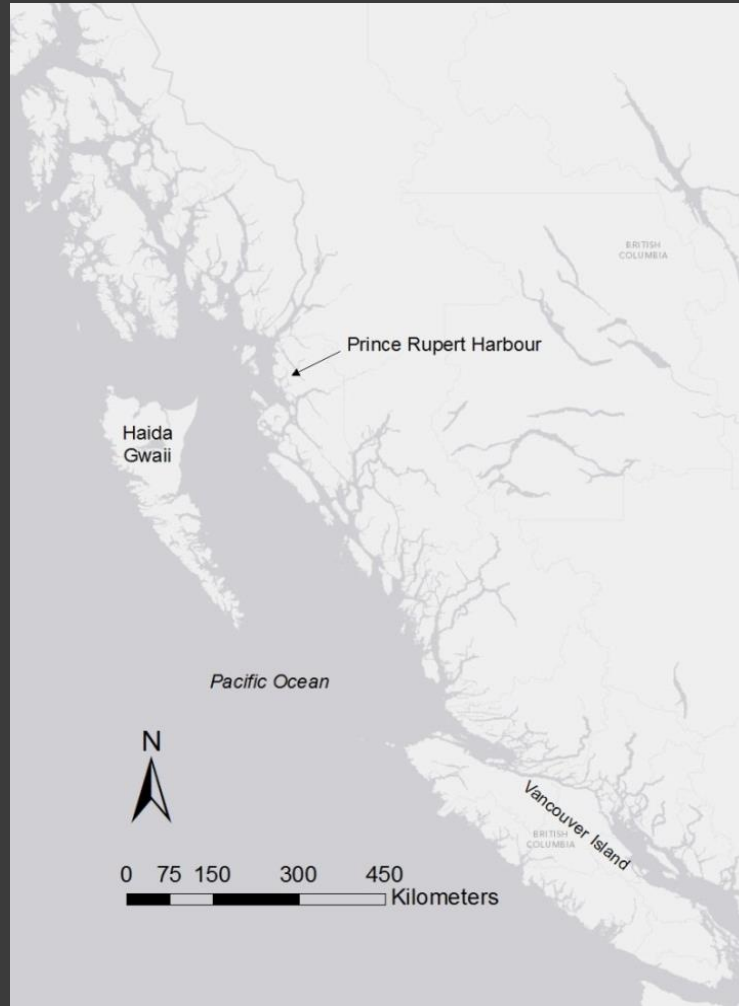


ANALYSIS OF SITE SELECTION BEHAVIOURS AND LANDSCAPE USE IN PRINCE RUPERT HARBOUR

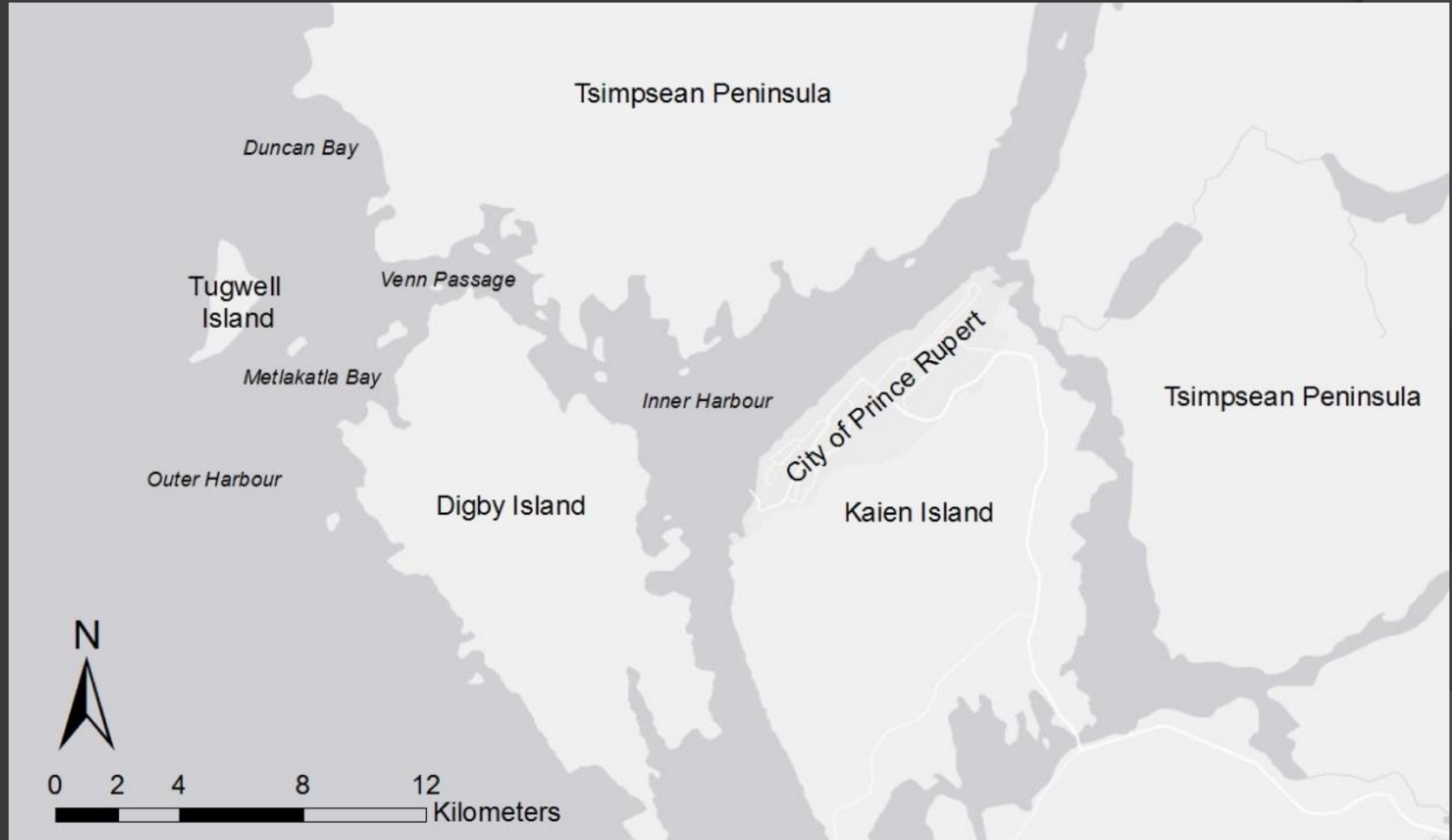
Corey Cookson, M.A.
University of Alberta
Treetime Services, Ltd.

