1605 most veg is brought Ind to NE. C. gui

End
But contrary wise in short time after, the hand of God fell heavily upon them [Indians], with such a mortall stroke, that they died in heaps, 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 Carcasses 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 living being (as it seems) not able to bury the dead, they were left for Crows, Kitts, and Vermin to prey upon. And the bones and skulls upon the several pla& of their habitation, made such a spectacle, after my comming into those parts, that as I travailed in that Forest, near the Massachusetts, it seemed to me a new found Golgotha.

vacuum in leadership + competition due to
Little 1981—treeed at Euro; beech, wo, hick, pine, cedar, tulip, chem, willow

Outwash Plains—no evidence of forest

1689 Mason: "to take wood for use of him

Extrinsic quotes 

Beech Woods 

Freeman—WP mining

Bernstein 1993

Vermont—125

Bernabo 1977; Thorne; + on 1848 expanded open fields

-1000

Dunriddle—Oak + some P, Re, Me, H, Mapes

1780 12-16K show 

PP reintro 1847

Some forest clearance

<1000 EA 

↑ corv., bez., el.

Grizzly—major factor expandy + maintain open; tracks leaves

Polk + Sosa—Burn: mosaic of forests, fields in various successions; shifting settl +

↓ slash + burn; opened large areas in major valleys;
State of Land on Contest

Ritchie '69

Ewension: "climatic forest of the "is of MA in precolonial time presumed to be a drift and shuck species from the modern cutover woodland with shrub woodlands.

Dunford-O'Brien

Early Cape Pine floorboards + wainscoting 2-3' wide; Oak 16" x 48", cedar fence

Day 1952

Village site 2-150 ac systematic firewood cutting; cornfields 2-6 miles

Fruit orchards 150 trees; plant nut trees

Fire - pork-like exclusion barless + brushless

Branden '66

Eur - decreased by land - native hort + hort - less obvious impact - unfused

N/A Ag had huge impact on Eur - told to cultivate fertility - so ag had led to assume Ag control on site

Treskov 1992

Yervozan 1524 - BI forested + well populated; clear - gone by 1800

1653 copper cobalt industry

Quarry coal industry

Idyllic ecological equilibrium

Butzer 1992

Sale 1800 - people in harmony w/ nature; refrained from deli's, alter. stone

Donevan '72

NE, NW, SE "Agricultural" burning had converted much of the forest into successional

(Fallow) growth and into semi-permanent sunny openings (meadows, bays)

Plains, Bladed, Savanna, & prairie

1888

Patterson/Sassoon humans x 95% fire - shifting settlement, slash/burn, fields in succ stages, corn

Fire - most advantageous to stationary landuse; generalized burn; not local site
Continuity + Modest Change - No Simple Progression Model

Engelbrecht '93
Ingrates - only trace of 17th c. uncertain time depth - change
Pop'n & other's, political, ethnic

Curtwell & Will '01
Q inevitability or desirability of progress

Strong '47
"forest efficient" economic benefits
Plant domestication, intro 
Quots - such effective use of env - no rush to adapt hot current
Little dramatic change - little need to alter hunt/gather - long period exp
When Eng destroyed fields - Ind ale from forests

Chilton '49
Dincaze quote - No dramatic w/meau - settlement, distribution, etc
Problem with dichotomous models
EC: Mala '98
"mobile farmers", "foraging horticulturists", "tethered mobility"
Dunford '83
"conditional sedentary"

Wood & bosses - fish, shells, berries, meat, beans, corn, ground nuts,
chess, acorns, beer, hikel, bier

Joss - "towns to have none" always move
EC - Mass Alg - much more printing diversification of crops due to small
groups - high mobility? May looking thru or

Don't look for data to conform to models - typo-test

Denevan '92
Denzel accords wi Euro rules &

Dincaze '49
No evidence that wild plant use declined wi mass

Little 1980
1000 AD intro 1 wi few other shifts; pop'n & sedwsh
Bragdon 1996 - Modern calumets - strk. social group, not villy - widespread
petro & cont - no sil. cont; musk 1200AD
broa. subsist base
Inland - with.
Hickory & acorn v. imp

Bradburn 1943 Econom. strch. 2000 yrs before contact - disver wil pld & twin.

Ceci 1980 Shift local Ag in to mon comp. ac Hunt pattern & 3000 yrs

Snow 70s Lake prehist. subsistence econ. diversified pattern of hunt, fish.

Shellfish, plant coll & As Deer most imp

2. Broa. spectral resourc utilizh

Bernstein 2006 Continuity in Arch recorl - famil power subsist, sch Hunt

raw materials, sim technol - loos of yrs

vrt Nerv. evid. - poss. soc. econ. diverse, not impoverish

Chng emphasized - Pale time large mstmt; Arch - broa. econ. base: W-Main &

Broa. persistnce pattern - large, small, plants. 30 yr Arch not so revolut.

Plant domest - late, little disver. impact, esp tropical plant

> 20 plants, > 100 verte > doz. mollusc. Corn new resourc to lag list

No woodl. Econ. Transformation

Lithic indust - remark. lack of variation over 6000 yrs

Reject lith. asct & app. to broken to cld

Ag not onl. settled hct

Kasper-Mcm 2013 - High dens. cont. per cont. - 1st Live with

LW broa. cont. many groups: vast plant mut; wil plants dominat!
"The new forest had produced a bounty of nuts. The Squawvas quizzed the men of the walnut and the oil that could be extracted. Acorns could be ground into meal for many breads. Berries, seeds, berries and bow marrows could be pulverized into a mask and used to feed the slaves."

LA - Stone bowls - unique to NE (Northeast? Eastern?)

Wooden
Fine craftsmanship - 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 - agriculture - thick humus + good soil?

Groundnuts - Arpia tuberosa

Jerusalem artichoke - Helianthum tuberosum

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

Acorns - white shelled + crowd, boiled w/ acorns to remove tannins
Fundamental ecological distinction with Cronon

3B - Natural ecosystem arranged almost randomly - with continuity
dependent on this disorder

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

DRF - natural landscape - highly evolved + structured - geology, soils, topography, scale; natural climax base - regional to landscape

Humans reinforced this - Indians to colonists to Maize

DRF - Gradients vs strong + sharp distinctions
Early Contact Impacts

DBinc 1750  Early Bizarre—failure to understand people, changed conditions—separation
16th - 19th C people from early; disease, religion, political, economic,
religious, early extensive land trade - N. - PA. - I.
Hung. social change; tribal system developed, corn near port; Eur settled destroyed rich source of wild food
so I. maize, e.g.

Strong 1987  U 13 tribes—tribal system developed in response to P from Eur - recently accessible
Daniel Denton 1679: "...a Divine hand makes way for [the English] by removing
or cutting off the Indians by wars one with the other or by some ravage
mental disease". "Extinction Myth" 1665 will
Camo—balip / sycamore: Eur reports: didn't understand landscape own agent
Eng thought destroying corn would decimate Indians; didn't

Snow-Lunden 1685  Ind. pop not large enough to spawn own disease; no domestic animals
1610—18 fever, trachoma, bubonic plague 1632 small pox—first to meet
1630: children brought disease

Starna’90  Ind in transition shifting towards more complex adaptive system
10-20 houses in area:

Not disease free—Tuberc, syphilis, dysentery, viral influenza, Pox, rickets
Amer leishmaniasis, ext. work, salmonella, parasites Gen. healthy

2000  Chilton et al.  Archaeologists cite historians about Eur, land, crops, wildlife

Ubels 92 = 50,000

Frend 93  smallpox, malaria, yellow fever, measles, chicken pox, whooping cough, scarlet fever,
diphtheria, plague, typhoid fever, poliomyelitis, cholera, onearosis, trachoma, tuberculosis
w/ H. tapeworms
Cheraw 1996 Galloway, Wyoming Cultural Systems: 12th C
McBride & Cheraw 1996 GH & W - Community Structure & LU Patterns

Cheraw
Pease & Pease 1870 GH Map Showing Common Lands Partition
Dukes Co Reg of Deeds

Chilton 2005 Farming & Social complexity in the Northeast
C + Doucette - 2

Chilmark Master Plan 1985 - No text only maps
Maps: Des Barres, 1776 - Squibb Pol - Open - TGP open
Chilmark Polar Connect
Map of shoreline erosion Squibb, GH, MV Morey
Lots of Maps Clifforde Kelly - Surf Goals, Thrusts, Folds

Historic Resource Map
Skullfish & Fish Resource
Veg Cover

Dincauze Paleo-environmental reconstruction in the Northeast: The art of multi-disciplinary science - Foundations of Northeast Archaeology

A couple of prehistory of SNE - Book Chapter
Dean snow et al. In Mohawk County. 1996

Mohawks - 5-6 nations in Iroquois confederacy - upstate NY
Le\textit{ Enmsnt Mohawk R Valley W of Albany}
Most numerous in early 17th
Developed in 1980 - large project SUNY - U Albany + Oronibo

Need to understand personal perspective - Jesuits interested in
conversion, English officers in recruiting, Dutch - merchants

Mohawk Valley - major corridor Atlantic Coast to interior
primary conduit contact Dutch, how Eng w/ Mohawk + Iroq
Stretched E-W like imaginary longhouse

Much more:
- Barber surgeon - from Fort Orange to Indian for trade, &
  negotiating new prices
- Von Bogart: earliest detailed description - 1625
  saw 4 villages in process of moving - 7,740 people; new ones
  only 2,830 earlier record of interior W of Hudson
  daily journal, remarkably chronicled - unique + compelling

1674 Dutch W Indian Co. trading post - Fort Orange - followed
short-lived Fort Nassau

1634 VB - describes loss to smallpox
  saw one castle - no palisades - 16 houses - 50-80 steps
  saw 120 beaver pelts at beaver meat
  another on hill - 32 houses - 80-100 steps in
  4th: 55 houses - some 100 steps

