# Field Survey on the Maintenance of Nonpoint Pollution Treatment Facilities

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**(a) Purpose of study or research hypothesis**

To inspect the status of maintenance of nonpoint Pollution Treatment Facilities through field surveys and provide fundamental data for establishing a management system.

**(b) Key issue(s) or problem(s) addressed**

Pollutants accumulated in road sediments generated from roads are intensively discharged during rainfall and affect water quality and aquatic ecosystem when discharged into the water system. Due to this problem, non-point pollution treatment facilities are continuously increasing as legal regulations on non-point pollution sources on expressways are strengthened.

**(c) Methodology or approach used**

In this study, a database of 1,505 facilities nationwide was established through GIS analysis, and 780 (51.8%) of the total 1,505 facilities were inspected. These were classified into detention basin, sand filter, infiltration ditch, and vegetation waterway, and apparatus type.

**(d) Results or conclusions derived from the project**

These nonpoint pollution treatment facilities can improve removal efficiency through periodic inspection and maintenance after installation. However, among 459 facilities, 81 sites (17.6%) were blocked from inlet, pre-treatment sediment tank deposits in 122 sites (26.6%) and 153 sites (33.3%) were overgrown with vegetation. Problems with each type of facility were shown as follows. filtration materials of sand filter were blocked (27.1%), infiltration ditch have reduced infiltration performance (27.9%), amount of sediment for detention basin (29.1%), vegetation shortage for vegetation waterway (25.7%), and filter replacement is required for apparatus type facilities (62.2%).

**(e) Implications of the project relevant to congress themes**

Overall, 38.3% of facilities require harvest, 4.1% of facilities need cleaning, 38.8% of facilities need dredging, and 19.2% of facilities require repair. The current maintenance status is not good, and maintenance and system need to be supplemented.

**Keywords** : expressway, nonpoint pollution, detention basin, sand filter, infiltration ditch, vegetation waterway