

Hard Structures are Hardly Helping! How Transfer of Development Rights Coupled With a Rolling Easement Can Create a Resilient Coast in New Jersey.

By: Kaitlyn Smith

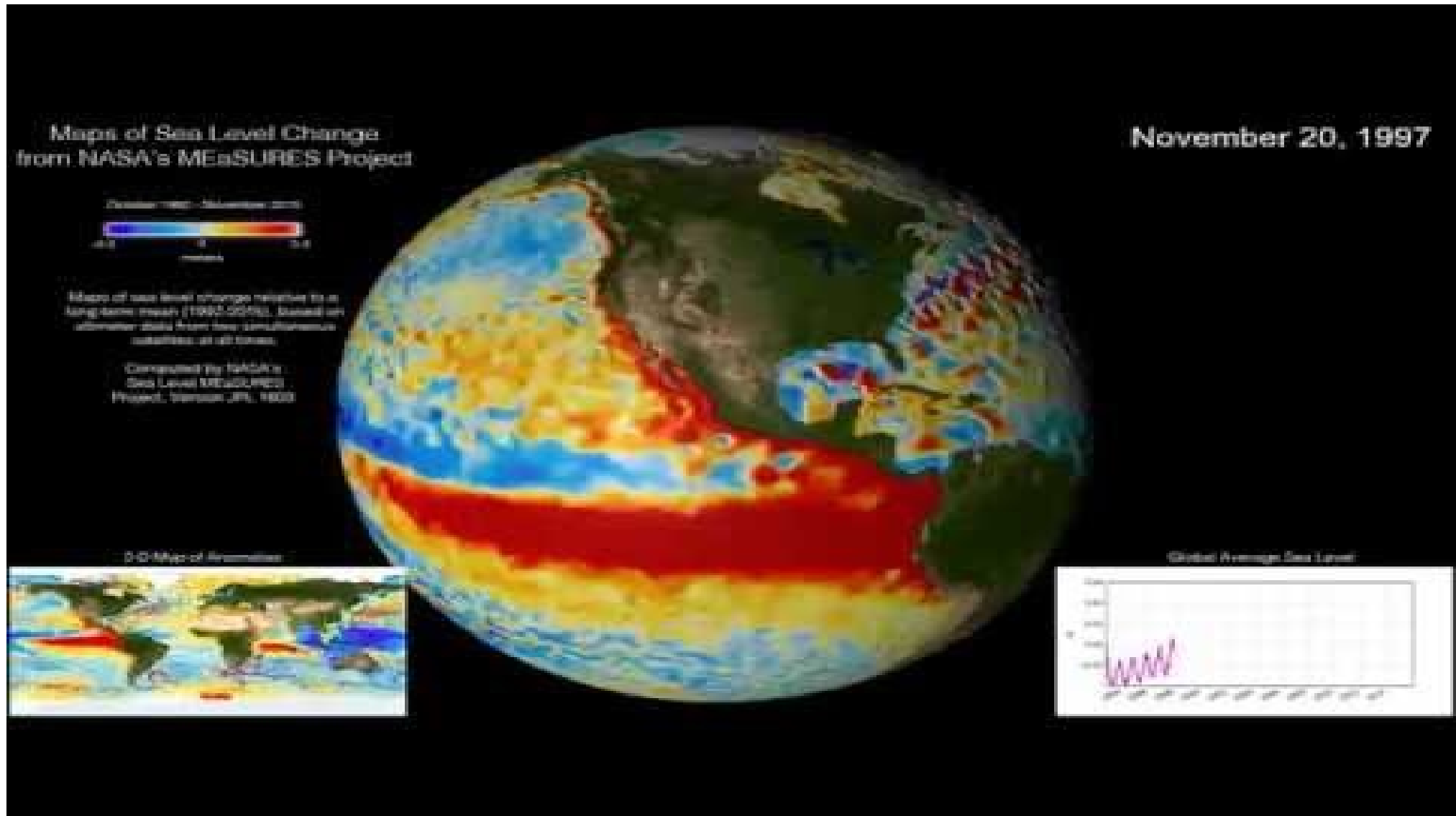


Roadmap:

- I. Coastal climate change impacts
 - Sea level rise
 - Beach stabilization
 - Coastal squeeze
 - Beach nourishment
- II. Existing legal framework
 - Shore Protection Program
 - Blue Acres program
 - The Coastal Barrier Resources Act
 - State Transfer of Development Rights (TDR)
- III. Implementing a rolling easement coupled with TDR
 - Texas Open Beach Act
 - Application of rolling easement principles
 - Transfer of development rights (TDR)
 - Program obstacles



Sea-level Rise



Why is sea level rise an issue?

