GREEN INFRASTRUCTURE CONFERENCE

MajGen Carl Jensen

Commanding General, Marine Corps Installations East

25 February 2011

MCIEAST INSTALLATIONS

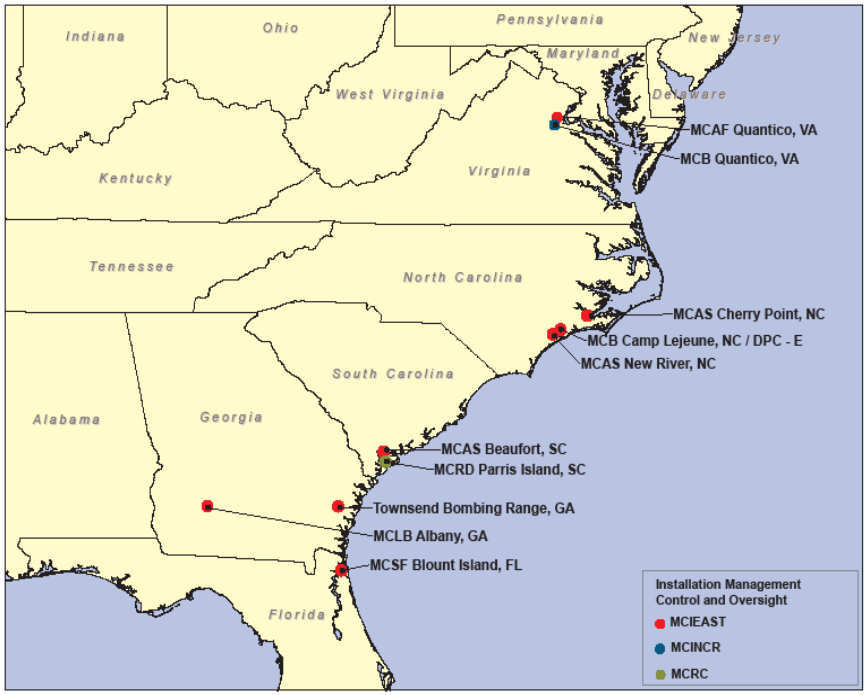
MCIEAST controls seven of the nine Marine Corps installations on the East Coast, and is headquartered at Camp Lejeune, North Carolina

PERSONNEL:

Mil & Civ	~84,681
Family Members	~11,800
Retired	~55,998

ECONOMIC IMPACT:

FY09 $7,043,087,208



LOOKING TO THE FUTURE

LANDSCAPE-LEVEL PLANNING

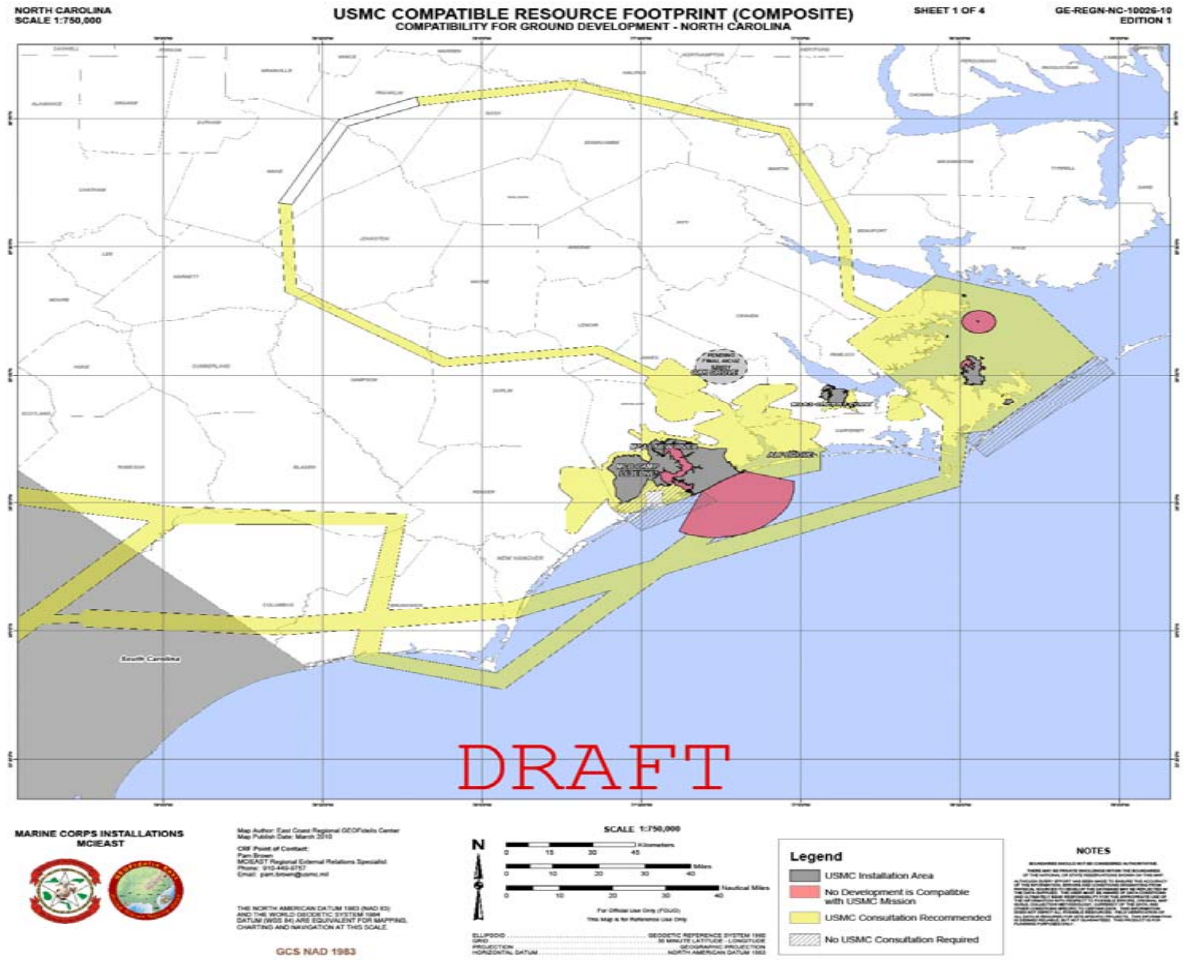
~ THE POWER OF PARTNERSHIPS ~

(LINKING CONSERVATION, WORKING LANDS AND NATIONAL DEFENSE)

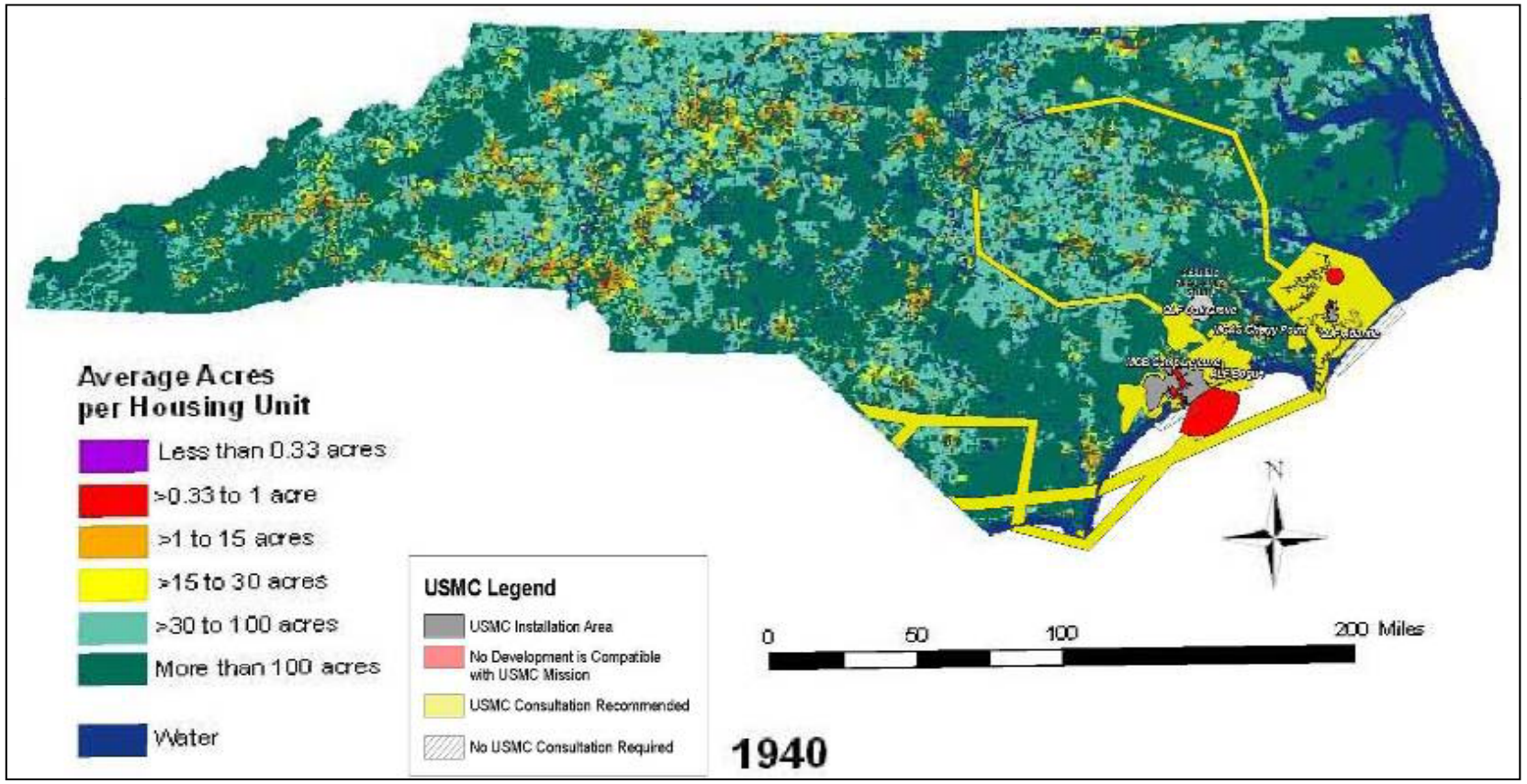
WHY PARTNER?