- Houses full of grain + beans - 3 rows of policies
- French dry timber area, French shirts, etc. 1628-46
Loren 2008 Table 2.1  Add to existing table

1441  Port. travel to W Africa: trade, slave trade

1440  Printing press invention spurs with Asia of new tables, maps

1450  Iragain 5 Nation Confed. founded

1492  CC San Salvador, Cuba, Hispanic

1493  CC 2nd voy - Prince, Jamaica

1497  Giovanni Caboto (John Cabot) - NE land, Briton claims

1500-01  Cortez-Ral explores Isthm - 57 expls

1511  Spanish print Bartolm de las Casas - adv. ends indigenous rights

1526  King Alfonso of Kongo writes to Port Kg John asks to end

1534-42  Hernando de Soto Enters, makes on the interior Spt

1534-  Francois I chased Cartier to probe Strait Belle Ile in Nf reported by Basque Fisherman 1534,1535, 15-71-72

Algonk - Micmacs * Innus seem to Cartier familiar

w/ trad. practices w/non-natives - Bsex of Chikur

peoples held furs up on sticks

1540-  French sailors intermittent contact w/ Abenakis + Md Atl by

1604  Trad. post Quebec

1604-05  "" + settles at de Monts on St. Croix

1605  Port Royal established

Micmac traders adopted shellfish traded lab to Mass asmiddlm

1607  HS Mt St John Is, Men + H Rim

Over
1570 - > 350 Beagin, Port + Fr. ships off Nfld Banks annually
1907 Jamestown
1585 Roan off 1587 Roan 1s. w/116 mns, etc. lost
**Acorns**

Meshia/Ital  
**Manna from heaven**: 96 vert sep consume; many habitat suitability

Acorns - Game vs. BA + Weather; pollen limitation

Fat storage critical; high E + lower than Juglas

Preds decline in few years

Abrams  
Clark + Royal paper: Be-Ma → WP-0 1400s

many 4 charcoal, 10: not all: diff separate To: fire, Oak, Inda + fire + cache

Dey  
quilt-like pattern - prairie → inland; variation, fire critical

fire w/ human disease; peak w/ autumns 10-20% SAVE forest left

Dey  
Oak regrowth on rich site; fire peak after Euv invasion

light composition 8-50; saturation 30-50%; ht + diam growth 50-70%

Shade tolerant max Ps 5-10%

taproot + deep wtr
drought big - large root system; low transp, can maintain 20 at lowleaf moisture

Oak  
low acorn yr - insects + mammals consume all

get v. large

xeric sites - advance regen con accumulate; sprts - individ root systems grow

root reserves w/ defoliation↑ spouting to 2-20 cm

Koerner  
Mills: intermittent Pot loss <5crop; not biennial; much individ variation

rel synch w/in popin; pollin + dispersal limitation

Osage  
Spring defoliator - remove foliage after big expenditure CHO; < root growth

Koerner  
Mills: Intermittent Pot loss <5 crop; not biennial; much individ variation

rel synch w/in popin; pollin + dispersal limitation

Kirkpatrick/Pettis  
highly digestible; high E long protein; staple; staff of life; store well, no nutritive loss over time

Chesnut - more reliable production - toxic flowers  
RO 25 - 50% full spn, dur thru day

RO - higher tannin + fat; low crude protein 5-8%: leached

Tannins: phenolics, precipitation prok, cause HeN & lawn

Turbo 15-55% ME; 72acorns; older-optimal for fat deposition + winter survival
Dispersal - Scotty hoard - Jan 21st Squirrel
Ext more WO, catch RO act WO embarc

Feldkramer - Deer will take large to sound acorns

Vaughn - Bear #1 preferred up to 13.76# CA 24-66# PA
may provide bulk of acorns; fall bulky up

Turkey - high sprg to fall

Smith & Stephanian - hick/walnut high protein off only part eaten
RO - high lipid

Van Leer & Brodi - thistle bark, dormant buds well below soil surfac
Martha's Vineyard Archaea

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?


#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.


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

Coastal ME - Penobscot region, Possible Spanish or Basque seasonal traders & fishermen early-1600s

Polygloot per 1620 compact - intertribal warfare 1607-1617; deaths, pandemics

Eng. Fish & trade after 1650 competition & fur trade Micmacs

Ethnology of NA communities - radically altered by 1600

Spies 2001 - moose, micro-fiction; Indian country component of basic economy central coastal ME

John Cabot 1497 - observed N America - Sponsored Henry VII

Sebastian Cabot 1509 - Hudson Bay

Verrazano - imp cartography ME + 1603-1629

Carver St Lawrence Riv 1604

Vast Return - St Lawrence + coast Nufal, Labrador

Secrecy of voyage

Bristol fishermen - Fishers - no record

Horizon 1580 - 30+ boats from Saint Hel + Cornwall

1575 - 50 Eng, 150 French + Breton, 100 Spanish in Nufal

Chever - 300 bark 1586 No record

1607 Fort Popham - Mouth of Kennebec

Muscongus Island (Leaves Is) - home of Samoset - Wawenoc Indian

Sected Pilgrims at Plymouth 1620

Mag ME fishy communities 1607-

Gosnold 1602 / Weymouth 1605 - Indians spoke broken Eng & Basque
Champlain 1604, 1605
Martin Pring 1603, 1606
Gascoigne 1602 - likely encountered roaming Nia-merc traders
Ralegh Gilbert 1607-08
John Smith 1614

Gascoigne May 14 1602 - ME near Casco Bay, Sacoage Rock - Cape Neddick - Indians in Bosque Chittlet
Cuttapune - 3 who build fortified house
Left Jun 17 - around Gasduck - No - Mans - Font and anchord
Pring Jun 2 1603 - went into Gulfe (Mass. Bay) that Gascoigne missed
Plymouth & somewhere

Wm Bradford: "They found his Squantum place to be 40 mius from here, the sainly goal
and the people not many, being dead and abundantly would in the let
great mortallity which fell in all these parts about three years befor
the coming of the English, wherein thousand of them dyed,
they not being able to burye one another, their skulls and
bones were found in many places lying still above the ground,
where their houses and dwelings had been, a very sad spectable
for behould."

Wampanoag Way -
An Aquinnah Cultural Trail. A Map & survey produced
by Wampanoag Tribe of Gay Head (Aquinnah), Aquinnah, MA

3000 people at wampanoag in 1700s

Wamp - several tribes incl.
Aquinnah + Mashpee CC

Now - 901 members 300 on MV

Httv as ancestral land - much set aside for common use/ball
Celebesations - Cranberry Day, Legend of Mashpee Pageant
Self - govt. language taught originally in Mashpee cellars box
on cliffs - now Boye's till

Cranberry Day - most imp holiday - was held in Lebsterville
when boys found; cranberries - New Bedford

2nd Tues Oct - lunch around open fire

W Tribe - Beverly Wright Chair

Beverly Welch Pres. Ag Cult Gr

Indian District: has renamed Mashpee Rd to Cliffs - 3 tribal

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

3 town elected selectmen - tribal member

1987 - after two petitions - Federal act of tribe - partial

1998- town name officially changed - by state legis.

Govern - Tribal Council - Chair, Vice, Sec, treas., 7 members all ind

Chief + M M Men - traditional members of TC - 1 life mem

27 affordable housing units - 3 stores + school

Events - MV, Mashpee + Plimoth Plating

Mashpee Trail - 1958

Henry Cutie - 15th Aug - Neemeh to

1890 - Pavilion on GH see site

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

Fallow - gneeb rhut to decoh w/au to plant + when to turn livestock

N, S, & E Pasture - common pastures
Middel, South + Old East - grazing + divided by wells
Hog Pasture, Middel Pasture, Fiddy Pasture = (cost feed for livestock)

N Past - cranberry bogs - wiped out 1888

Minimake - out port of Agamah - 1st Men Creek miushed

Wasquezing Rock + Middel Line - sep Wamp from Mijew pupis

Middel Line - Strauf's line Wawu = Miw Pd

Now - sep Chis + WTiss

Wamp - amg first Harried schellers - Caleb Cheeshahneamuk

grad 1665 + Joel Hiacomes (Hiacomes) - killed in Aik Shipwreck before grad - Father was Hiacome - 1st native convert 1643 -helped Thos Mijew convert others

went on to be pastor

Sachim Paktehpunness - Chipp, objected - nearly killed

by lightin bud 20 convert

Ketame = mair - walked into see w/ loves - Ottu trib

Chriahatow - 1659 - 13 mi set aside for convert

Alleys - tribebly ownd
2500 sites

Wellfleet: Indian Neck Ossuary CC - all ages + sexes - reflected earlier popin
remarkably better "little evidence of dysmorphic pathology + no unusual
evidence of trauma" low incid. caries; high wear + chippy - not end

Few diff over time; site use-use; remarkbly continu. of site use over time
stable human adaptation over 1000 of yrs. NE + NY Coast
More sedent than expect in LA, less LW

LA+LW - same with activities

Green variation - more plants LE Ed; more fish NV, A, E, E; more dwellings NY
No ↑ sedent w/ maize

No use periods

McAhon CC - dispersed patterns of wigwams + cornfields - N Salt Pd,
Coast Guard Beach, S Salt Pd

DD
Pop ↑ better weaving; nuts, beans, corn. Papin ↑ sheep feet + specie
clim-h variation for poppin ↑ 500 BP

Ritchie - less attractive - exposed to sea

HH
More perr site - not due corn; few S coastal site - not breached
Pepin trend
HM ↑ sedw, shell fish; LW larger middens

No large multistep sites in interior - short term
Predictive models - drainage not soil texture; kettle plocks - low coherency
sandy soils on terraces, knolls, fields "wherever well drained, elevated + level soils are
located in proximity to various uplands or poorer
Tapeo - 1 fluted/4 unfluted plock - local collectora; SA - few plocks - Aq, VMD, O
Ov, mow, sump
central
HA - 25 sites; Aq, Men Pd, C/WT line; shell middens, Lagoon, Novia, TGP

LA mid. more; poppin ↑, ↑ gen. paid (w/ sump, bums); trend 2 distinct w/ ↑ Aq, ↑ NW
Small shell cap; 4/5 HW Pet; obs., obs.; shell mids; expedient tools. All control pocks

F Interior bad spots

EW - fewer sites; popin ↑ popin but confusion as artifacts continue
CRM Chilmark - Gib

Govan's Pit - 240 ft.; 21 features: 6 post molds, 2 shell midden - close above Men. Pit

E Paver Pit - adjo. w/a sim artifacts, middle MA, LA, LW

Squib Ridge - 5000 B.C.

