

"In Search of America's Earliest Apples

DNA Testing, Historical Research, and Offshore Islands

A Little Background

- My name is Todd and I am obsessed with (historic) apples
- I blame John Bunker (and my mom)
- I have made it my life's work to contribute to the work of tracking down, researching (that's the part I'm good at) and preserving Maine's heirloom fruit
- My day job is as a history prof @ CoA..the best day job I could ask for.



Trees, really old trees

What do I want?

- Trees, really old trees
- DNA of really old trees
- I need your help

Why am I ***HERE***, on Monhegan, of all places?

- I believe that this is possibly where the oldest apple genetics in North America could be found



But First

- How do we track down and rescue the oldest, rarest apples in Maine?
- The Maine Heritage Orchard at MOFGA..a *preservation* orchard.
- 350 Varieties (we call them cultivars) collected from around the state, nation and around the globe



Document and Research

- We build lists of what was grown county by county, region by region.
- We visit with people in their orchards
- We dig, dig, dig into archives
- We map orchards
- And we collect leaf samples

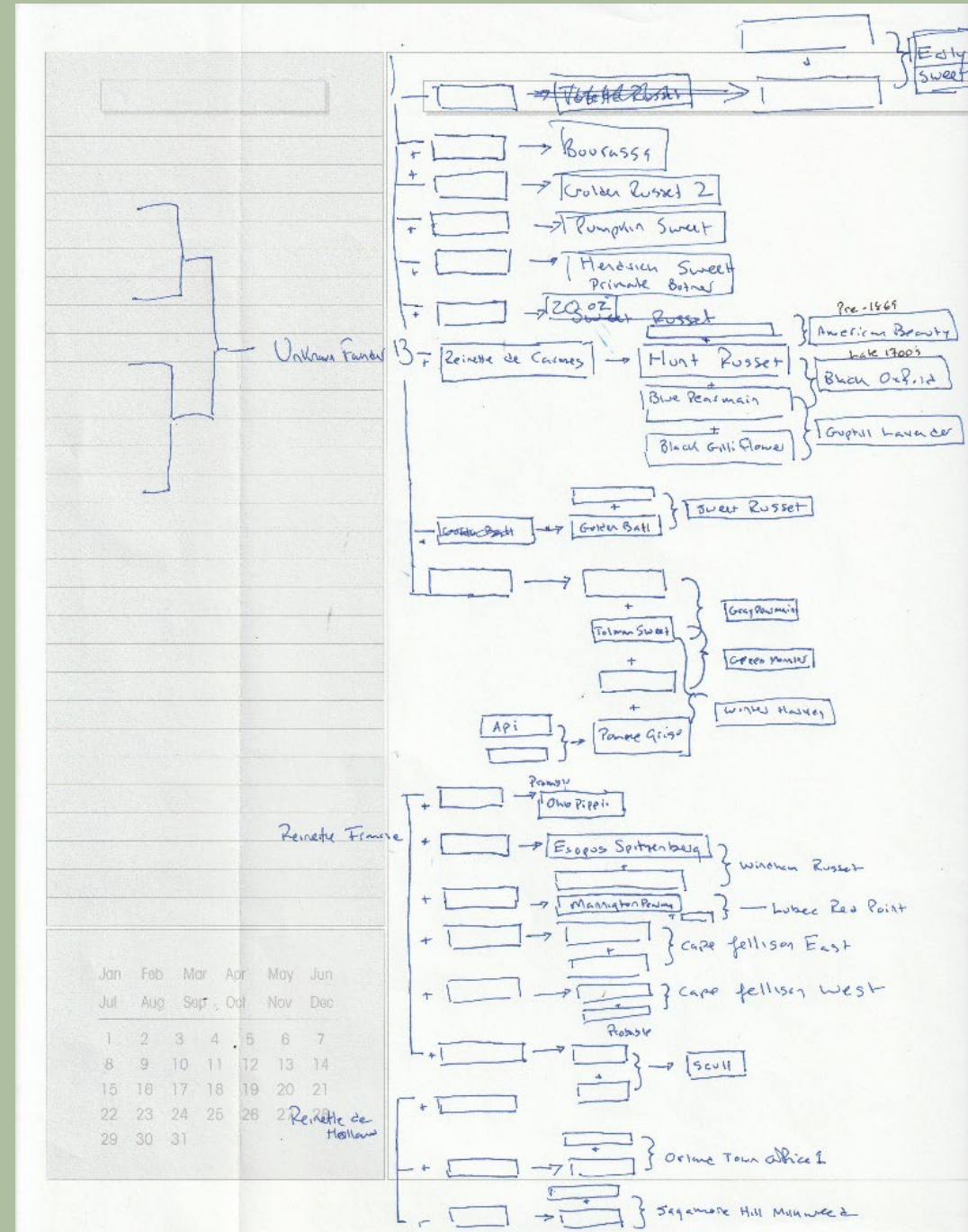


The New Archive - DNA

With advances in genomic analysis we can now determine:

1. The identity of an apple
2. It's pedigree and ancestry

We have now profiled hundreds of apples from Maine and have learned some key information