- Promotes long-term sustainable land use for both the military *and* civilian sector
- The military needs realistic (and enduring) training area/ranges
  - Encroachment degrades military testing and training capabilities
  - Areas of concern include “white space” (off-base air and land corridors) that connect military bases and airfields with remote training ranges
  - Preservation and restoration of off-base natural habitat to prevent or reduce training restrictions on base
- Develop regional land use plans with federal, regional, state, local and military agencies (together we’re stronger)

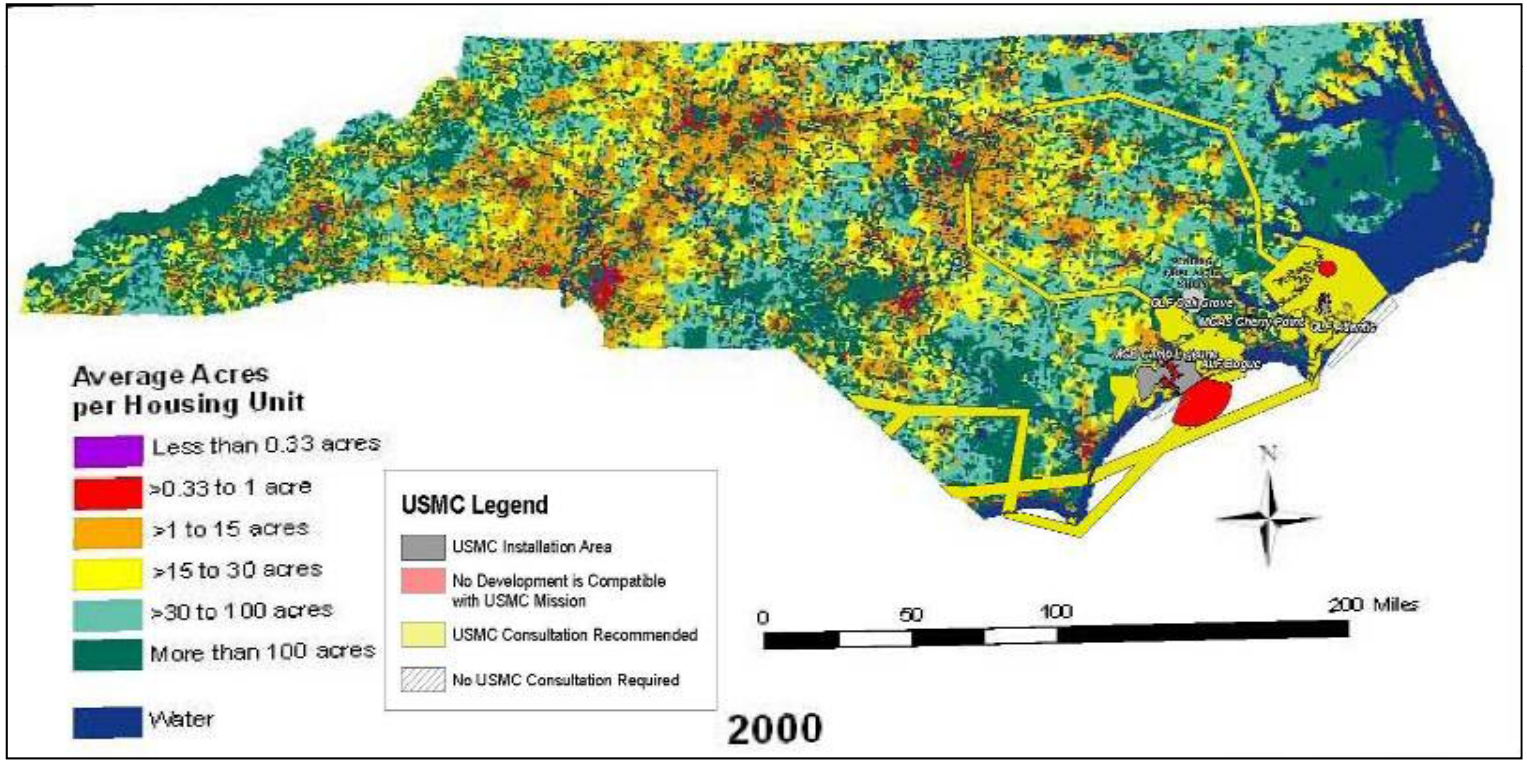
MARINE CORPS
Compatible Resource Use Footprint



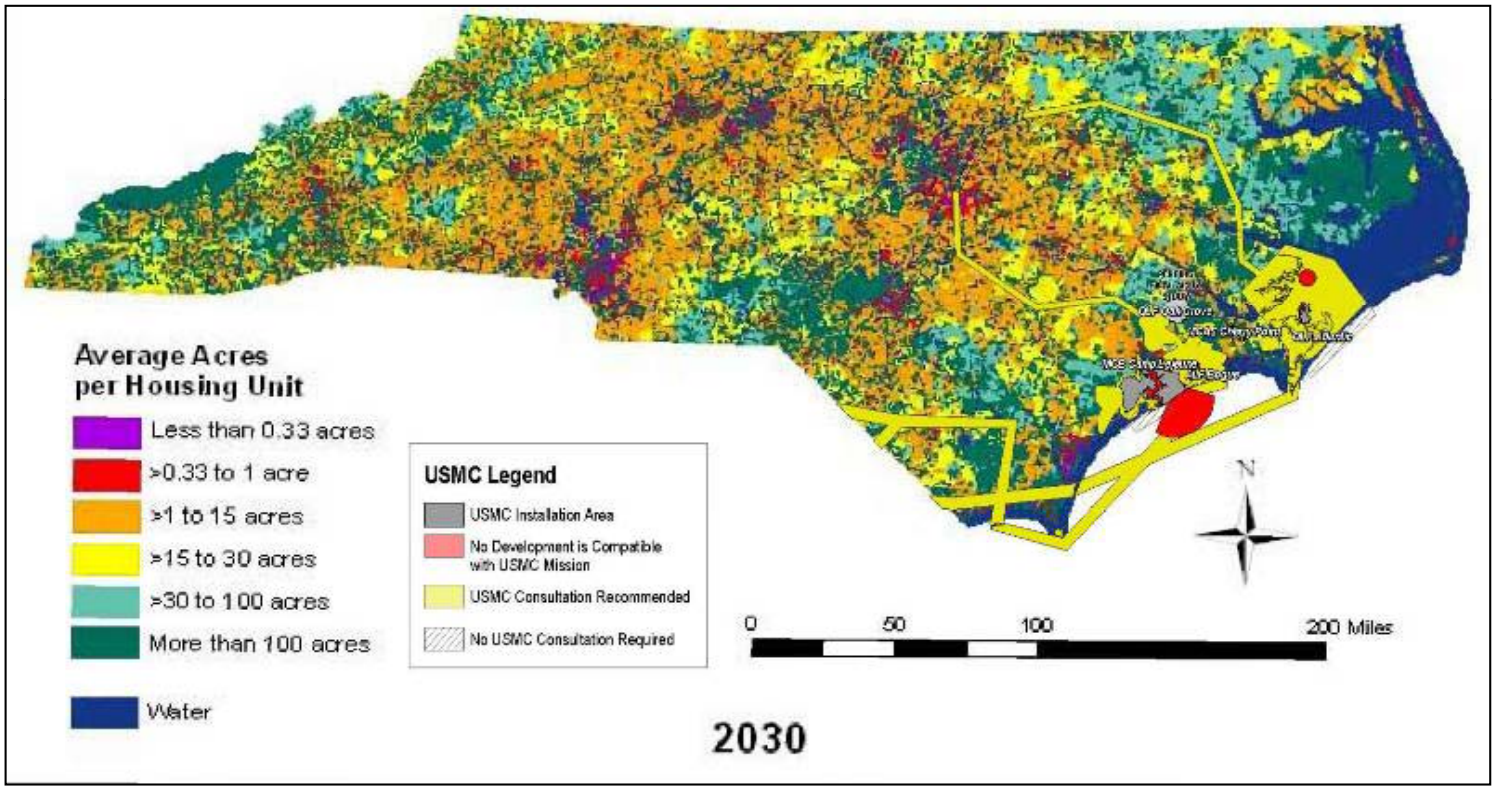
MARINE CORPS MISSION FOOTPRINT
1940 HOUSING DENSITY