Herring Cr - LA

Adjoining Alluvium LA-LW - Mill Br across Chilmark Pit

Lucy Vincent Brook - 120 post mounds, 24 pits, 2 borers; some similarities to Squib cliff

all aequidimensional

Wulpaq / less excavation & less developed 1 less with; Cell Tower + caisson + nothing

17 precontact around TGP + Mill Br, Tiszazgum Pt, Blacklick Ezt. - India record to

Xintown

Best site when Tiszazgum + Mill Br across 2nd Ezt. with Town Core - both possible sites, def LA-LW

T/03 - 7 Tectonic, Lagoon, VH, Seville, 6 + Duarte

Huntington - Lagoon, Bone Cr. - Log head - LA-LW

Ritchie - Vincent Brook W of Bone Cr. - deer, bear, how, turkey

Pratt - down forest plateau - mounds no pottery

Canyon - 2 1/2 circular structures

E - 250 sq. V is various gill enclay. Peop. - no site - introinva

Little Pit - Deer + Flint - 2 800+ areas - none

Quake - discussion - ever pond, bog, etc. + 2nd Ezt. - almost every area

has evidence
Woodland - ceramic vessels, hort, new pts, coach use, may shell
EW - 18 sites
NW - more common sites; sodw, pop'n, social contact, regional trade, pottery ceramics
LW - large complex villages circular - NE model - extended family groups - large shell middens
1642 - Mohegan - 1600-2000

Hornblower Horse - Ralph - Summer rendezvous, occasional excavations
W side NW Pol - family property Squib Ridge

H+C 2000 Chapel & Kat 1600 yrs
NW more prehistoric resources than any other section - NE + Domo Ind lands

1652 Thos Daggett & Kim Weeks Whole Cultus for th year
1653 voted that drift whole would be cut out free, four men at a time, and four at a time and so on every whole, beginning at east end of town. Drift which initially flowed in 17th and early 18th C.

"Cultural deposits have been identified in virtually every portion of Chippa"
Fells Neck MA -> LW
Pre-Historic Human History

Map of sites and regional divisions

unusually high freq of prehistoric sites
well or excessive drainage near water - highly suitable; < 300m FV or 75m coast
MW 2000-1000; LW 1000-400 ybp LW incl. larger villages
Tisbury Gr Pd in E + W part of bow; sampling bias along coast
MW large semi-perm to yr round settl. 1st large shell middens; local cultivars
LW hot corn + beans; occ. imp but widespread; more evd of perm settlement
or used most of yr; not due to corn but 1 pop'n, conflict; hunt/get/fish
Eur contacts - 15th C It, Port, Fr explorers
MW: 4 sachemships - Chapp, Gay, Nunne, Tiskem Nan = Z
semi-sedentary horticulturists - 1st sprts to subm slgl coast in dispersed groups
Gosnold 1602 - Brevston indicates evid of previous Eur contact; goods + furs
1500 (Ritchie) to 3500 (Coat) pop'n & 1611-17 w) plow or hlp
Harlock arm - Paint Mill Br - no sites Prospect Hill / Beav. Br = 1

Breckish cover - periodic incursion across barrier beach - impers shellfish
5 sites near F Gall = high potential in WT
Few sites on cove E of Tisbury Gr Pd; Long Cove + Whzcze need invrsng
perhaps seldom breeched - do not hltly shellfish = no abn
Probably may more sites than record - not little developd

Herbster + Chorou 2000

ewg

Woodland - most prevalent sites, esp near large salt ponds on & cove
MW to SNE: Teedtism, pop'n, shellfish, trade; LW larger shell middens, extended
family groups; coastal sites: found thru development; interior pldw
Nunnapog = "fresh pond" prob. Edig Gr Pd - perhaps few hundred popl
Chappy - substantial on round pop's, small special purpose camps working area to large village-like multi-family habitation.

Great P6 4 sites but underdocumented as limited access; ponds rich in fingers between heavily used.

Ketano - 4 sites on bluffs.

Plains - one large site around Little P6. NAS area & Edg Center rich & important.
Social changes w/in and among Native groups underwent huge changes with contact - so much that is described may be artifact.

Tribal system developed + changed w/ contact in response to pressure from Eur, opportunities etc., resist accommodation; interaction among pop's and under indvid leadership loose groups to confuse.

Ceci - sedentary & hunt or LI only after Eur; contraction of hunt & gathering.

Lack of structure, no emergent leadership.

Mortuary customs change late 1800s.

LI - extensive trade network to NS for fur.

Horticulture: corn, beans, squash - little impact on LI until Eur settl., destroyed rich source of native foods etc.; no massive A.

Eur observation - take w/ caution.

* little understand of landscape or culture
* own agenda for reports - need to justify taking of land
* gain profit or att. by brand.

No LI evidence of villages w/ 600 people 20-200 wigwams 10-15' longhouse 20-60' few in LI.

Champlain - one of few observers based on 1st-hand knowing.

Corn fields, long houses + wigwams - poss not likely.

LI - small ant corn - supplement.

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

Cabot - Afr 1497; 1500 - Portuguese kidnap 50; Eng 1502.

Verrazano - NY Harbor 4-17-1524 Narr Bay 1524.

1525 - Narr Bay - Spain Spanish kidnap 58 - near Newport - Sque - Shaw.

Basques mid 1600s 900 in summer at Red Hook, one of 10 ports.

Dutch may have had camp on LI before 1600.

George Wyomoth - 5 Ind. - Englad.

Before Eur settl. - traditional stone industry near abandoned.

Near all metal - arrowheads, knives, h-tubs - utility of goods, number of Eur trips + contacts + efficacy of trad.
Hudson 8-24-1609 - Hudson 1st contact w/ Algonquin, Sound Hook, NY Bay, Albany

Dutch estab post - lower Manhattan 1613

Block - 1616 1st acc. map of LI

1614 Albany - United New Netherlnd 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 & Lanphere 1988

Josselyn 1663 - 1650s pop'n from 30,000 to 200 disease

1616 - MA Yellow Fever, trichinosis or bubonic plague

1633 small pox - first to move inland

Oliphant 2004

No archael evidence or ethnographic parallel for slash & burn, shift & cult

or swidden; many refer to slash, burn & shift - not together

Peru cult - no stumps etc. slash + burn only w/ area

Champ 1686 - Gloucester - slash, burn + plant; fallow

abandoned fields refer - due to disease

Winthrop - rests fields

Wm Wood - fields in areas for 10 yrs - Ewena - Indian term for field worked

Abandoned fields lose to reforestation; developed into grass not spits, large fields, no

Floodplains - not uplands; only into uplands when forced by Eur.
4000 BP. slow, of sea level rise - allowed estuaries & salt marsh today.

BI - Verrazano - forested & well populated 1st island
1636 John Endicott to revenge Oldham murder - destroyed 60 wigwams + 200 ac. corn

Chilton '99
LW - radical & lifestyle - large semi-perm villages, maize hunt, extensive trade network all visible
maize - non-event to intensive use, range of opinion
coast - intensive maize only with or just before contact; will trade basic SWE popin unit = village few 100s

Lueckke 1988
appearance of maize & reliance on farms
historical docs consistent w/ no nucleated pattern - "town" used loosely

Russell
1603 Martin Pring 6 wks in Plymouth leading seafarers.
Pease & Beans w/ natives. ≤ 1 ac garden w/ vegs, tobacco.
1604 Champneys Plymouth. Chatham, Nevers - Neverset 500-600
1614 John Smith Cape Cod - Re mend. By 40 Villages
1619 Capt. Thos Dermer vacant plantation

Winthrop cult fields - Middletown, Wethersfield, Hadd, Enfield, Windsor
Southfield, Agawam, Nakhamp, Hadley, Haddfield, Winst, Deer,
Nfield, Vernon, Newbur,
Block 500-600
Russell 60,000 MA, RI, CT, NH
75 total
S shows Pala less attack in then NW strong as open to sun
flimsy dwellings, molds 2-3" 7-8" deep
saw forest - v. diff., structurally thin body - Sim comp
dear re: hellish

1500, 1501, 1502 contact w/ Corte Real's
no specific, discrete or uniform Coastal Culture

95% fire - human lightning fires rare
corn ag v.1: more imp along coast
burning = mosaic of forests + fields in succ. struc.
shifts, patterns of settlement seeds burn
hunty areas modified bc fire

open meadows + park like due to fire - cleared +
opened major axes in river valleys
Fire - most adventurous to stochastic local use (Cronon)
agriculture +

1535 Carter Roger Wams 1638 letter to J. Winthrop - 4 epidemics in

Excludes ME (v. diff.) + VT (little info + few people CTP to Fram)

James Mosely = 5 Sticks = 22,100; LI + NY of Hudson + St Albans = 12,000
Box on his calc. = family 4.6, village 100-250, wigwam, longhouse etc.
Not true slash+burn; milpy - Champ 1605 Boston Bay "then were also several fields
totally 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 free cleared; Champ - plant among stumps then
remove. complete clearing, long cult + large fields
interruption - torch w/beans can compensate for manum
semipermanent hort few villages many sites
1. diff to find 2. destroyed by Eur 3. didn't exist - no agric.-based economy
until 17th c. Ceci 1960 Villages - post-contact

Tripartite model of settl interconnected by interregional network of trade
1st writing + pictures - from time of great A - 1 pop'n conc.; Ceci trading response
Does + Archaic data - diff
before contact - more mobile + egalitarian
Early 17th c. - info more ethnol Euro, less archaeol - pop'n losses/ confusion w/)
ethnic boundaries, succession, politics, economies v. diff to do good ethnog.
Winslow 1595-1655 is most complete + one of earliest descriptions; sympathetic, but
Analysis of early writers Different writers cover different people
underlined
Eur eyes deceived - native hort, fish, hunt - less obvious impact - land viewed as
Gossin pre-epi 72K (Snow adds 8000 Pressumik: 13000 - 15000 Wothol
1650 - 10% w/ highest conc. on MV, Nant, coastal CT, RI
1640 - 18,500 Euro.
N. River w/hort; Coast - 3 distinct ethn. regions
Q - 1) reliance on maize hort 2) nature of settl 3) level of sociopolitical integration
Coast - linked, small-scale sedentary societies w/ complex sociopolitical interaction
devolved into widespread reliance on maize; conditional sedentism based on maize
trading
simple chieftains cycling thru periods of greater/lesser complexes; 500-1000; increase
in political centralization before Eur contact due to pop'n increase, reliance
maize, wampum trade elev, influx of hopewell state; w/grad filtering in of Euro trade
-goods since (1000) 1500
Ethnohistoric model: seasonal mobility - summer scat near coast, winter in conc. comm. inland. Spring full fish hunt small game.