One ***REALLY*** important fact

- Every.....single.....seed....unique

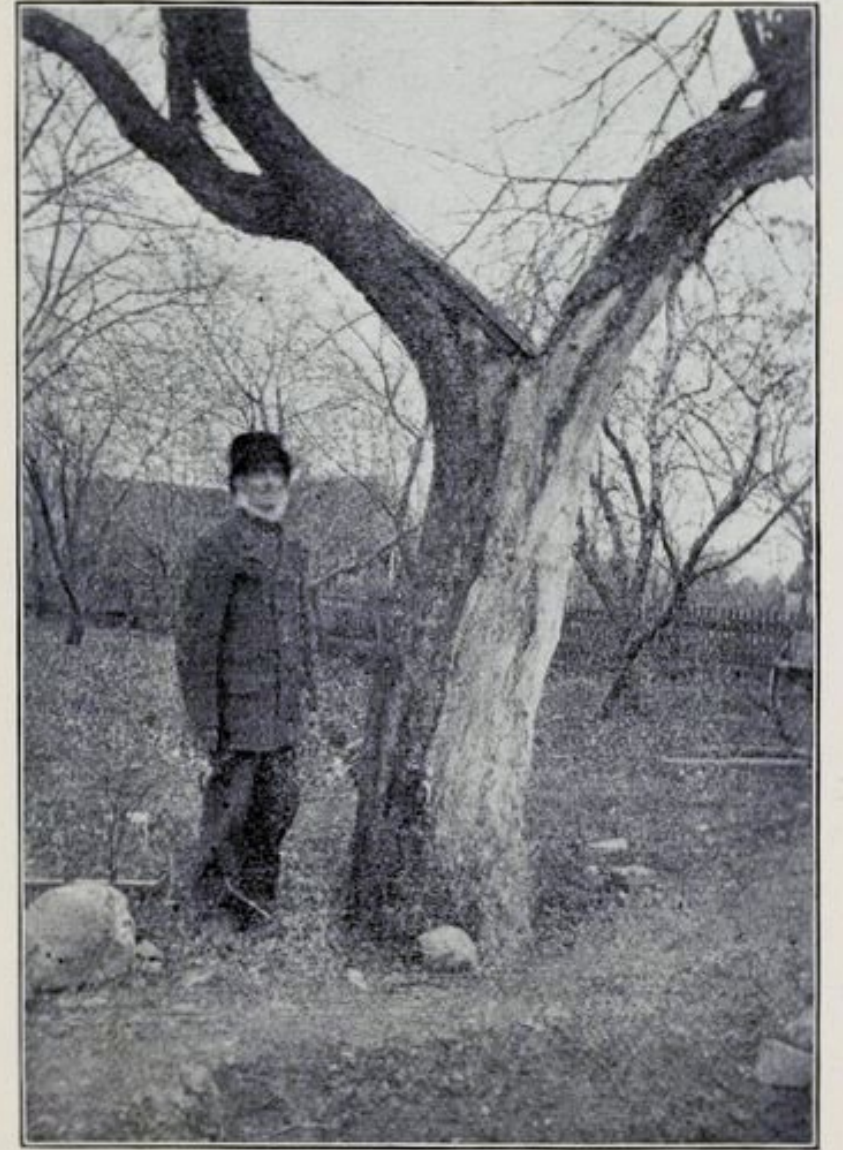
