

# Coastal GEMS

## *Virginia's Coastal Geospatial and Educational Mapping System*

Shep Moon  
Coastal Planner

Nick Meade  
Coastal GIS Coordinator

Virginia Coastal Zone Management Program

Back Bay Forum  
March 18, 2009



**Virginia Coastal Zone**  
MANAGEMENT PROGRAM



# The Coastal Zone Management Act provides for...

- Management of the nation's coastal resources and balances economic development with environmental conservation
- Grant funds from NOAA to coastal states
- Federal consistency with state coastal laws
- Flexibility: centralized or networked state programs





**SUBAQUEOUS  
LANDS**  
Marine  
Resources  
Commission

**DUNES**  
MRC &  
Local Wetlands  
Boards



**WETLANDS**  
MRC, DEQ &  
Local  
Wetlands  
Boards



**SHORELINE  
SANITATION**  
Dept. Health



**Virginia Coastal Zone**  
MANAGEMENT PROGRAM

**FISHERIES**  
DGIF & MRC



**AIR  
POLLUTION**  
Dept.  
Environmental  
Quality



**DEQ  
LEAD AGENCY**

**NONPOINT SOURCE  
WATER POLLUTION**  
DCR & Local Governments



**POINT  
SOURCE  
WATER  
POLLUTION**  
DEQ



**COASTAL  
LANDS  
MANAGEMENT**  
Dept.  
Conservation &  
Recreation



# Virginia's Coastal Zone



# Executive Order

Signed by each new Governor to direct state agencies to attain

## 10 Goals

### Coastal Resource Protection

- 1) To protect and restore coastal habitats and species.
- 2) To restore and maintain the quality of all coastal waters.
- 3) To protect air quality.
- 4) To reduce or prevent losses of coastal habitat, life, and property.



## Coastal Resource Sustainable Use

- 5) To provide for sustainable wild fisheries and aquaculture.
- 6) To promote sustainable ecotourism and to increase and improve public access.
- 7) To promote renewable energy production and provide for appropriate extraction of energy and mineral resources.



# Coastal Management Coordination

8. To ensure sustainable development and support access for water-dependent development through effective coordination of governmental planning processes.
9. To avoid and minimize coastal resource use conflicts through research, planning, and a forum for coordination among agencies, interest groups, and citizens.
10. To promote informed decision-making by maximizing availability of up-to-date information, technical advice, and scientific data.



30 Member Interagency Coastal Policy Team

# What Resources Does VA CZM Have to Accomplish Its Goals?

- About \$2.6 million/yr federal funds from NOAA
- \$0 state funds from the General Assembly
- 6 staff positions



# What Kinds of Things Does VA CZM Do With the Money?

## 1) Core Program Implementation

- Fund staff salaries for implementation of core policies
- Continue ongoing activities such as mapping underwater grasses and providing technical assistance grants to coastal Planning District Commissions



## 2) Acquisition and Construction Projects

- Buy land
- Build public access
- Restore habitat



### 3) Fund “Focal Areas”

1999-2001

Oyster Heritage Program

\$1.5 Million

2002 -2007

Seaside Heritage Program

\$2.2 Million



# A New Focal Area:

2008 - 2010

Sustainable Community Planning  
~ \$1.2 Million

2 topics:

- Blue-green infrastructure planning and protection
- Climate change adaptation

## 4) Development of New Enforceable Policies

- Improved Shellfish Aquaculture Policy
- Improved Shoreline Management & Living Shorelines
- *Improved decision-making through comprehensive maps & inventories (Coastal GEMS!)*
- Improved Dunes/Beaches Policy



In 2001, CZM Partners Wish...

“Create a Vision for  
Virginia’s Coastal Zone”



# THE BIG PROBLEM....

About 2/3 of Virginia's residents live in the eastern 1/4 of the state...

...and coastal population density is expected to increase!



# How do we link *local land use policy* with *state water use policy* and help the public understand it all ?



# Green Infrastructure Maps

What are the most important features on the land that we need to protect?



# Blue Infrastructure Maps

What are the most important features in the water that we need to protect?



