PRIMER ON NATURAL ASSET MANAGEMENT for FCM’s 2018 Sustainable Communities Conference

This primer will:

• Introduce you to Municipal Natural Asset Management
• Explain why it is important to consider natural assets as part of your overall asset management strategy
• Help you chart your community’s course towards implementing Municipal Natural Asset Management
### Identification & Assessment of Natural Assets Phase

**STEP 1**
Develop an asset management policy, bylaw or financial statement directing the municipality to consider natural assets.

**STEP 2**
Identify key natural assets and the services they provide.

**STEP 3**
Determine the condition of natural assets in your community and do an initial valuation.

### Planning Phase

**STEP 4**
Determine which assets are highest priority through a basic risk identification analysis.

**STEP 5**
Determine what scenarios you want to understand.

**STEP 6**
Start managing your natural assets.

### Implementation Phase

Policy directives are a first step. Over time, expect and enable other steps:
- Development cost charge bylaws that include natural assets;
- References to natural assets in asset management policies;
- Financial plans that cover natural asset maintenance;
- O&M plans that reflect natural asset goals, team approaches, and;
- Notes in your annual financial statements that reflect natural asset value.

### Identification & Assessment of Natural Assets Phase

<table>
<thead>
<tr>
<th>Natural asset</th>
<th>Services</th>
<th>Hazards</th>
<th>Impact</th>
<th>Likelihood</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquifer</td>
<td>Water provision</td>
<td>Leak from gas storage tank</td>
<td>High</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Waterways</td>
<td>Protection of business and residential districts from storms</td>
<td>Storms</td>
<td>High</td>
<td>Low</td>
<td>Medium-high</td>
</tr>
<tr>
<td>Forests</td>
<td>Stormwater absorption, conveyance, and flood protection</td>
<td>Development and overseer</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Coastal areas</td>
<td>Stormwater absorption, conveyance, and flood protection</td>
<td>Development and overseer</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Urban areas</td>
<td>Stormwater absorption, conveyance, and flood protection</td>
<td>Development and overseer</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Terrestrial</td>
<td>Stormwater absorption, conveyance, and flood protection</td>
<td>Development and overseer</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
</tr>
</tbody>
</table>

### Natural asset services

- **Provisioning Services**
  - Water supply
  - Water purification
  - Flood protection
  - Climate regulation
  - Soil quality & stability

- **Regulating Services**
  - Water supply
  - Water purification
  - Flood protection
  - Climate regulation
  - Soil quality & stability

- **Cultural Services**
  - Landscape and neighbourhood amenity

### Implementation Phase

- **STEP 4**
  - Consider using a simple assessment such as the one below developed by the Town of Gibsons to determine which assets should be highest priorities. Using the following indicative formula and your own judgement about asset importance, Risk = Impact * Likelihood.

- **STEP 5**
  - Asset service levels may differ with climate change, different management strategies, in-fill, land acquisition or other variables. Considering different scenarios will help you set management objectives.

- **STEP 6**
  - Operations and maintenance plans are key to municipal natural asset management and can include monitoring, maintenance, acquisition, restoration.

- **STEP 7**
  - Plans should focus on service delivery from priority natural assets and be supported by multi department teams.

- **STEP 8**
  - Funding for plan implementation must be set aside in financial plans.

- **STEP 9**
  - Natural asset service value can be reflected in ‘notes’ sections of financial statements.

- **STEP 10**
  - Other steps will emerge from the process.
What are municipal natural assets?
• “Natural assets” are the stock of natural resources and ecosystems that yield a flow of benefits to people.
• “Municipal natural assets” are the stock of natural resources or ecosystems that are relied upon, managed, or could be managed by a municipality, regional district, or other form of local government for the sustainable provision of one or more municipal services.
• “Green infrastructure” is a broad category that includes natural assets and designed and engineered elements that have been created to mimic natural functions and processes in the service of human interests, as depicted in the diagram.

Why manage municipal natural assets?
• Natural assets such as aquifers, forests, streams, riparian areas and foreshores can provide municipalities with vital services equivalent to those from many engineered assets.
• Emerging evidence shows that identifying, measuring and managing natural assets as part of an overall asset management strategy can save capital and operating costs and reduce risk.
• Local governments are finding that natural assets are resilient and adaptable to climate change. With effective monitoring, maintenance and rehabilitation now, natural assets can provide service and add value for decades in ways that many engineered assets cannot match.
• In some communities, development cost charges may be able to support the rehabilitation of natural assets.
• There are external funding sources to support the maintenance/rehabilitation of municipal natural assets.
• Some natural assets serve multiple purposes. For example, parks may reduce flooding risks as well as provide recreational benefits and can be managed to maximize several objectives.

Who can help me?
MNAl aims to make municipal natural asset management mainstream across Canada. Reach the MNAl team at info.mnai@gmail.com for more information. The Convening Partners of MNAl are: Brooke and Associates; David Suzuki Foundation; Smart Prosperity Institute; and, Town of Gibsons.

Other resources
• The MNAl Facebook page is updated with tools and news on projects and details of new projects coming online. https://www.facebook.com/municipalnaturalassets/
• Read communities’ experiences here: http://bit.ly/2kT1n7z
• Learn how the Town of Gibsons got started http://www.gibsons.ca/eco-assets
• Stormwater management model noted in Step 5: http://bit.ly/2gWYAUs