- \$45 BILLION tourist industry
- Damaged homes
- Commercial development
- Wildlife



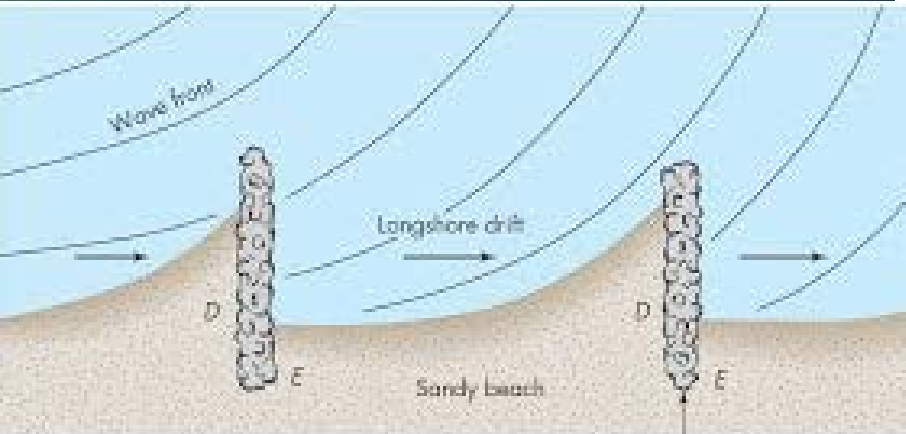
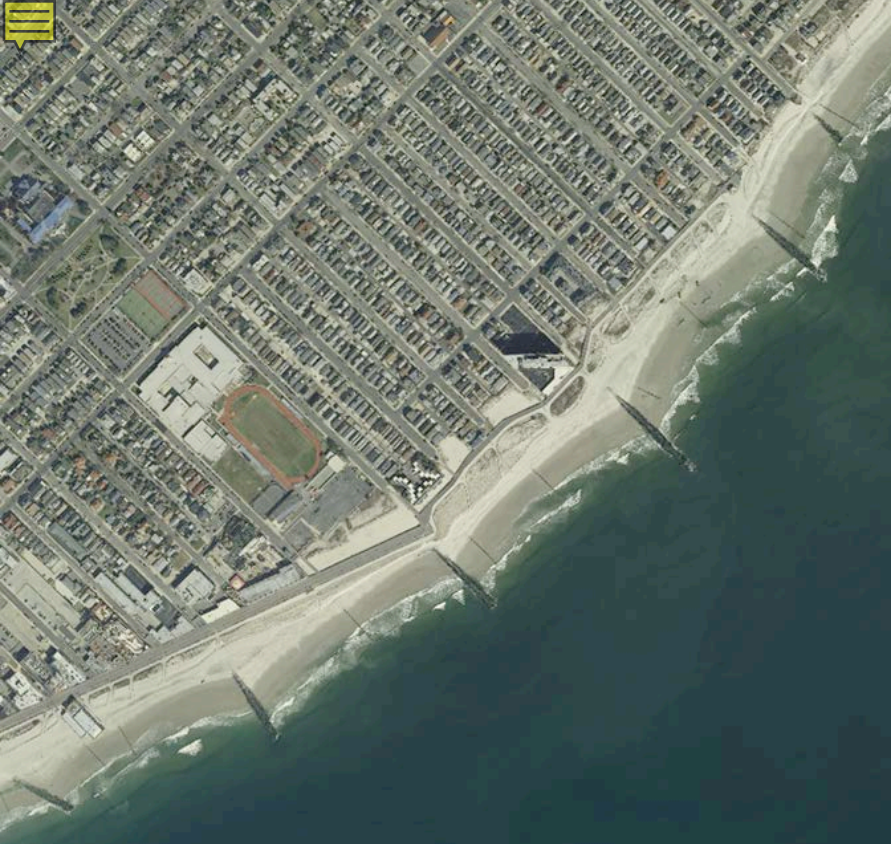
Monmouth County, threat from rising sea level by 2060