NA maize ag. - huge impact on Eur as all told to evaluate fertility.

led to assume that farming a central subsistence activity.

Thorobahn - only mid-low CRV - evi. for village based subsist.

B- stable social groups < 200 occupied euharistic mounds of CRV - not vill. Boulder, Cape.

ACK - little no evi. substantial use. Fully committed to hunt by 1200.

1st Round wi, perennials - Morgan Site, Rocky Hill. (1170-1370); Meadow Rd site.

Farmington R; Bark Wigwam Site; Spring field VT; Burio Farm Palmo.

Maize at 40 SNE sites arrival = non-even.

Coastal 1300 AD - dispersed individual farmsteads + widespread maize. Encount. by Champlain.

use children to guard fields; worms, weed, animals, etc feel.

St Lawrence area - 12th, 13th C Eur goods - Greenland + Leifredor.

Landscape - visible signs of social & cultural rgl; burn, nut plant.

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

Coast = 1500 ac cleared for farms + hunt per comm.

Brendalmer 83
Regional patterns: Sites -> Regional System.

Site type (McBride '83, 87):

- task specific camp (10-100 m²);
- temp camp (100-500 m²).
- seasonally camp (750-2000 m²);
- village (3-1000 m²).
- Size, duration, activity.

Large political entities -> past contact; little evi. of pre-contact warfare.

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

Decline 55% (snow 1930), 75% (Cook 1973) no stable economies for Lower CRV salt marshes + euharistics n 2500 BP.

2000 yrs before control.

Cheenopod - most abundant seed. Beans - 8 sites, Cucurb - 2.

Mai'z independent of Euri.

Mai'z prehst 13 CT, 12 Coastal + E NJ, 9 MA

2 N NY, 2 VT, 2 NH, 1 ME.
Donovan '92  NE, Midwat + S  "Agricultural clearing & burning had converted much of the forest into successional (fallow) ground and into semi-permanent grassy openings (meadows, barrens, plains, glades, savannas and prairies)."

Starrs '90  Pequot - E LI + New London N to CT + Thames River reached to border RI 10-20 houses; small vill dispersed; shifting no large inland site. 1616-19 disease not W of Narr so went to Peq after war 1608. 1638 small pox 55-95% mort. 13,000 before contact 1636 n 2000. Morton 1637 plague quak.

McEvidi '90  Mash Peq - only hilltop forts - all other sites undetectable. Roger Wash. Pequots establish new corn fields on LI + poss. Riches in prep for war + anticip of other fields destroyed by Euro.

Dunn '93  1614 Squanto kidnapped at Patuxet (Plymouth) by Capt. Thos at Smith's fleet. W 26 other natives  Spain  England; Lived near London. NAD back to Plymouth Eng w/ Thos. Derman.

Chilton '00  revolutionary effect of Eur Soc. in NA Native Soc. - not resolved. KB Triparty Model - refreshes after dichotomous coast/in but still too early.

Chilton '00  cite Cronon & Whiting on NA impact - circularity.

No evid. of round horned village W MA.

Vaughan '95  After 1605 most voyages brought Indians to NE as guides. 1602 - Barth Goosenfield Breton. 1605 James Rosier - complete acct. 1607 ME colon at Sagadahoc. George Peabody. 1608 Capt. Edward Harlow - captured natives around MV. 1614 Thos Hunt - 24 Indus.
Pagoulatos '88: R Wms. traditional source of info but late 1630s system already drastically changed by epi, warmup + hered.

Bernstein 1993: Narr Bg. - sig. disturbs of pre-contact land & sqm.

N. Amber etc. = 1100. BP & amber. Thorbecke 'lot 1958' open hills.

Dincouze '80: Need to know LW/contact - land knw, utilization, pop'n structure + size.

'90: LW "Farmer's Period" 1000-250 BP

- LA 5.5-3

4700 BP richest ranch period; nuts, kicfory etc. & mobility, pop'n larger pop'n + communities; more localised; trad.

1000 amelior climate; warmer winters + longer growing seas.

crops - dietary supply - no dramatic change.

Eur settl. coincide w/ drier climate. Don't accept Eng + Dutch narratives on host + rel in appearance of earlier items or house/lands.

Resist attempt to read archaeological record in terms of hist record - few of letter + extreme bias:

• lack of understanding • transform in social + ecn cond. - discard
• major realign in political, economic, relig. realm.

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

Little 88: Dunford - seal level rise stabilised on 3800 BP - allowed barrier beaches, estuaries + embayments to develop.
Black, deep mould soils - Win.Bradford; good soils disappear includes soil
10K Sheep Barnstable Co late 1600s
Early Cape housing - pine floorboards + wainscoting 2'-3' wide
W Barns Church Ock 16x4.48'

Mulhall et al.
Wampanoag - E Algonquians - n21-24,000 1650 - 170%
Brereton/Gosnold - Eur contact. Eur goods + furs trading evidence
MV pop'n 1500 (Ritchie) to 3,500 (Cooke)

Ceci '80 response Li to contact - larger sites, # seasons or yr round, forts, wampum, sites
for trade & wampum (whale & hard claims)

Russell '80
Dec 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 - inconsistent; only near settl
few 1st hand acct's for; mostly in Brac

Salwen '78 dear post 90% of manuscript mus GCI
Hudson - brief visit to Cape 1603 1614 - John Smith

Brassé 178
Norse Greenlanders cont to acquire timber from Labr. coast -> 1347
1497 - John Cabot claimed Nfld for Eng
1501 - 2nd trip Gaspar Corte-Real - 57 Ind to fort; Indians
had sword & earrings left by Cabr' contended on Nfld Bbls
1530 - fishing Libr to Nsw Scot - Eng, Brebs, Normans, Basque, Port
1550 - 30 Fr ships annually
1578 - 50 Eng, 150 Fr, 100 Spanish fisheries down NE coast
1579 - dry fish NFld-Lib
1579 - fur trad
1580 - Spanish slave hunter raids SC - 150 Ind shipped to W Indies,
NF NE to FL
1584 - Verr.
1526 - Estevan Gomez - Capt 58 Ind NE to Spain
1604 - Fr trade Saint Croix ME
1607 - 120 Eng settlers + 2 Weymouth Ind. - Knowner, settle failed; 1st Ind
met spoke same fr.
1607 - J Smith et Chas Bay - met Indians w/ hatchets & cloth, received
overland pressure from Fr trade in N.
1609 - Hudson Dutch tried to operate as far E as Narr Bay.
1614 - 7 Nov. ship - Thos Has + 20 Pawtucket indel, Squamob
Lack of sig contacts by 1580
Fur trade great & annual cycle
1610 VA natives had abandoned stone industry - those of iron hatchets
1643 NE & still using skull + wood hors.

Day '53 large tracts of undisturbed land.

Haviland town Dutch obtained furs in Hudson by 1612
CRV 1614
Face of NE on Contact

Jeffes 1999

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

"...remote, rocky, barren, bushy, wild-wooded wilderness... a receptacle for Lions, Wolves,
Bears, Foxes, Raccoons, Boys, Beavers, Others... and all kinds of wild creatures... a
place that never afforded the Natives better than [sic] the flesh of a few wild
creatures and parched Indian corn inch't out with Chestnuts and billy-goats..."

