A New View of Southeastern Stone Fish Weirs

Introduction

Stone fish weirs are relatively common features in many southeastern waterways used both historically and prehistorically and these constructed stone alignments represent an often-overlooked component of the cultural landscape. Due to several factors they have received only intermittent archaeological attention and are rarely the subject of systematic survey. Relatively recent advances in the quality of satellite-based imagery, like Google Earth, have made the identification and recording of fish weir sites possible on a regional scale. Here I present the initial findings of the North Carolina Fish Weir Archaeological Project.

The goals of the North Carolina Fish Weir Archaeological Project are:

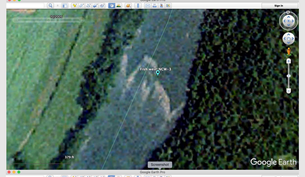
- Create an inventory of fish weir locations within North Carolina and the broader region to better inform Environmental Review decisions, aid future fish weir research, and facilitate awareness and preservation of these sites.
- Investigate the spatial distribution and morphological variation of fish weir features across the state.
- Document individual weir locations and any potentially associated terrestrial sites through detailed mapping and systematic survey

Using Google Earth

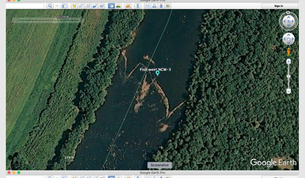
Google Earth survey with Historical Imagery-

- Google Earth's predecessor, Keyhole, has been available since 2001, though Google Earth wasn't officially launched until 2005 and the Historical Imagery feature was introduced in 2009.
- Historical Imagery typically provides aerial imagery beginning ca. 1993, via the US Geological survey, but resolution and visibility vary based on location, time of year, and river level. Imagery with high enough resolution to discern fish weir features typically aren't available for many locations before 2012.
- Limitations/bias of using Google Earth survey include bias toward larger order streams due to visibility. Limited high resolution imagery for particular locations.
- Additional weir sites identified through historical navigation maps, travelers accounts, archaeological reporting, etc.