Introduction



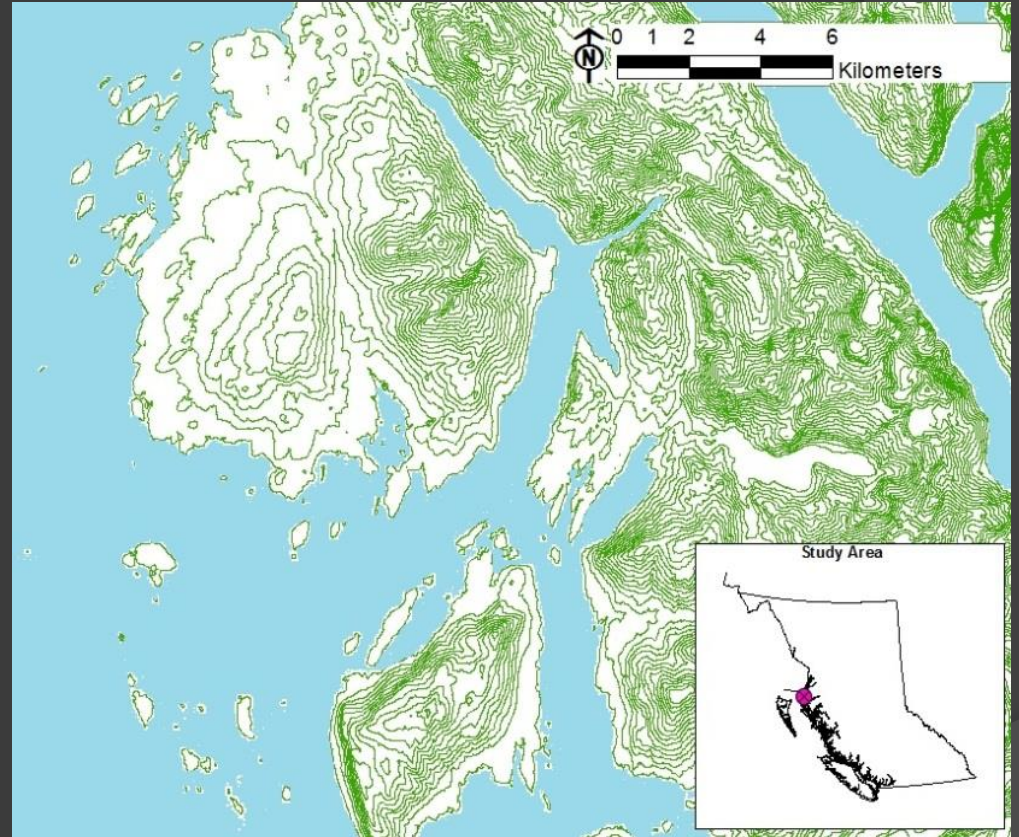
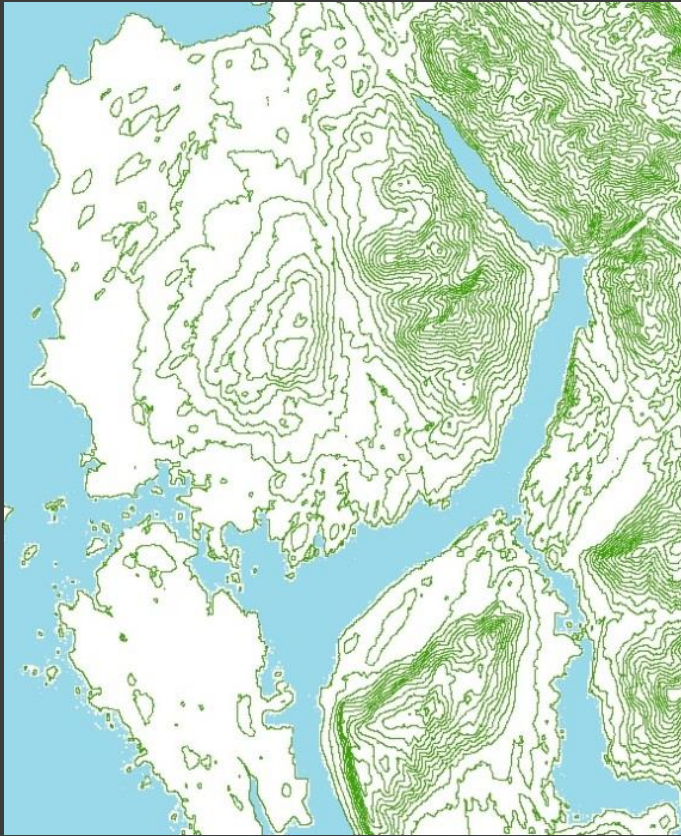
Location of Prince Rupert Harbour

Introduction



The Prince Rupert Harbour

Introduction



The Modern Shoreline (Left) and the 12,500 BP Shoreline (right)

Increased Conflict 2000 – 1500 BP

- ⦿ Archaeological record
 - Fortifications at GcTo-1
- ⦿ Osteological record
 - Defensive wounds
 - Trophy skulls
 - Decapitations
- ⦿ Oral records
 - “The War with the Tlingit”
 - “When the Tlingit arrived on Dundas Island”

Research Questions

- ① What environmental patterns influenced site selection decisions?
- ② What non-environmental patterns affected these site selection behaviours?
- ③ Was there a spatial structure to the placement of habitation sites?
- ④ How did these determinants of settlement pattern change over time?
- ⑤ What variables may have made non-habitation shell middens unsuitable for villages?

