Northeastern Illinois Planning Commission
400 West Madison • Chicago, Illinois 60606 • 312/454-0400

1990-91 Water Quality Report

Stormwater Quality - Federal Regulations and Local Initiatives

Last year's Water Quality Report described the impending release of stormwater permitting regulations by the U.S. Environmental Protection Agency (USEPA). Those regulations were officially published in the Federal Register and became effective on November 16, 1990. Of most relevance to northeastern Illinois is a requirement to apply for a permit for stormwater discharges associated with industrial activity within one year of the effective date of the regulations. In addition to traditional industrial activities such as refineries and manufacturing operations, the regulations also apply to some common municipal activities such as maintenance and storage facilities and wastewater treatment works. Further, construction activity involving five or more acres of land disturbance also is subject to industrial activity permit requirements. Permit requirements for construction sites include the submittal of proposed measures to control pollutants in stormwater discharges both during construction and after construction operations have been completed.

The other major component of the regulations addresses discharges from municipal separate storm sewer systems. Presently, these regulations apply only to separately sewered municipalities with populations in excess of 100,000 and 250,000. USEPA is required to report back to Congress in 1992 with recommendations for regulations to address smaller municipalities.

In the recent past, there has been an unprecedented level of activity by local governments in northeastern Illinois to begin to address stormwater quality concerns. While this activity may be partly in response to the impending stormwater regulations, there also is a growing recognition that stormwater quality control goes hand in hand with quantity control. For example, efforts to control the 2-year frequency release rate from

Continued on page 8

1990-91 Accomplishments

- Completion of an investigation of the effectiveness of soil erosion and sediment control programs in northeastern Illinois
- Preparation of a revised Model Soil Erosion and Sediment Control Ordinance
- Site selection and design of a detention basin incorporating pollutant removal benefits as a USEPA sediment pollution control demonstration project
- Application of a nonpoint source management planning methodology for Butterfield Creek, including the development of a geographic information system (GIS) representation of the watershed
- Review of county stormwater management plans and ordinances prepared under Public Act 85-905
- Initiation of Phase I and Phase II Clean Lakes Program projects at five Chicago Park District lagoons
- Continuation of Phase I Clean Lakes Projects at McCullom Lake (McHenry County) and Herrick Lake (DuPage County)
- Preparation of design specifications for the final phase of lake restoration activities at the Skokie Lagoons (Cook County)
- Preparation of a report, "Lake Water Quality Assessment—Northeastern Illinois Lakes"
- Coordination of the 1990-91 Volunteer Lake Monitoring Program for 40 lakes in northeastern Illinois
- Assistance as Technical Director to the Special Area Management Plan (SAMP) for the Chain O'Lakes–Fox River.
- Development of evaluation methodologies for the advanced identification (ADID) of high quality wetlands in Lake County
- Co-sponsorship of the Illinois Lake Management Association's Sixth Annual Lake Management Conference
- Organization of a workshop for USEPA entitled "Remote Sensing and GIS Applications to Nonpoint Source Planning"
- Coordination of a fourth national conference for USEPA entitled "Enhancing the States' Lake Management Programs—Monitoring and Lake Impact Assessment"
- Review of 58 Illinois Water Quality Management Plan amendment requests including 37 FPA boundary changes, 7 plant expansions and 14 new discharges. Also reviewed 155 requests for reissuance or modification of NPDES permits.
- Publication of the Commission's "Water Quality Management Plan Amendment Process and Procedures"◊

Investigation of the Effectiveness of Local Soil Erosion and Sediment Control Programs

Erosion and sediment runoff from construction sites can cause a number of problems. Locally, sediment washes onto streets and sidewalks causing nuisances and traffic hazards. Sediment washoff also interferes with stormwater drainage by accumulating in storm sewers and ditches. Sediment causes problems downstream by accumulating in stream channels, floodplains, and wetlands, ultimately contributing to increased flooding.

In recent years there has been an increasing public awareness of problems caused by sediment pollution of Illinois streams and lakes. Statewide, siltation has been identified by the Illinois Environmental Protection Agency (IEPA) as the major cause of pollution resulting in less than full use support for streams and lakes. Siltation impairs essential bottom habitat in waterbodies and may eliminate fish spawning areas. Suspended solids, or turbidity, also cause use impairment such as by adversely affecting aesthetics and eliminating game fish habitat.

> Siltation has been identified by IEPA as the major cause of pollution resulting in less than full use support for streams and lakes.

Uncontrolled urban construction sites, with estimated erosion rates of 20-200 tons per acre per year, are major contributors of sediment. In comparison, agricultural areas in northeastern Illinois generally contribute from 1 to 20 tons per acre per year. Another contributor of sediment is stream bank erosion which is particularly severe during construction activities in or adjacent to channels. Measurements of sediment yields in streams have indicated that developing watersheds contribute from 5 to 200 times as much sediment as compared to stable, urbanized watersheds.

Soil erosion and sediment control measures are required for many construction activities in northeastern Illinois. Many municipalities and counties regulate private development activities via local erosion control regulations and ordinances. Various public construction activities, such as highway projects, also implement erosion and sediment control as required by internal agency guidelines or by Federal permitting agencies. However, there is a growing realization that existing programs intended to control erosion and sediment runoff are often ineffective in meeting program objectives, particularly the protection of downstream water quality.

> In existing ordinances, there appears to be much less emphasis on the need to keep sediment out of downstream receiving waters.

With funding from IEPA under Section 205j of the Clean Water Act, the Northeastern Illinois Planning Commission (NIPC) recently completed an investigation of the effectiveness of local soil erosion and sediment control programs. The completion of this investigation has been assisted by an informal technical advisory committee which includes representatives from a broad array of erosion control perspectives, including developers, landscape architects, municipal engineers and federal, state, and local officials. The investigation included an updated inventory of local governments regarding ordinance adoption, a detailed review of contents of ordinances from a representative sample of local governments, a survey of the same entities regarding ordinance implementation and enforcement, and an evaluation of construction site performance. The highlights of the investigation are presented below.

