Coastal Zone Management Act Performance Measurement System Contextual Indicators 2008 Report

Introduction

The Coastal Zone Management Act (CZMA) Performance Measurement System includes 21 contextual indicators. Data on the contextual indicators, collected by NOAA's office of Ocean and Coastal Resource Management (OCRM), supplement state-collected performance measurement data and are intended to give context to state activities by illustrating the many pressures on coastal areas. This report is the second annual report on the contextual indicators, offering 2007 indicator data where available.

REGIONAL DELINEATIONS

The contextual indicator data are generally reported at the national and regional scales according to the below regional delineations. New data in this report are also provided at the state scale where available.

Northeast – ME, NH, MA, RI, CT, NY (parts)¹
Mid-Atlantic – NJ, PA (parts), DE, MA, VA
Southeast – NC, SC, GA, FL (parts)
Gulf of Mexico – FL (parts), AL, MS, LA, TX
West Coast – CA, OR, WA
Alaska – AK
Great Lakes – PA (parts), NY (parts), OH, MI, IN, WI, MN
Islands and Territories – HI, PR, GU, CNMI, AS, USVI

The index indicators in numbers 13 and 15-17, as reported via the National Coastal Condition Report (NCCR), are reported according to the below regional delineations:

Northeast – ME, NH, MA, RI, CT, NJ, DE, MD, VA Southeast – NC, SC, GA, FL (east coast) Gulf Coast – FL (west coast), AL, MS, LA, TX West Coast – CA, OR, WA Great Lakes – PA, NY, OH, MI, IN, IL, WI, MN Puerto Rico – Puerto Rico

The NY, PA, and FL coastal zones each fall into two different regions. For the indicators with data available at the county scale, state information is split accordingly between regions. When data is not available at the county scale, PA is included in the Great Lakes, NY is included in the Northeast, and FL is included in the Southeast.

DATA

1. Approximate coastal zone area (land only)

National: 303,420 square miles or 194,189,000 acres

Source: NOAA Special Projects Office

Coverage: All coastal states and territories except Michigan, Indiana, Alaska, and Puerto Rico

Last updated by OCRM: 2007 Report

2. Approximate coastal watershed area

National: 364,000 square miles or 232,960,000 acres

Source: NOAA Special Projects Office (using Coastal Assessment Framework)

Coverage: Contiguous coastal states excluding AK

Last updated by OCRM: 2007 Report

3. Percent change in population of coastal counties (1990-2000)

National: 10.9% (From 110,495,951 people in coastal counties in 1990 to 122,506,267 in 2000)

Northeast: 7.1% West Coast: 12.6% Mid-Atlantic: 8.9% Alaska: 14.9% Great Lakes: 4.0%

Gulf of Mexico: 18.0% Islands and Territories: 6.7%

Source: U.S. Census Bureau

Coverage: All coastal states and territories

Last updated by OCRM: 2007 Report (using 1990 and 2000 data)

4. Current estimated population in coastal counties (2007)

National: 120,856,797 estimated people

Geographic Area	Estimated population
WA	4,443,491
OR	1,466,026
CA	25,177,459
West Coast	31,086,976
TX	5,960,925
LA	1,933,591
MS	345,890
AL	576,175
FL Counties	7,794,628
Gulf Coast	16,611,209

FL Counties	10,456,615
GA	591,268
SC	1,148,696
NC	931,242
Southeast	13,127,821
VA	4,626,967
MD	3,135,148
DE	864,764
NJ	7,806,882
PA counties	2,625,177
Mid-Atlantic	19,058,938
CT	2,172,035
MA	4,855,948
ME	982,846
NH	418,124
NY Counties	13,850,044
RI	1,057,832
Northeast	23,336,829
MI	4,850,520
MN	246,726
ОН	2,679,464
PA counties	279,092
WI	2,043,182
NY Counties	2,554,001
Great Lakes	12,652,985
Alaska	576,627
Hawaii	1,283,388
Puerto Rico	2,697,911
American Samoa	57,663
Guam	173,456
Northern Mariana Islands	84,546
USVI	108,448
Islands and Territories	4,405,412

Source: U.S. Census Bureau

Coverage: All coastal states and territories

Last updated by OCRM: 2008 Report (using 2007 data)

5. Proportion of national population in coastal counties (2000)

National: 43.5% (122,506,267 people living in coastal counties in 2000 out of 281,421,906 in U.S.)

