



# National Shoreline Management Study

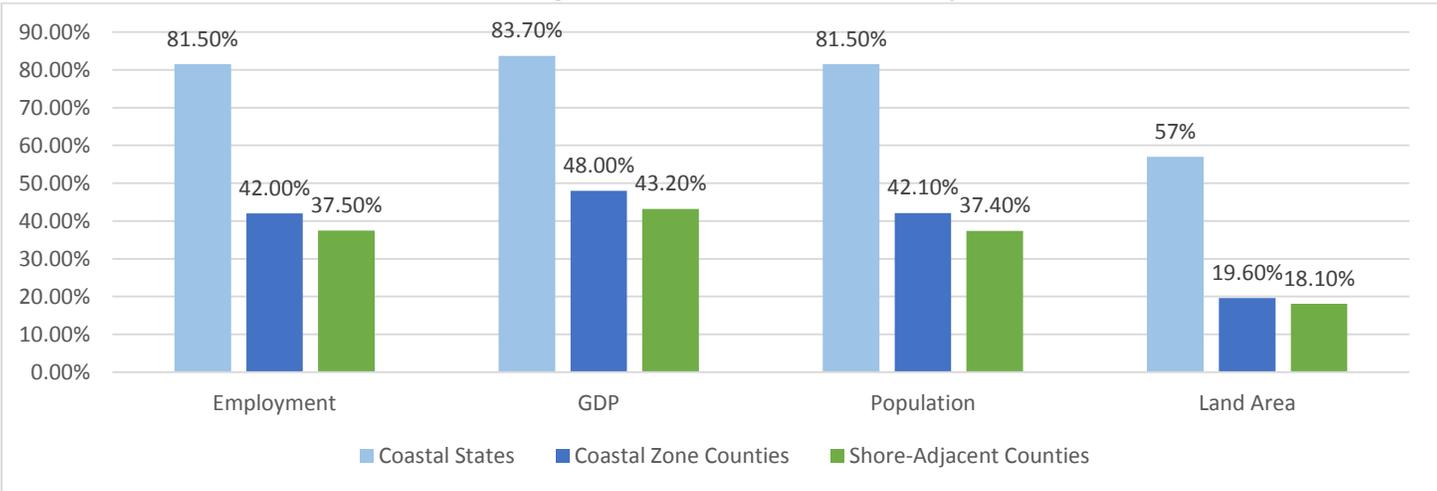
## Eroding U.S. Shorelines - A Call for Resilience Planning

The congressionally-authorized National Shoreline Management Study (NSMS) is the first undertaking in nearly a half-century to document the physical, economic, environmental, and social impacts of shoreline change across each region of the U.S. Under the leadership of the *Institute for Water Resources* of the U.S. Army Corps of Engineers, NSMS provides coastal scientists, government policymakers, and stakeholders with information about the coastal regions most in need of resilience planning.

**While Congress has funded NSMS since 2001, appropriations in recent years have declined.** This decrease in support has come just as there is a public awakening to the dangers of increased coastal flooding. The congressionally-mandated Comprehensive Study following SuperStorm Sandy shows the critical role that Federal leadership and funding plays to help States, local government, businesses and other key stakeholders engage in planning that addresses potential future risks and allows for a fundamental shift away from costly and near-sighted disaster-driven responses.

Continual erosion of the U.S. shoreline presents a considerable financial and safety risk to coastal infrastructure, economies, and populations. Individual regions face unique challenges and require solutions reflective of that. The following graphs and charts underscore the importance of the coastal economy to the national economy.

**Coastal Region’s Share of U.S. Economy 2014**



**Growth Rates in the Coastal Economy 2010-2014**

Region	Employment (millions)			GDP (\$Trillion, 2009)			Population (millions)		
	2010	2014	Annual Change	2010	2014	Annual Change	2010	2014	Annual Change
<b>United States</b>	127.8	136.6	1.72%	\$14.6	\$15.8	1.9%	309.3	318.9	0.77%
<b>Coastal States</b>	104.1	111.3	1.73%	\$12.3	\$13.2	2.0%	252.1	259.8	0.76%
<b>Coastal Zone Counties</b>	53.6	57.3	1.72%	\$7.0	\$7.6	1.9%	129.9	134.2	0.84%
<b>Shoreline Adjacent Counties</b>	47.8	51.2	1.78%	\$6.3	\$6.8	2.0%	115.5	119.3	0.82%



## Great Lakes

Shoreline management issues, including erosion and sediment buildup, are directly tied to water levels in the Great Lakes. Water levels are the key to the ecology of the Great Lakes and the economic and social welfare of the people who live and work along their shores.

Each Great Lake is different, and 58 percent of all the region's shorelines are subject to erosion, with many beaches and bluffs receding by dozens of feet per year. Infrastructure and residential/commercial properties are also at risk from damages, and property devaluation.

Many federally engineered shoreline protection structures in the Great Lakes were built 50 to 200 years ago and half are at risk of failure. The lack of federal funds to rebuild or maintain these structures properly results in higher risks for local communities.

### Michigan's Lake Economy

- Generated \$2.5 billion or 0.6% of the state's GDP.
- Provided \$1.3 billion in wages and salaries.
- Provided 58,995 jobs.
- 48,978 jobs (83%) of the state's lake economy employment were in coastal tourism and recreation.
- Tourism and recreation contributed \$1.5 billion (57.8%) to the state's lake GDP.

### Michigan's Coastal Counties



### Michigan's Coastal Economy

In 2014, shore-adjacent counties generated \$200.3 billion in GDP, 44.4% of the state's GDP.

	Employment	Wages (\$billion)	GDP (\$billion)
State	4,090,009	\$198.3	\$451.5
Shore-adjacent	1,773,207	\$85	\$200.3
Shore-adjacent % of State	43.4%	42.9%	44.4%

From 2007 to 2014, the state's GDP shrank 0.67% while the shore-adjacent counties shrank 3.11% in constant dollars. Declines in employment and wages were more severe along the shore.

State and Coastal Growth, 2007-2014			
	Employment	Wages	GDP
All Counties	-2.13%	-4.23%	-0.67%
Shore-adjacent Counties	-4.57%	-6.70%	-3.11%