

November 8, 2002

### **Form of Regional Network** *Toxics and Contaminants*

**Structure** – A single body will develop, guide, and oversee the network. This steering committee will include representatives of the key partner groups. They will develop a process for decision-making, strategic planning, and implementation.

**Type of Organization** – The network organization will not have any regulatory or legislative mandate or authority.

**Geography** – The network will encompass the northeast North American Atlantic bioregion, its boundaries and activities defined by environmental parameters rather than political boundaries.

**Governance** – The network will operate as a partnership whose member groups agree to comply voluntarily with goals and guidance (e.g., monitoring protocols) developed by the network.

**Operating Budget** – It is anticipated that the operating budget will be modest and focused on developing the network infrastructure (e.g. hiring part-time staff). Much of the work would rely on “in kind” support from the partner organizations.

**Funding Sources** – Participating groups will be asked to contribute start-up funding. The network partners will actively seek grants and contracts from public and private sources to maintain the network. This is likely to include working towards the dedication of annual funding from participating government agencies.

**Partners** – The network will include US and Canadian federal, state, and provincial partners as well as academic and non-profit monitoring groups.

**Staffing** – The intention is to hire a new part-time dedicated staff person with expertise in data management and web systems. This staff person will work with existing staff in the federal/state and non-profit partner programs to create and maintain the infrastructure of the network.

### **FUNCTION** *Toxics and Contaminants*

**Scale** The network will include coastal watersheds, estuaries, near coastal and offshore environments.

November 8, 2002

**Scope** – The sources of monitoring data will include federal, provincial, state, and local government entities as well as non-government monitoring groups.

**Program Design and Implementation** – For key monitoring parameters and analytes, standardized protocols or performance based protocols will be developed and approved the steering body to ensure the quality of the resulting data. The participating groups will agree to promote and disseminate these protocols, working towards a process that documents the data and ensures its high quality.

**Data Management** – Data management will include development of a network web page. Web links will be created to the monitoring databases of the participating groups. Members will, to the extent possible, provide spatially georeferenced data. Network participants will also agree to document new monitoring data using a standardized metadata format and to make the metadata available through their individual web sites.

**Data Synthesis and Communication** - The partners will undertake assessments for specific issues of mutual interest at selected scales. The results will be communicated to the network members through the web and by other means.

**Links to Research** - The network (partners) will identify research questions arising from the regional monitoring data (e.g., through the data synthesis and analysis process). The network will prioritize these needs and assistance will be sought for the academic community, and other partners in meeting these needs.

**Services Provided** - The network (partners) will coordinate and administer assessment projects requested and funded by the participating groups.

***Toxics and Contaminants - Supplemental Table***

Toxics/Contaminants Monitoring Parameter	Toxics/Contaminants Monitoring Programs
Organic chemicals, e.g., PAHs (polycyclic aromatic hydrocarbons), PCBs (polychlorinated biphenyls), linear alkyl benzene, in: Water	National Pollutant Discharge Elimination System (NPDES) permit monitoring, Maine and other state surface water assessment programs, National Water Quality Assessment Program (NAWQA)
Sediments	National Coastal Assessment (NCA), NOAA Status and Trends (NSandT), Casco Bay Estuary Project (CBEP), Massachusetts Water Resources Authority, Long Island Sound Study (LI SS), Army Corps Disposal Area Monitoring System (DAMOS), USGS, NAWQA, Interim Offshore Monitoring Program (Navy, IOMP)
Air	CBEP, MBP
Organisms (e.g., fish, shellfish)	NCA, NSandT (Mussel Watch), Gulfwatch, Massachusetts Bays Program (MBP), Buzzards Bay Program (BBP), CBEP, MWRA, Mass. Ecosystem Assessment Program (MEAP), US Fish & Wildlife Service (USF&WS), LI SS, state toxics assessment programs, DAMOS, NAWQA, IOMP, National Benthic Survey Project (NBSP), Specimen Banking Project (SBP), Rotating Intensive Basin Studies (New York DEC, RI TBS), Toxics Substance Monitoring Program - Striped Bass (NYDEC, TSMP), Toxics in Seabirds (Canada), Environmental Quality Databank (Canada, EQBD)