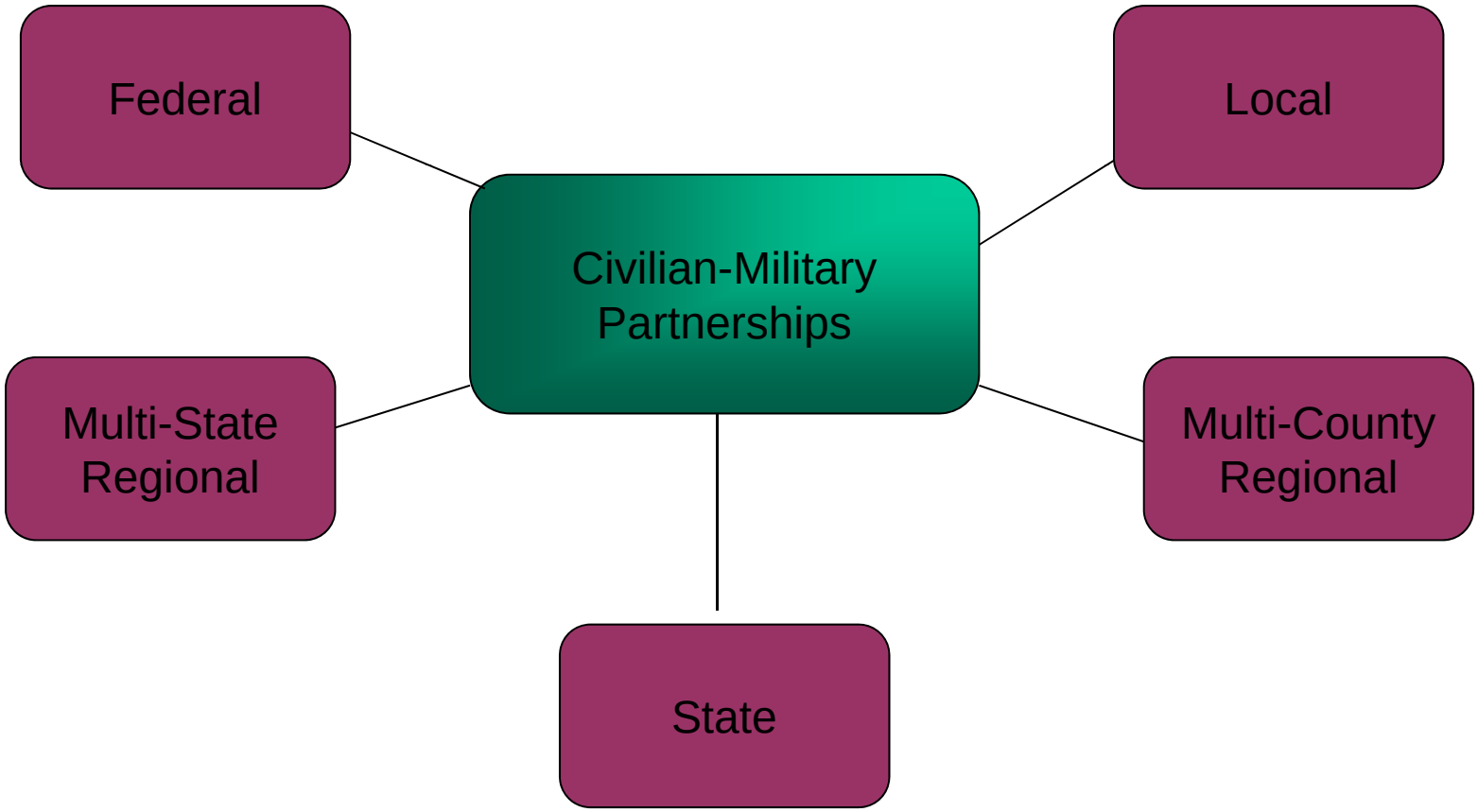
MARINE CORPS MISSION FOOTPRINT 2000 HOUSING DENSITY