Northeast: 8.1% West Coast: 10.5% Mid-Atlantic: 6.8% Alaska: 0.4% Southeast: 4.2% Great Lakes: 6.9%

Gulf of Mexico: 5.3% Islands and Territories: 1.5%

Source: U.S. Census Bureau

Coverage: All coastal states and territories

Last updated by OCRM: 2007 Report (using 2000 data)

6. Population density in coastal counties (2000)

National: 145 people/sq. mile

Northeast: 813 people/sq. mile West Coast: 401 people/sq. mile

Mid-Atlantic: 799 people/sq. mile Alaska: 1 person/sq. mile

Southeast: 297 people/sq. mile Great Lakes: 277 people/sq. mile

Gulf of Mexico: 212 people/sq. mile Islands and Territories: 464 people/sq. mile

Source: U.S. Census Bureau

Coverage: All coastal states and territories

Last updated by OCRM: 2007 Report (using 2000 data)

7. Percent change in value of coastal tourism and recreation

National: 4.62%

Northeast: 4.11% West Coast: 4.14% Mid-Atlantic: 3.98% Alaska: 3.89% Great Lakes: 0.51%

Gulf of Mexico: 0.05% Islands and Territories: 7.55% (Hawaii only)

Source: National Ocean Economics Program Coverage: All coastal states; no territories

Last updated by OCRM: 2007 Report (using 2004 data)

8. Percent of national employment attributable to coastal counties

National: 66.52% (88,213,760 wage and salary jobs in coastal counties out of 132,604,980 occupational employees in U.S.)

Geographic Area	Contribution to National Employment
WA	2.14%
OR	1.27%
CA	11.47%
West Coast	14.88%
TX	7.40%
LA	1.36%
MS	0.81%
AL	1.42%
FL Counties	1.78%
Gulf Coast	12.76%
FL Counties	2.58%
GA	2.97%
SC	1.35%
NC	2.94%
Southeast	9.84%
VA	2.70%
MD	1.87%
DE	0.31%
NJ	2.91%
PA counties	0.83%
Mid-Atlantic	8.63%
CT	1.23%
MA	2.38%
ME	0.45%
NH	0.46%
NY Counties	2.76%
RI	0.36%
Northeast	7.63%
MI	3.11%
MN	1.99%
OH	3.97%
PA counties	0.10%
WI	2.05%
NY Counties	0.86%
Great Lakes	12.08%
Alaska	0.23%
Hawaii	0.47%

Source: Bureau of Labor Statistics, Occupational Employment Statistics (OES) Program for total national occupational employment; National Ocean Economics Program for state employment. Coverage: All coastal states; no territories

Last updated by OCRM: 2008 Report (using 2006 data)

9. Percent of employment within coastal counties dependent on coastal and ocean resources

National: 4.2% (2,323,903 jobs out of 54,927,906 total jobs in coastal counties)

Northeast: 4.1% West Coast: 3.7% Mid-Atlantic: 3.1% Alaska: 14.9% Great Lakes: 2.8%

Gulf of Mexico: 6.3% Islands and Territories: 16.8% (Hawaii only)

Source: National Ocean Economics Program Coverage: All coastal states; no territories

Last updated by OCRM: 2007 Report (using 2004 data)

10. Number of businesses in coastal counties dependent on coastal and ocean resources

National: 125,010 businesses

Northeast: 29,349 businesses
Mid-Atlantic: 14,314 businesses
Southeast: 14,529 businesses
Great Lakes: 12,626 businesses

Gulf of Mexico: 20,281 businesses Islands and Territories: 3,840 businesses (Hawaii only)

