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<tr>
<th>Prog. No.</th>
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<th>Purpose</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Alberta</td>
<td>AESA Soil Quality Benchmark Program</td>
<td>Alberta Environmentally Sustainable Agriculture Program-Alberta Agriculture, Food and Rural Development</td>
<td>1998</td>
<td></td>
<td>- provide baseline soil information, evaluate landscape effects on soil quality, provide data for modeling and monitor changes in soil quality over time</td>
</tr>
<tr>
<td>2</td>
<td>Alberta</td>
<td>Long-Term Soil and Vegetation Plots Established in the Oil Sands Region</td>
<td>Syncrude Canada/ Suncor Energy/ Albian Sands/ Cumulative Environmental Management Association</td>
<td>2000</td>
<td></td>
<td>- initial purpose was to determine forestry success and meet equivalent productivity with reclaimed sites - now more focus on the importance of biodiversity and the value of understory</td>
</tr>
<tr>
<td>3</td>
<td>Canada</td>
<td>Soil Quality Benchmark Sites</td>
<td>Agriculture and Agri-Food Canada</td>
<td>1992</td>
<td></td>
<td>- assess soil quality change, provide validation for models, provide well documented sites for future integrated research programs and evaluate sustainability</td>
</tr>
<tr>
<td>4</td>
<td>United States of America</td>
<td>Forest Health Monitoring Program (1990-1999) / Forest Inventory and Analysis Program (1999-present)</td>
<td>USDA Forest Service / Environmental Protection Agency / USDA Bureau of Land Management / USDA Natural Resource Conservation Service</td>
<td>1990</td>
<td></td>
<td>- determine the status, changes and trends in indicators of forest health on an annual basis - identify important forest health and sustainability issues, select appropriate data and develop approaches to address the issues</td>
</tr>
<tr>
<td>5</td>
<td>Albania</td>
<td>Map of Soils of Albania</td>
<td>Soil Science Institute of Tirana</td>
<td></td>
<td></td>
<td>- originated as part of the Forest Damage Monitoring System to research causes and effects of forest diebacks</td>
</tr>
<tr>
<td>6</td>
<td>Austria</td>
<td>Forest Soil Monitoring System</td>
<td>Federal Forest Research Centre</td>
<td>1987</td>
<td></td>
<td>- background monitoring of atmosphere, precipitation, surface water, soil and vegetation</td>
</tr>
<tr>
<td>7</td>
<td>Bulgaria</td>
<td>Background Monitoring</td>
<td>Bulgarian Executive Environmental Agency</td>
<td></td>
<td></td>
<td>- background monitoring of atmosphere, precipitation, surface water, soil and vegetation</td>
</tr>
<tr>
<td>8</td>
<td>Bulgaria</td>
<td>National Environment Monitoring System</td>
<td>Bulgarian Executive Environmental Agency</td>
<td></td>
<td></td>
<td>- background monitoring of atmosphere, precipitation, surface water, soil and vegetation</td>
</tr>
<tr>
<td>9</td>
<td>Czech Republic</td>
<td>Basal Soil Monitoring Scheme</td>
<td>Ministry of Agriculture / Ministry of Environment</td>
<td>1992/ 1993</td>
<td></td>
<td>- characterize the status of soils, observe changes in soil as a result of human activity, test new analytical methods and develop new strategies/standards of soil protection and prevention</td>
</tr>
<tr>
<td>10</td>
<td>Denmark</td>
<td>Heavy Metal Monitoring Programme</td>
<td>Danish Environmental Protection Agency</td>
<td>1993</td>
<td></td>
<td>- statistically safe detection of a 2% increase in the mean concentration of heavy metals in soils</td>
</tr>
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<td>12</td>
<td>England and Wales</td>
<td>Annual Representative Soil Sampling Scheme</td>
<td>Ministry of Agriculture, Fisheries and Food / Agricultural Development and Advisory Service</td>
<td>1969</td>
<td>- provides an estimate of the status of agricultural soils in relation to changes in agricultural practices</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Finland</td>
<td>National Forest Inventory</td>
<td>Finnish Forest Research Institute</td>
<td>1921</td>
<td>- to produce objective and up to date information on forest resources, forest health conditions and their development for national and regional decision making</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Finland</td>
<td>Soil Quality Monitoring Program</td>
<td></td>
<td>1992</td>
<td></td>
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<tr>
<td>15</td>
<td>France</td>
<td>Soil Quality Observatory</td>