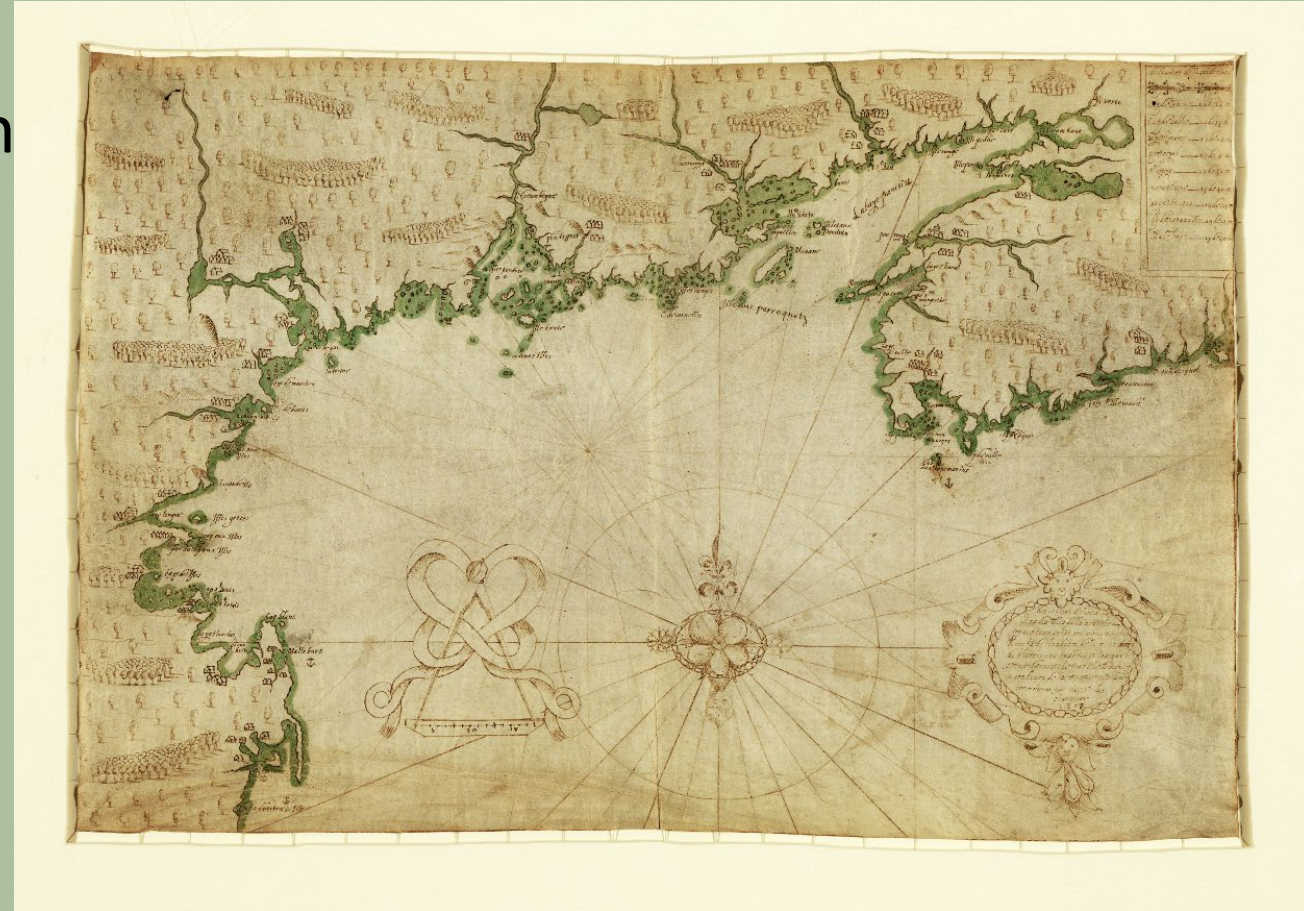


Fig. 74. Mr. McIntosh of Dundela and the original McIntosh tree.