Spatial Analysis and Archaeology

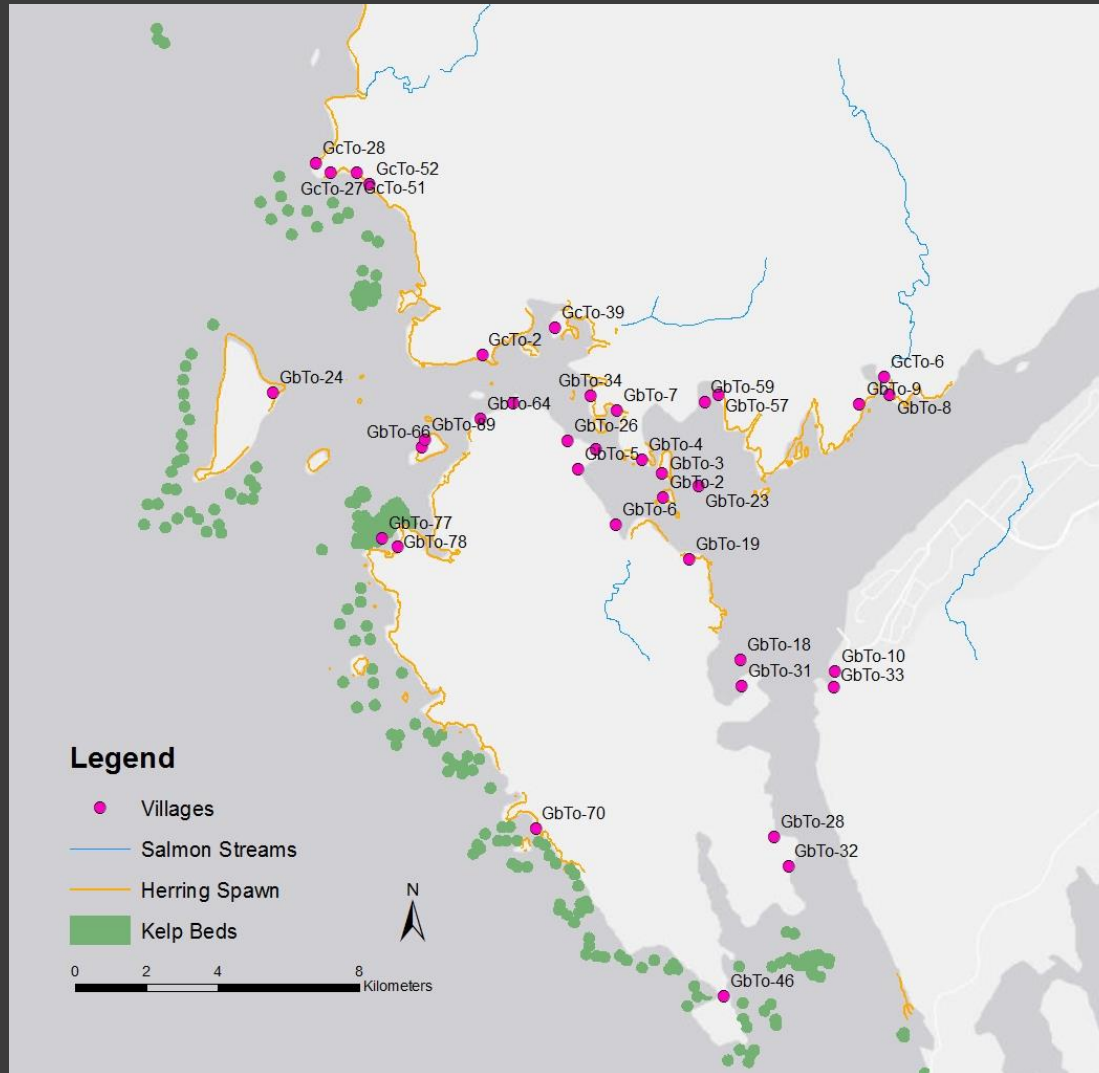
- ⦿ Application of GIS

- ⦿ Theoretical Approach
 - Environmental Determinism
 - Resilience Theory

Methods

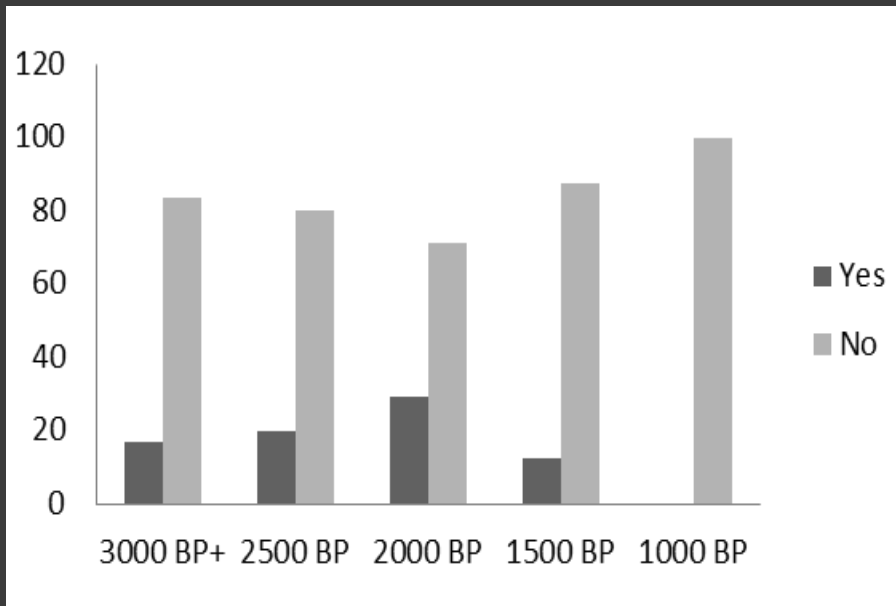
- ⦿ Buffer and Intersect
 - Proximity to Resources
 - Kelp Beds
 - Herring Spawning Grounds
 - Small Salmon Streams
 - Fresh Water
- ⦿ Nearest Neighbour Analysis
- ⦿ Viewshed Analysis
 - Line of sight
 - Arc of view