<td>Ministry of Environment / Ministry of Agriculture / French Environmental Institute / National Institute of Agronomic Research</td>
<td>1986</td>
<td>- assess the present situation of soils, monitor their changes and identify the causes to improve on and implement a soil preservation policy - provide data for modeling and increase soil quality awareness</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>France</td>
<td>RENECOFOR</td>
<td>National Forest Office</td>
<td>1992</td>
<td>- help detect long-term changes is a wide variety of ecosystems and determine the cause of those changes</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Germany</td>
<td>Permanent Soil Monitoring Sites</td>
<td></td>
<td>1986</td>
<td>- to investigate how soils change due to anthropogenic involvement</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Germany</td>
<td>Air Measuring Network</td>
<td>Federal Environmental Agency</td>
<td></td>
<td>- registration of extensive emission loads caused by air pollutions, including depositions - determine influence of air pollution on soil quality</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Hungary</td>
<td>Information and Monitoring System of Soil Conservation (TIM) - National Basic Monitoring System</td>
<td>Ministry of Agriculture / Plant Protection and Soil Conservation Service</td>
<td>1992</td>
<td>- to provide information for scientifically based planning and implementation of sustainable land use and rational soil management</td>
<td></td>
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<td></td>
<td><strong>Hungary</strong> Information and Monitoring System of Soil Conservation (TIM) - Forestry Observation Points</td>
<td>Ministry of Agriculture / Plant Protection and Soil Conservation Service</td>
<td>1992</td>
<td></td>
<td>- to provide information for scientifically based planning and implementation of sustainable land use and rational soil management</td>
</tr>
<tr>
<td>22</td>
<td></td>
<td><strong>Hungary</strong> Information and Monitoring System of Soil Conservation (TIM) - Special Areas Monitoring</td>
<td>Ministry of Agriculture / Plant Protection and Soil Conservation Service</td>
<td>1992</td>
<td></td>
<td>- to provide information for scientifically based planning and implementation of sustainable land use and rational soil management</td>
</tr>
<tr>
<td>23</td>
<td></td>
<td><strong>Hungary</strong> Soil Fertility Monitoring System</td>
<td></td>
<td>1978</td>
<td>1986</td>
<td>- monitor changes in soil parameters and make recommendations on nutrient supply to farmers</td>
</tr>
<tr>
<td>24</td>
<td></td>
<td><strong>Hungary</strong> Microelement Survey</td>
<td></td>
<td>1987</td>
<td>1990</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
<td><strong>Latvia</strong> National Agricultural Land Monitoring Programme</td>
<td>State Land Service</td>
<td>1992</td>
<td>2000/2001</td>
<td>- supervise process and trends of soil quality changes, gather information, make interpretations and report regularly to the public and decision makers - long-term observations of anthropogenic impacts on agricultural land</td>
</tr>
<tr>
<td>26</td>
<td></td>
<td><strong>Lithuania</strong> National Environmental Monitoring Programme - Field Soil Monitoring</td>
<td>Agrochemical Research Centre of the Lithuanian Institute of Agriculture / Joint Research Centre of the Ministry of the Environment</td>
<td>1993</td>
<td></td>
<td>Soil monitoring component: to analyze and explain the development of qualitative and quantitative processes, to forecast and control anticipated processes and to identify the means for prevention of loss of soil stability</td>
</tr>
<tr>
<td>27</td>
<td></td>
<td><strong>Lithuania</strong> National Environmental Monitoring Programme - Forest Soil Monitoring</td>
<td>Lithuanian Forestry Institute</td>
<td>1992</td>
<td></td>
<td>Soil monitoring component: to analyze and explain the development of qualitative and quantitative processes, to forecast and control anticipated processes and to identify the means for prevention of loss of soil stability</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td><strong>Lithuania</strong> National Environmental Monitoring Programme - Integrated Monitoring of Agricultural Ecosystems</td>
<td>Lithuanian Water Management Institute / Institute of Ecology / Agrochemical Research Centre of Lithuanian Agricultural Institute / Institute of Botany / Institute of Geography</td>
<td></td>
<td></td>