Source: National Ocean Economics Program Coverage: All coastal states; no territories

Last updated by OCRM: 2007 Report (using 2004 data)

11. Percent of national economy attributable to coastal counties

National: 67.66% (8,927,685,822,909 dollars out of 13,194,700,000,000 dollars)

Geographic Area	Contribution to National Economy
WA	2.22%
OR	1.15%
CA	13.09%
West Coast	16.46%
TX	8.08%
LA	1.46%
MS	0.64%
AL	1.22%
FL Counties	1.59%
Gulf Coast	12.99%
FL Counties	2.67%
GA	2.88%
SC	1.13%
NC	2.84%
Southeast	9.51%

N/A	2.000/
VA	2.80%
MD	1.95%
DE	0.44%
NJ	3.43%
PA counties	0.88%
Mid-Atlantic	9.51%
CT	1.55%
MA	2.56%
ME	0.36%
NH	0.43%
NY Counties	2.51%
RI	0.35%
Northeast	7.74%
MI	2.89%
MN	1.85%
OH	3.50%
PA counties	0.07%
WI	1.72%
NY Counties	0.66%
Great Lakes	10.69%
Alaska	0.31%
Hawaii	0.44%

Source: Bureau of Economic Analysis for national gross domestic product; National Ocean

Economics Program for state gross domestic products.

Coverage: All coastal states; no territories

Last updated by OCRM: 2008 Report (using 2006 data)

12. Number of invasive species identified in coastal watersheds

National: 888

Northeast: 175 West Coast: 283 Mid-Atlantic: 197 Alaska: 10 Southeast: 127 Great Lakes: 233

Gulf of Mexico: 54 Islands and Territories²: 269 (Hawaii), 289 (all others)

Source: U.S. Geological Survey; IUCN Coverage: All coastal states and territories

Last updated by OCRM: 2007 Report (using 2005 data)

² Total for "Island and Territories" is not possible given the different source data.

13. Coastal habitat index

National: Poor

Northeast: Fair to good West Coast: Poor

Southeast: Fair Great Lakes: Fair to poor

Gulf of Mexico: Poor Puerto Rico: N/A

Source: National Coastal Condition Report II

Coverage: Contiguous coastal states excluding Alaska; Puerto Rico

Last updated by OCRM: 2007 Report (using 2004 NCCRII)

14. Water use in coastal counties

National: 174,115 Mgal/d

Northeast: 6,555 Mgal/d (does not include ME and CT; includes NY)

West Coast: 8,538 Mgal/d (does not include OR) Mid-Atlantic: 5,109 Mgal/d (does not include PA)

Southeast: 5,850 Mgal/d (includes FL)

Great Lakes: 23,807 Mgal/d (does not include PA)

Gulf of Mexico: 7,965 Mgal/d (does not include FL or TX)

Alaska: 1,329 Mgal/d

Islands and Territories: 331 Mgal/d (PR only)

Source: U.S. Geological Survey

Coverage: All coastal states, except PA, ME, CT

Last updated by OCRM: 2007 Report (using 2000 data)

15. Water quality index

National: Fair

Northeast: Fair to poor West Coast: Fair Southeast: Fair to good Great Lakes: Fair Gulf of Mexico: Fair to poor Puerto Rico: Fair

Source: National Coastal Condition Report II

Coverage: Contiguous coastal states excluding Alaska; Puerto Rico

Last updated by OCRM: 2007 Report (using 2004 NCCRII)

16. Sediment quality index

National: Fair to poor

Northeast: Poor West Coast: Fair to poor Southeast: Fair to good Great Lakes: Poor Gulf of Mexico: Fair Puerto Rico: Poor

Source: National Coastal Condition Report II

Coverage: Contiguous coastal states excluding Alaska; Puerto Rico

Last updated by OCRM: 2007 Report (using 2004 NCCRII)