November 8, 2002


<p>Trace metals (e.g., mercury, lead, copper, cadmium, nickel, zinc, tributyl tin chromium, arsenic, silver) in:</p> <p>Water</p> <p>Sediments</p> <p>Air</p> <p>Organisms (e.g., fish, shellfish)</p>	<p>NPDES permit monitoring, Maine and other state surface water assessment programs, NAWQA</p> <p>NCA, NSand T, CBEP, MWRA, BB, MBP, LI SS, DAMOS, USGS, MEAP, I OMP, NAWQA, Living Resources Monitoring Program (UNH), RI BS</p> <p>CBEP, Mercury Deposition Network (MDN), National Ambient Air Monitoring Program, LI SS, Acadia National Park, Campobello National Park, Cape Cod national Seashore, Maine and Massachusetts I MPROVE, University of New Hampshire, University of Connecticut</p> <p>NCA, NSand T (Mussel Watch), Gulfwatch, NAWQA, NSBP, I OMP, Quanacontaug Pond (URI ), CBEP, LI SS, MWRA, state toxics assessment, DAMOS</p>
<p>Pesticides (e.g., dieldrin, DDT, chlordane, toxaphene ) in:</p> <p>Water</p> <p>Sediments</p> <p>Organisms (e.g., fish, shellfish)</p>	<p>NPDES permit monitoring, Maine, CT, RI , MA, VT surface water assessment programs</p> <p>NCA, NSandT, CBEP, MWRA, MBP, LI SS, I OMP</p> <p>NCA, NSandT (Mussel Watch), Gulfwatch, CBEP, MWRA, USF&amp;W, LI SS, state toxics assessment programs, I OMP</p>

November 8, 2002

Dioxins/Furans in: Water	NPDES permit monitoring, Maine SWAT
Sediments	CBEP, LI SS, IOMP, Maine SWAT, IOMP
Organisms (e.g., fish and shellfish)	CBEP, state toxics assessment programs, LI SS
Bacterial Indicators in: Water	NPDES permit monitoring, State shellfish sanitation programs, state and local water quality monitoring programs, state and local beach monitoring programs, Cooperative Bacterial Monitoring (New Brunswick), Maritime Shellfish Sanitation Program
Sediments	MWRA ( <i>Clostridium perfringens</i> , viruses), USGS, ( <i>Clostridium perfringens</i> , NSandT
Shellfish	State shellfish sanitation programs, RI BS
Sediment toxicity	NCA, MBP, LI SS, DAMOS
Ambient water toxicity	LI SS, RI BS

## Integrated Monitoring Network in 2005

### Pathogens and toxic contamination option<sup>1</sup>

Functions of Network	Simplicity 				Sophistication	
Scale	Tidal and subtidal	Near-shore & inshore	Coastal		Watersheds and Blue Water/Ocean	
Scope/Reach	State & federal marine monitoring programs	Government and volunteer	Government, volunteer and academic programs		All monitoring data	
Program design & implementation	Evaluate based on established protocols	Apply standardized protocols selectively	Amend programs to meet regional needs		Standardized protocols and regional needs	
Data management	Rely on current mechanisms	Web links to databases with spatial references & metadata			Distributed & linked (e.g., archival and retrieval)	
Data synthesis and communication	Existing level of program activity	Embayment assessments by selected issue	Integrated multi-factor regional assessments		Biogeographical trends and assessment w/active marketing/dissemination	
Links to research	Spontaneous - no formal connection	Identifies priorities linked to monitoring	Active proponent for regional research		Supports and conducts research (e.g., cause & effect)	
Services provided @ fee/consulting	Local scale assessments	Gulfwide assessments	Integrated multivariate assessments		Development of plans, strategies, BMPs, etc.	

<sup>1</sup> In a 1999 survey of New England managers by the Coastal States Organization they identified pathogens and toxic contamination as the third most important coastal management issue. Examples of issues raised include pathogen contamination, contaminated seafood, pesticides, sediment contamination, oil spills, beach closures, atmospheric deposition, heavy metals, etc. See [http://ciceet.unh.edu/index\\_flash.html](http://ciceet.unh.edu/index_flash.html) -- technology and information management report.

November 21, 2002

Form of Network	Simplicity			Sophistication
Structure	A single entity (e.g., steering committee)	Jurisdictional boards (e.g., state/provincial)		Tiered state/provincial board engaging all stakeholders & committees (e.g., science, TAC, etc.)
Type of organization	Association w/no legal standing	US/Canadian non-profit		Regional public agency w/federal sanctions & mandates
Geography	Substate	State/Provincial	Regional by political subdivision	Biogeographical
Governance/decision-making	Advisory - optional participation	Voluntary compliance	Consensus	Mandatory
Operating budget	Existing and in-kind	Seed funding	Incremental growth	Major ongoing initiative
Funding sources	Current array of public and private sources	New grants and contracts (e.g., government, foundations,)	Dedicated program resources	Dedicated public and private funds, philanthropy
Partners	State, provincial & federal agencies (US & Canada)	Volunteer Programs	Regional organizations (e.g., RARGOM, GoMOOS)	Government, NGOs, businesses, academia, regional organizations
Staffing	Existing staff dedicate time to network	New part-time staff		Ongoing full-time professional staff of Network