- Comprehensiveness of Regulations: Substantial areas of the region are currently not regulated by local soil erosion and sediment control requirements. Just 66 percent of the communities responding to inquiries regarding erosion control requirements indicated that they had adopted local regulations or ordinances. While it appears that the percentage of communities with regulations is much higher in the rapidly developing areas, there still remain substantial numbers of construction sites which would receive little or no control.

- Program Objectives: Based on reviews of existing ordinances and a survey of enforcement actions, it is apparent that the primary objective of most existing programs is the prevention of nuisance impacts of sediment runoff, such as deposition in storm sewers, ditches, and roadways. There appears to be much less emphasis on the need to keep sediment out of downstream receiving waters where it has been shown to impair aquatic habitat, water quality, and conveyance capacity.

> Most local regulations do not address specific criteria or designs for erosion and sediment control.

- Permit Applicability: Most local ordinances are significantly more stringent than the existing NIPC model in requiring an erosion and

Continued on page 3

Continued from page 2

sediment control permit for small development sites. However, there is little or no reference in existing regulations to developments in sensitive areas such as stream corridors and areas of steep slope, where even minor construction activities can cause significant environmental damage.

- Erosion Control Plan Requirements: Most of the local regulations do require the submittal of an erosion control plan and include a list of principles which should be addressed in the plan. Almost without exception, however, local regulations do not address specific criteria or designs for erosion and sediment control. For example, there typically is no reference to a minimum construction site size which would require the use of a sediment basin. Instead, almost all local ordinances defer to outside references, such as the "Illinois Procedures and Standards for Urban Soil Erosion and Sedimentation Control," known as the Green Book, for specific criteria.
- Adequacy of Existing Technical Guidance Documents: Most local ordinances reference the Green Book in lieu of providing specific requirements for an erosion control plan or minimum practices. The Green Book is an excellent guidance document, but may not be adequate for design purposes. It does not specify minimum requirements for compliance. IEPA's "Standards and Specifications for Soil Erosion and Sediment Control" is a more detailed document providing design criteria. While this is a very thorough reference, some local experts have questioned the appropriateness of some of its criteria to northeastern Illinois. A third reference, the "Illinois Field Manual for Implementation and Inspection of Erosion and Sediment Control Plans," which was published nearly a year ago by the Association of Illinois Soil and Water Conservation Districts, provides valuable guidance for site inspection and maintenance. However, very few of the local governments surveyed were aware of its availability.
- Adequacy of Maintenance: While most local regulations include some reference to maintenance of installed control practices, there is little specificity regarding maintenance standards. For example, there typically is no reference to maintaining and replacing filtering devices such as straw bales or removing accumulated sediment from sediment basins. Unfortunately, inspection of construction sites by trained experts often indicates inadequate maintenance of installed practices.
- Adequacy of Inspection: Responses to a survey question regarding frequency of inspection varied widely. Some local governments inspected only in response to complaints while others indicated that inspections were conducted on a weekly basis. Based on some of the comments in response to the questionnaire, it is believed that the more frequent inspections are conducted primarily to satisfy some of the more traditional concerns of the building inspector (other than erosion control compliance).

> The Green Book is an excellent guidance document, but may not be adequate for design purposes.

- Program Enforcement: While there is considerable emphasis at the local government level on preventing nuisance conditions, there appears to be relatively little enforcement activity directed at water quality impacts. The vast majority of the local governments surveyed regarding the adequacy of enforcement measures appeared to be comfortable with their existing options, including warnings, stop-work orders and permit revocation. Very few local governments cited water quality impairment as the

Continued on page 8

Report Available on Northeastern Illinois Lakes

During late summer of 1989, 53 lakes in northeastern Illinois were sampled for water quality by the Commission's Natural Resources Department staff. Of these 53 lakes, 19 also were sampled for sediment quality. Following this field work, additional lake assessment data were compiled and updated for these plus 76 other lakes in the region, for inclusion in the Illinois Environmental Protection Agency's 1988-89 Illinois Water Quality Report. Information collected included lake hydrology, ownership/access, designated uses and impairments, recreational facilities, water quality problems, causes and sources of impairment, and lake/watershed management practices.

The purpose of the report, ***Lake Water Quality Assessment Program—Northeastern Illinois Lakes*** is to present this lake assessment, water and sediment information in a concise and easy-to-reference manner for use by lake managers, planners, researchers, and scientists. Copies of the report are available by calling the Natural Resources Department at NIPC.◊

Development of a Nonpoint Source Management Plan for Butterfield Creek

Butterfield Creek drains approximately 25 square miles of mostly suburban land in south Cook County, Illinois. It is typical of many urban streams in northeastern Illinois in that its beneficial uses are substantially degraded and, in particular, it exhibits a low quality fishery. However, unlike many other streams of its size, it receives almost no wastewater, or point source, effluent. Therefore, it can be assumed that existing problems in the creek are due to nonpoint sources, or to factors such as illicit connections to storm sewers.

Another interesting feature of the watershed is the presence of a group known as the Butterfield Creek Steering Committee, which includes representatives from the villages of Richton Park, Matteson, Flossmoor, Olympia Fields, Homewood, Glenwood, and unincorporated Cook County. The committee has been very active over the last several years in addressing stormwater problems and needs, considering quality as well as quantity. Considering all of these factors, the creek has been selected as the subject of a demonstration project for the assessment of nonpoint source impacts. This project is being funded by the U.S. Environmental Protection Agency through the Illinois Environmental Protection Agency under Section 319 of the Clean Water Act.

> Fish surveys at different locations in Butterfield Creek indicate the presence of 6 or fewer species.