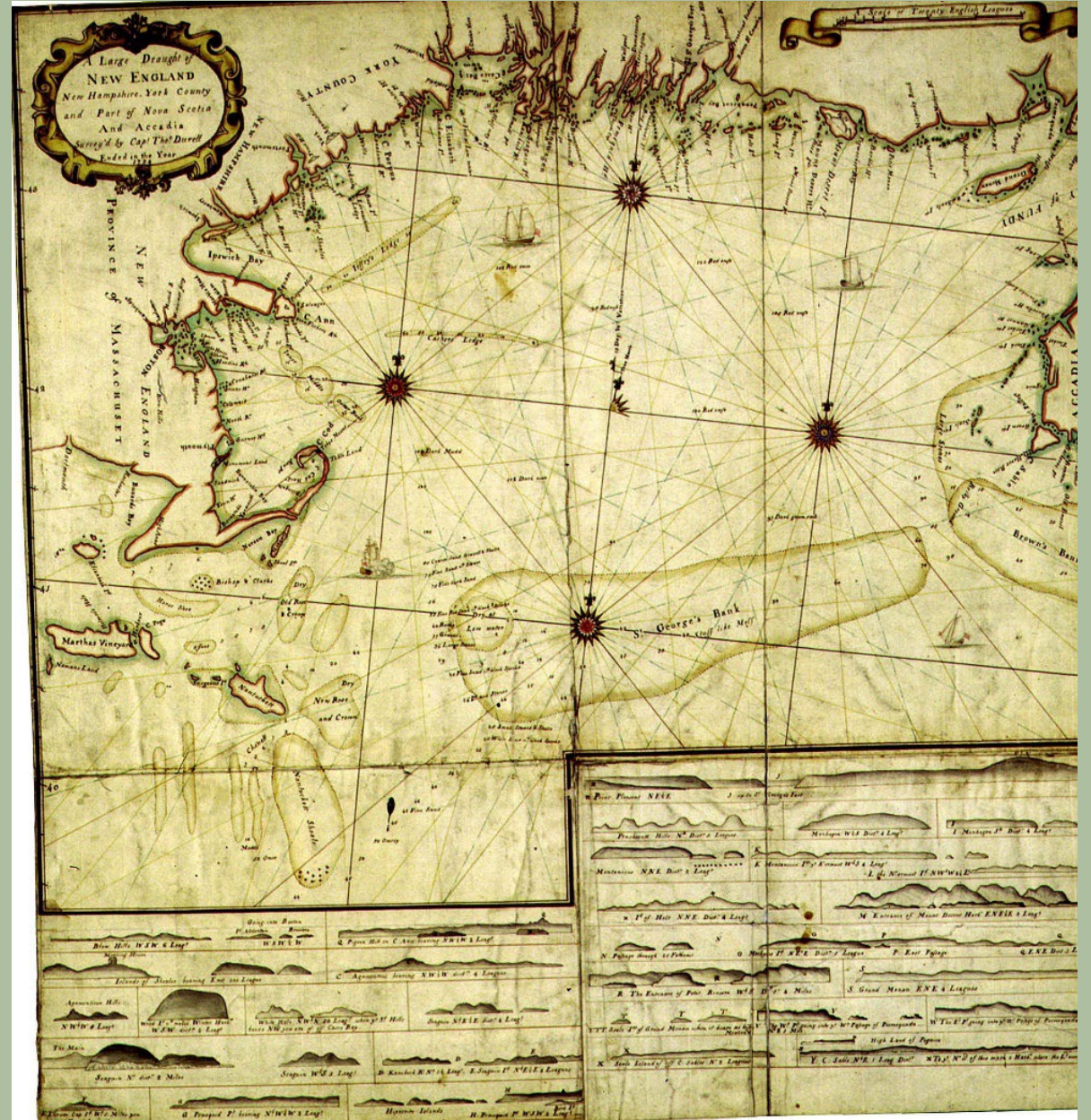
Why I am HERE, on Monhegan, of all places