<td>- to determine, assess and forecast the status of ecosystems subjected to intense agricultural activities and its changes in time with consideration of the type of farming practices</td>
</tr>
<tr>
<td>29</td>
<td></td>
<td><strong>Netherlands</strong> National Soil Quality Monitoring Network</td>
<td>National Institute of Public Health and Environmental Protection (RIVM)</td>
<td>1993</td>
<td></td>
<td>- establish changes in soil quality over time in soil and upper groundwater - determine actual quality of soil and upper groundwater with a focus on the rural environment</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td><strong>Netherlands</strong> Regional Soil Quality Monitoring Networks</td>
<td>individual provinces of the Netherlands</td>
<td>1991</td>
<td></td>
<td>- provide insight into geo-chemical soil quality trends on which to base new provincial policies</td>
</tr>
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<td>31</td>
<td>Netherlands</td>
<td>Soil Quality and Shallow Ground Water Monitoring</td>
<td>National Institute of Public Health and Environmental Protection (RIVM)</td>
<td>1992</td>
<td></td>
<td>- assess the vulnerability of agricultural soils and ground-water to pollutants such as manure and artificial fertilizers</td>
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<tr>
<td>32</td>
<td>Norway</td>
<td>Agricultural Environmental Monitoring Program</td>
<td>Ministry of Agriculture / Ministry of Environment</td>
<td>1992</td>
<td></td>
<td>- to relate losses of plant nutrients to catchment characteristics and changes in agricultural practices</td>
</tr>
<tr>
<td>33</td>
<td>Poland</td>
<td>National Program of Environment Monitoring</td>
<td>Ministry of Agriculture and Food Economy</td>
<td>1994</td>
<td></td>
<td>- to perform a detailed evaluation of existing resources in order to identify areas of high risk to the food chain</td>
</tr>
<tr>
<td>35</td>
<td>Poland</td>
<td>Programme for Forest Monitoring</td>
<td></td>
<td>1989</td>
<td></td>
<td>- to monitor environmental threats to the forest ecosystem such as atmospheric pollution</td>
</tr>
<tr>
<td>36</td>
<td>Republic of Estonia</td>
<td>Estonian Environmental Monitoring Program - Agricultural Landscape Monitoring</td>
<td>Estonian Environment Information Centre</td>
<td>1996</td>
<td></td>
<td>- monitor long-term and large-scale changes in environment, identify problems which need countermeasures and future research - to define changes in land use and assess the anthropogenic impact on ecological status of soil</td>
</tr>
<tr>
<td>37</td>
<td>Romania</td>
<td>National Integrated Soil Monitoring System</td>
<td>Research Institute for Soil Science and Agrochemistry</td>
<td>1992</td>
<td></td>
<td>- to identify problem areas, causes of problems and possible remedial actions</td>
</tr>
<tr>
<td>38</td>
<td>Slovakia</td>
<td>Slovak Environment Monitoring</td>
<td>Ministry for the Environment / Ministry of Landhusbandry</td>
<td>1993</td>
<td></td>
<td>- reflect the environmental situation and apply measures for environmental improvement</td>
</tr>
<tr>
<td>39</td>
<td>Slovakia</td>
<td>Slovak Environment Monitoring - Soil Monitoring System- Humus</td>
<td>Soil Science and Conservation Research Institute</td>
<td>1993</td>
<td></td>
<td>- to monitor soil contamination and soil properties</td>
</tr>
<tr>
<td>40</td>
<td>Sweden</td>
<td>National Swedish Environmental Monitoring Programme - Integrated Monitoring</td>
<td>Swedish Environmental Protection Agency</td>
<td>1981</td>
<td></td>
<td>- regular and permanent recording of environmental conditions and long-term changes in background regions - to track the flux of pollutants in and between various media</td>
</tr>
<tr>
<td>41</td>
<td>Sweden</td>
<td>National Swedish Environmental Monitoring Programme - National Survey of Forest Soils and Vegetation</td>
<td>Department of Forest Resource Management and Geomatics / Swedish University of Agricultural Sciences</td>
<td>1983</td>
<td></td>
<td>- describe the state of and changes in forest resources of Sweden</td>
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<td>42</td>
<td>Sweden</td>
<td>National Swedish Environmental Monitoring Programme - Agricultural Land Programme Area</td>
<td>Department of Soil Sciences- Swedish University of Agricultural Sciences</td>
<td></td>
<td></td>
<td>- quantify variations in time and space regarding concentrations and transported amounts of nutrients and pesticides in surface and groundwater whose catchment areas are dominated by agriculture</td>