Proximity to Resources

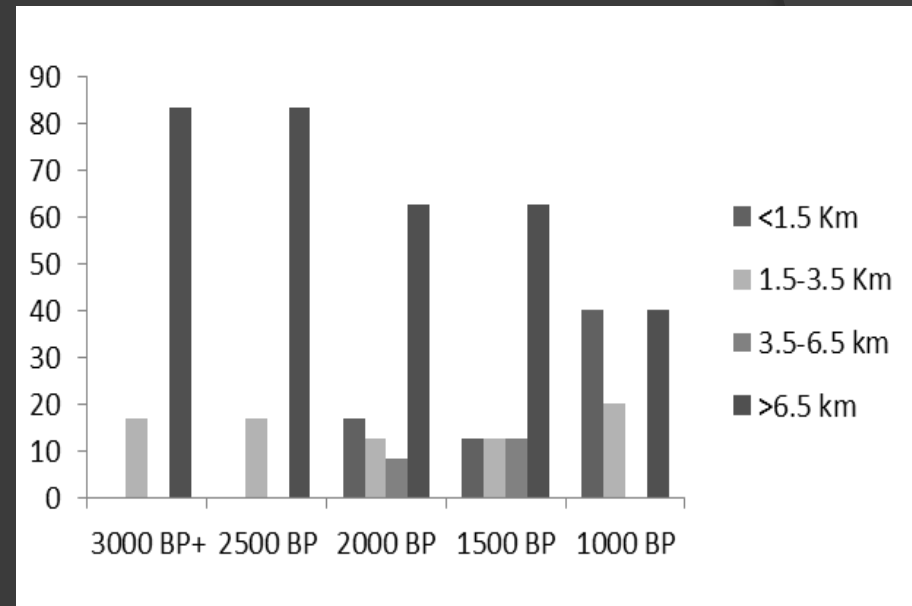


The Proximity of Villages to Resources

Proximity to Resources

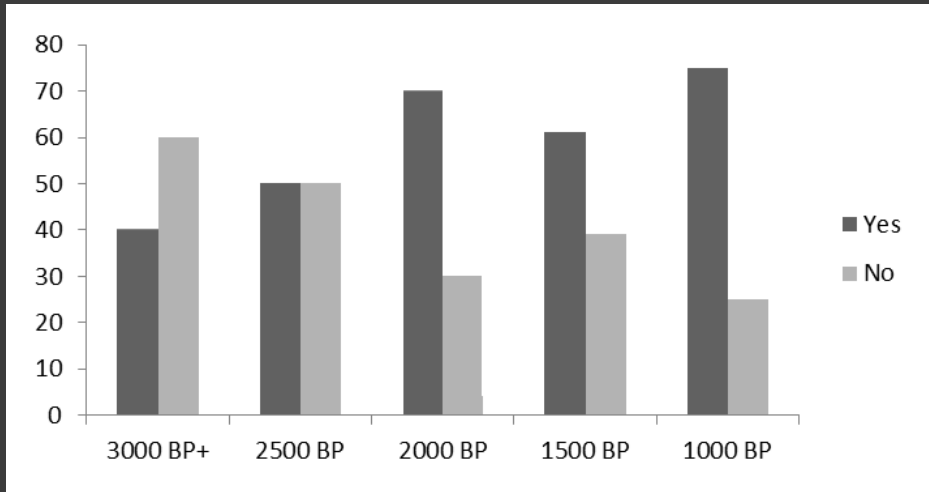


Kelp Beds

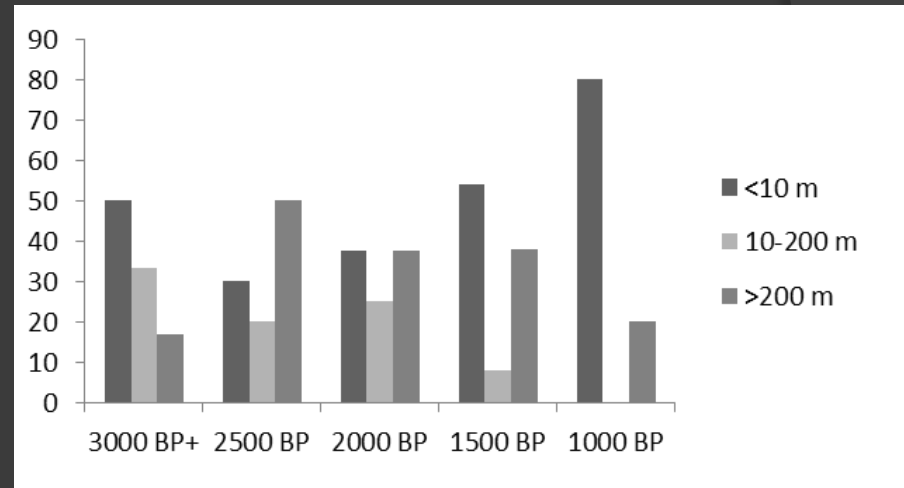


Small Salmon Streams

Proximity to Resources

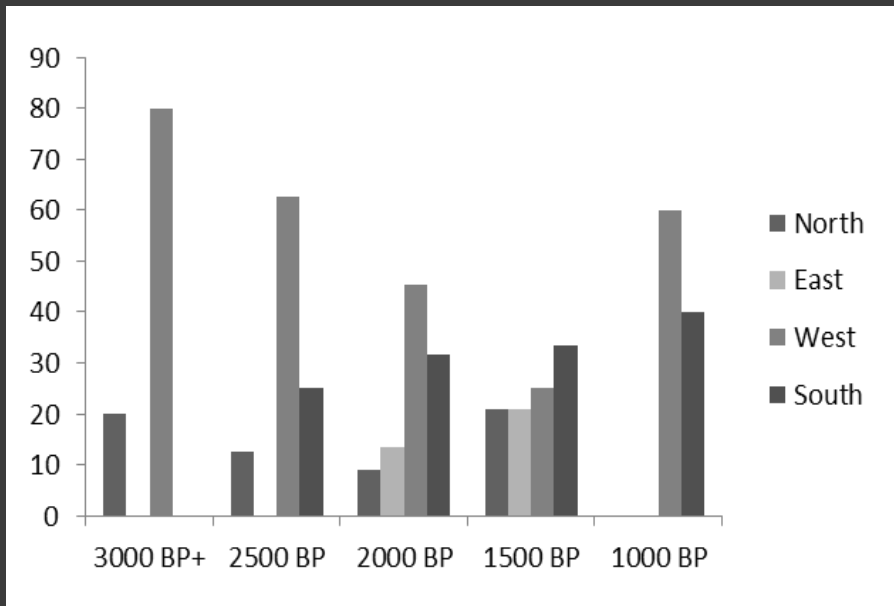


Herring Spawning Grounds

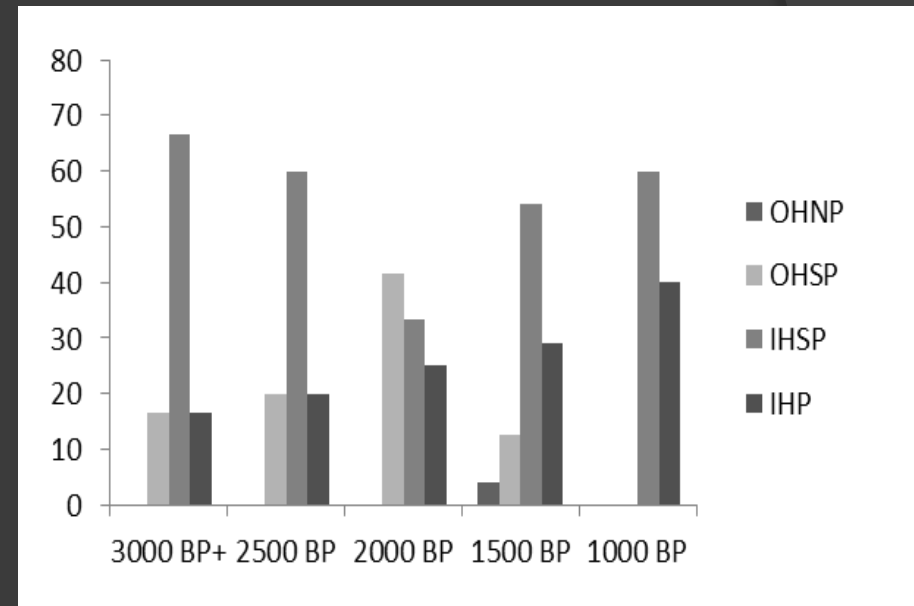


