Save the Cape again!
What do they want this time?

THE USUAL...

NCDOT

FACTS

OBJECTIVITY

TRUTH
Megaport Madness: Me, Too!
Wilmington participates to an insignificant extent in Southeast container traffic. Why would a megaport at the Cape Fear be any different?

Source: American Association of Ports Authorities
More Perspective: Ports of Choice for North Carolina Trade

North Carolina Exports

- Savannah: 20.5%
- Charleston: 20.5%
- Hampton Roads: 21.4%
- Jacksonville: 10.1%
- Wilmington: 18.5%
- South Florida: 7.5%
- Other: 5%

North Carolina Imports

- Charleston: 29.5%
- Savannah: 20%
- Hampton Roads: 26.9%
- Wilmington: 22.4%
- Other: 1.1%

80% of North Carolina container trade moves through ports in other states.

Source: Western Carolina University
So You Think the Ports Make Money?
And Now, the Megaport

The 600-acre port site on the Cape Fear River, the Brunswick Nuclear Plant and the Military Ocean Terminal at Sunny Point

Proposed Port

MOTSU

Brunswick Nuclear Plant

Fort Fisher Ferry 0.7 mile from port

Roads
Some Learning from the First $7 Million in Studies

- Total Cost: $4,440,260,000 (TEC/PF Richardson)
- Massive dredging project: $1.2 billion (Corps of Engineers)
- Environmental devastation: “(W)ould result in permanent loss of environmental resources and ecosystem resources from the region.” (US Fish and Wildlife Service)

- Trucks and trains and ships:
  414 trucks per hour,
  8-10 trains per day,
  eight ships per week (CH2M Hill, Inc.)
And What of the Environment?

- “Water pollution ... air pollution, invasive species introductions.”
- “Destruction of marshlands... remove or impact vast areas of shallow-water habitat that is presently supporting the highest concentration and usage of commercially-viable fisheries in the Cape Fear system.”
- “Severe impacts to Federally-listed rare and endangered species, both terrestrial (including the red-cockaded woodpecker) and aquatic (including shortnose sturgeon).”
- “Loss of unique terrestrial habitat, and loss of productive marine fisheries habitat cannot be successfully mitigated.”

(Dr. Michael Mallin, UNCW)
If We Build the Megaport Will They Come?

The Ports Authority’s business plan requires container movements six times those projected for Wilmington.

Sources: CH2M Hill, Inc., American Association of Ports Authorities.
Opposition to the Megaport

- Town of Caswell Beach, March 13, 2008
- Cape Fear Audubon Society, February 23, 2009
- Coastal Water Watch, November 19, 2009
- City of Southport, June 10, 2010
- Bald Head Island Conservancy, June 17, 2010
- Village of Bald Head Island, June 18, 2010
- Congressman Mike McIntyre, June 29, 2010
- City of Boiling Spring Lakes, July 6, 2010
- Town of St. James, July 6, 2010
- Town of Oak Island, July 13, 2010
- Cape Fear River Watch, August 10, 2010

And the Governor’s Executive Order 99, “Ports and Local Economy Compatibility”:

“[I]t is important for state-owned and state-operated facilities to work with local governments and private neighbors to coordinate activities in such a manner that they may have an overall positive impact in the community of which they are a part.”
The Sunk Cost Conundrum

- Purchase of the property $30,000,000
  (Assessed value in 2005--$5 million)

- State Ports Authority studies 7,000,000
  (Does not include NCDOT studies)

- Debt Service 11,000,000
  ($44 million principal amount)

Total $48,000,000

Current assessed value of the property $12,700,000

It’s a poor sort of memory that only works backwards.
--Lewis Carroll
NCDOT’s Decision--Another Study!

North Carolina Maritime Strategy
How can North Carolina position itself as a portal to the Global Economy?
Objective or Subjective?

“How can we be more effective globally?”
  --Roberto Canales, NCDOT

“How can NC become a portal to the global economy?”
  --AECOM/URS Study Scope of Work

Ask not what North Carolina can do for its ports.
Ask only what the ports can do for North Carolina.
  --Save the Cape
Mega container terminal

- 50+’ water depth to accommodate Neo Panamax vessels
- Dock cranes of minimum 20 container reach
- 3 or more contiguous berths
- High density (stacked) container storage area (backland)
- Automated or automatable
- On-terminal rail in North America
- Truck access

[Images of container terminals]
Screening for Deepwater Port Sites

Source: AECOM/URS compiled from NOAA, USFWS, NCDOT, NC OneMap, NCDENR, NCDCM, WETS, CREWS, and county land use plans
Container Port Sites Evaluated

Site 3
Beaufort Inlet - Radio Island
7 parcels at 145 Acres
Frontage approx. 4,000 feet