The assessment approach followed in this project relies primarily on existing data to address stream use impairment. The study is focusing on impacts to the following potential uses: aquatic life support (e.g., fishing), streamside activities, and body contact recreation (e.g., wading). Next, the causes of use impairment, such as chemical toxicity or bacterial contamination, are to be determined. Once causes are determined, the critical nonpoint sources must be determined. Potential nonpoint sources include runoff from streets and parking lots, erosion from construction sites, and stream channelization. Finally, appropriate best management practices, or BMP's, will be identified to address the critical nonpoint sources.

> Concentrations of such constituents as heavy metals and pesticides at some sites were elevated to highly elevated, implying potential toxic impacts.

Available data on the fish and macroinvertebrate populations in the creek indicate low species diversity and the presence of few, if any, intolerant organisms. For example, fish surveys at different locations in Butterfield Creek indicate the presence of 6 or fewer species while other less impacted streams of a similar size in northeastern Illinois contain 10 to 15 species, including sensitive darters and game fish.

In assessing impacts to aquatic life in the creek, the study first focused on water quality. Historical sampling data indicate the occurrence of standards violations for pollutants such as heavy metals, most frequently during stormwater runoff events. However, based on both toxicity index calculations as well as data from other urban watersheds (in which organisms were exposed directly to concentrated runoff and rarely exhibited adverse effects), it does not appear that the reported concentrations in Butterfield Creek are acutely toxic to fish. It is important to note, however, that there is relatively little information available to assess whether urban runoff causes chronic toxicity effects which could explain degraded biological communities in Butterfield Creek. Also, the existing water quality data base is somewhat limited in that it is based on grab samples which may not reflect the most stressful conditions which might be found in storm events or during nighttime conditions.

The toxicity of Butterfield Creek sediments also was evaluated. Concentrations of such constituents as heavy metals and pesticides at some sites were elevated to highly elevated, implying potential toxic impacts. However, other creeks in northeast Illinois and downstate had equally poor sediment quality yet often had relatively healthy fish and aquatic macroinvertebrate communities.

Physical factors, particularly instream habitat, also were evaluated for their importance in limiting the colonization of more desirable aquatic fauna. Habitat modifications primarily result from such factors as channelization (which has occurred on over 44.5 percent of the stream length) and unstable hydrology, or increased "flashiness" of stream flow (higher maximum flows and lower minimum flows). Altered hydrology, which is typical of urban streams and clearly evidenced in Butterfield Creek, can destabilize stream banks, resulting in a wider, more shallow channel. These actions also tend to reduce the integrity of pools and riffles and varied substrate that are essential for a diverse aquatic community. Other physical factors of concern are increased water

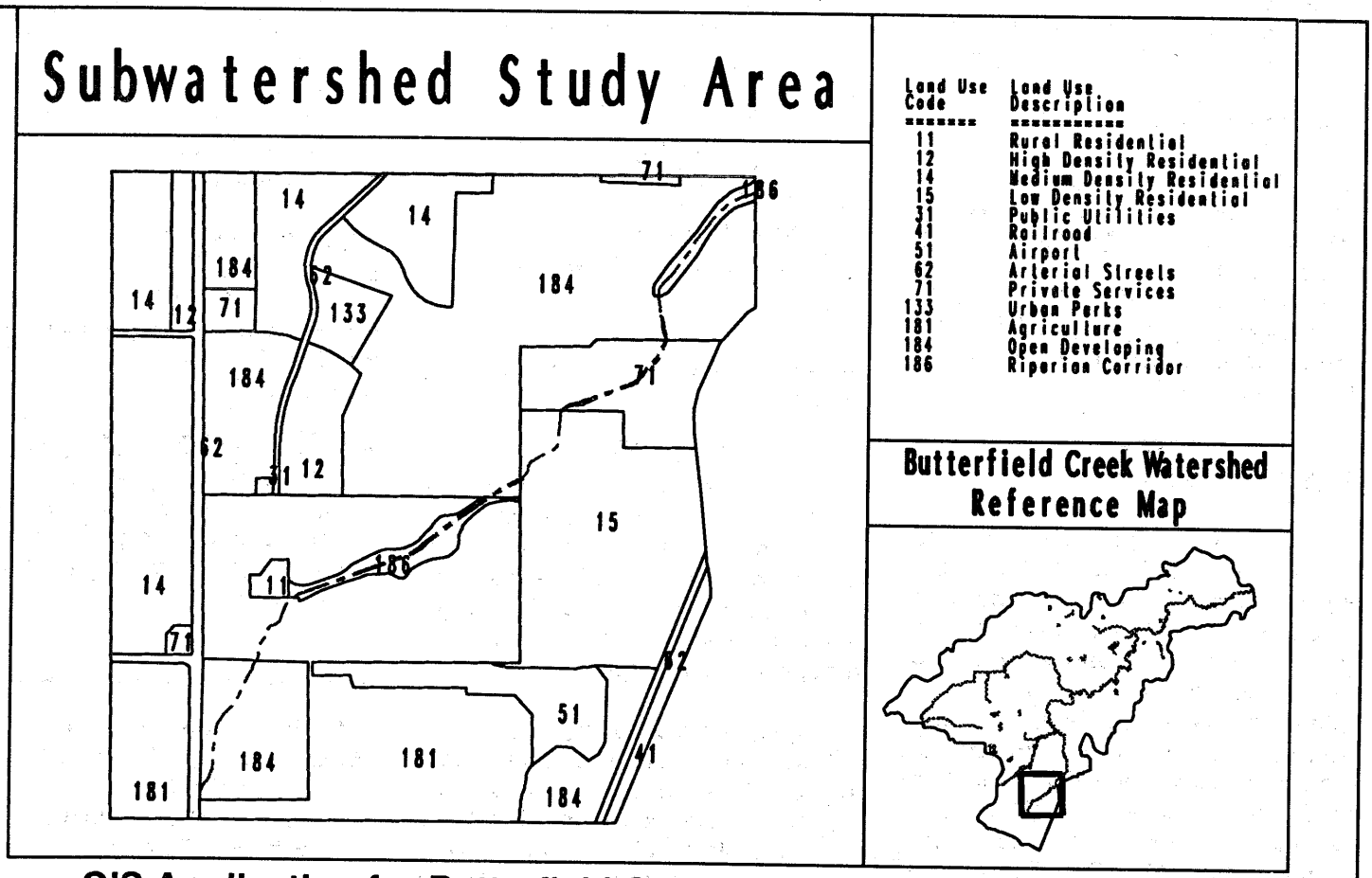
> Altered hydrology, which is typical of urban streams, can destabilize stream banks, resulting in a wider, more shallow channel.