Fresh Water Sources

Location

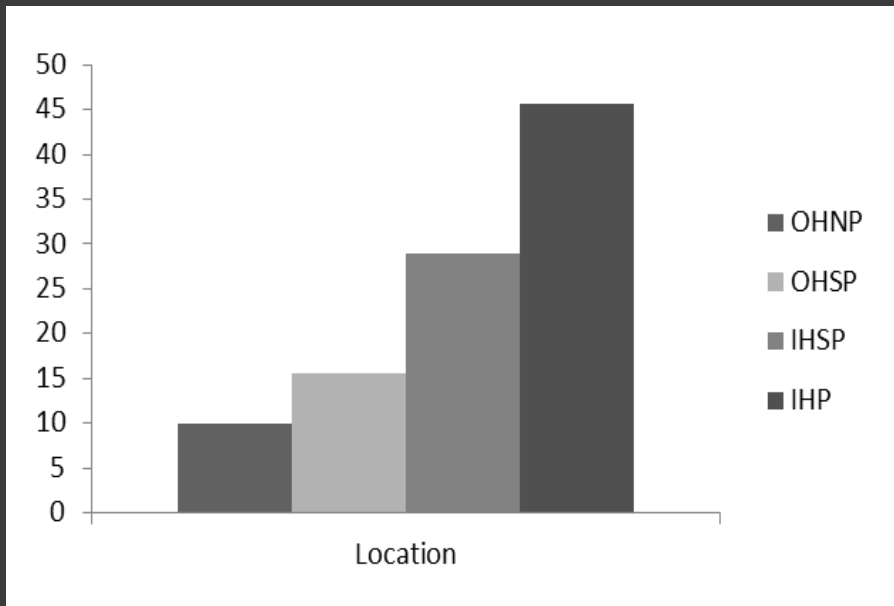


Villages by Aspect

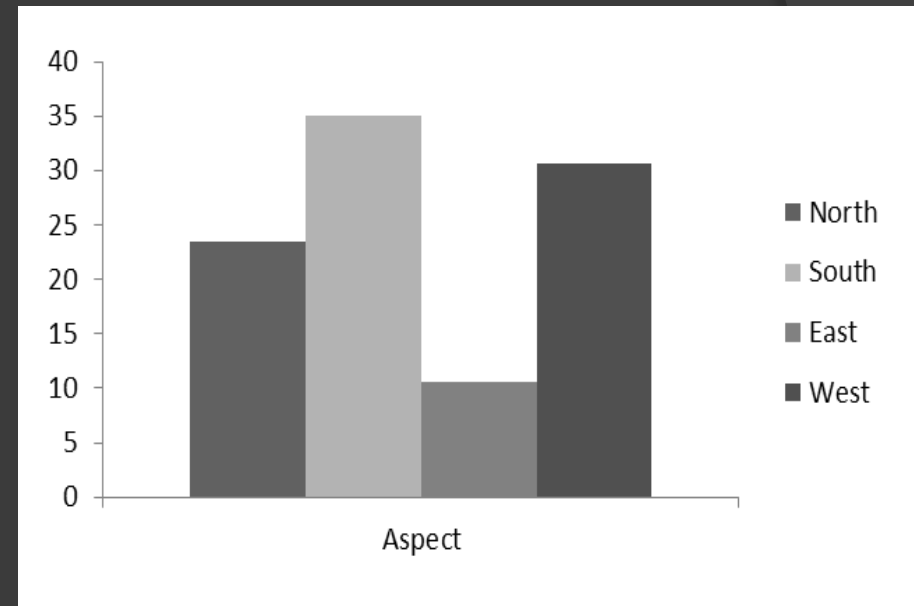


Villages by Harbour Location

Non-Habitation Shell Middens

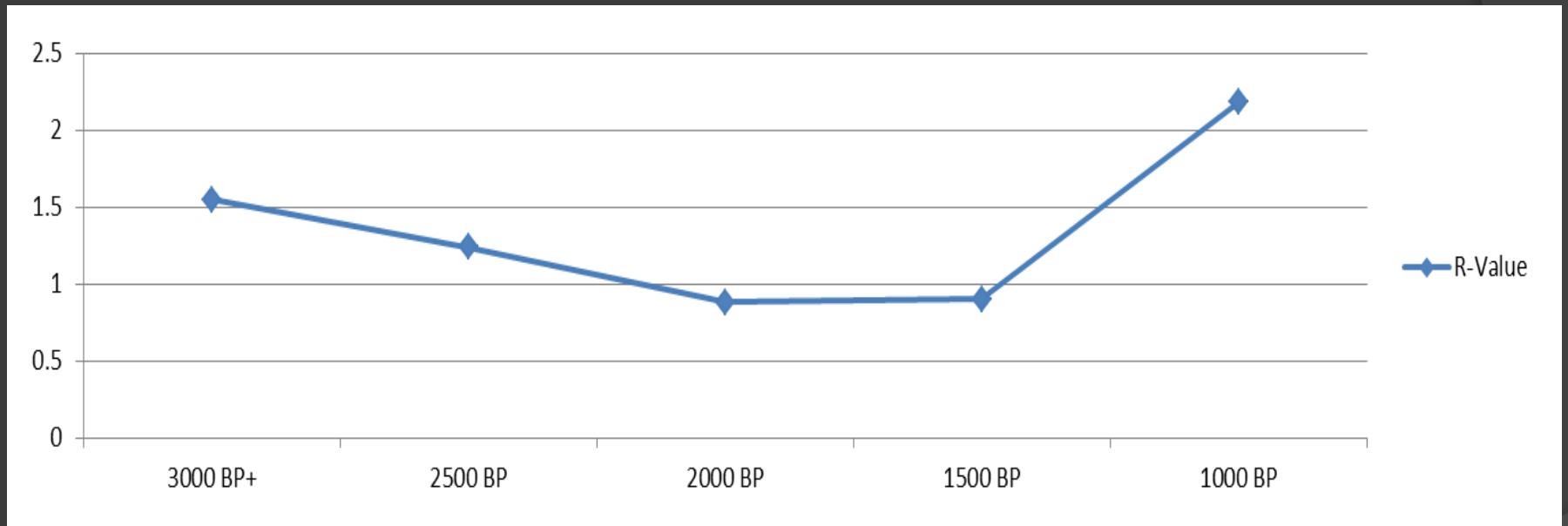


Shell Middens by Location



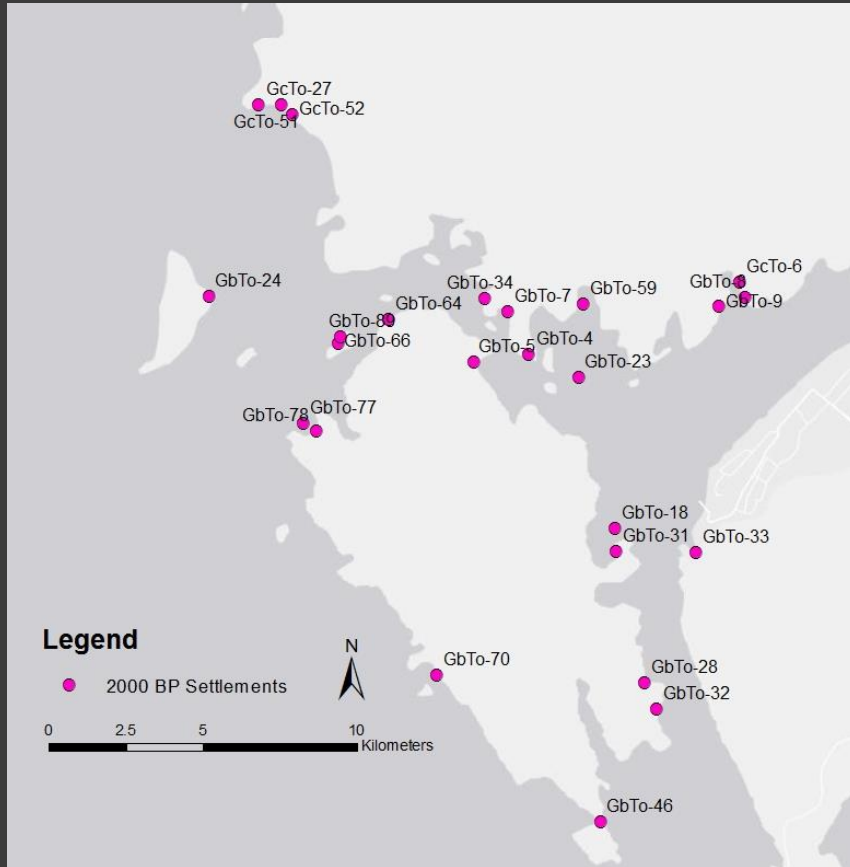
Shell Middens by Aspect

Nearest Neighbour Analysis

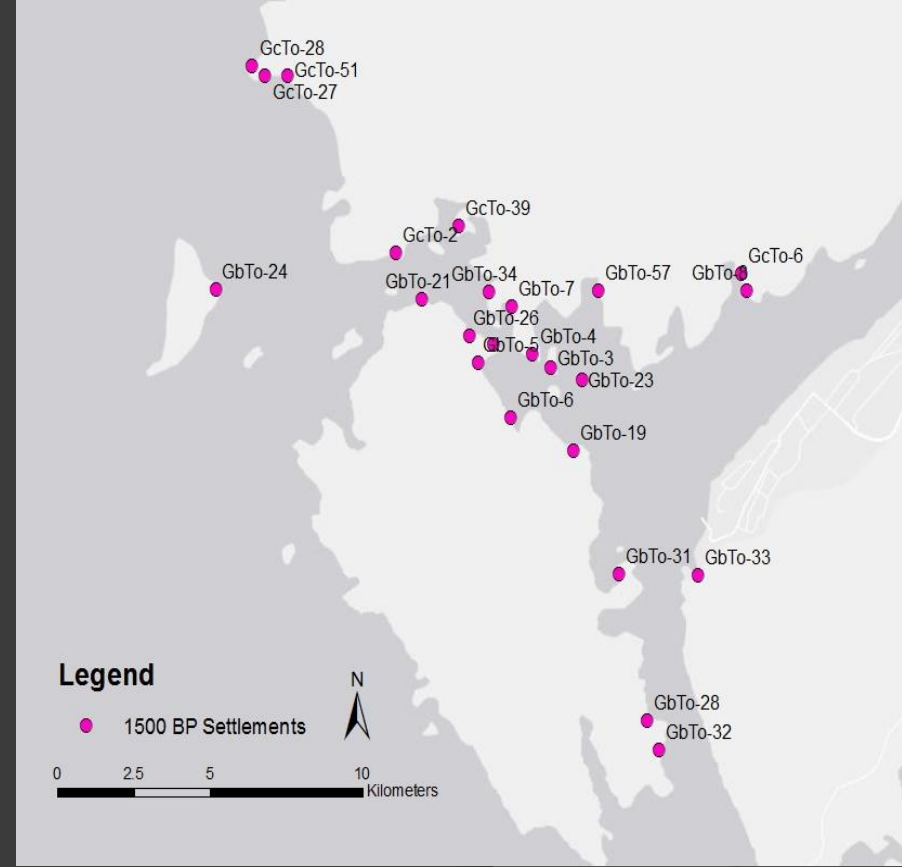