MARINE CORPS MISSION FOOTPRINT 2030 HOUSING DENSITY



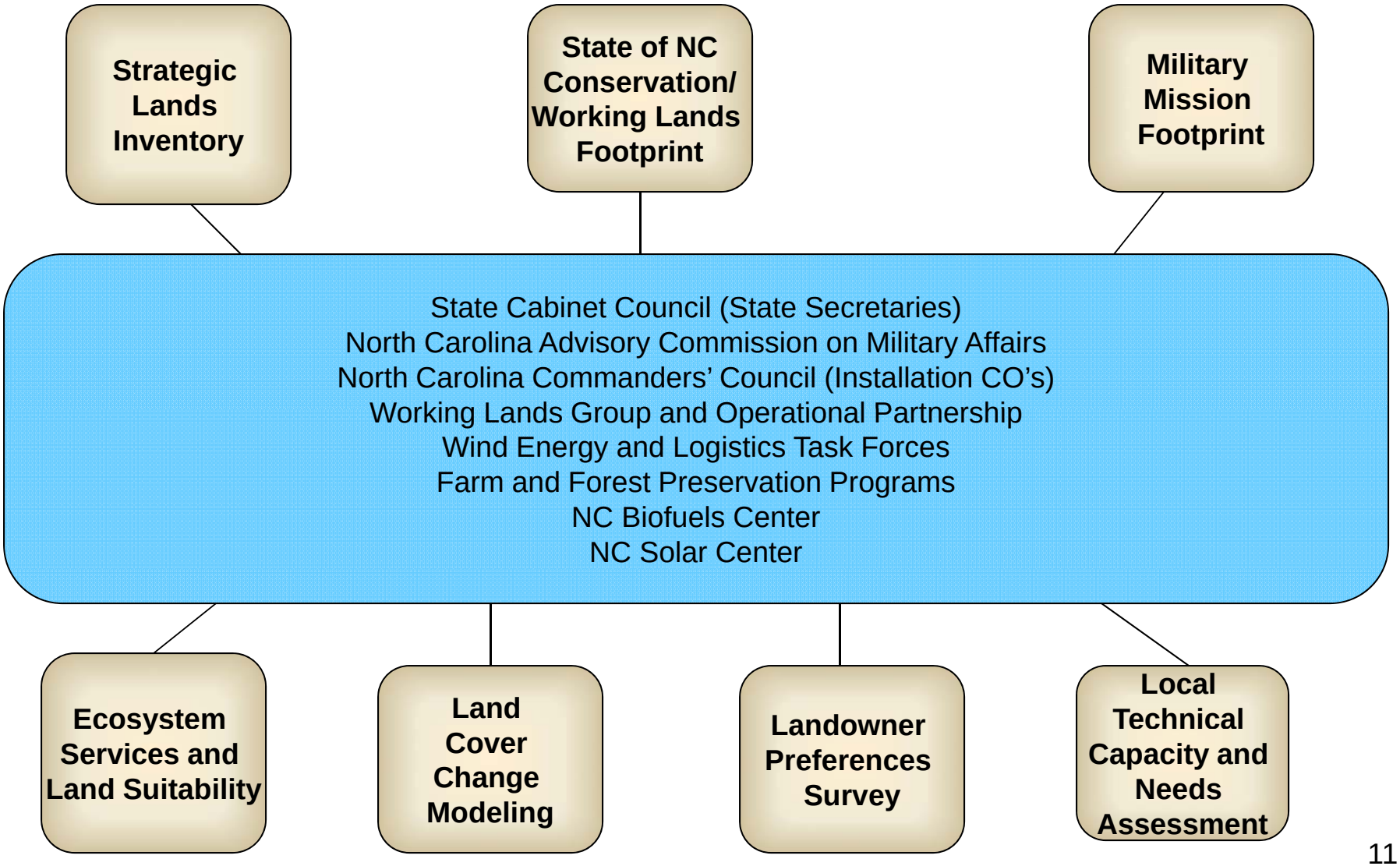
NOTIONAL PARTNERING



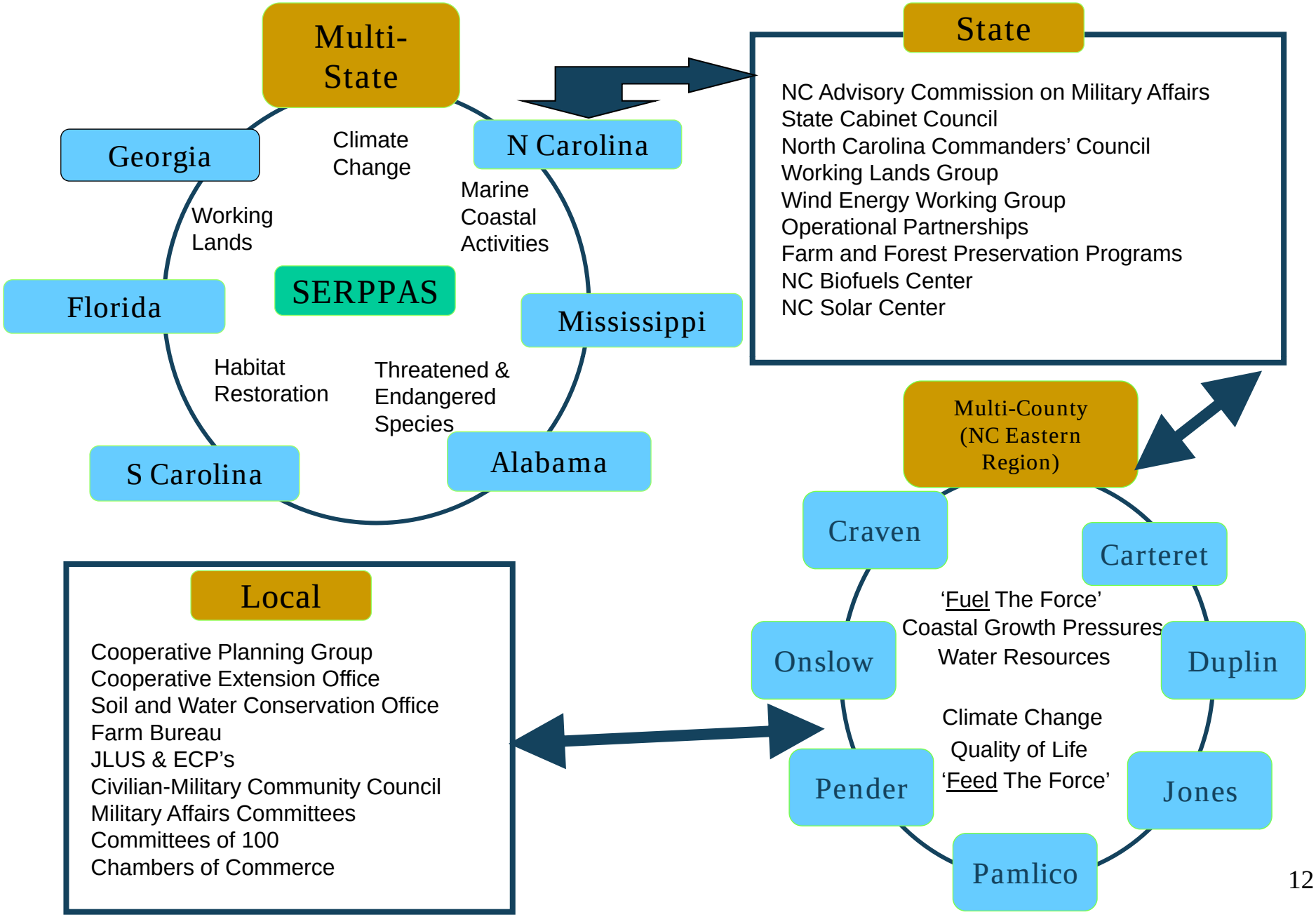
Southeastern Regional Partnership for Planning and Sustainability (SERPPAS)

- Rapid growth projected throughout the Southeast United States
- First meeting in 2005 to determine if SE states/military were willing to form a partnership to address rapidly growing competition for scarce resources (land, air, water, frequency)
- Membership initially assembled with natural resource focus; has evolved to include all facets of regional planning
- Recognized early “the urgency of now” and that the partnership would require crossing organizational boundaries (horizontally and vertically)
- Principals include:
  - North Carolina, South Carolina, Georgia, Alabama, Florida and Mississippi
  - OSD and General Officers from each of the military services
  - NOAA, EPA, NRCS, USFWS, USFS and USGS

STATE PARTNERSHIPS
NORTH CAROLINA PROTOTYPE



PARTNERSHIPS



EVOLUTION OF LAND CONSERVATION & MILITARY MISSION PROTECTION

"Nevertheless, the record clearly shows that conservation can't succeed by charity alone. It has a fighting chance, however, with well-designed appeals to self interest. The challenge now is to change the rules of the game so as to produce new incentives for environmental protection, geared to both society's long-term well-being and individuals' self-interest."

-The New Economy of Nature: The Quest to Make Conservation Profitable

4 Stages of Conservation

1. Origin: Primary focus is a parcel-by-parcel approach to obtain permanent easements for protection of near-by training lands, involving key natural resource partners (states and NGOs) to achieve training buffer and wildlife protection goals
2. Now: Additional programs based on working lands conservation, the next step in protecting and enhancing the military mission footprint
3. Next: Key partners need to broaden their thinking to include both natural resource and working lands; a more streamlined philosophy and operation process will be necessary to enhance sharing/leveraging opportunities
4. *Desired end state*: The ability to deliver multiple mission benefits through the convergence of natural resource, working lands, and national defense interests; ***connecting valuable landscapes at larger scales***

SENTINEL LANDSCAPES

LINKING CONSERVATION, WORKING LANDS, AND NATIONAL DEFENSE

- OSD Concept: *A coalition of partners forming a unit of conservation landscapes in association with the military*
- Private landowners, participating voluntarily, exist as the key unifying component. Private landowners would be recognized for the unique value their land and the associated land management practices provide – a significant benefit supporting national defense due to their location and relationship to an existing military readiness mission – essentially "**green readiness**"

FOOD AND FUEL FOR THE FORCES (FF4F)

- Concept
  - Cornerstone for creating a lasting partnership with the working lands community (good neighbor)
  - Decrease the loss of working lands to incompatible use
  - Economics based and ties range/training sustainment to energy and food security

FOOD AND FUEL FOR THE FORCES (FF4F)

- Current Efforts
  - Assessing current level of "buying local" at commissaries, mess halls, clubs, hospitals, schools; good progress but needs more acknowledgement and marketing
  - Conducting meetings with local/regional Defense Commissary Agency (DeCA) officials and scheduling meetings with HQ DeCA and prime vendor out of Norfolk re commissaries; then, will focus on Marine Corps Community Services managed food areas as well as hospitals/schools/mess halls
  - DeCA agreed to increase signage on local products within MCIEAST NC commissaries
  - Also receiving interest from communities concerning an Enhanced Use lease for distribution center

(Much more work to do here…)

Food & Fuel For the Forces

- Next Steps
  - Initial short term projects
    - Eliminate/mitigate institutional barriers to local produce!
      - GAP certification constraints
      - Vague procurement directives for prime vendors
    - Work with existing prime vendor produce providers to maximize local purchases
    - On-base marketing of existing fresh food opportunities in the communities (farmers markets)
  - Mid term projects
    - Modify DoD contracting practices as necessary
    - Explore potential use of DoD lands for distribution facility
  - Identify products that provide best opportunity for integration into the industrial food service buying process

Food & ***Fuel*** For the Forces

- Current Efforts
  - Biofuels Center (funded through 2015 @ $20M) is working on major initiative to provide enough biofuel to meet the North Carolina's 10% renewable energy consumption goal by 2017 (based on current use)
  - Project Eastern Gain
    - Partnership between the Military Growth Task Force and NC Biofuels Center
    - Objective is to build a robust and viable biofuels industry in eastern NC
      - 1-2 million gallons of biodiesel per year by 2012 (double NC's current production)
  - Economic Development organizations are working on attracting biomass plant investment in eastern NC

AGRICULTURAL DEVELOPMENT AND FARMLAND PRESERVATION (ADFP)

- Concept
  - Fund projects to **encourage the preservation** of qualifying agricultural, horticultural and forestland to foster the growth, development and sustainability **of family farms**
    - NC created ADFP Trust Fund in 2005
    - Over $10M expended to date
    - Included in state's recurring budget
  - Focus is to **keep farms in farming and forests in forestry!**
    - State has lost an average of 100,000 acres a year over last five years