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<tr>
<td>43</td>
<td>Switzerland</td>
<td>Swiss Soil Monitoring Network</td>
<td>Swiss Agency for the Environment, Forests and Landscape / Swiss Federal Office for Agriculture / Swiss Federal Research Station for Agroecology and Agriculture</td>
<td>1985</td>
<td></td>
<td>- scientific validation and evaluation of the success of environmental policy measures aiming long-term conservation of soil fertility</td>
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<td>NEW ZEALAND</td>
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<td>44</td>
<td>New Zealand</td>
<td>Implementing soil quality indicators for land - &quot;500 Soils Project&quot;</td>
<td>Ministry for the Environment Sustainable Management Fund / Landcare Research</td>
<td>1998</td>
<td>2001</td>
<td>- to determine the effects of land use on soil quality and integrate the data from regions into a national overview</td>
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<td>45</td>
<td>United Nations Economic Commission for Europe</td>
<td>UN-ECE ICP Integrated Monitoring of Air Pollution Effects on Ecosystems</td>
<td>UN/ECE Working Group on Effects/ Sweden / ICP IM Programme Centre</td>
<td>1993</td>
<td></td>
<td>- long-term international ecosystem monitoring program to predict the state of and possible medium to long-term changes in natural ecosystems caused by trans-boundary air pollutants</td>
</tr>
<tr>
<td>46</td>
<td>United Nations Economic Commission for Europe</td>
<td>International Co-operative Programme on Assessment and Monitoring of Air Pollution Effects on Forests - ICP Forests Level 1</td>
<td>UN/ECE Working Group on Effects / Task Force of ICP Forests / Programme Coordinating Centre</td>
<td>1986</td>
<td></td>
<td>- monitor the effects of anthropogenic and natural stress factors on the condition and development of forest ecosystems in Europe - contribute to a better understanding of cause-effect relationships in forest ecosystem functioning</td>
</tr>
<tr>
<td>47</td>
<td>United Nations Economic Commission for Europe</td>
<td>International Co-operative Programme on Assessment and Monitoring of Air Pollution Effects on Forests - ICP Forests Level 2</td>
<td>Forest Intensive Monitoring Coordinating Institute</td>
<td>1994</td>
<td></td>
<td>- monitor the effects of anthropogenic and natural stress factors on the condition and development of forest ecosystems in Europe - contribute to a better understanding of cause-effect relationships in forest ecosystem functioning</td>
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<td>48</td>
<td>United Kingdom</td>
<td>Environmental Change Network</td>
<td>Natural Environment Research Council</td>
<td>1994</td>
<td></td>
<td>- detection, interpretation and forecasting of environmental changes resulting from natural and anthropogenic causes</td>
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<tr>
<td>49</td>
<td>International</td>
<td>Terrestrial Ecosystem Monitoring Sites</td>
<td>Global Terrestrial Observing System</td>
<td>1995</td>
<td></td>
<td>- database on terrestrial ecosystem monitoring sites which registers sites and networks carrying out long-term terrestrial monitoring</td>
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<td>50</td>
<td>International</td>
<td>International Long-Term Ecological Research Network</td>
<td>Global Terrestrial Observing System</td>
<td>1993</td>
<td></td>
<td>- promote and encourage long-term ecological research, exchange of data, produce comparable results and facilitate development of other programs</td>
</tr>
<tr>
<td>51</td>
<td>Pan-European</td>
<td>Networking of Long-term Integrated Monitoring in Terrestrial Systems - NoLIMITS</td>
<td>European Network for Research in Global Change</td>
<td>future</td>
<td></td>
<td>- facilitate and co-ordinate the exchange and integration of environmental data between other monitoring networks, further scientific research and implement sustainable development policy</td>
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<tr>
<td>52</td>
<td>Europe</td>
<td>proposed European Soil Monitoring Network (EuroSoilNet)</td>
<td>European Commission Directorate General Joint Research Centre</td>
<td>future</td>
<td></td>
<td>- provide policy relevant information on the major threats to soil in Europe in a harmonized and coherent way</td>
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