Temporal trends in R-values of Villages

Clustering in Venn Passage

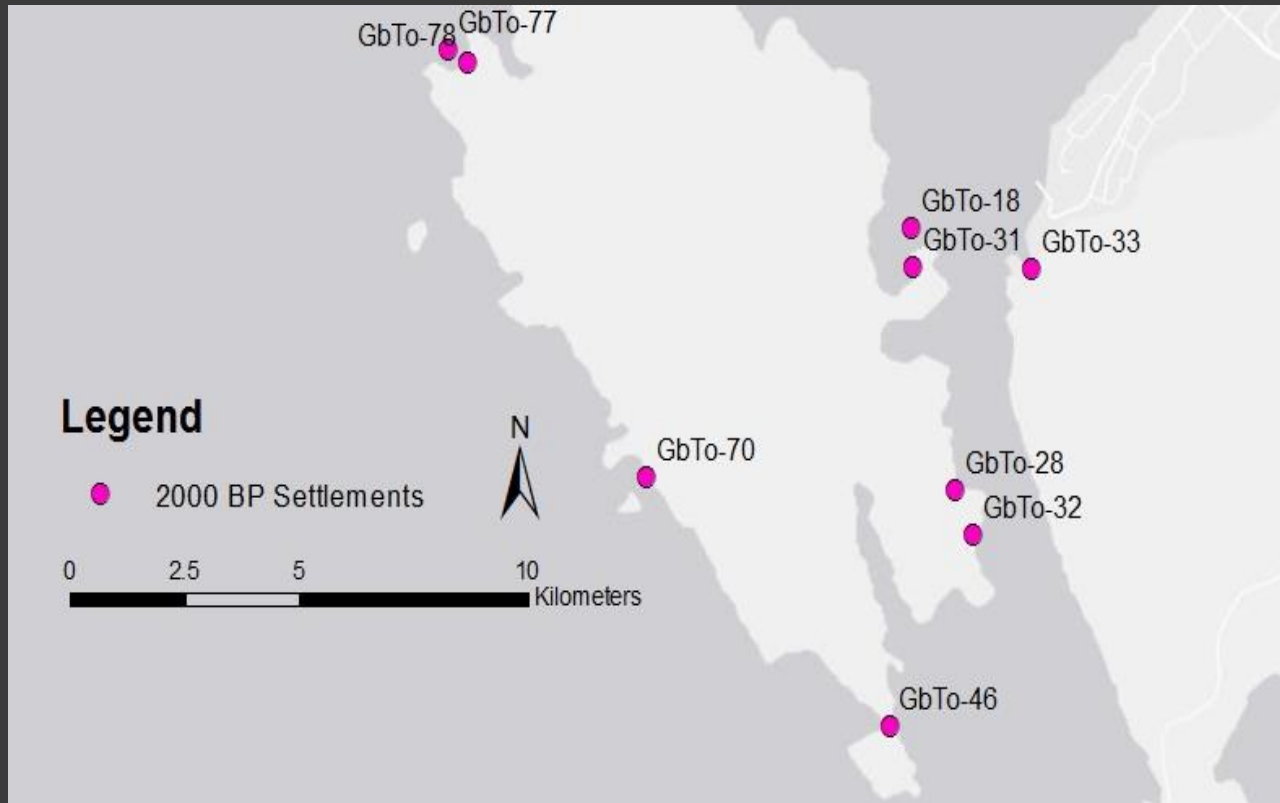


Villages dated to 2000 BP



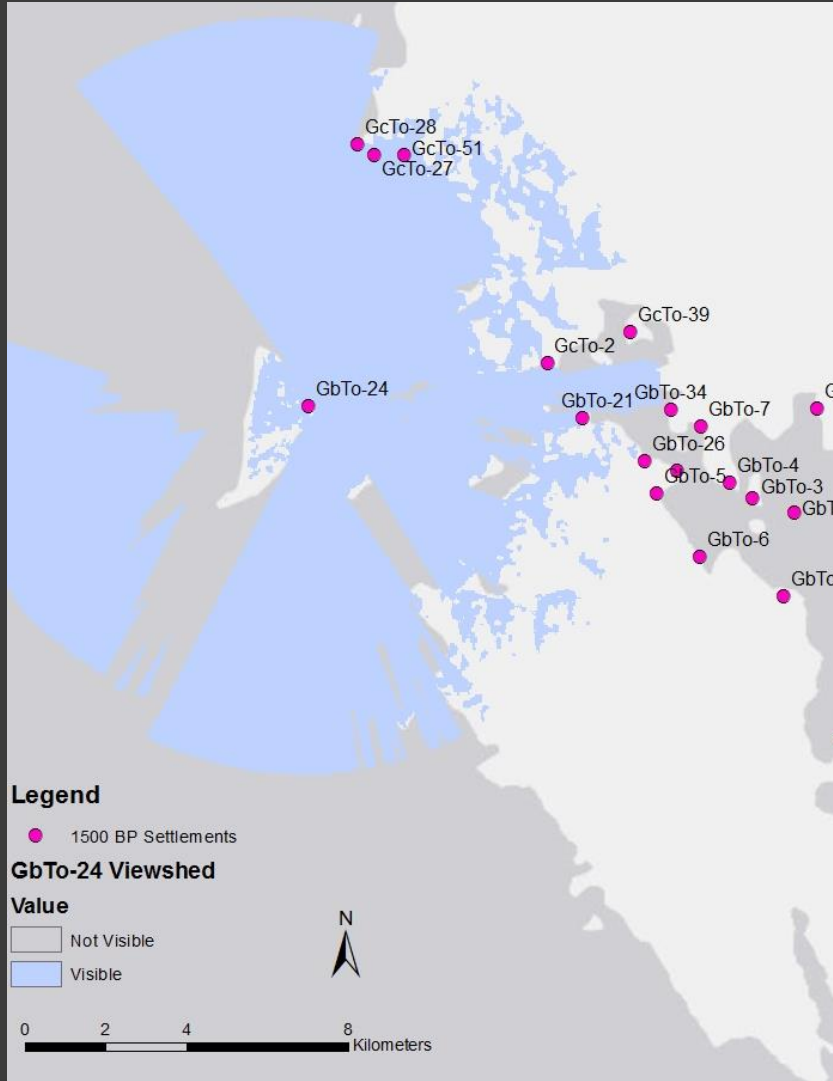
Villages dated to 1500 BP

Line of Sight

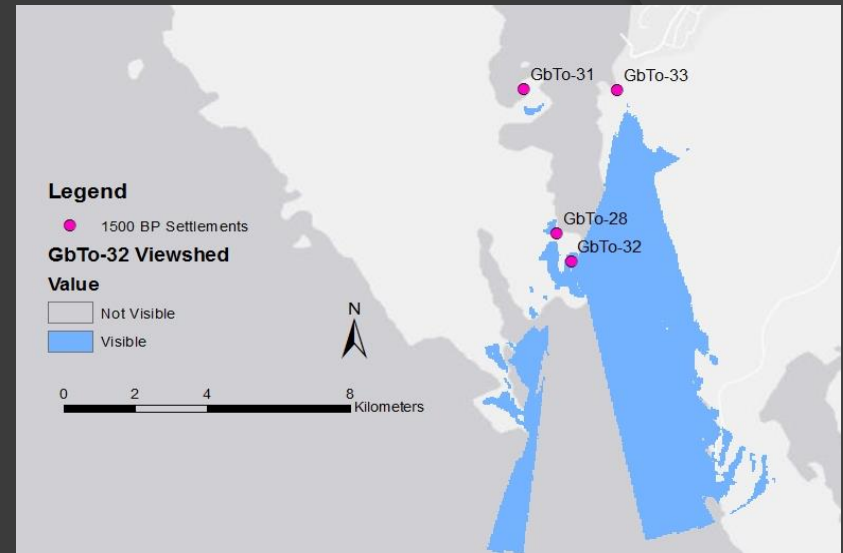


GbTo-70 and GbTo-46, do not share intervisibility with any other village

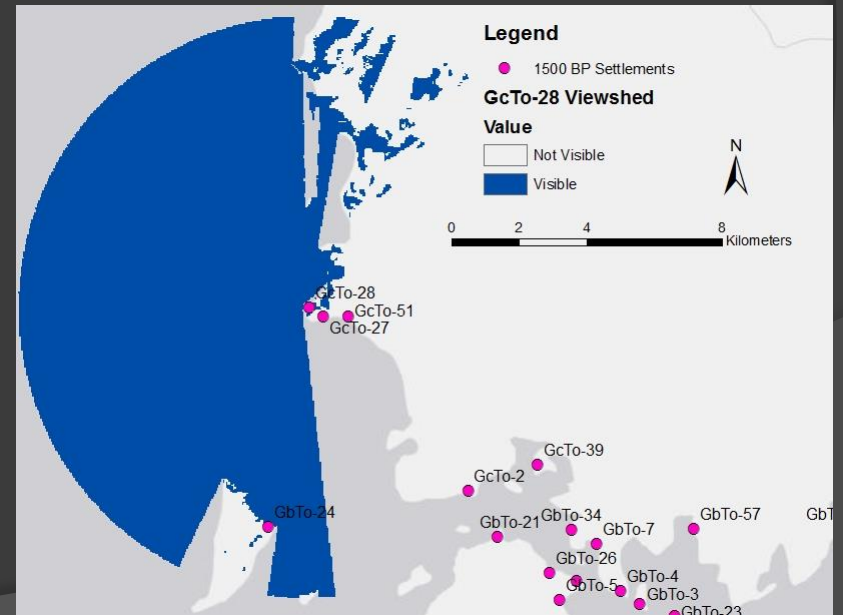
Visibility



GbTo-24 Viewshed



GbTo-32 Viewshed



GcTo-28 Viewshed

Resilience Theory



Concentration of Rock Art sites in Venn Passage

Conclusions

- ◉ Proximity to Resources was a secondary factor in the site selection decisions
- ◉ Defensibility and social importance were the primary determining factors of site placement, particularly after the abandonment of the harbour approx. 1900 BP
- ◉ Villages were organized in a defensive structure, each habitation sharing intervisibility with another; strategically placed sites monitor the coast and entrances to harbour
- ◉ Social importance of Venn passage indicated by concentration of rock art sites; large number of non-habitation shell middens suitable for habitation not selected to be villages located elsewhere in harbour