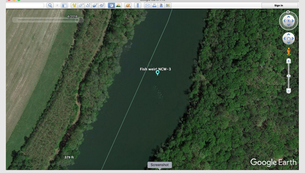
January 1993



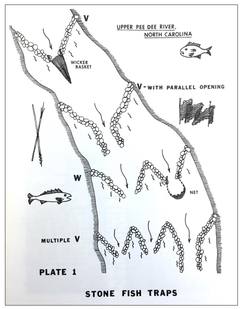
October 2005



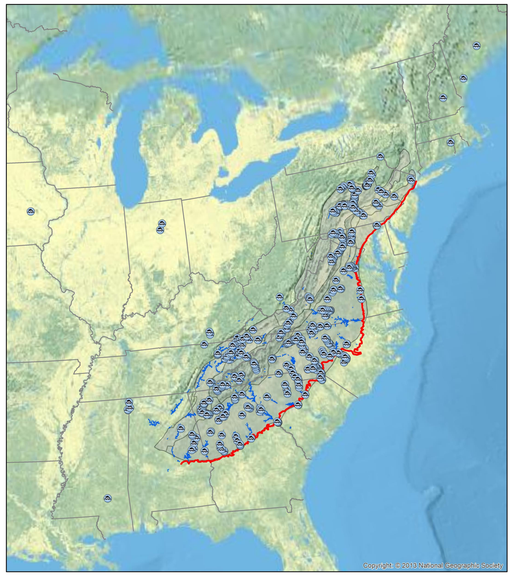
October 2008

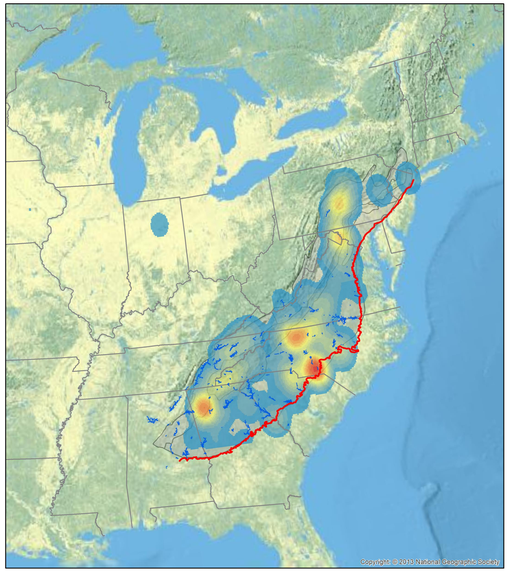


April 2018



From Peck 1977

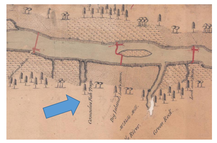




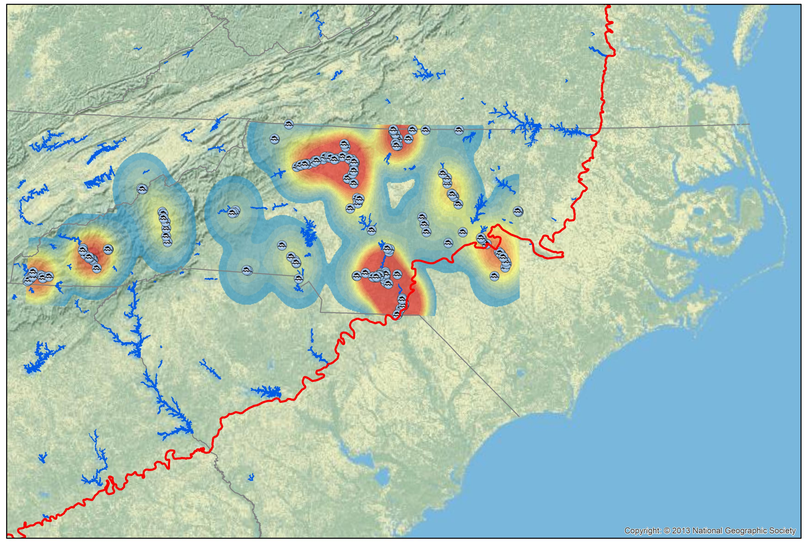
Previous Fish Weir Research

- Archaeological research on fish weirs has been spotty at best. John Connaway's *Fishweirs* (2007) volume, Allen Lutins' (1992) MA thesis, and Rostlund (1952) are notable exceptions. Though Connaway provided a comprehensive synopsis of fish weir studies worldwide, and his work on weirs in Mississippi in particular, most of the discussion of weirs in the Southeast involved wooden stake weirs and not stone weirs. Avocational interest in fish weirs includes Bill Frazier's work in GA.
- Obstacles to fish weir studies include: lack of datable material or associated processing sites, weirs are generally not directly impacted by CRM/compliance projects, difficult to access and document especially when rivers are high.

Town Creek Indian Mound and associated weir. Photo shows weir in use c. 1937



"Canadas Fish Trap" show on 1852 USACE Map of the Cape Fear River, NC

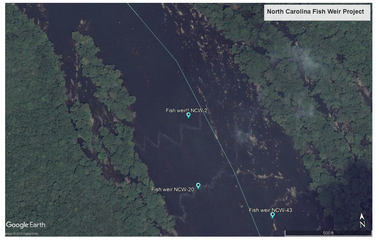


Stone Weir Types

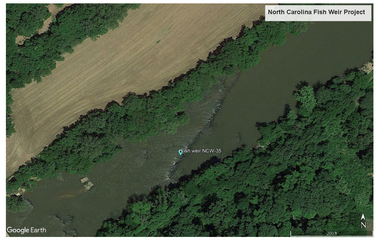
V-shaped

Compound V-shaped

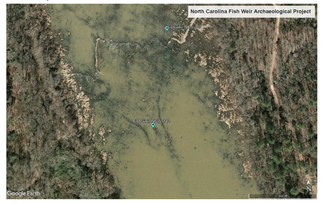
Multi-V / W-shaped



Single wing

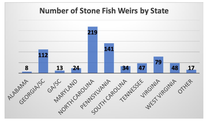


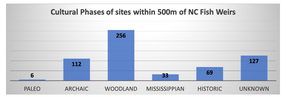
V-shaped with chute

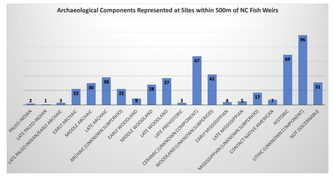


Fish weirs can be an important tool in cultural heritage and preservation efforts

https://watrnc.org/traditional-cherokee-fish-harvest-youth-workshop-on-monday-620/







Results

- 750 suspected stone fish weirs have been identified through Google Earth survey, previously recorded, historical maps and other sources. This total may be revised to exclude historic lock and dams, sluiceways, and other cultural features that are ultimately found not to be fish weirs. Additional weir sites still to be identified.
- NC has the largest number of suspected stone fish weirs (n=219) and has one of the densest concentrations of fish weirs anywhere. The Yadkin/PeeDee River hosts the largest number of fish weirs of any river examined.

North Carolina Archaeological Site File Research

- 296 previously recorded archaeological sites located within 500 m of NC stone fish weir sites.
- Of these, most date to the late Archaic, Woodland, and Historic periods

Next steps

- Ground truthing of suspected fish weirs
- Detailed mapping through photogrammetry, Bathymetric LiDAR, or traditional archaeological mapping techniques.
- Targeted systematic survey for terrestrial archaeological sites associated with fish weir locations
- National Register of Historic Places nomination as archaeological district or multiple property submission (MPS).

References:

Connaway, John, 2007: *Fishweirs: A World Perspective with Emphasis on the Fishweirs of Mississippi.* Mississippi Department of Archives and History;

Lutins, Allen, 1992: *Prehistoric Fishweirs in Eastern North America.* MA thesis, Department of Anthropology, State University of New York, Binghamton.

Peck, Rodney M., 1977: Stone fish traps in the Upper Pee Dee River. *The Chesopiean* 15(1-2):2-8.

Rostlund, Erhard, 1952: *Freshwater Fish and Fishing in Native North America.* University of California, Publications in Geography 9.

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NC Office of State Archaeology

NC DEPARTMENT OF NATURAL AND CULTURAL RESOURCES