Popular Translation – “You Fish on Your Side, I’ll Fish on My Side, Nobody Will Fish the Middle”

Literal Translation: “Englishmen and Nipmuc Indians at the Boundary” or “the Neutral Fishing Place”
UNDERSTANDING THE PAST

In the exploration of the past we enlighten our future.
Pre-Columbian Freshwater Fish in New England

An Archaeological Approach

Dr. David Halliwell, Fish Biologist II
Maine Dept. Environmental Protection

&

Dr. Arthur Spiess, Senior Archaeologist
Maine Historical Preservation Commission
Maine’s Native Indigenous Freshwater Fish
FISH PROBE—Officials from the state Department of Fisheries and Wildlife collected fish specimens Wednesday from the Hoosac River to check for traces of the toxic chemical PCB. Here Richard Keller, left, conservation helper, and David Halliwell, assistant aquatic biologist, use electro-shock probes to stun fish for collection in a section of the river off State Road. (Transcript-Noyes)
FISH-PRIZES?
Fish Origins - Definitions

- **Native** – naturally found within a geographic region prior to arrival of the first European settlers *(State of Maine: 1524 - early 1600’s)*

- **Indigenous** – a native resident fish species which is naturally found to inhabit any particular drainage system.

- **Freshwater** – inclusive of **diadromous** fish species (e.g. eel, salmon, striped bass, alewife, shad, and lamprey)
Ancient Native Peoples

• Pre-Historical
• Pre-European
• Pre-Columbian
• Maine = 17th Century (1600’s)
• Artifacts – created by humans
• Ecofacts – naturally created
Maine Precontact Artifact Timeline

Paleoindian period

Archaic period

Ceramic period

Artifacts are shown 50% of original size when poster is 22 inches wide.

RADIOCARBON YEARS

11,000
12,500/11,000 B.C.
10,000
10,500/9,500 B.C.
9,000
10,100/8,100 B.C.
8,000
5,000/7,000 B.C.
7,000
6,000/6,000 B.C.
6,000
5,000/3,900 B.C.
5,000
4,500/2,500 B.C.
3,000
3,000/1,300 B.C.

CALENDAR YEARS

2000
2000/0 A.D.
1000
1000/1000 A.D.

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CERAMIC Period

Preserved ‘burned’
Calcined fish bone
FRAGMENTS

3,000 - 500 Years Past
COASTAL EROSION
Soft-Shell Clam MIDDENS
CALCIFIED Preservation
Coastal Primitive Fish

Shortnose sturgeon

Atlantic sturgeon

American eel

Sea lamprey
Native American Archaeological Sites in Maine with Identified Sturgeon Faunal Remains

Non-preserved cartilaginous skeleton

STURGEON
Data provided by Maine Historic Preservation Commission
February 2010

map by
Lin Jaworski
Atlantic tomcod – Codfish family (Gadidae)

VERY POPULAR FOOD FISH of NATIVE PEOPLES
### Diadromous Fishes

<table>
<thead>
<tr>
<th>Fish Species</th>
<th>Coastal Sites</th>
<th>Riverine Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sturgeon (2)</strong></td>
<td>26</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>32%</td>
<td>35%</td>
</tr>
<tr>
<td><strong>Atlantic tomcod</strong></td>
<td>28</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>35%</td>
<td>--</td>
</tr>
<tr>
<td><strong>Alewife</strong></td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>16%</td>
<td>12%</td>
</tr>
<tr>
<td><strong>Striped bass</strong></td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>14%</td>
<td>14%</td>
</tr>
<tr>
<td><strong>Atlantic salmon</strong></td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>3%</td>
<td>18%</td>
</tr>
<tr>
<td><strong>American eel</strong></td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>--</td>
<td>9%</td>
</tr>
</tbody>
</table>
Coastal Bass-’Perch’-Herring

Striped bass

White perch

Alewife – River herring

American shad
Native American Archaeological Sites in Maine with Identified Striped Bass Faunal Remains

Branchiostegal Ray ‘Tubes’

Striped Bass

Data provided by Maine Historic Preservation Commission February 2010

map by [Signature]
Indigenous Salmonids - Char

Atlantic (landlocked) salmon

Lake char = togue

Brook trout or char

Arctic char (below)
Indigenous Coldwater Fish

Freshwater cod = Burbot = cusk

Lake and Round whitefish

Fallfish or “River chub”
Indigenous Suckers

- White sucker
- Longnose sucker
- Creek chubsucker
- Longnose sucker

Maine counties
HUC 10 watersheds
Indigenous **Warmwater Fish**

- **Chain pickerel**
- Brown bullhead or “Horned-pout”
- Pumpkinseed (sunfish)
- Redbreast sunfish
- Yellow perch
## Inland Freshwater Fishes

<table>
<thead>
<tr>
<th>Fish Species</th>
<th>Coastal Sites</th>
<th>Riverine Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>(American shad)</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>White sucker</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Brown bullhead</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Yellow perch</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Lake char/trout</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Arctic char</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
Native American Archaeological Sites in Maine with Identified Shad, Brown Bullhead or Sucker Faunal Remains

Ear bone - Otoliths

INLAND FISH Species

Data provided by Maine Historic Preservation Commission February 2010
New England
Aboriginal-Fish Place Names

- **Damariscotta** “many alewives”
- **Cobbosseecontee** “many sturgeon”
- **Oquossoc** “place of trout”
- **Winnisquam** “salmon fishing place”
- **Quinsigamond** “pickerel-fishing place”
- **Androscoggin** “place where fish are dried”
- **Skungamug** “eel-fishing place”
Currently in Development

An Ecofactual Key to Pre-Columbian Northern New England FISH Remains

1a Inland site – burned (calcinated bone)
1b Coastal site – shell heap middens
2a Cartilaginous fish (scutes or teeth)
2b Bony fish (vertebrae centrums, spines)
3a Ear bones (otoliths); gill (interhaemal)
3b Pharyngeal and mandibular teeth
A Generalised Bony Fish Skeleton

- Operculum
- Hyomandibula
- Cranium
- Premaxilla
- Dentary
- Maxilla
- Quadrate
- Branchiostegal Rays
- Pelvic Bones
- Scapula
- Pectoral Arch
- Basalia
- Ribs
- Vertebrae
- Hypurals
- Urostyle
Burbot (Cusk)
Freshwater COD

Brown bullhead
Actual Fish Remains - BONE
WINTER FLOUNDER

VERTEBRAE – Centrums

INTERHAEMAL BONES
Gill Arches
Pectoral Fins
DORSAL FIN SPINES

Cod OTOLITHS

Cod PREMAXILLARY

VERTEBRAE
ANY QUESTIONS?