Continued on page 5

Continued from page 4

temperature and sedimentation which result from a combination of factors, including channelization, construction site erosion, and altered hydrology.

Interestingly, the impacts of altered hydrology and toxicity from the water column and sediments have the same primary source. These impacts are functions of the impervious development in the watershed. Higher imperviousness, resulting from streets, parking lots, and rooftops, results in more surface runoff (and its associated contamination) and lower baseflow due to reduced opportunities for infiltration of rainwater. The final task of this nonpoint source management project will be the development of a management strategy for controlling critical nonpoint impacts in Butterfield Creek. While this task is not yet complete, it is clear that one of the principal recommendations will focus on the need to stabilize the hydrology of Butterfield Creek's urban watershed. This need has already begun to be addressed by Butterfield Creek communities by their adoption of a comprehensive stormwater management ordinance and their ongoing evaluation of flood mitigation measures, including the protection of natural storage areas and the possible construction of regional flood storage facilities. A final nonpoint source management plan for Butterfield Creek will be available in the fall of 1991.◊



GIS Application for Butterfield Creek Nonpoint Source Targeting

A geographic information system (GIS) provides a powerful tool to analyze and develop solutions for water resources related problems. A GIS is a computer system containing descriptive information about a geographic location or area. The Natural Resources Department is currently using this technology to target the sources and causes of nonpoint source (NPS) pollution in the Butterfield Creek watershed described previously in this report.

A sample of some basic GIS concepts produced by ARC/INFO GIS software is illustrated above. The map shows areas designated with unique land use codes. Because certain land use categories contribute larger NPS pollutant loadings, a GIS can relate the land use in a watershed to the impact upon streams from NPS pollution. For example, motor oil from automobiles can run off parking lots in commercial areas or fertilizers and weed killers can run off residential lawn areas. These pollutants can eventually enter nearby streams. Using the GIS, pollutant loadings for different pollutants can be assigned to specific land uses and aggregated by subwatershed. In this manner, a GIS enables the user to prioritize areas in a watershed based on their respective potential to pollute nearby streams. Areas that are found to be most significant in contributing to stream use impacts can be "targeted" for remediation.◊

Chain O'Lakes Fox River Special Area Management Plan (SAMP)-Update

Holding public hearings, identifying wetlands, preparing watershed maps, exploring dredging disposal options, and developing recommendations for new boater safety laws were among the activities during the first year of the Special Area Management Plan (SAMP). SAMP was formally established in January 1990 under an intergovernmental agreement signed by Lake and McHenry counties; the Chain O'Lakes Fox River Waterway Management Agency; the Chicago District, U.S. Army Corps of Engineers; and the Illinois Department of Transportation, Division of Water Resources. SAMP's objectives are to protect the environmental resources of the Chain O' Lakes/Fox River, provide for safer boating and recreation in the area, and establish a framework for future land use planning.

SAMP's Origins

The participating agencies formed SAMP in the hope of developing a master plan for the watershed that would provide for environmental preservation, recreational use and commercial development. Under the intergovernmental agreement, a two-year schedule was set to complete the SAMP activities. A steering committee was appointed to oversee SAMP, and two technical subcommittees, Environmental and Land Use/Recreation, also were established. Lake and McHenry counties each agreed to contribute $25,000 for the first year's activities, and the same amount for the second year. The other participating agencies agreed to provide in-kind services.

Public Hearings

The steering committee has held four public hearings. Among the public's concerns were boating safety, noise impacts, the need for dredging, wetlands preservation, erosion and pollution control, and determining the waterway's boating capacity. Opinions were divided on several issues such as boating speed limits, the need for additional marinas, and specific disposal options for dredged materials.

> Among the public's concerns were boating safety, noise impacts and wetlands preservation.

Subcommittee Accomplishments

Much of SAMP's work has been accomplished through the Environmental and Land Use/Recreation subcommittees. These committees are chaired by members of the steering committee but are composed of citizen volunteers and staff from various local, state, and federal agencies.

Environmental Subcommittee.

This subcommittee compiled existing environmental information; prepared watershed maps; identified and evaluated wetlands; and investigated strategies for attacking erosion, water pollution, and sedimentation problems.

Some noteworthy accomplishments:

- The U.S. Environmental Protection Agency (USEPA), a SAMP participant, completed its screening of high quality wetlands in Lake County, finding that most are located on state park lands. Evaluation of the McHenry County wetlands is scheduled for 1991.
- A technical review is underway to study methods for protecting existing wetlands from erosion, as well as opportunities for creation of new wetland habitats.
- Based upon the subcommittee's recommendation, the steering committee authorized pursuit of a grant from the USEPA for a pilot-scale study of sediment erosion and pollution control strategies in the Sequoit Creek watershed. This grant request has been approved by USEPA and work could begin by the fall of 1991.

Land Use and Recreation Subcommittee.