LONGLEAF PINE (LLP)

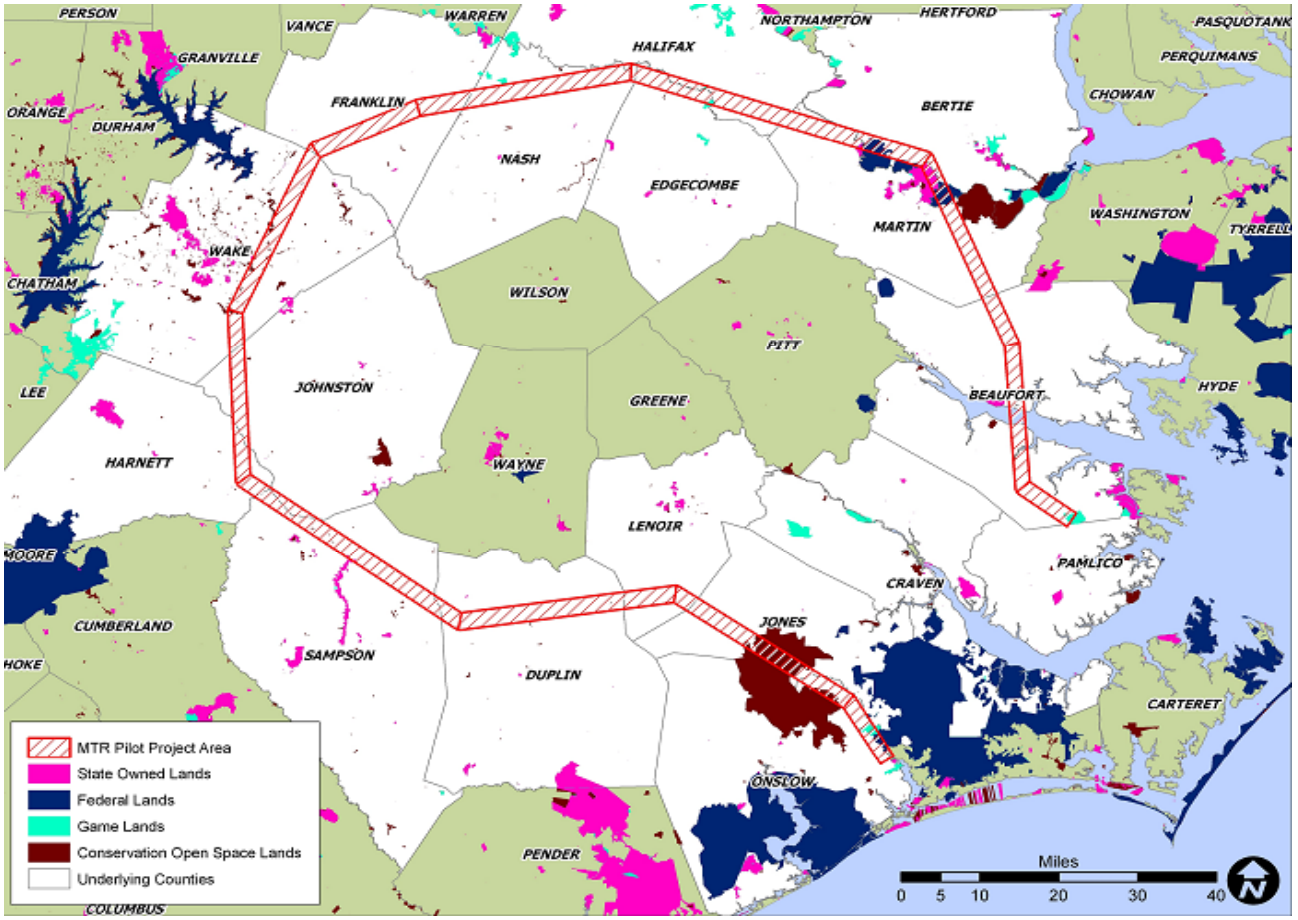
- Concept
  - Southern Regional Conservation Plan
    - Provides a road map, establishes goals, identifies Significant Geographic Areas, establishes strategies, approaches, objectives and key actions
  - North Carolina Longleaf Coalition
    - Promote the maintenance and restoration of North Carolina's longleaf pine ecosystem, including its cultural and economic values, by forming a collaborative network of diverse stakeholders to provide strategic leadership across the historical range while also supporting local restoration activities
  - Restoration of LLP has numerous positive values including recovery of threatened/endangered species; important to mitigate LLP restoration's affect on future military training

MARKET-BASED CONSERVATION

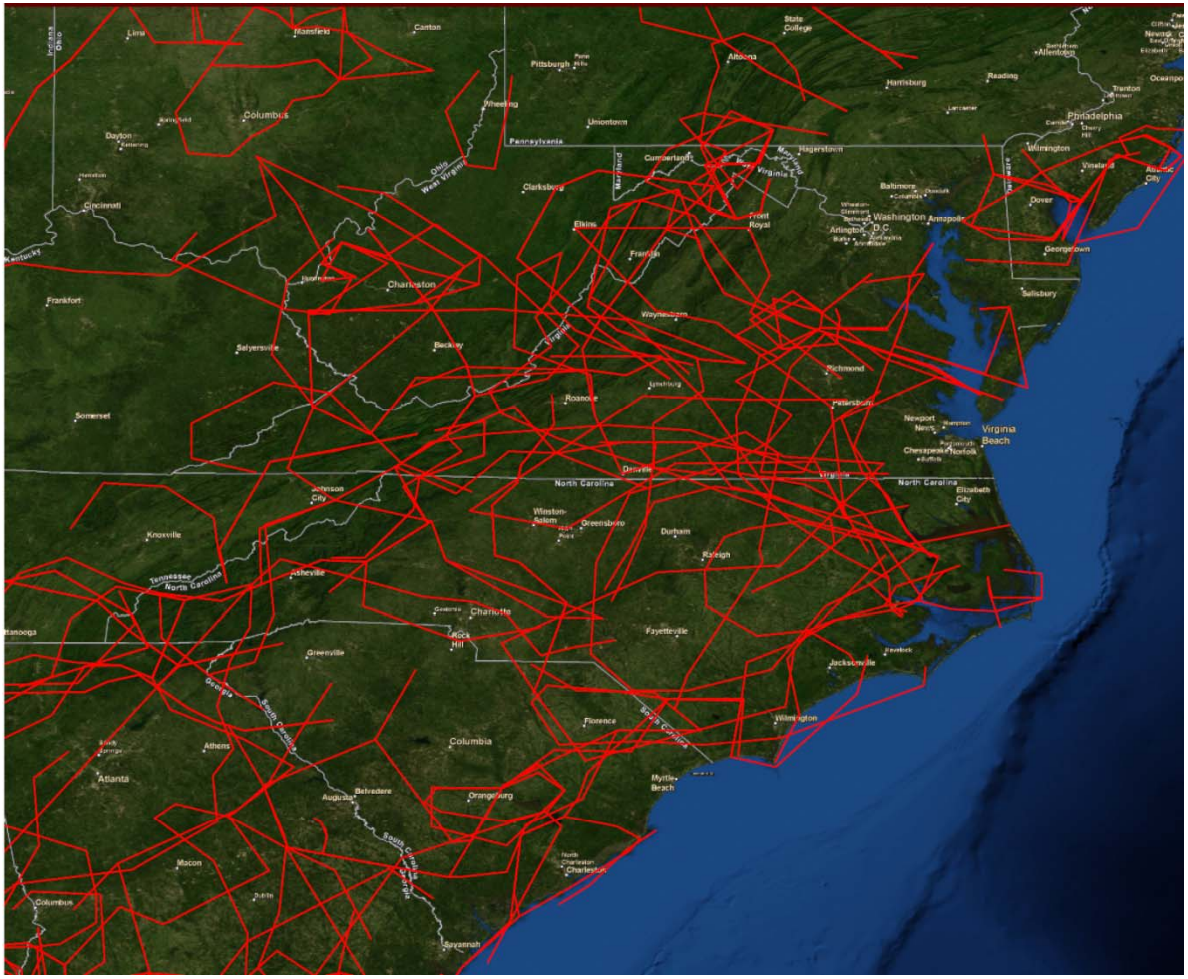
- Concept
  - Why Market-Based Conservation?
    - North Carolina lost 1 million acres of forestland between 1990 and 2002 (three quarters to urban development)
    - Since 2002, North Carolina has lost more than 6,000 farms and 600,000 acres of farmland
    - Since 1957, USMC has lost approximately 85% of military-dedicated flight training area in eastern North Carolina
  - Need to create a voluntary program that provides incentives for landowner commitment
    - Encourages private landowner participation in land conservation
    - Rewards landowners for their commitment
    - Currently planning to conserve rural working lands (farms and forests) underlying a major Military Training Route (MTR) in eastern North Carolina