# Big Picture?

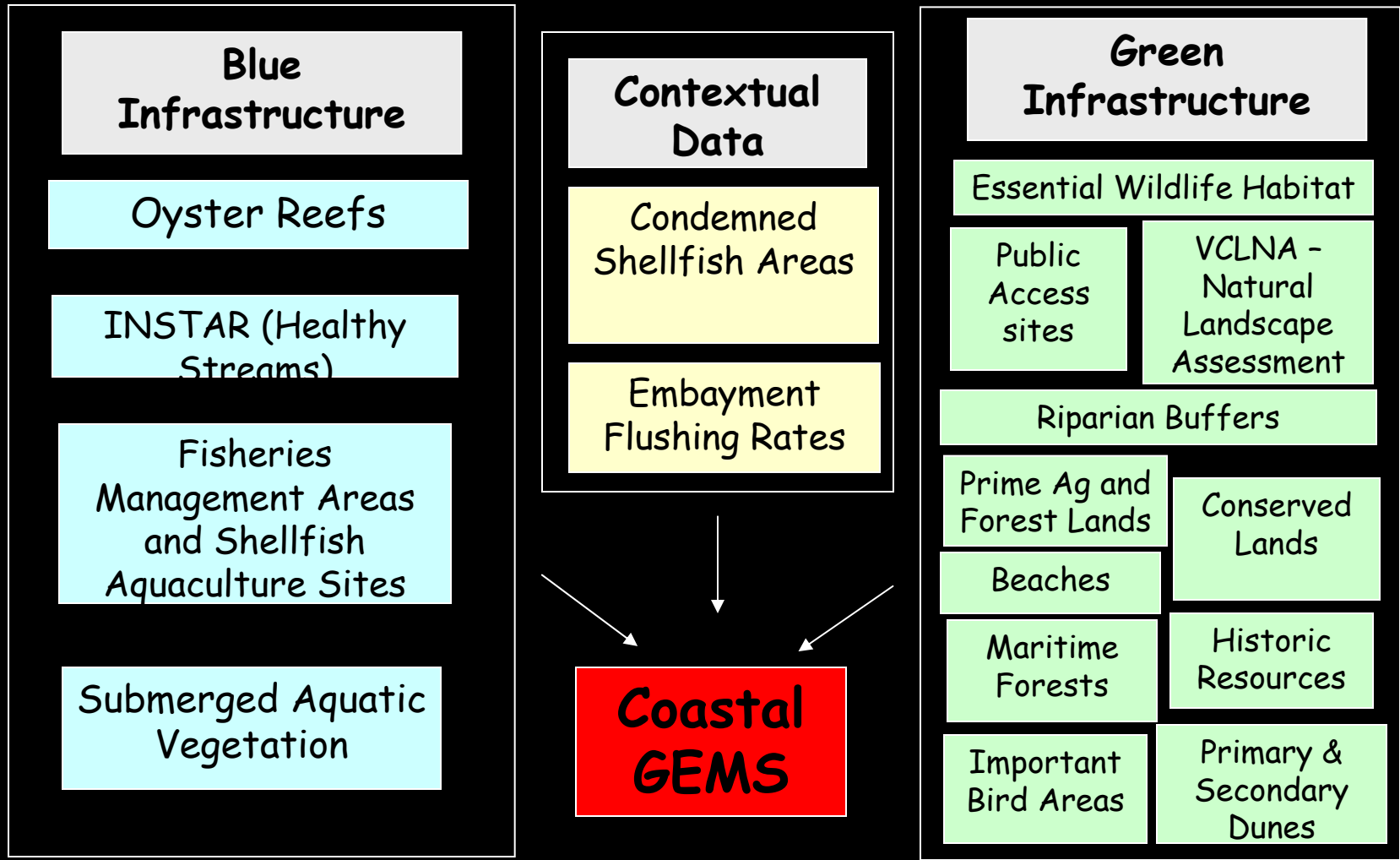
Better access to information

=

Better planning and decision-making

# Big Picture

Need for an integrative tool to facilitate information sharing in the coastal zone



# Coastal GEMS

(Geospatial & Educational Mapping System)

Launched February 2007

Connects users to a **growing inventory** of

**water** and **land** based natural resource data (**blue-green** infrastructure)

- conservation planning tools
- examples of good coastal planning decisions

Promotes **community involvement** in coastal **land** and **water** conservation decisions through

- fact sheets (coastal resource values, laws and policies)
- direct links to agencies responsible for current data



# Ways to Use Coastal GEMS



State Agencies,  
Localities,  
Citizens Advocacy  
Groups:

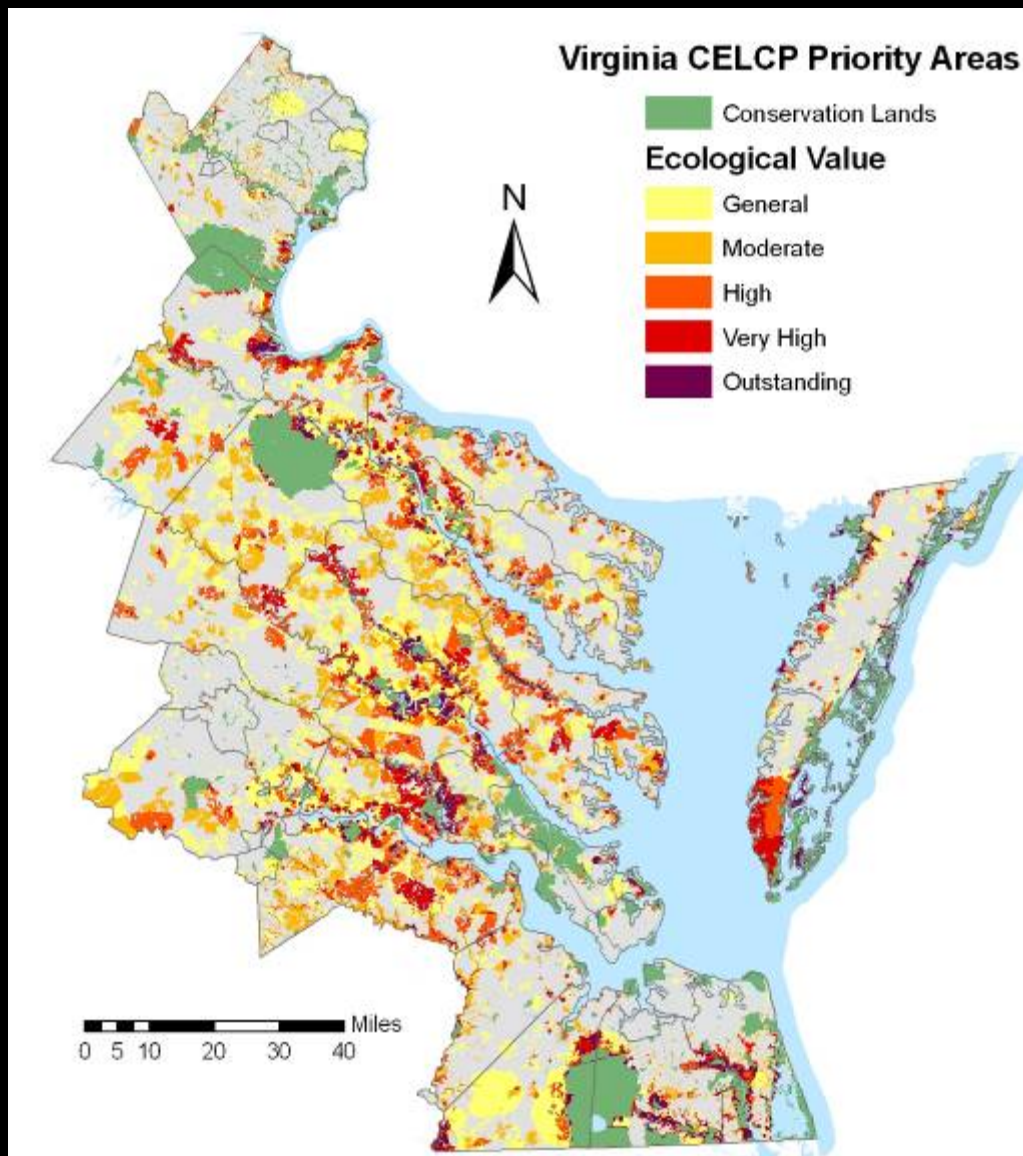
- comprehensive planning
- local zoning and ordinance analysis
- environmental/permit review
- coastal zone wide planning

# Ways to Use Coastal GEMS

Example: Prioritize lands for acquisition

Overlay various GEMS layers from various agencies:

- DCR
- DGIF
- TNC
- CZM
- Audubon IBA's
- Proximity to blue infrastructure



Virginia DEQ - Virginia Coastal Zone Management Program - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://www.deq.virginia.gov/coastal/>

Commonwealth of Virginia | Governor [Skip to Content](#) | [Web Policy](#) | [Contact Us](#)

**DEQ**  
Virginia Department of  
Environmental Quality

Virginia DEQ Home > Virginia Coastal Zone Management Program

**Main Menu**

- Home
- Description & boundary
- Staff & policy team
- Laws & policies
- Goals & accomplishments
- Funds, initiatives, and projects
- Grantee guidance and information
- Coastal GEMS - Geospatial data**
- Publications & presentations
- Links & online resources
- Help your coast

**Virginia Coastal Zone**  
MANAGEMENT PROGRAM

Protecting, restoring, and strengthening our coastal ecosystems and economy

[Executive Order](#) | [Coastal zone map](#) | [Projects](#) | [Public Notices](#) | [CZM contacts](#)

**New Five Year Strategy**  
Virginia CZM is developing strategies to address high priority needs in areas such as integrated coastal planning, use conflict resolution and managing shorelines to better prepare for coastal hazards, improve habitat and water quality...  
[Coastal Needs Assessment and Strategies](#) (Focus is on [Living Shorelines](#), [Coastal GEMS](#), Aquaculture Management, [Special Area Management Plans](#))

**Virginia's Seaside**  
Virginia CZM is restoring and protecting a global treasure. Shorebirds, [seagrasses](#) and shellfish are already increasing as a result, as are ecotourism and aquaculture opportunities...

**Land Acquisition**  
Virginia CZM acquires and protects sensitive coastal habitat. New federal funding may allow even more area to be protected...

**Local Coordination**  
Virginia CZM partners with eight coastal

start | Inbox - Microsoft Out... | 2007 Mar 7 PMM GEM... | Virginia DEQ - Virginia... | 5:51 PM

[www.deq.virginia.gov/coastal/](http://www.deq.virginia.gov/coastal/)

# Questions?



**Nick Meade**

**(804) 698-4297**

**[Nick.Meade@deq.virginia.gov](mailto:Nick.Meade@deq.virginia.gov)**