1. The earliest European activity along this coast was drying fish on shore by Basque, Norman, and others.
2. Offshore islands such as Monhegan (and Matinicus and???) are used in this way long before anyone settled here
3. Did they leave apples (genetics)?

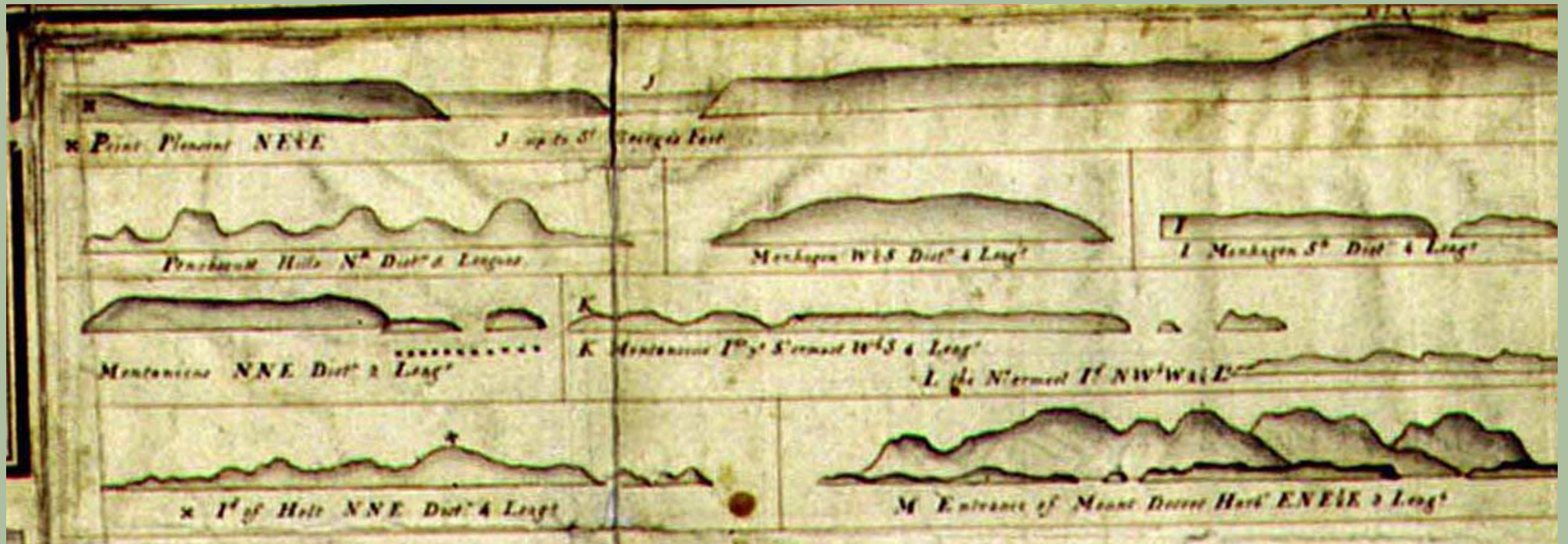


History Review

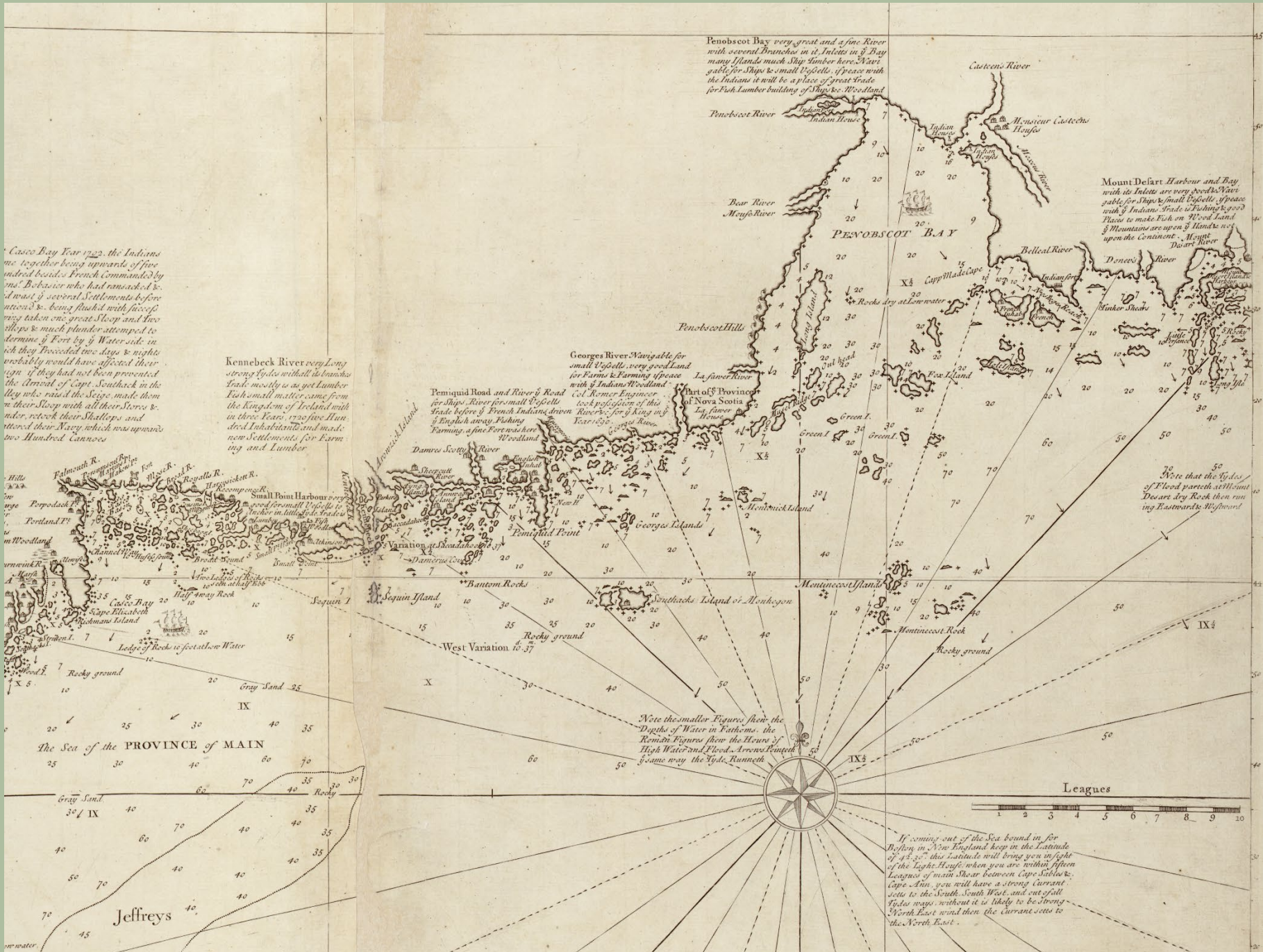
- 1497 - Giovanni Caboto sails into New England waters, beginning of *recorded* fishing
- 1614 – Captain John Smith and first European settlement
- ??? – First permanent, durable settlement?