MARKET-BASED CONSERVATION (Con't)

~90 % of land underlying the MTR is in private ownership



EAST COAST
LOW LEVEL ROUTES



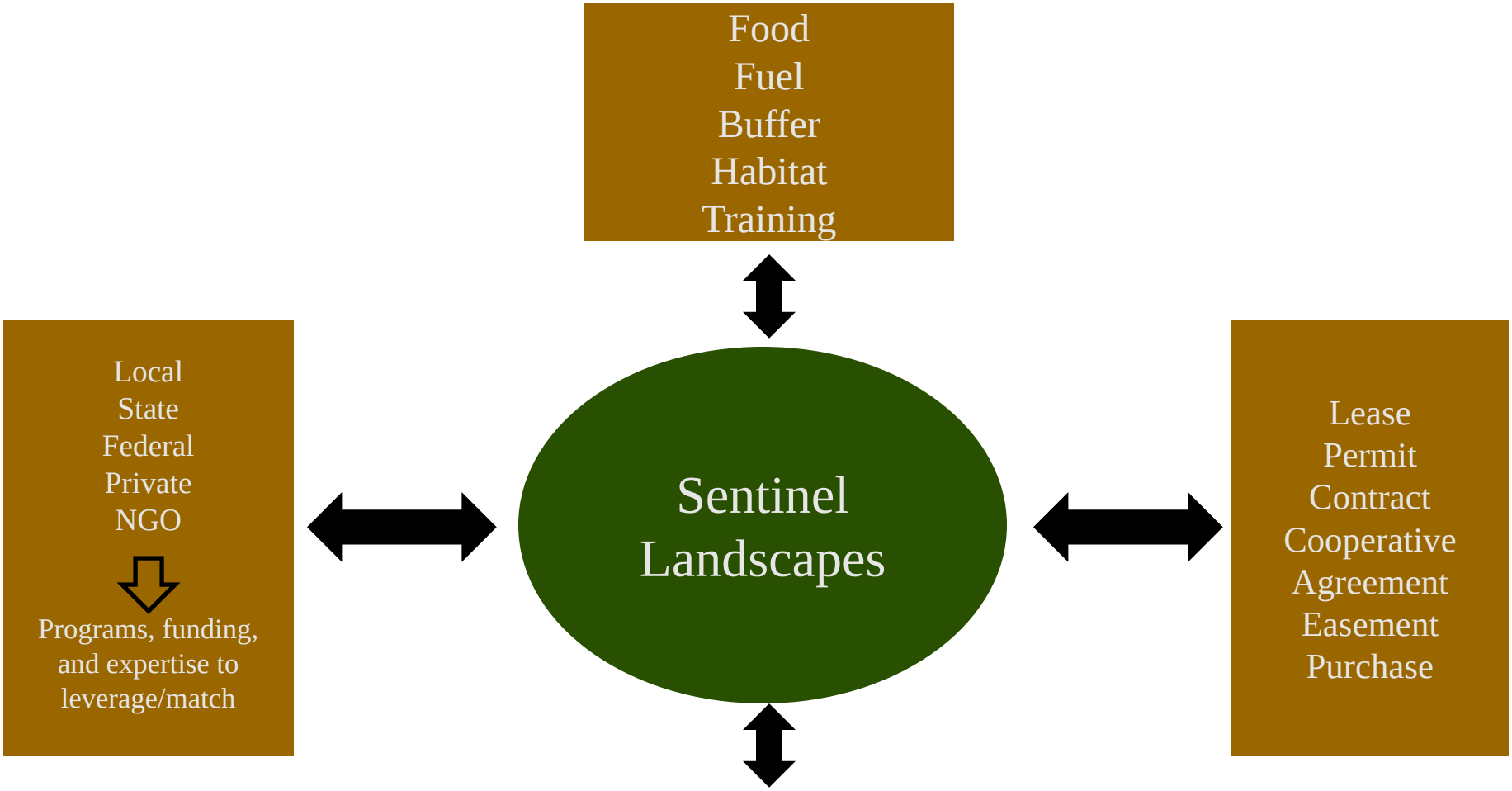
Final Thoughts…

Bottom Line: If you feel strongly about *either* natural resources, working lands, connecting valuable landscapes at larger scales, or national defense. . .then. . .I believe we've got to work together, in a ***mutually beneficial partnership*** if we're <u>*ever*</u> to make significant conservation progress

Or, as Ben Franklin observed at the signing of the Declaration of Independence: "We must all hang together, or assuredly we shall all hang separately"

Back-up Slides

DESIRED END STATE



Allows the characteristics of the land, military needs, landowner desires, the states, and program objectives to determine and define the players, outcomes, and duration of collaboration. This not only will buy us more time but will create flexibility down the road.

ENERGY MANDATES

- Energy Policy Act of 2005
  - Sets Federal energy management requirements in several areas, including:
    - Metering and reporting
    - Energy-efficient product procurement
    - Energy savings performance contracts
    - Building performance standards
    - Renewables energy requirement
    - Alternative fuel use

ENERGY MANDATES (Con't)

- Executive Order 13423 – Jan 2007
  - Sets Federal energy and environmental management requirements, including but not limited to:
    - Implementing instructions
    - Reducing intensity
    - Increasing use of renewable energy
    - Reducing water intensity
    - Designing and operating sustainable buildings
    - Managing federal fleets

ENERGY MANDATES (Con't)

- Energy Independence and Security Act (EISA) - December 2007
  - 30% reduction in energy intensity by end of 2015 based on FY03 baseline
  - Expanded use of renewable energy.
    - 25% renewable energy by 2025
    - SECNAV - Oct 14, 2009, one-half of shore-based energy will be alternative energy by 2020
  - Energy plan still changing
    - Recent Executive Order 13514 requires reductions in greenhouse gas emissions
    - Federal agencies set a 34% greenhouse gas emissions reduction target by 2020 ***……announced 29 Jan this year***

ENERGY INTENSITY GOAL

- Existing buildings need to be more efficient
  - Several hundred buildings need renovation and envelope improvements
  - For major renovations, must reduce energy cost budget 20% below pre-renovation 2003 baseline
  - Replace chillers and HVAC systems
  - Building lighting retrofits and occupancy sensors
    - Nearly complete due to excellent return on investment
  - Building recommissioning
    - Ensures maximum system performance
  - Demand reduction by occupants
    - Requires constant education and training to change human behavior

ENERGY INTENSITY GOAL (Con't)

- New facilities designed to consume 30% less than energy standards (American Society of Heating, Refrigeration and Air-Conditions Engineers – ASHRAE 90.1 2004)
- New facilities will be LEED Silver (Leadership in Energy and Environmental Design)
  - Required by ASN (I&E) memo for all new construction FY09 and beyond
  - Camp Lejeune has awarded a LEED Gold/Platinum Fitness Center
- Advanced metering on all federal buildings where cost effective for the purpose of energy, maintenance, and operation
  - Priority for funding in FY10
  - All electrical metering will be complete in 2011
  - Help focus our energy saving efforts towards large consumers