Strong '97

No rush to adopt Ag as efficient use of Envir;
Take Envir obs wil caution - little understanding NA culture's own agenda;
need to justify today's lead
Champlain maps - poss. not literal

Denovan '92

16th C NA - "humanized" - forests shrun + crops; grasslands created;
wildlife disrupted; locally severe erosion; roads, fields, settle
Environ recovery after depop - less obvious impact 1750 th FO
Ind & benign
ENA - much of forest into succ. growth + semi-perm openw.; with
spaced trees
Pristine, virgin wilderness, empty = inhabion 19th C romantics + primitive writers

Freeth '92

BJ - Verbraaz found it forested + well-populated

Dunford + Obinn

Good soils disappeared; early wild crops + sheep; Early houses: pine boards;
+ wainscots; 2-B'ld; W Barn Church - 1644-45"
Living in the land - Not Managers or Farmers

Strong '97 "Forest efficient" economic system

B. Russell '87 Dep '53 - Only burned in places occupied by Leks; R Wats - ooh accidental

Society; few 1st head oots; most in arrow

Sawyer '78 clear past 20% of mammal meat & ct
Rejection of Agricultural Myth

- Chenopod + maize mobile former - pre-adapted LW ind for transformation w/t Maize residues - John Hart, maize present for 4000 yrs - but not adopted so integrated into H-G. Collector lifestyle

Irish maintained mast forest - climate would favor W spp. corn, beans, squash - up to 65% calories, longhouses

Indian master key = fire + waterway, wetland, meadow, swamp, bortlud, pine lay

Fuelwood - 15-20 ced/family; $10/bu corn/family

Cattell + Will 1979

Ag critical issue as tied to enduring image of primeval landscape

"Nevertheless, the one thing for which there is no clear evidence is hilly-scale farming. This is troubling because so much of conventional wisdom argues for a necessary link between the adoption of maize agriculture and the development of a sedentary village life." 1982 Dino - separate Ag + cultural complex + 1995

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

Cultural - enduring image of primeval landscape

LW - move careful burials near settlements + 6x6" pits

Bone isotopes - C3 plants - upper range pos 10x10, limited maize - good info

Perm common + Ag reliance Breede Swb. myth

Benefits of hort & sufficiently impressive to make assumed burden of introd. form

Hutchings et al 1998

Maize - minimal SFIA before contact; gen 1800-1000AD; Coastal GA 1700-1800

"decrease" lysine + tryptophan + causes & broodability, Fol

Strong 1997 Perm set. doesn't imply Ag
"Corn, beans and squash, the three sisters are important to the Iroquois; never made much of an impact on LI while all the Eur settlers destroyed the rich sources of wild foods, medicines and supplies. "Notions made such efficient use of the enviro that there was no rush to change from the old ways when plant domestication was introduced."

LI settlers: 20-30 people, random wigwam array never 500+ people.

Denevan 1972: Pyne 1982 "the virgin forest was not encountered in the 16th+17th C, it was invented in the late eighteenth and nineteenth C."

Ripelle '69: "Flimsy dwellings of met or back-ovend poles 2'-2'" diam.

diet: dog by fur - clams, oysters, bay scallops.

Carlson et al. 1982: Broad spectrum - hunt, fish, gather - seasonally mobile, dispersed

1993: Marginal: no villages, lived in woods; Iroquois have dominated hunt + clamming scene as Alg. disappeared; Ojib vs Iro fighting.

Dering: 1990: - By Eur Settl - LIA - so count accept Eng + Dutch narratives descriing how Centering post 1993: cult crops as representative of previous live; new relationships + new activities + houseплаз.

Mulholland et al. 1993: LW ? perm settle + people + conflict - not due to A.

Doebel 2004: "No evidence - woodland; followed shifting; one cleared - perm.

v. difficult to create fields so maintained them.

Denevan 1991: "For the most part, it would seem prehistoric peoples chose clams our corn."
Durango

TRADE NETWORK 2000 B.C.

Byers Johnson

22 shell heaps around Mohawk Pits

DD

Select a continuum of mobility - groups of sites on MV extended community

LA: Two periods: Social and technological, burial ceremonialism, expansion, storage tech.

FLEX SEDAO - groups of camps thru year

Continuity in short-term sites, stable human adaptation over 1000s of yrs.

Use dates not periods. NE not hard to use. Ancestral, Mohawk, Gizea.

Hogan 1999 NE not mentioned. Pre-Columbian architecture, Lower Mo, Fire Alt.

Herb & Chev '00 Chirpy - substantial 15-200 pop.

Van Wagenen 1817 Irrest. consecutive crops failure. Coastal NE 1830-1834, 1840-1846.

Davenport '91 Native only. 1800s disease effect? LIA impact. Mountain by 1890, Brown Mountain.

Strong '92 Eng. destroyed corn - NO impact. Adopt Ag. would need a big.

PAH Saas

Shifting Cult

Van Wagenen 1800 after 1600 most brought 1st Guidon.

Dinkins '90 No evidence until food use &-white maize arrival. Many changes.

Dunford-Doherty 1990 2-3rd floor left.

De Rossettes Corn - a grain to which much labor must be given, with weeding and earthing up.

Gosnold 1602 Inds brought fur to trade.

Hart

Lone House - 100+ P.I. w. Guns.

Bernstein LA nuts v. food 1652-53. Jewel B152 (Gosnold 1515). West 152. 1652 chest 0

EC


Cassidy '80 1677-79 Metac. & Elebrenke fought for mistletoe position in trading. Nova Scotia to ME.

1609 Champlain joined Montagnards. Algonquins against Iroquois - protect fur trade.

Thomas '90 Bennett - maize 50-600 calories, 200 lbs/person. 500 people; 80-100 ac fields.

WJ Galloos 1830-1830 or 1830-1830 if unproven, relations - essential growth.

In 1884 "maize must be considered having started from 7775 Indus.

SNE 200,000 - 300,000 ac. under cult over 50 yrs.
Verne. "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 nets and they have only houses prepared in one.

Weinstein 1994. Carbo rich nuts — butter, cream, meat, oil, fish

Black CTR Fort. Villages may be due to Iraq raids

No trauma/death precontact

Bourque 1988. After 4500 - rapid cooking & swordfish

Champlain 1604. Great pushed by oxen and cows, which the Portuguese carried thru more than six years ago. lack of 26th Rumors.

Larivay et al. 2002. Lucus Vincont may be Guernsey site. A - couldn't find not

Contract & Algoma & I. Neuhard 1990. CTV people maintained fluid & meatb. subsistence, cultural & social relationships deep

had access to some info & technology

Chilton 1996. D - CTV people maintained fluid & meatb. subsistence, cultural & social relationships deep

had access to some info & technology

Chilton 2010. Chesopd, Knochd, lumpwood — No evidence domesticated

until after 900 AD

No evis, for wood, 1000 - AD farm un til in NE. "No evis, for labor maintained

Brodouer 1993. Cultivat & cowen in contin. little maize; little used for precontact warfare,

defensive locations; pit up sunflower, Chesopd + nuts

Peterson/Louis 1536 - fullblown regional transform un RAS - most sig event in Neva; - diff to find in

1000-1200 - ext. adapt of corn-bread + ag

Hart & Menz 2008. S Ont. fluid vill by 8th longhouse 13th. NE — none

But 1978. D — Wall ‘01 NE is “dreamy and uninteresting”

Conventional wisdom — link many Ag + Setut

Cappes 2001. "a substantial proportion of MV was open at this time." More quote

Chilton 1999. MA-much great to pretty diverse in the bro — due to small groups

Don’t look for data to fit. NE to model

Engelbrecht 1973. Lots of bro in RAS - maize > 50%; moved villages 15-20 yrs; log homes


Rumors — vast wilderness space interspersed with vantage

Bellwether. DD - EI. Fort Island. historical fort village

Eng. Hall. Mystic. McG.

DD Truro: Corn Hill — no precontact site
Key cultural transitions, human pop's + climate-driven changes tax ecosystems. Changes well-defined - invasion, ice sheet, aerosols, etc. & salmon = healthy. Subsistence + pop's size. LA/LW - period rapid pop'n growth. Every transition except LW = climate + yes. Resources base + carrying capacity - wild food dependence. 8.2 Laur Ice Sheet Collapse Α moisture = 5 per dry + moist. Α A→B grad. Hot reeds ↑ bob level, deep snow + winter precip. Uncorr: LW = maize.

Contwell + Hall 01. Cooking starch, seed plants - wearing outreach ↑ pop'n; LW ↑ storage pits & butter in F. vs.


Vogel & Sagan '95. LA = grass pop'n; ↑ meat.

Population & R Wmae - traditional source on native customs, but let's 1620s - affirmative & to native systems - ecologies, weapons, hostilities, & trade.

Dewey '92 Quick - many of busy - suc + semi-permanent open sign.

Chilpa '92 L vocant - 130 post metals + 31 pits. DAF: How + why would mines clear something large?

Salwen 1972. Dear 90% most consumed set.

Luftlin '82 Appearance of maize + maize on Ay - Ena exchanged As mail chilkat ripple beds.

Lucas '82 Major impact of Ena Contact - ↑ trade, conflict, formal tribes, mountain, mẽmints, forts. Richter 2002 Villages, farms, & areas; ↑ forts & some villages. Did least represent a distinct cultural region. Deiss '02 Hope of land indent complied unhidden. Eurs trade goods - fruitless
Ceci '90
1539 Pierre Crignon sailed 800 km S of Cape Breton to Norumbega
land discovered by Verrazano.
Hudson 1609 - upper Hudson - evidence of brass etc. competition- trad 1613-14 Man. overwinter 10,000 furs B Dutch bout

Hart '89
Indigenous - not domestic?
Cucurbita pepo ME 5495 EP PA 5400
King 1000-1200 AD rel. warm/dry as W flow; 1250-1700 cool
Climate - Poppn from warm: the conflict for resources
Ohio - maize AD 425; heavy reliance after 1000 EAG complex corn EAG complex
WVA after 1000 70%/1050 80%/1275 Thule pepas
Many pollinated sites up above RVsylgs when corn grew; large storage blocks, but
haunched to house; lots of maize, gourd 13th, etc., at mag sites
To stress after 1200 A.D?
C PA consistent maize remains 9-1000 maize v. imp intro 425-6 big 9x1000

Hart
Nia longhouse outline: 30x100m 100 ft pike; breed 400 trees after maize

Bernstein
Millennia - rel. stable coastal economy long rel. 5 pm
BI, LT, PI - FI 27 principal sites v. small; 1#+ site in LW
No native cultivars: Coastal Alg - no as consmpt maize before 1524
At all maize sites - much other material - esp. Hike 46/82 6ak 18/52 dwg 8/52 Com 2/2
Chupeop - may have been most imp. maize - symbol

Gerry & Dever
No avid for chupeop A in CT like midcent but much used

Breud
Broad-based lthly A may 1 CTR maize by 14th C as fewer resources; not stup

Chilton
Arrows come maize CRV; marigold - coastal - large sedent villages
large non-port sedent villages rich marine + agriculture R- stature long pop
Coast fish + shellfish - low risk resources avoid all yr except freeze
larger more sedent despite poorer soils
Lithu farmland - planting fields, gardens, lake pite
Diet not unhelpful Coats finalist; need specific ш о соusum

Thomas 1977
Bennet '55 65% diat - from time of ext maize trad; Pymtho coloniale - substantial trad
Cities 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 are prime or not shift of settlement subsistence"

Chilton '99

Invisibility of villages due to mobility. No large semi-permanent settlements

dispersed within homelands. Individual and community dispersion.