17. Benthic index

National: Fair to poor

Northeast: Poor West Coast: Fair

Southeast: Fair Great Lakes: Fair to poor

Gulf of Mexico: Fair to poor Puerto Rico: N/A

Source: National Coastal Condition Report II

Coverage: Contiguous coastal states excluding Alaska; Puerto Rico

Last updated by OCRM: 2007 Report (using 2004 NCCRII)

18. Proportion of Federal Disaster Declarations occurring in coastal areas

National **2007**: 33/63 National **2006**: 34/52 National **2005**: 30/48

Source: Federal Emergency Management Agency (FEMA)

Coverage: All coastal states and territories

Last updated by OCRM: 2008 Report (using 2007 data)

19. Proportion of coastal Federal Disaster Declarations that are directly related to coastal hazards

National 2007: 1/33 National 2006: 2/34 National 2005: 15/30

Source: Federal Emergency Management Agency (FEMA)

Coverage: All coastal states and territories

Last updated by OCRM: 2008 Report (using 2007 data)

20. Total estimated cost of all billion-dollar weather disasters related to coastal hazards

National 2007: \$0 **National 2006:** \$0

National 2005: Over \$110 billion

Source: NOAA National Climatic Data Center (NCDC)

Coverage: All coastal states and territories

Last updated by OCRM: 2008 Report (using 2007 data)

21. Percent land cover change in coastal areas

National:

National Land Cover Change (sq. mi.), 1996-2001				
Land Cover Category	% Change			
High Intensity Developed	5.25%			
Medium Intensity Developed	4.55%			
Low Intensity Developed	4.31%			
Developed Open Space	4.02%			
Cultivated	0.29%			
Grassland	0.86%			
Deciduous Forest	-0.47%			
Evergreen Forest	-3.45%			
Mixed Forest	-2.17%			
Scrub/Shrub	4.92%			
Woody Wetland	-1.14%			
Emergent Wetland	1.97%			
Unconsolidated Shore	2.86%			
Barren Land	6.32%			
Open Water	-0.08%			
Perennial Ice/Snow	N/A			

West Coast Regional Land Cover Change (sq. mi.), 1996-2001						
Land Cover Category	CA	OR	WA	Regional Total		
High Intensity Developed	2.20%	5.66%	2.59%	2.69%		
Medium Intensity Developed	3.09%	5.79%	2.74%	3.28%		
Low Intensity Developed	2.34%	3.37%	3.28%	2.77%		
Developed Open Space	2.22%	1.29%	3.49%	2.36%		
Cultivated	1.14%	1.26%	1.69%	1.25%		
Grassland	-0.65%	-14.17%	-2.64%	-2.43%		
Deciduous Forest	1.23%	-5.05%	1.16%	-0.29%		
Evergreen Forest	-0.77%	-1.82%	-1.42%	-1.39%		
Mixed Forest	0.55%	-2.55%	-5.67%	-1.71%		
Scrub/Shrub	-0.21%	14.52%	10.40%	3.60%		
Woody Wetland	-0.26%	0.00%	-0.02%	-0.06%		
Emergent Wetland	0.08%	0.01%	-0.02%	0.02%		
Unconsolidated Shore	1.36%	0.12%	0.09%	0.34%		
Barren Land	0.44%	40.03%	-5.58%	1.74%		
Open Water	-0.11%	-0.01%	0.00%	-0.08%		
Perennial Ice/Snow		N/A				