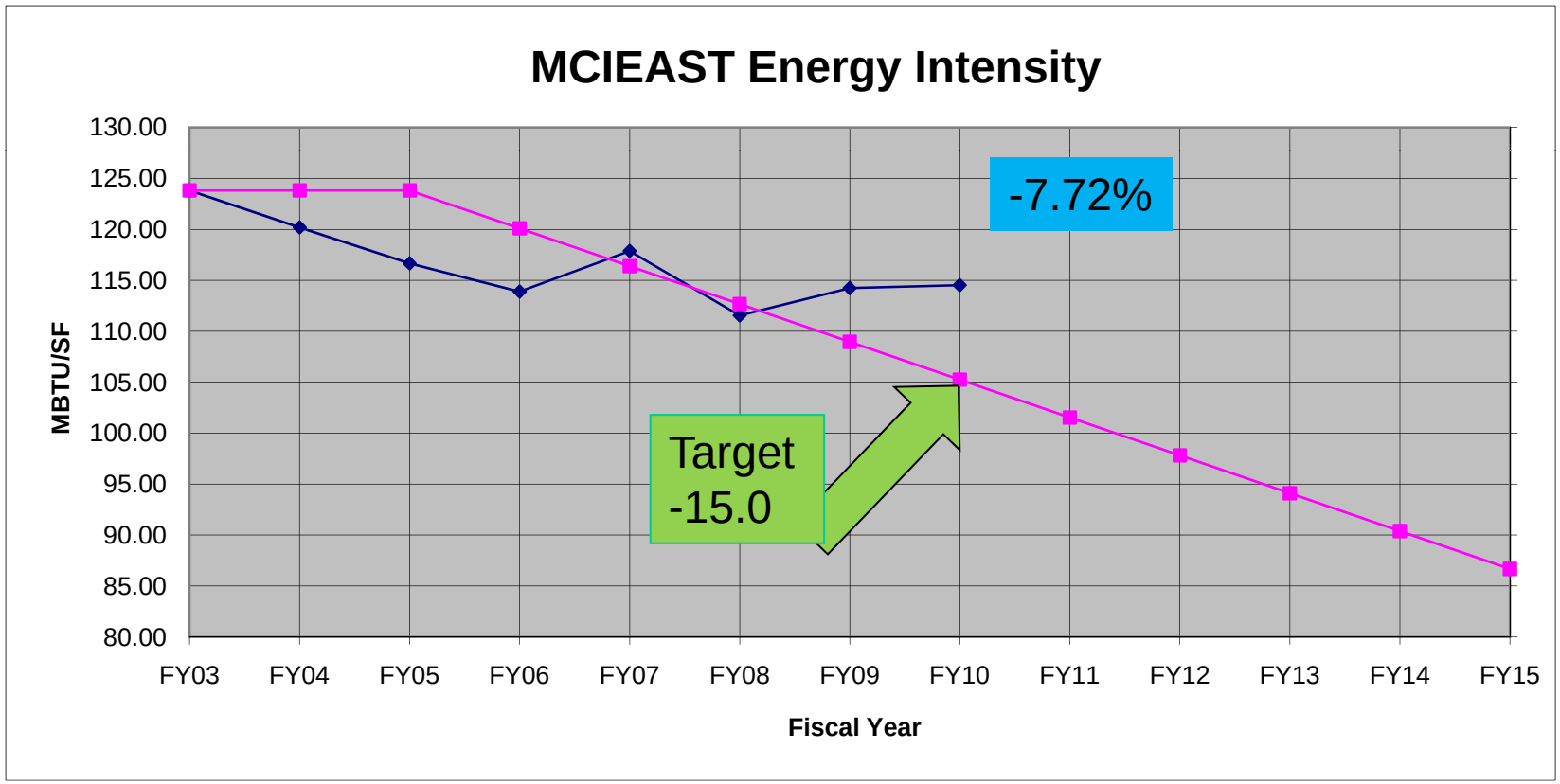
ENERGY INTENSITY GOAL (Con't)

- Purchase of premium efficiency products including motors, air conditioners, and refrigeration equipment
- Construction contractor, selection criteria will incorporate energy efficiency as an evaluation factor
  - Need industry capability and ideas
- Nearly half or our energy is used to produce steam
  - Steam used to generate heat and domestic hot water
  - Good steam distribution system loses 30%
    - Our systems lose more than 40%
    - Maintenance intensive to keep system efficient

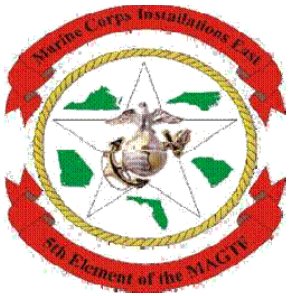
ENERGY INTENSITY GOAL (Con't)

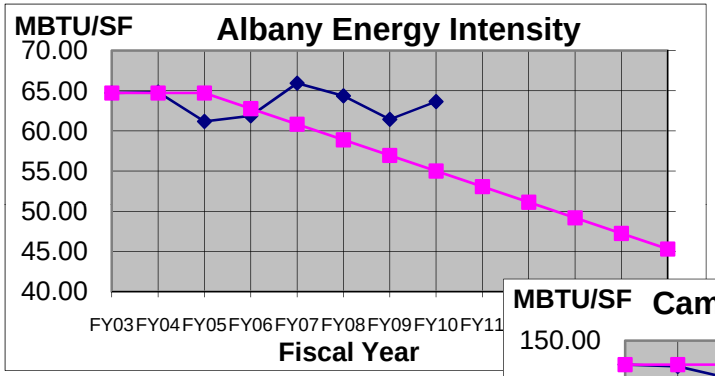
- Steam decentralization is key to our "intensity" success
  - As we decentralize, we will lose opportunities for renewable projects that require central heating plants
    - Decentralizing steam will make it more difficult to meet both "intensity" and "renewable" goals
  - It will be expensive and require new distributed natural gas system and new heating systems in every building
    - It will take several years to decentralize all steam systems
  - Camp Lejeune steam decentralization meets half of the Regional mandate goal