This subcommittee's focus was on boater safety, waterway user conflicts, and cumulative boating impacts. Some specifics:

- Work groups developed recommendations to improve boater safety and noise impacts, and SAMP endorsed amendments to strengthen the Illinois Boat Registration and Safety Act.

> A technical review is underway to study methods for protecting existing wetlands from erosion.

- A report was prepared summarizing all existing state, federal, county and municipal authorities for regulating construction within the area. The research indicated an overlap of authorities. Further action for the SAMP may include endorsing guidelines for shoreline development which could be used by all cooperating agencies. This

Continued on page 8

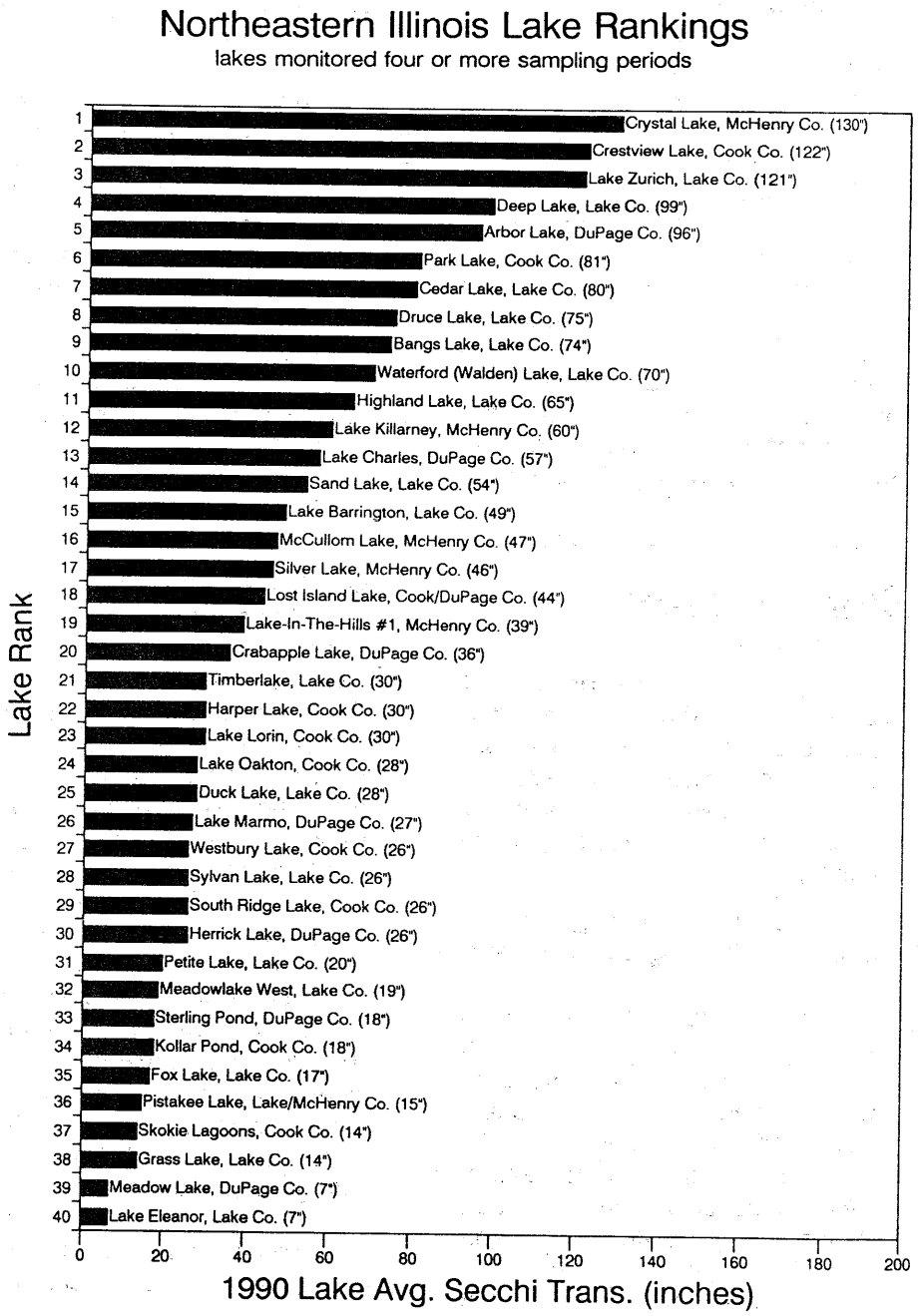
1990 Volunteer Lake Monitoring Program

The 1990 monitoring season marked the 10th year of the Illinois Volunteer Lake Monitoring Program (VLMP). Administered by the Illinois Environmental Protection Agency, the Northeastern Illinois Planning Commission (NIPC) has coordinated the program for lakes within the northeastern Illinois area since 1983.

Through the VLMP, participants are trained to measure water clarity (transparency) with a Secchi disc: an eight-inch diameter, weighted metal plate painted black and white in alternate quadrants, attached to a calibrated rope. The disc is lowered into the water and the depth to which it is visible is recorded. This measurement, called the Secchi disc depth, is used to document changes in the clarity of the lake water. Typically, three sites are monitored in each lake twice per month from May through October. The volunteers also record a series of field observations including water color, suspended sediment and algae, aquatic weeds, and weather conditions. Recent lake management activities or other factors which could impact the lake also are documented.

During 1990, 40 lakes in the region were monitored during four or more of the twelve semi-monthly sampling periods. Additionally, at 17 lakes, volunteers performed more comprehensive water quality sampling. Water samples were collected once per month (May through October) and analyzed for nutrients and suspended solids concentrations.

The figure above presents the ranking of the lakes by average annual transparency. As can be seen, Crystal Lake within the City of Crystal Lake exhibited the greatest average clarity (130 inches) in 1990. The lowest annual clarity (7 inches) was exhibited at both Meadow Lake in the Morton Arboretum (due to substantial algal growth) and at Lake Eleanor in Deerfield (due to substantial levels of suspended sediment).



