

Unique National Data Set: NMDMP Example of Marine Debris Standard

Christine Ribic

USGS Wisconsin Cooperative Wildlife Research Unit

University of Wisconsin-Madison

Points to Address

- Standardization of marine debris data
- Development and use of standard
- Lessons learned

What is NMDMP?

NMDMP = National Marine Debris Monitoring Program

Joint NOAA and EPA program to understand the **chronic** problem of marine debris on land and in the ocean

Chronic versus Acute

Chronic: background/baseline levels

Understanding problem: *a priori* population-level questions, statistical sampling design paramount

Acute: one-time incident (extreme event)

Understanding problem: documenting the incident and clean-up (if done) (SCAT)

Chronic debris versus Acute debris

Distinction between the two is very important

but

Data standards necessary in both cases

NMDMP

Did levels of total debris on beaches change at least 30% on US coastal shorelines over a 5-year period?
(Type I error rate of 0.10 and power of 0.84)

NOAA: ocean-based debris

EPA: land-based debris

National and Regional Levels

Data collected by volunteer groups organized by The Ocean Conservancy

NMDMP Data Standards (National-level)

Functionally-based groups (indicator items):

Ocean-based

Land-based

General-source

Total = sum of indicators

NMDMP Data Standards Development

(1) List of individual items

U.S. Coastal Clean-up, National Park Service surveys, other published literature

(2) Survey of experts

Put items into functional groups

(3) Discussion by workshop participants

national versus regional items, practicality, health/hazardous waste issues

NMDMP Data Standards

Indicators

Ocean based

(14)

all gloves
plastic sheets
light bulbs/tubes
oil/gas cans
pipe-thread protectors
nets, traps/pots
floats/buoys
fishing line, rope
light sticks
salt bags/fish baskets
cruise line logo items

Land-based

(9)

metal beverage cans
1 qt motor oil cans
balloons
six-pack rings
straws
condoms, tampon applicators
syringes, cotton swabs

General-Source

(9)

plastic bags/bottles
straps

NMDMP Implementation

Standardized training manuals developed

Volunteers collected reliable data

Result: Unique data set on marine debris on beaches

NMDMP Successes

- Multiple planning meetings
- Specific questions/statistical design
- Method for establishing indicators (data, expert opinion)
- Volunteers can collect quality data

Issues/Lessons Learned

Administrative

- Cyclical interest in marine debris
- Drift in mission

Creating Data Standards

- Database management
- Periodic review of standards

Summary

- **Standardization of marine debris data**

Part of a well-designed program

- **Development and use of standard**

Why drives What to collect

Data/Expert opinion worked well

- **Lessons learned**

Think the entire project through; periodic review very important