Mobilistic strategies to maintain enviro diversity + more political fluidity + population.

pine - Will of large NW occup. small overexploitable wigwams - seasonal exception

ceramics - support diverse diet + no main specialization - more diverse the lro

Almagast & Say

6000-6000 w/ pine. 1st in spring 2000

Asch-Sidell

65% grain; 10 animals; 4 veg/fuit; 8 nuts/legume; 9 shellfish; 1 egg

Snow 1980

Period 2: Economic subsistence - social, technological, ideological

By firm of Champlain - St J R already altered - N perm villages

Nehauna - kidnapped by Weymouth 1605 - returned next yr w/ Martin Pring

Stelwanna - returned w/ Gilbert + Popham 1607

Squanto - learned fish kill in Eur or Nfld

Tundra - optional for H-G; large pop w/ pine; maximum

6000 - kerathermic oak

Social connections - gift exchange + reciprocity forest higher favorable -

Climate - winter survival + wildlife carrying capacity 6-2700

Extensive trade networks - "the last six or seven years appear to have been a period of generally peaceful growth & prosperity"

NE can only be understood in context of NY as NE poorly understood + people from W

Taken together, it all suggests that in this period aboriginal NE was

marginal to the mainstream of prehistory in the East.

"Funk regards the condition of its health to have been obversely good for an

Indian population; further evidence that they still maintained a diverse diet"

Ag sites + villages destroyed - "The most wonderful aspect - large central village site

Contrast w/ lro - peaceful no fort, dispersed, less fort

"There is no difference in the importance of hort in the Late Archaic period of Maine"
Timeline - how to improve
2nd timeline - MWP → wSTO

Tuck 1984
Maritime - ↑5KBP; 3500 B.P. water ↑ Gulf of HE, swordfish
prehistoric flours somewhat despite appearance of breacks
Water ↑ - Beaver due to ↑ sea-level, cold water into Gulf of HE 3.5K
Some excavation bulky clay pots to leach, birch bark, woven container
Cult occ just before Eur arrival - hapinazord operation between fishing
and gathering. No evd Ag; Sig just before contact

in Erinnion '97
Hickory & Gelaup

OH R.V. - H-600 for maize to take hold to add sig to subsistence
Sharp decline worldwide in farmer health rel. to H-6; j as ↑ pop'm & crops
H-G affluent, E efficient, low E vs Ag - preconception Ag seized on
"why because externally imposed necessity would foragers give up a secure
comfortably means of production for the uncertainly and drudgery of
Agriculture?"

Gowar "
7 hickory trees per person / yr
10 km radius: 4 m 160 acorns 1/2m hi
Shell, leach, pound 2 hrs, 4 hrs leach, 1/2 hr cook & parch on hot stones & sun
Thin tree ↑ P; compete with animals
99.5 %

1x1m pit 22 by hickory - 40 lbs/ by 20.700 plants - 300.1 lbs 680 acorns
Easy to transport ↑ hick MA w/ ↑ climatic ↑ hick ↑ sale ↑ fallin'
End of Hyaus - ↑ most failure ↑ conflict intermix alliances
Hickory not fine adapted to unsewage otherwise

Loren 2000
contact - ongoing process; influencing already dynamic cultures; entanglement
of cultures; creation; not acculturation, not passive or unilinear
artificial divide prior post exchange
historic sources - all Eur perspective for Eur consump; reality consumed also maps
culture; art; archaeo v difficult; use to fill holes of archaeo interp of material
Archaeo - ceramic live, quotilien, most common
Gifts exchange - from diplomacy → economic.
Iraq - extensive movement of goods before contact.
Village lands organized along a single watershed
Cronon - Distinction Eys N Ind as imp as Ind v Eur; Def-morl to whdthul
Def-LA critical - Htek arrival; bowl + proc tec; storage pits
Hemlock & Oak & flourish of mast mast + weed - pre-adapt foreom
Scenes change - actors with flexible toolkits adapt + Pop'n Ads
No dichotomy - native vs non-native periodic expan/contaction
Starna - Pequot village = 10-20 wigwams -> consolidation Fort Hill Mystic

McNamara 1989 Archaeology of CC. NSPS Cult Ba Mt Sumry 17

Timeline Win Pynchon acct book (John) 1645 corn calendar

Wisbar 1996 "Long before the first white settlers came to NE shores, inter-tribal
wars were tearing apart the very fabric of Algonquin life"

Ceci 1990 Real dichot history vs archaeology; assumption 1990 C source "natural
state"; assume sedent = main true Oswego + Iroquois wampum suddenly
W/Dutch: W - no prehist pits or cribs
Long houses, "fixed places of abode & dwellings built with beams
in the form of an oven... sufficient for several families" Dalastin
vs "temporal huts or shelters" Vaudre Doln
past record differs was no forts prehistory; all = camps
Subsistence model - An imp economic model = villages, popin, social complex
Shellfish calorically impossible
Iroq - high yield area Hudson 1609 upper Hudson Storage houses beans/corn
and earthins up, or it does not thrive
De Rasieres 1628 "a grain to which much labor must be given with weelig
Felshum 2002: Deer will take large %o sowel acor

Vaughn: Bear feed hah in tope oks #1 prefer to bulk up in hill
Useful / General

Engelbrecht 103
Iroquois - deer most imp. meat source; fish, beaver, passenger pigeon
wild plants man imp. from records, indigenous farming - never replaced hunting, fishing, gathering
maize = 50%; isotope ^14C - corn baked in ashes, lime + nicotine longhouse - up to 400 x 15-20'; 265 posts; 7 posts 1 size over him moved villages every 15 to 20 yrs
model - 300 people could live indefinitely in 1 place - wait for for food
Eur trade goods - small amount appear after 1575 - iron adze, spike, copper curly metal from Sil or Basque? late 1500s reg trade with French 100 yrs between arrival Eur goods + contact - no eye-witness accounts of cutlery devoid of Eur goods materials 1628 - wood, metal!
1595-1605 black woman in canoe - up Susq?

Strong 1997
Pits - lined. Androger - mold resistant or bark (incl. helmet)
Hulme 1991
Chickhouten/Indian Hill Wiff - no prehistoric sites
WTisbou - highest potsherd - TGFd Shellfish Proof 1 by acc. breach
Coves - paucity of prehistoric sites - seldom breached - few shellfish, no alw/iron perhaps sampling - no develop?

Black 2000
Climate A - too gradual to precipitate abrupt cultural reconfig. "In the future it may be possible to link climate to culture change"

Long 1987, exchange Nfis/Havik/Lib - Nff

Rainey 2010
ACK Wiscons. - Semi-sedent; 10-60' clm; boat, canoe, tied, woven mats, skins
Veep, Champ, Hudson, Gooch, Wood, Jess, Wilim
Archeological artifact collections: Members Mass Area Soc. Univ. Field School, New HX Assoc. CRM - 60 sites, 80s
Quaint site - Little 66 7-10m pool 22 in 4.0m. Nice debris
Relocation regular; not stih; one site center ridge pole. footprint unchanged over thousands of yrs

1982 orig pub
Litle & Andrews 2010 Drift whales - the kindness of Moshup - "Merchant of seapersonal

Dutch Eng Whal Fishy 13th Biscegau or Basque
No whales S Del before 1760; Eng sekti - Indians did not know how to work or could strand whales in embankments
Basque 1792 "Moshup, their legendary whalman, was kind to them by sending
whales etc. ashore to them to eat"

Drift whales - numerous catch, never went to sea 1/yr or 13 fngs
Lawns required; drift whales - ACK 1673 all to Indians more progressive Whaler
1620- Ind cut whales into rafts - Wms, "the Natives cut them out in several
parcules, and take to feed farm near for an acceptable part of all"
Ind no drift record - Salem, ME, EN, SOF Del
Rt Whal drift, drift alongshore - Pelagic tempers, slow, rich oil
Alongshore + pelagic whale culture up to 1889 - parallel drift whales considered, not
mercenhili / fishy ports - Phil, Bos, NY, Ecol - ACK, NBY, Dry, Hubs
Ind MV, ACK, CC, LE - low role, growth Am Whal
Supply Rt Whal, labor pool Ind w/ maritime oppidum + interest in whal
SNE + ELI, Port Del Dy - move Rt then a E Col. Sot (Gulf St L

SExp = quick, l Inert= fast
Demen'hl 1991 - Soils - well drained - warm, dry in spring, path & wash; hillside + rear lake to wai
Neolithic Revolution - involution of farming - cannot be overstated
reinvented by N Americans

NE - ecological crazy quilt - wet maple forests, shellfish studded tidal
carvings, brighled woods, manky bazz cranberries + orchids,
sandbars, firth wet shales on PA

"tremendous variety even within the compass of a few miles"

Dispersed Ag by AD 1000 distinct mix from + forest
big variation within region

Hole for chiming - not surprising as just coming into use in Britain
meat house - central roof hole

Defensive palisades - common by Tsta:quantum's age

1501 - ME Gaspar Cortes Reals - abducted 50 Inds
2 with bronze sword + 2 silver rings from Venice

Verrazano, Morbier people beautiful shine, no pox scars
Squanto prob saw Pring, Champlain + J Smith

Hunt kidnap Squanto + 19; stopped at Cod laked named Z Nauset
Meda - tora by private; got to London, stayed w John Slany,
shipbuilder w Nfld investment; S Nfld went w Dermer to ME
then back to England, back to ME, then MA
200 x 40 mi cemeteries hepatica A
die ties allied against them