The VLMP provides valuable information regarding trends in water quality at individual lakes, as well as on a regional scale. It continues to be an important tool for public education and technical assistance for lake residents and managers in the region. Three northeastern Illinois lakes have participated during all 10 years of the VLMP's history: Arbor Lake in DuPage County, and Crystal and Silver Lakes in McHenry County.

More information on the VLMP, and copies of the 1990 VLMP report (as well as previous years' reports) are available from NIPC's Natural Resources Department (312/454-0400, ext. 57).◊

Stormwater Quality

Continued from page 1

detention basins are effective in preventing downstream channel erosion, which is a serious public works concern, and these measures also improve the pollutant removal performance of detention basins.

The most notable local stormwater quality activities in the region are occurring in Lake and DuPage Counties. State authorized stormwater management committees in these counties are in the process of developing stormwater ordinances which will include significant water quality benefits. These ordinances will apply countywide and will include components addressing stormwater drainage best management practices, wetland and stream corridor protection, and soil erosion and sediment control. Several communities in the Butterfield Creek watershed in south Cook County have already adopted similar control requirements. One theme that these programs have in common is a recognition that water resources, and stormwater management in particular, are best managed from a holistic perspective. Inherent in this philosophy is a mandate that new development must be appropriately designed and mitigated to avoid adverse impacts offsite and to prevent the need for expenditures of public funds for expensive remedial programs.◊

Soil Erosion

Continued from page 2

motivation for enforcement proceedings. Alternative enforcement options, such as erosion control performance bonds or contractor certification, are not widely utilized by local governments.

- Availability of Technical Assistance and Training: Based on survey responses and discussions with local experts in soil erosion and sediment control, it is evident that local governments, contractors, and consultants could benefit from additional technical assistance and training in northeastern Illinois. Agencies such as the Soil Conservation Service (SCS) and county Soil and Water Conservation Districts (SWCD) have staff with useful abilities and skills, but their availability is limited by staffing constraints and commitments to other work programs. Local government survey respondents were quite interested in opportunities for additional training, including courses and workshops offered locally.
- Adequacy of Installed Practices: Based on the comments of technical advisors, observations of staff, and limited additional field inspection, it is clear that installed practices often do not conform to required erosion control plans or to accepted technical criteria. Some of the typical problems observed on construction sites include the following: failure to install required sediment barriers and traps prior to site clearing and grading; failure to implement temporary stabilization measures such as seeding and mulching; inappropriate use of straw bales and silt fences in areas of concentrated flow; improper installation of straw bales; inadequate protection of sensitive areas such as steep slopes, stream channels, and wetlands; and inadequate maintenance.

A report of the results of this investigation has been completed. The report includes a list of recommendations which highlights the need for improved opportunities for training of engineers and contractors in effective erosion and sediment control practices. Finally, a revised NIPC Model Soil Erosion and Sediment Control Ordinance has been completed. One of the primary substantive revisions of the ordinance is the addition of explicit language regarding design standards and requirements.◊

SAMP

Continued from page 6

might be followed by the drafting of intergovernmental agreements and model ordinances to clarify and simplify regulations.

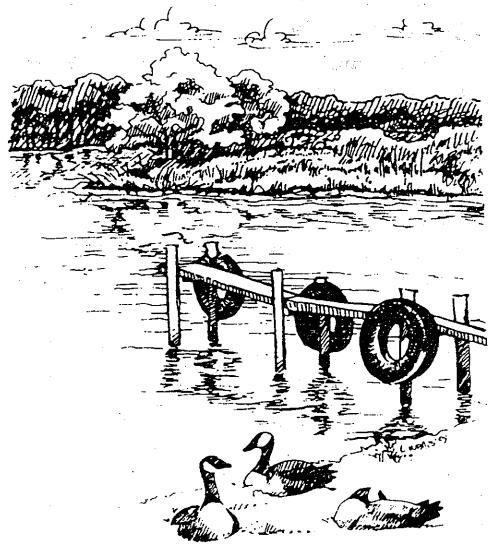
- Preliminary boat activity surveys were taken. The subcommittees concluded that additional resources, such as the Army Corps of Engineers' Environmental Impact Statement, will be required to provide a definitive count of boat use.

Environmental Impact Study

In an action separate from the SAMP but related to it, the U.S. Army Corps of Engineers announced in December 1990 that it was committing $50,000 in the current fiscal year to begin an Environmental Impact Statement (EIS) in the Fox/Chain area. The EIS will concentrate on determining the boat capacity of the waterway and the impacts of issuing permits for additional boat facilities.

Second Year Activities

The second year of the SAMP will run from February 1, 1991, through January 31, 1992. The steering committee's goal for the second year is to complete a master plan with comprehensive recommendations for managing the SAMP area's water, shoreline and watershed resources. The Phase I report contains a detailed list of planned activities in support of the goal. Copies of the report are available from the Commission's Natural Resources Department.◊



Clean Lakes Efforts Continue

Research and implementation projects to restore lake quality are underway throughout the northeastern Illinois region. The Northeastern Illinois Planning Commission (NIPC) currently is conducting technical diagnostic/feasibility studies ("Phase I") under the federal Clean Lakes Program at six lakes: Herrick Lake in DuPage County; McCullom Lake in McHenry County; and Douglas, Garfield, Lincoln Park North, and Washington Park Lagoons in Cook County. The purposes of these studies are to identify the causes and sources of pollution entering each lake, and to develop management plans which will improve lake quality and provide for long-term protection.