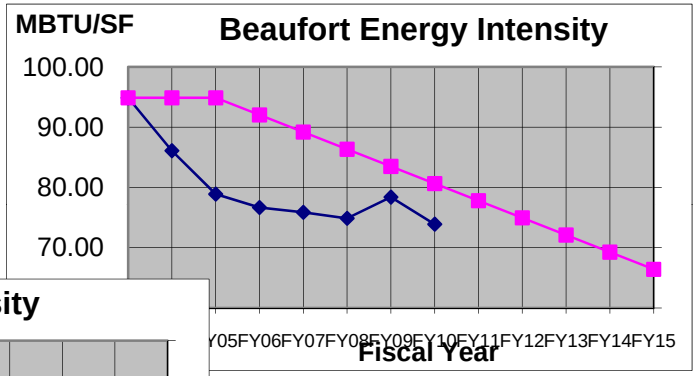
MCIEAST Intensity Goal

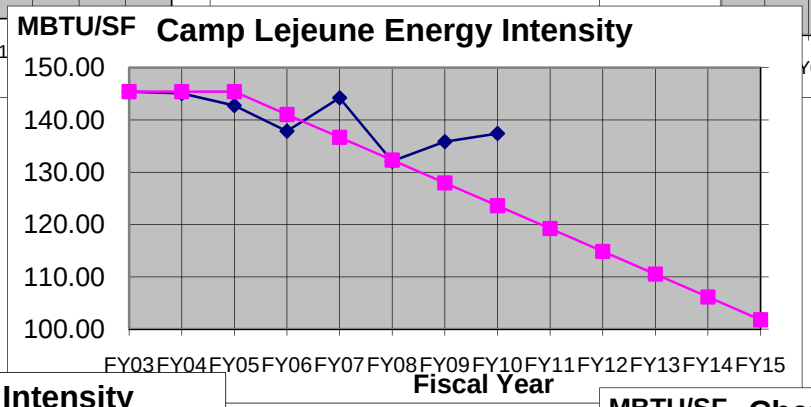


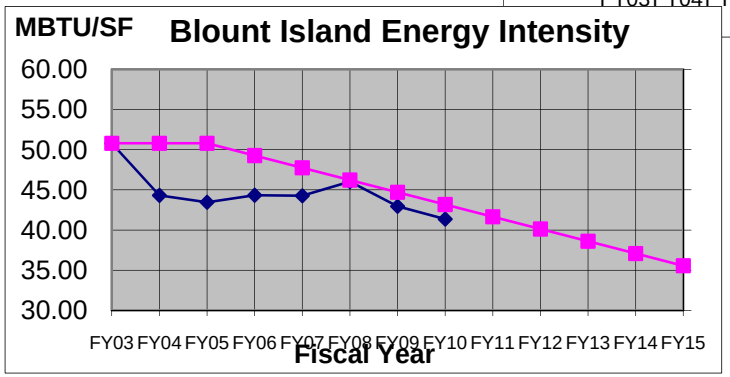
Installation Intensity Goals

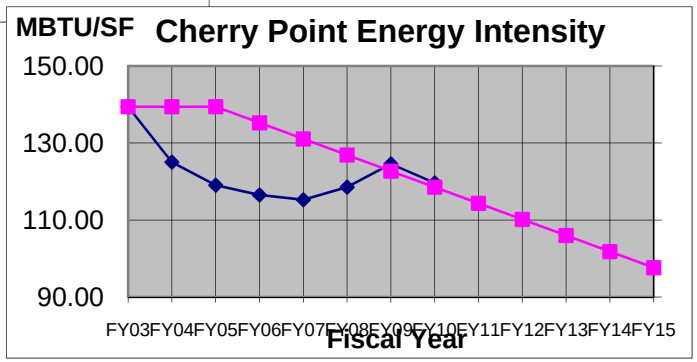












MCIEAST Energy Plan Through FY15

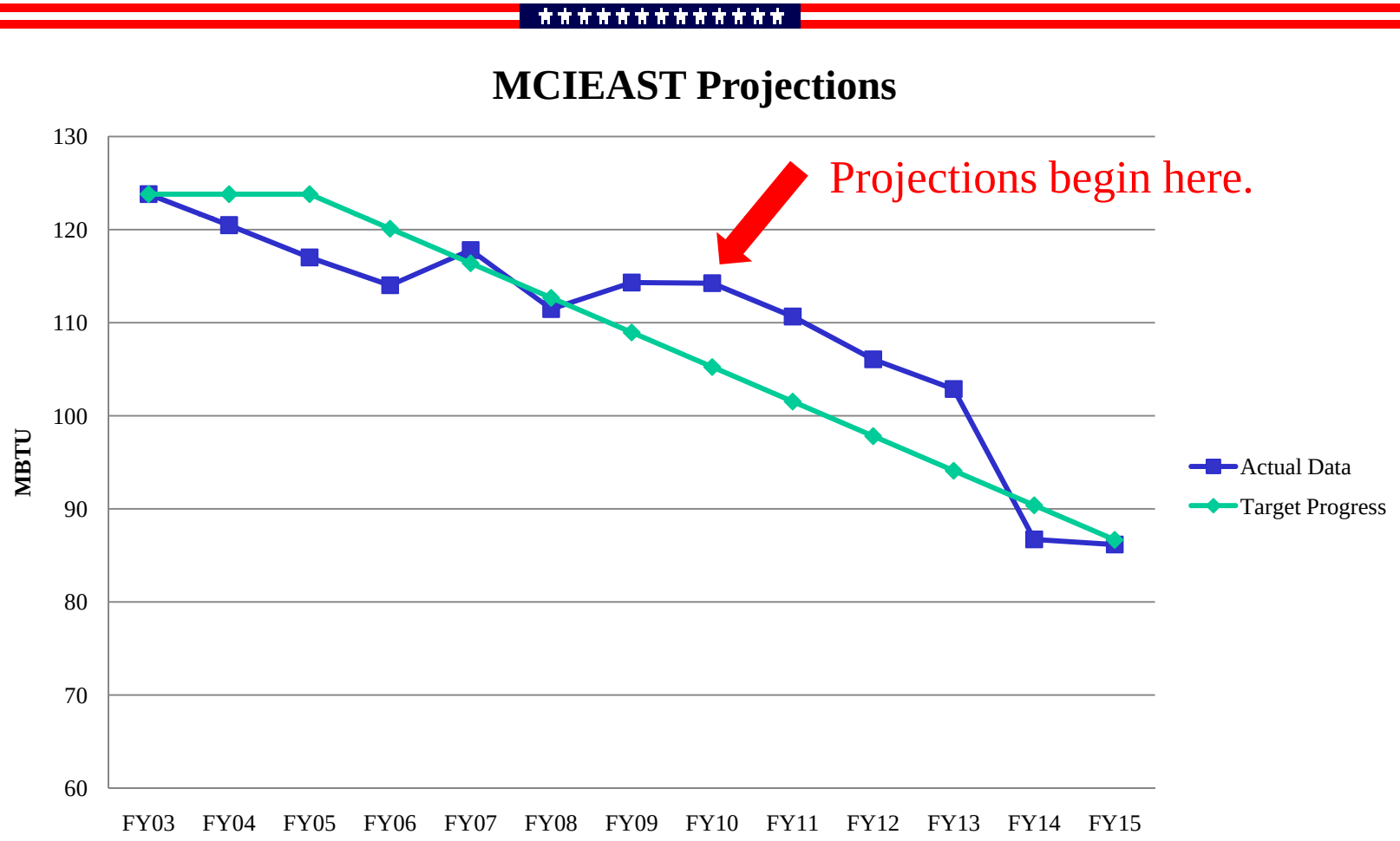
MCIEAST Energy Plan - Goal Reductions				
Sept 30 of	MBTU	Square Feet (000) KSF	MBTU/KSF	Goal %
FY03	4,248,877	34,315	124	0.00%
FY04	4,198,400	34,849	120	-2.70%
FY05	4,078,003	34,849	117	-5.49%
FY06	4,062,146	35,624	114	-7.91%
FY07	4,205,564	35,699	118	-4.86%
FY08	3,996,242	35,850	111	-9.97%
FY09	4,129,389	36,120	114	-7.67%
FY10	4,194,070	36,707	114	-7.72%
FY11	4,284,655	38,626	111	-10.41%
FY12	4,227,990	39,591	107	-13.75%
FY13	4,203,609	40,754	103	**-16.70%**
FY14	3,548,376	40,740	87	**-29.66%**
FY15	3,532,250	40,804	**87**	**-30.09%**

Lejeune Steam Decentralization

Current as of Nov 2010.

MCIEAST Energy Plan - Total Cost			
Project Number	**Estimated Cost**	**MBTU Reduction**	**$$$/MBTU (Average)**
Albany	$43,560,335	185,990	$234
Beaufort	$6,989,154	35,861	$195
Blount Island	$18,660,000	30,235	$617
Cherry Point	$10,297,000	82,065	$125
Camp Lejeune	$173,692,000	756,587	$230
Total	**$253,198,489**	**1,090,738**	**$232**

MCIEAST DUERS Projections



Installation Energy Plan Overview

Albany Energy Goal Reductions				
Sept 30 of	MMBTU	Square Feet (000) KSF	MBTU/KSF	Goal %
FY03	411,212	6,354	65	0.00%
FY04	411,882	6,354	65	0.16%
FY05	388,740	6,354	61	-5.46%
FY06	401,007	6,481	62	-4.39%
FY07	427,336	6,481	66	1.88%
FY08	417,096	6,481	64	-0.56%
FY09	402,254	6,547	61	-5.06%
FY10	405,879	6,547	62	-4.21%
FY11	372,553	6,547	57	-12.07%
FY12	344,239	6,547	53	-18.75%
FY13	315,925	6,547	48	-25.44%
FY14	287,611	6,547	44	-32.12%
FY15	**259,297**	**6,547**	**40**	**-38.80%**

Beaufort Energy Goal Reductions				
Sept 30 of	MBTU	Square Feet (000) KSF	MBTU/KSF	Goal %
FY03	242,108	2,552	95	0.00%
FY04	229,519	2,552	90	-5.20%
FY05	216,895	2,552	85	-10.41%
FY06	201,309	2,552	79	-16.85%
FY07	192,143	2,552	75	-20.64%
FY08	189,643	2,552	74	-21.67%
FY09	198,543	2,533	78	-17.38%
FY10	191,218	2,563	75	-21.36%
FY11	186,928	2,511	74	-21.53%
FY12	178,967	2,511	71	-24.87%
FY13	167,709	2,668	63	-33.74%
FY14	176,661	2,777	64	-32.94%
FY15	**176,661**	**2,777**	**64**	**-32.94%**

Cherry Point Energy Goal Reductions				
Sept 30 of	MBTU	Square Feet (000) KSF	MBTU/KSF	Goal %
FY03	841,395	6,035	139	0.00%
FY04	770,096	6,159	125	-10.32%
FY05	730,192	6,159	119	-14.96%
FY06	702,969	6,035	116	-16.45%
FY07	703,904	6,110	115	-17.37%
FY08	707,802	5,979	118	-15.09%
FY09	747,905	5,979	125	-10.28%
FY10	720,811	6,026	120	-14.20%
FY11	723,733	6,065	119	-14.40%
FY12	658,724	6,249	105	-24.40%
FY13	656,221	6,249	105	-24.68%
FY14	655,049	6,249	105	-24.82%
FY15	**667,237**	**6,249**	**107**	**-23.42%**

Blount Island Energy Goal Reductions				
Sept 30 of	MBTU	Square Feet (000) KSF	MBTU/KSF	Goal %
FY03	33,830	666	51	0.00%
FY04	36,516	824	44	-12.76%
FY05	35,809	824	43	-14.45%
FY06	36,529	824	44	-12.73%
FY07	36,475	824	44	-12.86%
FY08	37,918	824	46	-9.41%
FY09	37,195	866	43	-15.45%
FY10	37,843	917	41	-18.76%
FY11	28,382	920	31	-39.27%
FY12	27,156	1,100	25	-51.40%
FY13	30,493	1,200	25	-49.97%
FY14	32,996	1,300	25	-50.03%
FY15	**40,504**	**1,407**	**29**	**-43.33%**

Installation Energy Plan Overview

Lejeune Energy Goal Reductions				
Sept 30 of	MBTU	Square Feet (000) KSF	MBTU/KSF	Goal %
FY03	2,720,332	18,708	145	0.00%
FY04	2,750,387	18,960	145	-0.24%
FY05	2,706,367	18,960	143	-1.84%
FY06	2,720,332	19,732	138	-5.19%
FY07	2,845,706	19,732	144	-0.82%
FY08	2,643,783	20,014	132	-9.16%
FY09	2,743,492	20,195	136	-6.57%
FY10	2,838,319	20,656	137	-5.50%
FY11	2,963,599	22,588	131	-9.77%
FY12	3,009,061	23,360	129	-11.42%
FY13	3,022,756	24,093	125	-13.72%
FY14	2,391,056	24,093	99	-31.75%
FY15	**2,391,056**	**24,093**	**99**	**-31.75%**

Lejeune Steam Decentralization