Site 4
Cape Fear River - River Road Southeast
4 parcels at 2,189.65 Acres
Frontage approx. 14,000 feet

Site 5
Cape Fear River - POW
31 parcels at 554.14 Acres
Frontage approx. 10,500 feet

Site 6
Cape Fear River - Southport
2 parcels at 586.14 Acres
Frontage approx. 4,500 feet

Source: AECOM/URS compiled from ESRI, NCDOT, USDOT
Freight Analysis Framework v3.1,
USGS Thematic Mapping world borders dataset, SeaMap SA
2001, and Moser and Taylor 1995

Legend
- Interstate
- US Route
- NC Route
- CSXT
- NS
- Shoreline or Branchline
- Potential Deep Water Port Sites
- Coastal Inlets
- Military Land
Container Port Site 6

Site 6
Cape Fear River - Southport
2 parcels at 586.14 Acres
Frontage approx. 4,000 feet

Legend
- Interstate
- US Route
- NC Route
- CSXT
- NS
- Shortline or Branchline
- Potential Deep Water Port Sites
- Coastal Inlets
- Military Inlets
- Military Land

Source: AECOM/URS compiled from ESRI, NCDOT, Brunswick County, New Hanover County, USGS Thematic Mapping world borders dataset, SeaMap SA 2001, and Moser and Taylor 1995
## Infrastructure Cost for Containers

<table>
<thead>
<tr>
<th>Infrastructure</th>
<th>Radio Island RTG + 45’</th>
<th>Radio Island RTG + 51’</th>
<th>POW RTG + 45’</th>
<th>POW RTG + 47’</th>
<th>POW RTG + 51’</th>
<th>Southport ASC + 51’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berth/dredging</td>
<td>$11</td>
<td>$68</td>
<td>$197</td>
<td>$315</td>
<td>$427</td>
<td>$362</td>
</tr>
<tr>
<td>Port/terminal</td>
<td>$395</td>
<td>$395</td>
<td>$272</td>
<td>$287</td>
<td>$301</td>
<td>$1,170</td>
</tr>
<tr>
<td>Highway network</td>
<td>$2,925</td>
<td>$2,925</td>
<td>$2,611</td>
<td>$2,611</td>
<td>$2,611</td>
<td>$4,345</td>
</tr>
<tr>
<td>Highway access</td>
<td>$23</td>
<td>$23</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$17</td>
</tr>
<tr>
<td>Rail network</td>
<td>$204</td>
<td>$204</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
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<tr>
<td>Rail access</td>
<td>$5</td>
<td>$5</td>
<td>$1</td>
<td>$1</td>
<td>$1</td>
<td>$6</td>
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<tr>
<td>Inland facilities</td>
<td>$131</td>
<td>$131</td>
<td>$131</td>
<td>$131</td>
<td>$131</td>
<td>$131</td>
</tr>
<tr>
<td>Total</td>
<td>$3,694</td>
<td>$3,751</td>
<td>$3,212</td>
<td>$3,345</td>
<td>$3,471</td>
<td>$6,091</td>
</tr>
</tbody>
</table>
Dredging of Cape Fear Channel

- Benefit-cost analysis for Port of Wilmington site reflects most costly dredging alternative (51’)
- Feasibility and environmental impacts would require focused analysis.

<table>
<thead>
<tr>
<th>Dredge Depth (ft)</th>
<th>Navigation Channel Extension Length (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>45</td>
<td>18,000</td>
</tr>
<tr>
<td>47</td>
<td>41,000</td>
</tr>
<tr>
<td>51</td>
<td>63,000</td>
</tr>
</tbody>
</table>
Implications of Channel Deepening

- Must be widened as well as deepened--additional 200 feet
- Increased cross section increases tidal amplitude
- Salt water will move farther up the river and farther into tidal creeks
- Castle Hayne aquifer has already been penetrated. Deeper and wider channel will increase area and depth of penetration.
- Massive loss of marine habitat
- Where will the dredging spoil go?
- Billions spent will not be available for more worthwhile projects
## How It’s Bent

**Understated costs**

### Analysis for Megaport at Southport:

<table>
<thead>
<tr>
<th>Description</th>
<th>AECOM/URS</th>
<th>TEC/PFR (2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1.4 million TEU)</td>
<td>(1.0 million TEU)</td>
<td></td>
</tr>
<tr>
<td>Terminal construction</td>
<td>$1,170,000,000</td>
<td>$1,196,000,000</td>
</tr>
<tr>
<td>Dredging</td>
<td>362,000,000</td>
<td>1,200,000,000*</td>
</tr>
<tr>
<td>Highway access</td>
<td>17,000,000</td>
<td>457,000,000</td>
</tr>
<tr>
<td>Rail access</td>
<td>6,000,000</td>
<td>127,000,000</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>$1,555,000,000</strong></td>
<td><strong>$2,980,000,000</strong></td>
</tr>
</tbody>
</table>