Place	% of homes at risk		Population in at-risk homes		Home value at (in millions)	
	1' sea rise	3' sea rise	1' sea rise	3' sea rise	1' sea rise	3' sea rise
Highlands	11%	38%	436	1,189	\$54.5	\$158.3
Manasquan	10%	33%	538	1,077	\$179.4	\$454.8
Monmouth Beach	7%	10%	239	671	\$111.9	\$260.2
Rumson	4%	50%	270	590	\$83.0	\$318.7
Sea Bright	15%	33%	222	1,626	\$96.4	\$588.0

Source: Union for Concerned Scientists, "U.S. Coastal Property at Risk from Rising Seas"

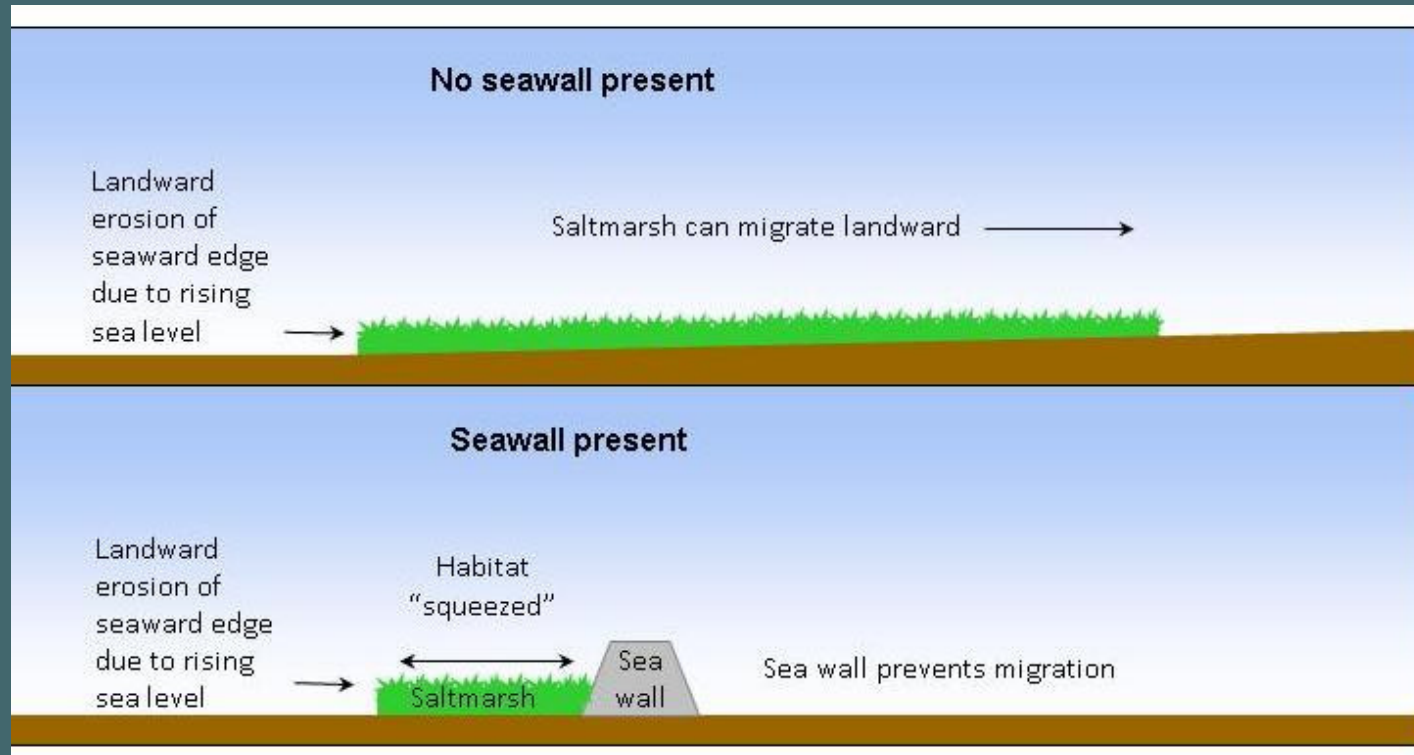


Beach stabilization



(a) D = Deposition, wide beach
E = Erosion, narrow beach

Beach groin, barrier to
longshore drift, constructs
of large rock blocks or
other materials



Coastal Squeeze

- Squeezes the exposed beach between rising shoreline and development or sea wall.