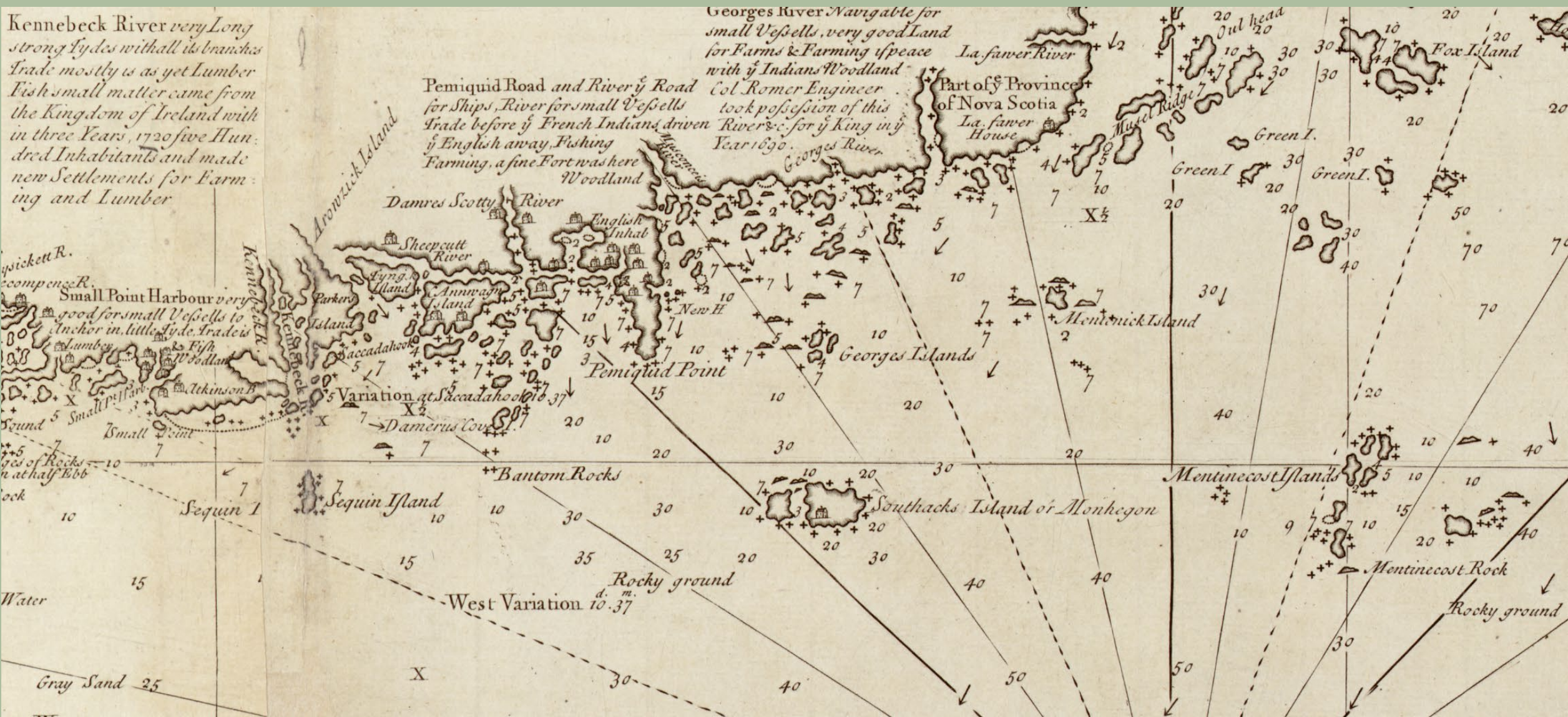
Monhegan, 1734

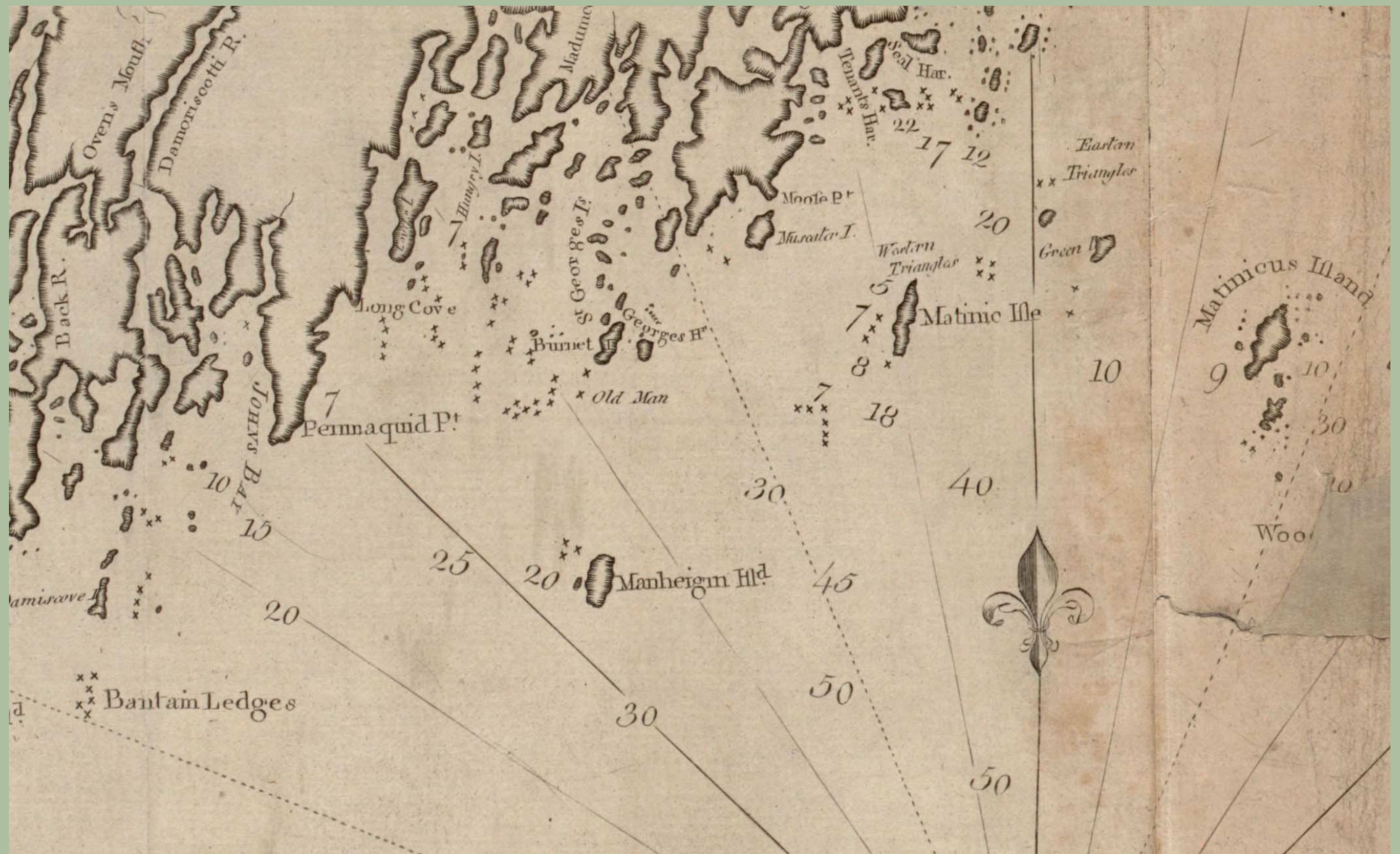


1734



Kennebeck River very Long
strong Tydes withall its branches
Trade mostly is as yet Lumber
Fish small matter came from
the Kingdom of Ireland with
in three Years, 1720 five Hun-
dred Inhabitants and made
new Settlements for Farm-
ing and Lumber





The real question

- Where are the oldest trees?
- Do they have Basque/Norman DNA?
- If not, what DO they have?



Thank You!

- [RegisTREE of North America \(arctgis.com\)](#)