Also underway are two lake implementation programs ("Phase II") in Cook County: Skokie Lagoons, owned by the Forest Preserve District of Cook County; and Sherman Park Lagoon, owned by the Chicago Park District. The first stage of the Skokie Lagoons restoration, completed in August 1990, involved diversion of inflowing wastewater and dredging/lake deepening in about half of the lagoons' 226 acres of water. Construction specifications to complete the remainder of the restoration project were released for bidding in June 1991. In addition to dredging, also planned for the Skokie Lagoons are shoreline erosion control, improved recreational access, and wildlife habitat enhancements. The restoration work will be completed by December 1992, after which the lakes will be restocked with game fish.

Sherman Park Lagoon, located on Chicago's south side, will be dredged to remove sediments which have accumulated since the lake was first constructed some 85 years ago. Selected lake areas also will be deepened to enhance aquatic habitat. Shoreline stabilization, revegetation with native aquatic and wetland vegetation, and game fish stocking will be completed by the summer of 1992.◊

Areawide Water Quality Steering Committee (AWQSC) Review Actions

January 1, 1990 to June 30, 1991

Level I

90-WQ-035	Island Lake S.D.	FPA Amendment	Support
90-WQ-036	Village of Lakewood	Establish Lakewood FPA	Support
90-WQ-098	Village of Lakemoor	FPA Amendment	Support
90-WQ-101	Wasco S.D.	FPA Amendment-New Plant	Support

Level II

90-WQ-001	W.W. Grainger Inc.	Land Treatment System	Suspended
90-WQ-002	Village of Algonquin	Plant Expansion	Support
90-WQ-003	Village of Deerfield	FPA Amendment Map Revision	Support
90-WQ-007	Village of Channahon	FPA Amendment	Support
90-WQ-008	City of McHenry	FPA Amendment/Plant Expansion	Support
90-WQ-009	Village of Lake Villa	Facility Plan Amendment	Support
90-WQ-012	City of St. Charles	FPA Amendment	Support
90-WQ-013	Lake in the Hills S.D.	FPA Amendment	Support
90-WQ-014	Lake in the Hills S.D.	FPA Amendment	Support
90-WQ-015	Thorn Creek Basin S.D.	FPA Amendment	Support
90-WQ-017	DuPage Co. Dept. of E.C.	Sludge Composting Facility Plan	Support
90-WQ-018	Village of New Lenox	Plant Expansion	Support
90-WQ-019	Lake in the Hills S.D.	Plant Expansion	Support
90-WQ-020	Village of New Lenox	Plant Rehab	Support
90-WQ-021	Shaeffer and Roland	Land Treatment System	Support
90-WQ-022	Village of Round Lake Beach	FPA Amendment	Support
90-WQ-023	Village of Frankfort	FPA Amendment	Support
90-WQ-024	Impregilo/Ebasco/Losinger	New Discharge	Support
90-WQ-025	Joan Bakely	New Discharge	Support
90-WQ-026	City of Aurora	New Discharge	Support
90-WQ-027	Village of Mundelein	FPA Amendment	Support
90-WQ-028	Village of Carpentersville	FPA Amendment	Support
90-WQ-029	Village of East Dundee	FPA Amendment	Support
90-WQ-031	Village of Lake Zurich	FPA Amendment	Support
90-WQ-032	Downers Grove S.D.	FPA Amendment	Support
90-WQ-033	Village of South Barrington	FPA Amendment	Support
90-WQ-052	Village of Bartlett/Hanover Park	Establish Separate FPA	Support
90-WQ-053	Village of Crest Hill	FPA Amendment	Support
90-WQ-054	Glenbard Wastewater Authority	FPA Amendment	Support
90-WQ-055	Bonnie Brae Forest Manor S.D.	Plant Expansion	Non-Support
90-WQ-056	City of Crystal Lake	Plant Expansion	Non-Support
90-WQ-076	Prairie Material Sales	New Discharge	Support
90-WQ-077	International Products Man.	New Discharge	Non-Support
90-WQ-089	Village of Plainfield	FPA Amendment	Non-Support
90-WQ-090	Fox River Water Reclamation District	FPA Amendment	Support
90-WQ-091	City of Elgin	FPA Amendment	Support
90-WQ-096	City of Elmhurst	FPA Amendment	Support
90-WQ-097	MWRDC	Plant Expansion	Support
90-WQ-102	Village of Hampshire	FPA Amendment	Support
90-WQ-103	Village of Diamond	FPA Establishment	Support
90-WQ-110	Kenny/Kiewit/Shea	New Discharge	Support
90-WQ-111	Village of Wayne	FPA Amendment	Support
90-WQ-115	Village of Carol Stream	Plant Expansion	Support
90-WQ-119	City of Naperville	FPA Amendment	Support
90-WQ-120	Magnetic Radiation Labs	New Discharge	Non-Support
90-WQ-121	Radco Industries	New Discharge	Non-Support
90-WQ-122	Pioneer Nut and Screw	New Discharge	Non-Support
90-WQ-123	Browning-Ferris Industries	New Discharge	Non-Support
90-WQ-124	Office Park of Hinsdale	New Discharge	Non-Support
90-WQ-125	General Power Equipment Co.	New Discharge	Non-Support
90-WQ-126	Tempel Steel - Ferrite International	New Discharge	Non-Support
90-WQ-127	Land and Lakes-Willow Ranch	New Discharge	Non-Support
91-WQ-005	Glenbard Wastewater Authority	FPA Amendment	Support
91-WQ-006	City of Joliet	FPA Amendment	Non-Support
91-WQ-009	Village of Lake Zurich	FPA Amendment	Support
91-WQ-012	Village of Fox River Grove	FPA Amendment	Support
91-WQ-013	Thorngate Country Club	Service Area Expansion	Support
91-WQ-016	Wheaton S.D.	FPA Amendment	Support
91-WQ-019	Village of Carol Stream	FPA Amendment	Support
91-WQ-032	Glenbard Wastewater Authority	FPA Amendment	Non-Support