Gulf Coast Regional Land Cover Change (sq. mi.), 2001-2005					
Land Cover Category	TX	LA	MS	AL	Regional Total
High Intensity Developed	11.99%	22.45%	7.00%	-4.95%	12.69%
Medium Intensity Developed	4.38%	-0.21%	5.61%	-1.87%	3.30%
Low Intensity Developed	0.09%	-1.36%	0.34%	-2.93%	-0.70%
Developed Open Space	0.23%	3.97%	1.72%	-1.73%	0.54%
Cultivated	0.37%	-1.24%	-7.91%	0.29%	-0.40%
Grassland	1.67%	6.60%	46.89%	36.33%	8.00%
Deciduous Forest	-2.55%	-1.60%	-0.41%	-10.13%	-2.65%
Evergreen Forest	-3.26%	-5.56%	-6.92%	-17.81%	-8.88%
Mixed Forest	-4.71%	-7.55%	-5.22%	-11.75%	-7.64%
Scrub/Shrub	0.21%	21.56%	14.13%	33.64%	6.45%
Woody Wetland	-1.92%	-2.05%	-3.72%	-5.79%	-3.07%
Emergent Wetland	-0.26%	-1.32%	1.64%	-1.70%	-0.96%
Unconsolidated Shore	0.61%	2.62%	5.66%	6.50%	1.29%
Barren Land	14.36%	-6.95%	-11.84%	-27.14%	1.67%
Open Water	1.51%	0.67%	0.70%	-0.10%	0.89%
Perennial Ice/Snow			N/A		

Southeast Regional Land Cover Change (sq. mi.), 1996-2001					
Land Cover Category	FL	GA	SC	NC	Regional Total
High Intensity Developed	16.62%	1.79%	2.57%	1.01%	12.54%
Medium Intensity Developed	9.55%	3.11%	5.90%	3.23%	8.58%
Low Intensity Developed	10.09%	5.67%	5.93%	3.20%	7.84%
Developed Open Space	6.41%	4.47%	12.05%	5.66%	6.79%
Cultivated	-0.94%	2.51%	2.13%	1.09%	0.90%
Grassland	-1.23%	5.36%	-0.22%	14.66%	3.21%
Deciduous Forest	6.28%	9.47%	23.14%	10.76%	11.02%
Evergreen Forest	-3.27%	-3.01%	-9.11%	-9.31%	-5.23%
Mixed Forest	3.71%	6.88%	15.58%	8.30%	7.67%
Scrub/Shrub	-0.84%	-4.98%	17.00%	14.05%	3.84%
Woody Wetland	-1.67%	-3.29%	-3.86%	-2.76%	-2.57%
Emergent Wetland	3.02%	12.98%	8.36%	6.60%	5.29%
Unconsolidated Shore	-2.84%	-1.38%	-13.21%	-1.64%	-3.97%
Barren Land	15.62%	29.64%	9.76%	2.28%	14.34%
Open Water	-0.19%	-0.24%	0.72%	0.19%	-0.01%
Perennial Ice/Snow			N/A		

Mid-Atlantic Regional Land Cover Change (sq. mi.), 2001-2005						
State						
Land Cover Category	VA	MD	DE	NJ	Regional Total	
High Intensity Developed	13.55%	9.50%	13.77%	4.43%	7.97%	
Medium Intensity Developed	5.42%	2.52%	3.79%	2.00%	3.02%	
Low Intensity Developed	2.72%	0.70%	3.61%	1.01%	1.54%	
Developed Open Space	-0.32%	-0.57%	0.61%	-0.07%	-0.27%	
Cultivated	0.92%	0.00%	-0.77%	-0.74%	0.14%	
Grassland	116.97%	27.75%	57.04%	9.30%	72.59%	
Deciduous Forest	-1.97%	-1.13%	-1.34%	-0.77%	-1.46%	
Evergreen Forest	-3.35%	0.62%	1.10%	1.18%	-2.31%	
Mixed Forest	-2.95%	-1.45%	-2.21%	-0.64%	-2.00%	
Scrub/Shrub	-4.18%	-3.46%	-1.53%	-3.58%	-3.87%	
Woody Wetland	-1.37%	-1.27%	-1.34%	-0.44%	-1.11%	
Emergent Wetland	-1.48%	0.05%	-0.83%	-0.77%	-0.75%	
Unconsolidated Shore	-26.07%	-18.92%	-13.93%	-1.99%	-18.83%	
Barren Land	57.38%	45.30%	39.98%	9.45%	33.44%	
Open Water	0.32%	0.13%	0.18%	0.05%	0.19%	
Perennial Ice/Snow	N/A					