Back to S ME, walked back to MA tavern as captive to Mass 1774

Widowed land - native spp exploded as Indian imprint lessened

Pass-who, pigeon, competitor to Indian
Ind - hunted deer, turkey, pigeon - to remov competition for
acorns also raccoons
Pass pigeon exploded after Indians - not evident in archae. site

Edenic nature of New World - due to explosion after Ind downs -
largely an inadvertent Eur. creation

The ecological ancient regime collapsed

Destroyed NA + ecosystems thy had created
Dark forest of HST something thy never saw
Europeans created wilderness

Cronon - Changes - no wilderness for thousands of yrs in NE

But should build for the future, not recycle the past. Gardening
for future
Overview - Basic Chronology of Periods

Jaffee 1997
Portero round houses/14'16'; left frames behind, rolled & carried mfts

Gooswell-Will '01
Clay cooking + storage pots; cook starch, seed plants; weaning gruels, allowed earlier weans + 1 pop'n
MA - Shell Middles; 250 qytr for daily calories
LA - see level 60'; Transitional; before Clay - shell 1; wood - mudslide decline
E+NW - clay pots; ↑ pop'n; LW - ↑ Tethed to Lead - forms
LW - large storage pits + trash pits 6x6'; cannibal burials; heavy crem

Strong '93
Plant domeat; ↑ bee, ↑ trid network; new pottery + projectile pl;

Dineen '95
Palaeeolow = Fronter 12-10k no direct cuaduu hunt/eat elephant
EA = Late Pio - 10-8 9k - men summer to w/colder winters
MA = Early Settlers 8-5.25 4.2-2.8
LA = Developed 5.5-2 Richert archaol; perc;
EW/LW Late Settle 2-1 3-2 ↑ pop'n - unknown, related to Fronter?
LW Farmer's Per. 1-2.5 Snow 2000 & Oyster - To?

4700-2300 - richest arch period; nuts ↑ imp - protein/fat; history, acres & mobili;
Amel. clim. warmer winters + larger 0 archo
a = ↑ resources ↑ pop'n; more trade, mov. localized; storage pits appear;social
↑ clim.?
3000 ↑ trade; carry extra exp bow; ↑ upland sites - larger build; ceremonize ≠ soapd
1000 - clim. amel; warmer winters; larger grow; mete - not dromak; eliagone support

Little 1988
3500BP - Sealevel stabilized - allowed (barrier beaches, estuaries) + embaym

Every CT site dur

Keegan '88
Paleo (P) 2500BP ? sites 2 rigorously excavd; every site - dur
LA - sweet ↑ pop'n; ↑ mast food; TA (7.5-2.8) - soapdawn; EW fine pid
36-20°
New England as Backwater Archologically Ignored

Morgan 1939 Book on Pre-Columbian Architecture in NA - examples from lower & upper Miss, Fla, Ohio Valley, Tenn, Appalachee & Piedmont - nothing NE

Appendix of Comparable Sites - Stonehenge, Giza, Acropolis, Angkor Wat

Cartwright + Wall's NE "drearly and uninteresting." DDine - "a marginal, culturally retarded outlier in the Eastern U.S.

1978 MacQuarrie EC - 1st NE Arch - 100 yrs
Archaeo  Figures + Tables to include

Table Shells from Riche is - duh incorporate 3% in text as example of how many species drawn from + idea of preference.

Table Verbs rule - Riche is use #s in text - example of diversity of spp, overwhelming abundance of deer - frequency, # bones + #% of animals

Riche is or other excavation - showing overlapping post molds + features?

Table - Indian Periods; include climate

 Paleo EA/MA/LA EW/MW/LW C  Little Workshop + Tool

Hunting  Plant Gathering

see other side

Decca Maps 3 sites by period 3 Hort vs tools vs meat etc.

0 Seasonality of use - Short-term, Seasonal, Sedentary

Table - North American Explorers and Contacts with Indians.

From "Atlas of North American Indians" Indians and Explorers

Whole strandings - Drift Whales - From Betty Little

* Map of ethnohistoric locations - all shaded the same

"Moshup went a-swimming, 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 - Oldest O'Hara curve - sea level vs period
Seasonality: LA vs LW 
LW more sedentary but only 11%.
LW showed sites - only 6% unshared + 71% shared with LA.
LA vs LW Seasonal Aver. - identical except 7% boost in LW.
LW seasonal vs Short Term - Great difference, much more than LA vs LW.
and Short-term med from Through Time.

Notes: Corn sites

Synthetic Diagram

Sea-level Change
Ratio of Land to Water in Coastal Zone
Lake level (moisture index)
Temperature
NA sites
Major Taka Spruce: Pine - Oak - Beach - Grass
Charcoal

Map of maize finds in New England (Chilton and Rainey 2010). Shade area of GDD?

Map. Distribution of Paleo sites, fluted points, mammoths and mastodons (Snow 1980)

Not for publication

Average sensitivity - All Cheops within 150-200m of coast, within 150m of site. Map all sites (Herbst + Cherau 2000).

Shaded by elevation

Wampanoag Map "Noepa" Place Names MCC

Use MCC map consulting Banks

Roads from that map

Show modern place names as listed

Q - what are names Snake uses?

Definitions in borders/ separate table
Graph/Timeline  Nut yield - Ohio  White oak, red oak, hickory 1962-1970  (Nixon et al. 1978)

Figure/ Illustration  Contrasting Iroquois and Algonquian Orleans or other Champlain depiction  Caughnawaga or other Mohawk/Iroquois depiction  Ritchie Roweltop excavation 1964  (Ritchie 1978)  60-80' longhouses  Ritchie MV site  wefu wigwam
Historical Archaeology
Mass Arch. Services - good strengths
Bob Paynter - Post-modern; Marxist
oppressed people

Oral Historica - Aquinnah
Linda Coombs
Mashpee

- circularity?
need certain pop'n size to warrant particular

Generalities

Site Files for the Coast - Each State
Backyards
Amateurs etc.

Archaeology of CT / Softcover

Bill Starna - SUNY Oneonta - acts.

David Silverman Princeton, Native Land
transfer

Algonquin People of CT
Deena — Focus on Phase 3 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 - Archaelogy of CT

GIS person + State archaeologists

- 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 monk - 2 small
import of alcoh - only specimen we have
Handwriting = son John
Written late 1645

1. When they set Indian corn
2. When women weed their corn
3. When they hill Ind corn
4. Whv squash ripe + been eaten
When Ind corn eaten
5. Ye middle between hove + Ind corn
6. While frost on great snow
7. Middle work
8. Sun both strength to tree
9. Ice in riv all son
10. Catch high
Look at Mulholland + Dante
MV
7-14-10

Coastal MA, RI, CT, NY > 2000 project areas & sites thru 2005

MHC - Brona Simon, State Archaeologist; cult Bus Maj reports
NPS surveys,

Region holds together well - difficult to separate

Prevailing view - Dinequah, Snow, Brown + Brown 1994

Paleo 12-10 burlard + parklands; hunting, woodland, food average; small
bands, seasonal wanderer < 35,000 peak

EA 10-8-6 id by projectile point style - drills, chisels, hammerheads, awl, bone

beveled celts/adzes; 1 workaday & nutpounds continually - restricted

seasonal wander; defined territories; less exotic lithics - low mobility

HA 8-4 Deciduous + still requires some level; territories; central-based wandering;

winter interior, spary muck, fish, summer foraging; up special purpose

Celt, gazette, grooved axes; knives + spears all at; local materials

for canoes, etc., fish, food paws

L15 - Small, numerous excavat; broad survey; up fish + 4 accounts

Nace East; pox - Alluvial - few sites + richness; up east

Trends 18 - 25-5000; diagnostic pts; steel in bone; central-based wander

E+M 0.2-0.61 - combined; stratified sea level; resources rich excavations

base camps; up special purpose, summer sites - coastal, chipped harvet,

winter camps - hunting - small streams + peri

larger sites mo NA been used year round

Advent potter; defined woodland - stone + coaker, easier + more efforts!

outward trade - Ohio Adena + lithics - N, E, W

LW 1000-450; 1 large site; trad, heads of excavations; multiple

Contact 1500-1650: main villages - semi-persistent, moved every 12 yrs. per

seasonal to farm, farmed 7.5 miles, 1 wampum, but little else 2
Territorial, marsh, coastal, palaeo, fresh, salt + brackish.

more nucleated LW + Cont;

Diff to rework contact period

MV: studios cone - GH/Chil + Tic/Pol "evidence along almost every pond, watercourse, bay and coastal line of native upc of MV, for thousands! You."

Ritchie: forest-adapted hunter to marine-oriend (as "family"

Repeated wi: Squid, Wal, Menon, Lbage - the continuous, yr round huge shell middens, may cemeteries + small mavin fields leading 12thc

Vineyard, April Beach 235 ac interior - no average sig resources - varied native habitat.

Impacts: shellfish harvest, deer, fish, 6plng for wigwam, firwood, clay,

Possible overuse local resources + Deer + Maintquare Boom Project - no cult method - near pond

Regional Diff: Interior LI exploited more than other interior areas.

LI - LA Mt Sinai - apparent safety - end

Storage features, middens, hearths, post molds.
DD - Buzz Bog

Fall River - Wareham + New Bedford
Few prof schools
All Wampanoag = Pokanoket - Mt Hope RI
Heavily affected 1617-19 epidemics (up to 100% in Plymouth, etc.)
Much use in W+S 1632 - 1633-41por

Contact 4-5500

Drainage = imp corr area for Nakin settlement - Arapiec Wooded

MA-11 LA-29 EW-15 MW-20 LW-23

DD - CT

By MW semi-sedimentary LW = villages 8.4m 8000 Yrs
4000 BP = Coast formed 1.2 mm/yr to 2500 BP 30 mm zet

CTR extensive tidal marsh 1500-2000 Yrs EP

3000 popn before Pequot War

Fortified village - Eva contact

Fort Hill + Mystic Fort

unfort. villages - similar encampments

Inter-regional trade networks, semi-sed

[DRF post modular fishery]

Shift towards major rivers after LA

DD - Narragansett

Gradual shift - upland forest-adapted habitation Archaeic to coastal by
end Archaeic + W - forest-hunting estuaries

Narr Boz part of system of rivers = east shift through BI Channel

Free from early epidemics ~ 7000 men ~ 20,000

Verrazano 1524 - while open plains 25 to 20 leagues "Not Charys" season my man!!!
their habitation from place to place as circumstances & situation ad
I:... (unreadable text)

Vast spaces of wilderness interwoven with salt marshes.

