Communicating scientific information to a broad audience

Bill Dennison

Chesapeake Bay – Guanabara Bay Partnership
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What is the Integration and Application Network?

IAN’s aim is to enable better communication to empower change.
Solving, not just studying environmental problems

**STUDY**
- Dispassionate
- Embrace complexity
- Publish & funding via peer review
- Getting it right

**SOLVE**
-Passionate
- Simplify
- Publish & funding via stakeholders
- Getting it done

ian.umces.edu
IAN is making a global impact
IAN’s is creating a global symbol language

236 Countries

2604 symbols
IAN has three main focus areas

Develop Science Communication products

Environmental Report Cards

Science Communication Training
Several basic steps are involved in producing report cards

Step 1: Create conceptual framework
Step 2: Choose indicators
Step 3: Define thresholds
Step 4: Calculate scorecard
Step 5: Communicate results
Step 1: Create conceptual framework

Ecosystem Health Indicators

- Turbidity due to resuspension of fine grained sediments
- Seagrass loss resulting from high turbidity from resuspension and catchment inputs
- Sewage nitrogen plumes (ascertained using del15N)
- Water column nutrient concentrations (total phosphorus used as representative value; highly correlated with nutrients)
- Phytoplankton concentration measured as chlorophyll a concentration
- *Lyngbya*, a toxic cyanobacteria, grows on seageasses

Key Features

- Oceanic flushing
- Humic rich runoff
- Photosynthetically active radiation
- Light attenuation

- Fine grained sediments
- Coarse grained sediments

Riverine
- Catchment

Estuarine
- Turbid
- Sewage impacted

Marine
- Fluvial
- Soil disturbance

Oceanic
Step 2: Choose indicators that convey meaningful ecological information and can be measured reliably.
Step 3: Define thresholds and reporting regions to establish environmental benchmarks and spatial details

Dissolved oxygen (mg·L⁻¹)

Binary

- Score = 100%

Linear

- Score = 50%
Step 4: Calculate scorecard for dissemination to decision-makers, resource managers, and interested public

Chesapeake Bay report card
Step 5: Communicate results effectively through mass media with supporting material in technical or web-based venues
Chesapeake Bay report card & trajectories

Bay Health Index 2012

Bay Health Trends 2012

- Upper Bay
- Upper Western Shore
- Patapsco and Back Rivers
- Patuxent River
- Choptank River
- Mid Bay
- Lower Eastern Shore (Tangier)
- Lower Eastern Shore (MD)
- Lower Western Shore
- James River
- York River
- Elizabeth River
- Rappahannock River

Legend:
- Very poor
- Very good
- Insufficient data
- Significantly Declining
- Slightly Declining
- No change
- Slightly Improving
- Significantly Improving

Miles

0 10 20
BayStat tracks health, pressures and solutions

Current Health

Chesapeake Bay Habitat Heal

Causes of the Problems

Maryland

Nitrogen

- Farms
- Wastewater Treatment Plants
- Stormwater Runoff
- Point Sources
- Nonpoint Sources

Data source: DNR, Phase 1.2 Water Quality Model.

2012-2013 nitrogen reductions are planned for the following sources (preliminary estimate):

- Agriculture
- Stormwater
- Point Source

Maryland Cover Creps

Areas of harvested and unharvested cover crops certified each year

2013 Progress will be available January 2014.

Data Source: MD

Last Update: October 3, 2013