Northeast Regional Land Cover Change (sq. mi.), 2001-2005							
		State					
Land Cover Category	СТ	MA	ME	NH	NY	RI	Regional Total
High Intensity Developed	4.89%	4.09%	1.14%	3.18%	1.87%	2.98%	2.75%
Medium Intensity Developed	1.78%	0.73%	0.58%	0.95%	0.39%	0.21%	0.69%
Low Intensity Developed	-0.01%	-0.10%	0.07%	0.08%	0.02%	-0.17%	-0.01%
Developed Open Space	0.57%	0.91%	0.38%	1.37%	1.00%	0.69%	0.86%
Cultivated	0.46%	0.36%	0.21%	1.01%	0.05%	1.27%	0.14%
Grassland	6.09%	2.86%	50.99%	89.08%	2.04%	-3.46%	20.19%
Deciduous Forest	-0.38%	-0.28%	-1.89%	-1.53%	-0.07%	-0.32%	-0.57%
Evergreen Forest	-0.40%	-0.53%	-0.91%	-0.67%	-0.26%	-0.18%	-0.65%
Mixed Forest	-0.39%	-0.45%	-1.37%	-0.72%	-0.18%	-0.35%	-0.95%
Scrub/Shrub	-0.39%	0.93%	6.52%	13.21%	-0.46%	0.50%	4.01%
Woody Wetland	-0.20%	-0.28%	-0.29%	0.18%	-0.03%	-0.12%	-0.14%
Emergent Wetland	2.31%	1.29%	0.09%	-1.51%	1.57%	0.52%	0.80%
Unconsolidated Shore	2.68%	0.02%	-0.02%	-0.75%	2.89%	-0.25%	0.45%
Barren Land	9.42%	4.07%	-0.93%	3.79%	7.10%	-0.72%	2.85%
Open Water	-0.14%	-0.10%	-0.02%	-0.12%	-0.18%	-0.02%	-0.14%
Perennial Ice/Snow				N/A			

Great Lakes Regional Land Cover Change (sq. mi.), 1996-2001							
		State					
Land Cover Category	MI	MN	ОН	PA	WI	Regional Total	
High Intensity						Total	
Developed	5.41%	6.76%	5.33%	3.19%	8.02%	5.22%	
Medium Intensity							
Developed	5.35%	5.68%	4.08%	2.71%	5.54%	4.61%	
Low Intensity							
Developed	4.20%	4.72%	1.69%	1.41%	2.59%	2.85%	
Developed Open							
Space	7.14%	5.20%	2.35%	1.58%	-0.81%	3.89%	
Cultivated	-0.48%	0.06%	-0.14%	-0.05%	-0.34%	-0.29%	
Grassland	-4.17%	-12.29%	-3.39%	11.44%	0.06%	-3.21%	
Deciduous Forest	-0.36%	0.73%	-0.96%	-1.17%	0.82%	-0.23%	
Evergreen Forest	-2.13%	-1.90%	0.16%	-0.60%	0.47%	-1.56%	
Mixed Forest	-0.03%	-0.38%	0.49%	-0.50%	0.64%	-0.12%	
Scrub/Shrub	7.14%	1.29%	0.32%	9.90%	-17.77%	2.04%	
Woody Wetland	0.09%	0.26%	-0.42%	0.02%	0.03%	0.10%	
Emergent Wetland	3.57%	-1.09%	-1.56%	0.52%	1.48%	1.39%	
Unconsolidated					_	_	
Shore	6.10%	34.92%	10.64%	4.40%	16.36%	7.92%	
Barren Land	22.25%	2.29%	-12.12%	12.59%	-6.77%	14.75%	
Open Water	-0.18%	-0.20%	0.02%	-0.44%	-0.68%	-0.22%	
Perennial Ice/Snow	N/A						

Source: NOAA Coastal Services Center, Coastal Change Analysis Program (C-CAP) Coverage: 1996, 2001, and in some cases 2005 data available for contiguous United States excluding Alaska.

Last updated by OCRM: 2008 (for available C-CAP data)