Contact: shift mound to saltwater pond along coast by 12th century. Reintroduced wolves and trade. Pagouleza 1490.

BI: No Paleo, EA, MA - most Woodland Bellandot.


Wintrop description: John Endecott - 10 mi overgrown with oak brushwood; no good timber. 2 plantations, 60 acres corn.

Deep sea wetwa, salt - mixed wetlands, woods. Cod.

Little evidence for general of year-round residence.

LGG impact

As...
4 total sites to date: recovery level of analysis
before 6,000 BP. ACK + MV small hills on west coastal plain
moderating climate: warmer winters / cooler summers

Erosion: cone of N hills; lose Sero
12-17 Paleo: 5 fluided pits - no habitation: EA-4; MA-12; LA-58; EW-70
2+1 MW: 16, LW: 25 (1000-450)

No Archaic sites professionally excavated, analyzed, published

Littoral: sites completed w/ season due to high wind + directional

Winter - E & S (NW wind + snow); Summer - equal dispro.

Potentiel for site (1) < 200 m; (2) 1 km of shoreline habitat; (3)

hillcrest, knolls, cliffs (4) sandy plain

As shoreline stabilized 3-2,500 BP: tidal flats, salt marsh & assoc. creat

Systerns: formed - shellfish, whale

deg., turkey, all., turtle, muskrat

Deer, rabbit, geese, racoon, cod, 

hirse, hazel,

Wigwam floor: Maiz 1440-1620; 1625-1640

Lacked - field stones, 1.5 ac - single family campsite + prov. act

wide open area - no physical modifications. Unique todav?

Marginal sites used as lair or camp
Seasonalish - plants, fish esp. locak

Similar sthbl: C + N - lobste, eel + maiz

Most info: Powhatan period - 4 sources: Wapnoons, Faber, 1625-1675

2000-2000 contact = 600 families

While settlement 1659 - 20 protected from attic
Archaeo Notes

Cape Cod
MHC - intensive (locational surveys) - by Cultural Resources Mgt. preformed
on lands with known or probable sites. If positive -> site examination
to determine boundaries, time, eligibility for NHP Sys. Historic Info;
date recovery exam (to salvage info)

Cape - some of highest densities in estu cap LW

Paler (12-18) 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 peoples; larger residences, longer-term
more intensive use

Leeper in 1983 - little material & LW - contact

But how to differntiate? Are both materials working or incorporation?

Tunro - Corn Hill - use g+connect material

Wellfleet - Indian Neck Reserve - large no., urban of people - healthy, no
trauma, low even, not ground caesal One + low infectious diseases vs metal

By looking at intensive surveys, site exam, date recovery - Id. areas used
+ not used

M = LW & Shellfish W, Sp, Su = W + Earth Sp (Outer Cape + 1 inner Cape) my
reflect add of late or A pop'in

LW+ = A pop'in + more nucleated - along estuarine; - rel. larg.
pop'in; Nauseat Outer Cape 1200 preh pre 1616
1600 AD = 2100 on Cape 1674 AD = 1750 (look)

Cena along waterways - use terr, marsh, coastal, palaeic,
Fresh, salt, brack
NPS pubs - McManomen 1989 Arch of CC - NPScult.Bksh6Sh17
ACK - Wrayon site - 1st for ACK; also contact #1k close to pre-cloak
+ mix native artifacts, domesticated animals, Eur 18th c
but not interpre by arch. as historic native site.
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 - 5,000
Late Archaic 5,000 - 3,000
Early Woodland 3,000 - 1500
Middle & Late Woodland 1500 - 450

Fig. Archaeological cursus of Indian activity.
Maps from Dina Duranleau.

Lithic Activity (Tools 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
of any Archaic 124
Woodland sites that are also Late Archaic sites ~ 71%
" " " " overlap with other time periods 40
" " " " that are unique 23
Indian
Constituency of activity through time.

Bar Chart. Percentage of LW and Lake Agency sites demonstrating different activity.

Lithic, Fishing, Shellfishining, Storage, Hunting, Burial
Agriculture.

Maps
Figure. Temporal distribution of Indian activity in the coastal region from DD data.

3 panels

Short-term activity
Seasonal
Secondary

Munoz Figure Human period
Climate phase

Human population, vegetation change,
Temperature, Lake level, Charcoal
Hemlock

Map - Munoz region vs Native Groups

Graph - Sea level versus Indian period
Timeline - Disease 1616 MA - Yellow For or bubonic / Snow + Langle 1988 1623 smallpox 1636 War 1636-27

- 566 Eskimos kidnapped by FFixth sailors in Labrador taken to Holland

- Few sites on coasts E of TGP as no need boarshing - perhaps seldom breached

- Shady - substantial at round - village-like multi-family

- Native conflict before Eur

- LW why? Pottery - gravel nuts, chewed, worn/furbish; climate 1800

- MM 1979 Good discussion protection; acid soils; relates pop'n to site & artifact diversity

- to vegetation productivity; pop'n decline 2000

- Peak LA thru decline thru ↑

- Guernsey LV site; Eur families on HV sinc 1623; marron colony at Edg 1642

- incl: 1642-3000; 1674-1500 1817 Wigwam hill et GH

- Word Chil Peo - BC high pit 233.4 x 442.6 dep; scallop shells, charcoals; fish, dog, kid

- E stone Monum + Nash Peo - "almost uninterrupted evidence of aborig occupation"

- House rings - Oyster Peo, Men

- Harbour Lagoon Peo site near Bass Cr - prob perm village; Hdy Peo - extensive large

- Bragdon: Eur overemph might as evaluate for hill

- McBride '90 Sites widespread except 1 fort

- at Potlatch (Plt) Thea Derry

- Dunn '93 1614 Squawd Kishn. Capt Thos - J Smith's jet w/26 oar; Spaw/Spaw; 1611 De Plw/Spaw

- Vaughn '165 after 1609 most brought India as guide

- Dino '80 1800 America climate; warm wintery; longer grow sec

- Russell '83 1600s accident history only; Wood & Norton masonry & near settl 166

- Branner '78 Norse cont to get timber at Labrador 1349

- McShea/Herb 2002 Acorn = manna; 96 vert - critical part of many habitat suitability models

- Abrams Clark & Reynolds 1995 - Be-Nupi ≈ WPO w/o o. / Arbora - mcp papers Did f site ↑

- Quote - incl popim's ↑ also site ↑ Oct

- Oct 2002 Root health outtake → few conese. Scree

- Oak potnia - spring detritus - after tremulous CHD exposure [his compromise]

- Lorig Knaps Must = intermitty; asynrnc accessor infrappp nut ann. rev. habill gym

- 1Crick & Pokers high digity, wk E, low probm Grous, turk, ou, ber, pear, paper, racoon, cow
Fig. 1. Map of Plymouth harbor in 1606 by Samuel Champlain depicting scattered Indian wigwams with associated gaudews, surrounding woodlands and water depths. Individual wigwams were temporary structures 15-20 feet in diameter and housing an extended family of 6-20 individuals. The scene likely depicts a seasonal encampment around the productive habitats surrounded landscape with access to the stream, estuary, and shallow bays, woodlands and maritime habitats. In Champlain's depictions of New England encampments there is no apparent regard for defense.

Fig. 2. Samuel Champlain's depiction of the joint French and Huron attack on the fortified Iroquois Iroquois village in northern New York. The village consists of more than twenty long houses, which ranged from fifty to a few hundred feet in length and each containing a dozen or more 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  Reconstructed reconstruction of a 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  Illustration of an Iroquois longhouse constructed of substantial timbers with internal 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  Archaeological map of William Ritchie's Cunningham site in Vineyard Haven. Numerous small post molds are scattered in a largely haphazard fashion with the general concentration of shell and fire-broken stone. Ritchie has sketched the apparent outline of circular wigwams that are approximately 15 feet across.

I-6  Archaeological map of William's Ritchie's Roundtop site in Union, New York, depicting post molds, storage pits, other pit features and hearths. The post molds form two or three overlapping outlines of longhouses that are approximately twelve-five feet wide and more than one hundred feet long.
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 human cultural changes during the post-glacial period in the northeastern U.S. The population increased rapidly during the Late Glacial Archaic period when warm temperatures prevailed and mast-bearing species (oak, hickory, hazel) thrived; it declined during the cool moist Ear and Middle Woodland and then rose again in the Late Woodland period with the slight warming through the Middle Woodland 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 adjoining areas. New England and New England ca. 1600 AD. Adopted from Meinig 1986 and Wilbur 1996.
I-10 General information

I-10 Vegetation dynamics around the Crawford Lake Ontario Iroquoian site. Associated with the expansion of the population and rise, creation of large fortified villages and concentrated deforestation, there are substantial changes in the vegetation and major episodes of grass pollen and maize pollen. Following European contact these indicators of forest disturbance decline until widespread European settlement, expansion of deforestation and increase of many weeds to include the non-native Rumex.

I-11 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 Evidence for the importance of Drift Whales in the New England coast, including:
locations of known drift whales from ethnographic sources in the 17th c. (Litt 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 whale 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 sites. Modified from Durankeau (2009) and Childon 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 modest change in site selection over time. More than 80% of sites in the Late occupied Woodland period had been previously approximately 70% of these were used in the Late Archaic period some two to four-five thousand years earlier. Modified from
Archaeological

Evidence for Indian activity at New England coastal sites indicates support for the contention that subsistence was based on a broad spectrum of 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 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.