EXECUTIVE COMMITEE

Sheila H. Schultz
President

Jerry Butler
Vice President

Dean C. Cunat
Secretary

Donna P. Schiller
Treasurer

Eleanor S. Rostron
Vice President for Planning

Constance C. Zimmermann
Vice President for Water Resources

Ruth K. Kretschmer
Past Commission President

Charlie A. Thurston
Past Commission President

Edgar Vanneman, Jr.
Past Commission President

Lawrence B. Christmas
Executive Director

COMMISSIONERS

Appointed by the Governor of Illinois

Alan D. Cornue, *Member, Plan Commission, City of Woodstock*

Ruth K. Kretschmer, *Commissioner, Illinois Commerce Commission*

Donna P. Schiller, *Executive Director, Citizens for Court Reform*

Charlie A. Thurston, *Vice President, Northern Illinois Gas Company*

Edgar Vanneman, Jr.
Former Mayor, City of Evanston

Appointed by the Mayor of Chicago

Lemuel Austin, Jr., *Alderman, 34th Ward, Chicago*

Ed H. Smith, *Alderman, 28th Ward, Chicago*

Mary Ann Smith, *Alderman, 48th Ward, Chicago*

David R. Mosena,
Chief of Staff

Rosanna A. Marquez,
Assistant to the Mayor

Elected by the Assembly of Mayors

Betty M. Cheever, *President, Village of Downers Grove*

Jo Ann Eckmann, *Mayor, Village of Libertyville*

Robert F. Huson, *President, Village of LaGrange Park*

William Ottilie, *Mayor, City of Geneva*

Sheila H. Schultz, *President, Village of Wheeling*

Daniel J. Shea, *President, Village of Fox River Grove*

Anthony Uremovic, *Councilman, City of Joliet*

Appointed by the County Board Chairman

Jerry Butler, *Member, Cook County Board of Commissioners*

Irene C. Hernandez, *Member, Cook County Board of Commissioners*

Herbert T. Schumann, *Member, Cook County Board of Commissioners*

Constance C. Zimmermann, *Member, DuPage County Board*

Patricia Sjurseth, *Member, Kane County Board*

Eleanor S. Rostron, *Member, Lake County Board*

Dean C. Cunat, *Member, McHenry County Board*

Mary Ann Gearhart, *Member, Will County Board*

Appointed by the Board of the Regional Transportation Authority

Kathleen K. Parker

Appointed by the Board of the Chicago Transit Authority

Arthur F. Hill, Jr.

Appointed by the Board of Metra

Donald A. Udstuen

Appointed by the Board of Pace

Robert Parker Coffin

Appointed by the Board of the Metropolitan Water Reclamation District of Greater Chicago

Kathleen T. Meany

Appointed by the Board of the Illinois Association of Park Districts

Ralph Cianchetti, *Vice President, Park District of Highland Park*

Appointed by the Board of the Chicago Park District

AREAWIDE WATER QUALITY STEERING COMMITTEE

Comr Constance C. Zimmermann, *Chairman*

Comr Ralph Cianchetti

Comr Alan D. Cornue

Comr Dean C. Cunat

Comr Arthur F. Hill, Jr.

Comr Kathleen T. Meany

Comr Eleanor S. Rostron

Comr Sheila H. Schultz

Comr Patricia Sjurseth

Comr Edgar Vanneman, Jr.

STORMWATER MANAGEMENT TECHNICAL ADVISORY COMMITTEE

Kurt Bauer, *Executive Director,* Southeastern Wisconsin Regional Planning Commission

Paul Bourke, *Director of Public Works,* Village of Bensenville

Richard Carlson, *Deputy District Engineer (PM)*, U.S. Army Corps of Engineers, Chicago District

Robert Chave, *Director,* Lake County Department of Planning, Zoning and Environmental Quality

Ralph Coglianese, *Director of Community Development,* Village of Matteson

Robert Cowhey, Cowhey, Gudmundson, Leger, Ltd.

Michael Fenelon, *Supervisor of Planning and Design,* Lake County Forest Preserve District

***Toby Frevert**, *Manager,* Planning Section, Division of Water Pollution Control, Illinois Environmental Protection Agency

***Neil Fulton**, *Chief,* Bureau of Resource Management, Illinois Division of Water Resources

Dan Gardner, *Executive Director,* Little Calumet River Basin Development Commission

Michael Klitzke, *Director of Community Development,* Village of Wheeling

Jeff Koziel, *Resource Conservationist,* Lake County Soil and Water Conservation District

Dan Lau, Donohue and Associates

Robert Layer, *Staff Engineer,* McHenry County Regional Planning Commission

Jerry Leonard, U.S. Department of Agriculture, Soil Conservation District

R.W. Lindley, *P.E.*, Lindley and Sons, Inc.

William Macaitis, *Assistant Chief Engineer,* Metropolitan Water Reclamation District of Greater Chicago

Jim Nanninga, *Director of Public Works,* City of Aurora

Joe Nevius, *Chief Landscape Architect,* Forest Preserve District of Cook County

Kevin Orberg, U.S. Geological Survey

Robert Pepin, *Water Quality Standards Coordinator,* U.S. Environmental Protection Agency, Region V

Paul Schuch, *Director of Stormwater Management,* Kane County Development Department

James Shelby, *Director of Plans and Programs,* Planning Division,
Will County Land Use Department

Michael Terstriep, *Head,* Surface Water Section, Illinois State Water Survey

William White, *Geoscience and Floodplain Planning Administrator,*
Illinois Department of Conservation

***P. Kay Whitlock,** *Chief Engineer,* DuPage County Department of Environmental Concerns

*No longer in listed position.

This annual water quality report was prepared in part using federal Water Pollution Control Act Section 205j funds from the Illinois Environmental Protection agency and in part through voluntary contributions from local governments in the region.