Beach Nourishment

- Soft protective mechanism
- Relocating sand from offshore through dredging
- Increase beach erosion
- Impacts to benthic organisms and coastal
- Long-term not economically feasible



Existing Legal Framework



Goal: To protect coastal communities from erosion, storms, flooding, and sea level rise.



Administered by the U.S. Army Corps of Engineers and The Bureau of Coastal Engineering



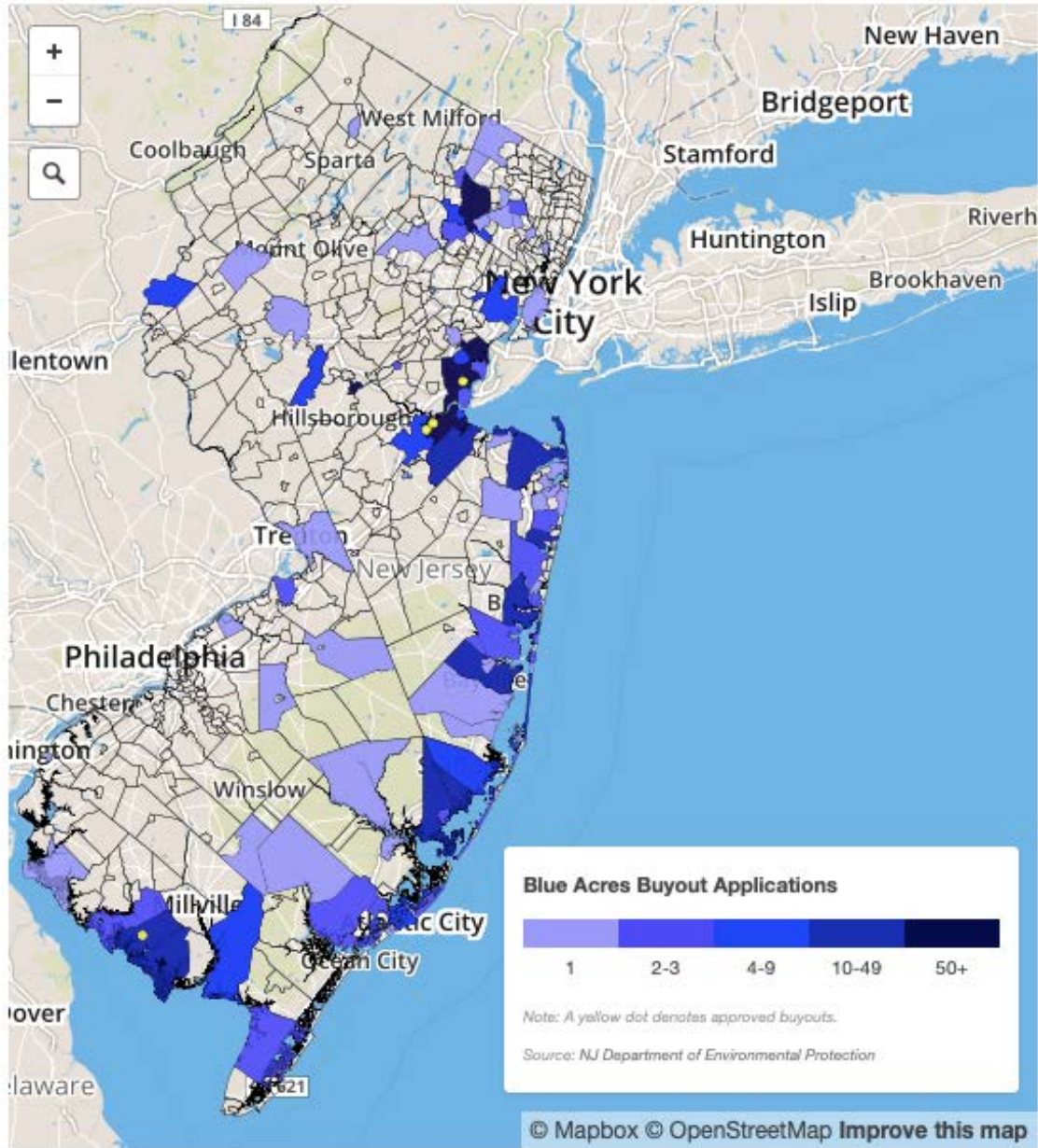
Funded: Shore Protection Fund, annual budget of **\$25,000,000** towards coastal protection projects.