*Corps of Engineers*
How It’s Bent--Part II
Benefit/cost analysis includes highway improvements all across the State

Analysis for Wilmington (analysis for Southport not included in draft report):

<table>
<thead>
<tr>
<th>Costs</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal and access infrastructure</td>
<td>$ 729,000,000</td>
</tr>
<tr>
<td>Statewide highway improvements</td>
<td>2,611,000,000</td>
</tr>
</tbody>
</table>

Totals                             | $3,340,000,000              | $5,867,000,000              |

Map of North Carolina showing key cities and highways.
A Few Other Flaws:

Rosy forecasts with unstated assumptions.
Disregard of earlier studies.
Treatment of North Carolina as an island.
Focus on needs of ports instead of needs for ports.
Elaborate public outreach program without apparent effect.
“Build and they will come” presumption in forecasts.
Build it and they will come?

**Global TransPark**

- Established 1991
- Subsidized by FAA and Golden Leaf fund
- Runway opened at 11,500 feet in 2002—longest in State
- Spirit Aerosystems induced in 2010 with $200,000,000 in incentives
- Financial condition consistently awful
Something Useful?

Study identifies several existing markets State Port at Wilmington can develop without deeper dredging

- Bulk cargoes--grain and wood pellets
- Refrigerated containers
- Roll-on, roll-off
- Oversize cargoes

(But the State Ports Authority already knew about those.)
A Page of History
The last dredging project for the Cape Fear River

- Deepening of channel from 38 to 42 feet authorized in 1998
- Channel opened at 42 feet in 2004
- Estimated cost to complete: $384 million (35% for State)
- Annualized cost with maintenance: $27 million
- Annual vessel calls requiring deepened channel: <100
- Federal and State subsidy per vessel call: $270,000
- Average container moves per vessel call: 1100
- Federal and State subsidy per container move: $250
- State Ports Authority revenue per container move: $80
- Additional land cost to shipper per container move: $30

(Sources: US Army Corps of Engineers, NCDENR, NC State Ports Authority.)
What’s Ahead: the Wilmington Harbor Improvements Project

- New $5.1 million study
- Turning basin at Wilmington too narrow
- Hazardous S-turn at Battery Island
- Persistent shoaling and beach erosion at the river mouth
- Project estimated to cost $41 million

All three problems result from the last channel deepening
The Turning Basin

- 1200 feet wide, the minimum for the 960-foot long design vessel
- Already as wide as the river
- Silting requires frequent maintenance dredging
- Corps proposes to dredge wider basin upriver
- Wider basin would take 39 acres of habitat on west side and penetrate area contaminated with PCBs and creosote on east side

“Serial engineering”
The Channel Turn

- 95 degree reverse turn
- Does not comply with Corps standards
- Does not comply with PIANC standards
- Can only be negotiated at ship’s limit of maneuverability
- Simulation study in 2000 predicted problem
- Simulation study in 2010 confirmed problem
- Conforming turn cannot be fit within the river
The Sediment Sink

- Navigation channel intercepts normal littoral flow of sand
- Rapid shoaling of channel accompanied by beach erosion
- Only remedy is biennial dredging and replacement of sand
- Only source of funding is Congressional largess
- Annual maintenance cost of $12.5 million is about five times the annual proceeds of the Harbor Maintenance Tax.
The Lesson of the Savannah River Project

- Project to dredge from 42 to 47 feet. Cost estimate: $652 million
- Fifteen-year, $42 million feasibility study
- Corps of Engineers: no additional cargo would result

Similarities to the Cape Fear:

- 26 miles from port to river mouth. 12 more miles to deep water
- Sharp turn at Elba Island
- Beach erosion problem at Tybee Island
- Similar aquifer issues
- Same endangered species
A Few Problems with the Savannah Project

- Environmental mitigation to cost $297 million
- $70 million needed for bubblers to increase dissolved oxygen at new lower depths
- Endangered short-nosed and Atlantic sturgeon at risk
- Aquifer at risk
- Salt water intrusion
- CSS Georgia must be raised*

* The CSS North Carolina lies in the Cape Fear River at Battery Island
The Lower Cape Fear River Before Being Molested

- Navigable depth of 18 feet during Colonial times
- New Inlet opened by storm in 1761
- Navigable depth reduced to 12 feet by silt from New Inlet
- Shallow river navigable by blockade runners during Civil War
- Reshaping of the river by the Corps of Engineers began in late nineteenth century