Most is spent on hard structures and beach nourishment:

75% state
25% grantee

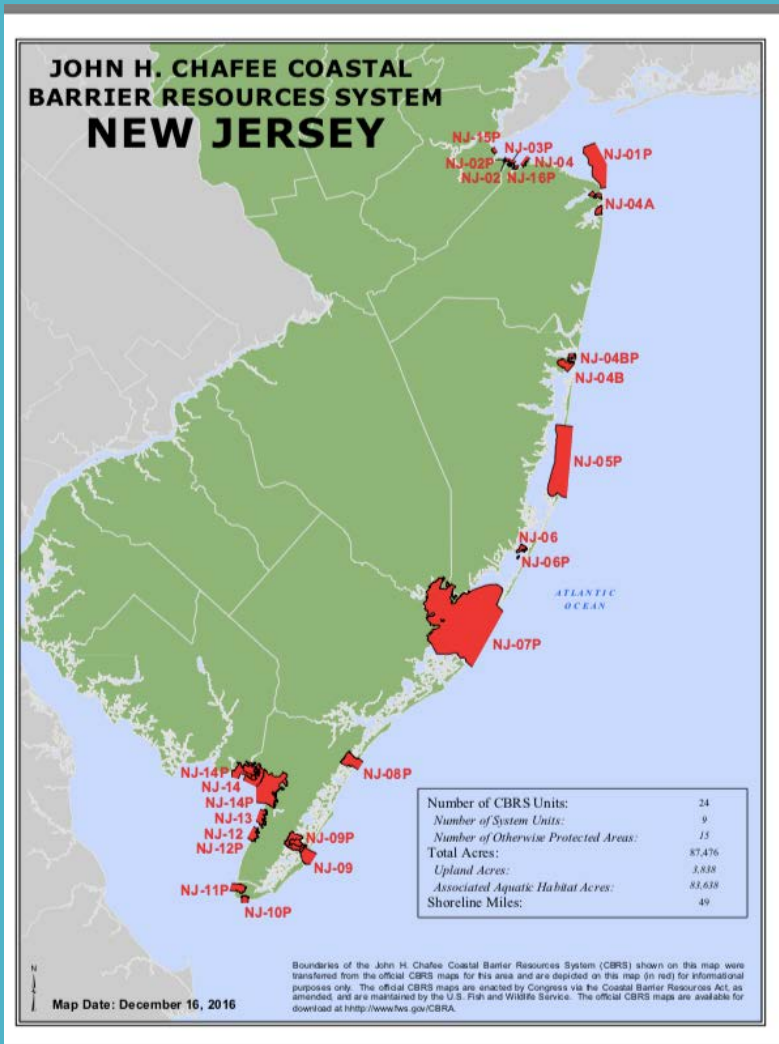
Shore Protection Program



Blue Acres Program

- Implemented in 2007
- Designated \$300 million towards the buyout of damaged homes in flood-prone areas.
- Goal to preserve land as open space, accessible to the public.
- Purchased over 600 properties since Sandy

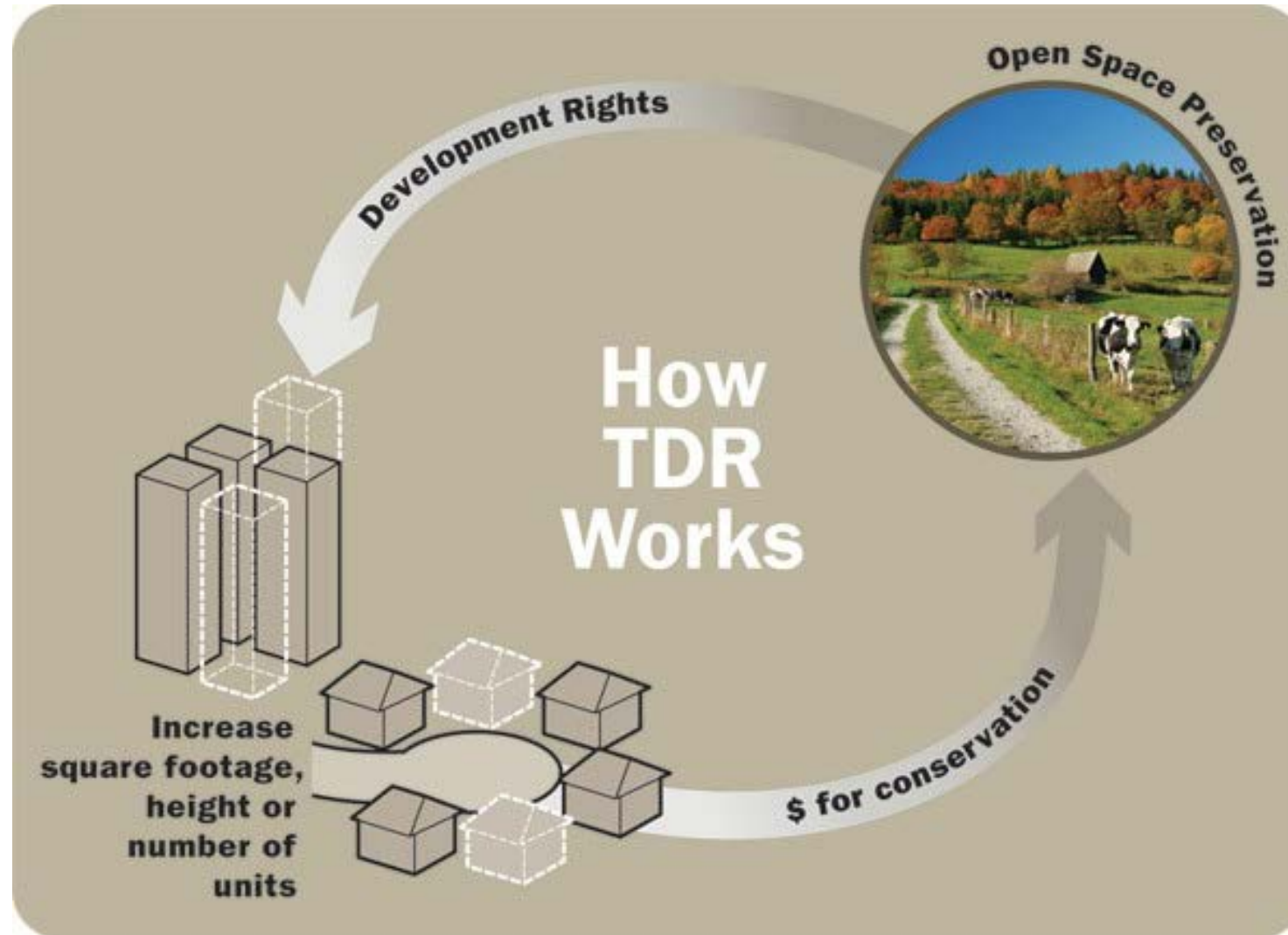




The Coastal Barrier Resources Act

- **Goal:** Protect coastal barrier, areas that are biologically rich and are prone to damage from hurricanes and storm surge.
- Prevents government subsidize from encouraging development
- **Result:** Only applied to a few places along the New Jersey coast and development has persisted.

State Transfer of Development Rights (TDR)



Proposals



Proposal- background

Texas Open Beach Act:

- Utilizes rolling easements:
 1. Prohibits hard shoreline structures.
 2. Abandonment of development once the mean high tide has reached it.
- Preserves beach access and reduces costs.





Application of Rolling Easement Principles

- The Open Beach Act can be used as a template.
- Ban on hard structures: a program to remove high-risk existing structures and replace them with soft structures.
- Funded by the Shore Protection Fund.
- Less money should be spent on beach nourishment



Coastal retreat enhanced by coupling rolling easements with TDR program



The TDR program encourages conservation while promoting economic growth.



No direct cost to the federal government because it is supported only by private funds.



The act recognizes that sending areas can be waterfront property.



The Tidal zone can be designated as an ecologically sensitive area.



Obstacles to Implementation

- Lack of support from coastal communities
- Florida's voluntary TDR program has not been as successful as hoped.
- *Receiving areas are viewed as unattractive to buyers.*
- Complexity of overlaying zoning and regulation frameworks.



Making the program more attractive to property owners

- The TDR framework is already established in NJ
- Eligibility would be determined by level of risk:
Based on, elevation, flood frequency, distance from the shoreline and areas of critical habitat
- Analyze the success of the program, the acres preserved & success of transferred development.



Thank you!

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