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ILLINOIS STREAMS NATURAL RESOURCE ASSESSMENT

Operational Framework

Prepared by:

Streams Assessment Subcommittee

of the

State Water Plan Task Force

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ILLINOIS STREAMS NATURAL RESOURCE ASSESSMENT
Final Report of the Streams Assessment Subcommittee
State Water Plan Task Force

Background

On July 21, 1989, a meeting was convened in Springfield by the National Park Service, the Illinois Nature Preserves Commission, and American Rivers, Inc., to present the concept of a Rivers Assessment as developed by the National Park Service Rivers and Trails Conservation Assistance Program. This method of rivers assessment identifies all uses of rivers in a state, including natural resource values and economic uses, and then ranks rivers for the identified use based upon a set of criteria particular to that use. At the July 1989 meeting, it was decided to pursue the idea through the State Water Plan Task Force, which is the coordinating body for water resource issues for Illinois state agencies.

At the State Water Plan Task Force meeting held on August 16, 1989, a number of questions were asked regarding how the assessment would be completed, what the product would be, and how other activities would fit into this effort. Because of the number of unresolved questions, the Task Force recommended that a Streams Assessment Subcommittee be formed to explore the following issues:

- Goals,
- Organization,
- Methodology,
- Public Participation,
- Time Frame,
- Cost, and
- Feasibility.

The committee, cochaired by the Illinois Department of Energy and Natural Resources (ENR) and the Illinois Department of Conservation (DOC), was to report back to the Task Force with its findings and recommendations.

Recommendation

After a series of meetings held between September 1989 and May 1990, the Rivers Assessment Subcommittee concluded with the recommendation that the Task Force support a legislative/budget initiative to conduct an Illinois Streams Natural Resource Assessment. The goal would be to complete a statewide assessment of Illinois streams, reflecting various natural resource categories, that could be used to guide policy decisions and to identify and to prioritize such streams most deserving of improved management and enhanced protection by the state of Illinois. Agencies named as co-leads for the assessment were the Department of Conservation and the Department of Energy and Natural Resources. This report outlines the operational framework that was considered for the Illinois Streams Natural Resource Assessment.

Discussion

The state of Illinois encompasses approximately 26,000 stream miles and 1,600 streams, according to the Illinois Stream Information System (ISIS). The uses of these stream systems are many - recreation, flood control, groundwater discharge, aesthetic enjoyment, support for fish and wildlife, irrigation, agricultural drainage, stormwater management, transportation, and drinking water supplies. For many of these benefits to continue, it is crucial that streams be managed for natural values such as

water quality, riparian habitat, and scenic qualities. However, the state of Illinois lacks a comprehensive assessment procedure for its stream resources that can be used to prioritize streams for their many values. Each agency involved in water policy may or may not have its own list of streams identified as important for a particular value, but, because of their singular purpose, these lists may be limited in scope, general consensus, or scientific backing.

The organization of a consistent information base, established upon natural resource values, is needed. Its completion could generally aid in planning and management of streams for multi-use purposes. Specific uses of this inventory would include:

- Permit decisions,
- Siting of water-dependent facilities,
- Decisions regarding allocation of state grants and contracts,
- Land or easement purchases,
- Recreational planning and facility development,
- River conservation efforts,
- Private investment decisions,
- Wetlands planning, and
- Future water quality monitoring activities.

Statewide River Assessments

As the uses of rivers multiply and as conflicts between users become more common and more pronounced, states are increasingly viewing a comprehensive, statewide inventory as a necessary tool for management decisions. The first statewide inventory using the National Park Service methodology was completed in Maine in 1982. Subsequently, the states of Maryland, Vermont, Washington, Oregon, Idaho, Montana, Texas, and South Carolina have completed inventories. States presently working on inventories include Kentucky, Connecticut, and New York.

These inventories encompass a variety of resource values, participation methods, and final products. For the purposes of assessing the feasibility of an Illinois study, the South Carolina Rivers Assessment, the Maine Rivers Study, and the Maryland Rivers Study were used extensively. Many of the recommendations in this report represent a synthesis of ideas from these reports. The methodology for classifying rivers is largely representative of that recommended by the National Park Service. However, the Resource Value Categories were structured to fit the needs of Illinois as identified by members of the subcommittee.

Methodology

As stated, the methodology proposed for the streams assessment is based upon National Park Service recommendations. The methodology involves nine steps, which include defining resource value categories and setting criteria for each category. These steps are described below.

1. Set goals and objectives. Although a preliminary goal has been described by the Streams Assessment Subcommittee as guidance for an assessment, it is expected that the purpose and direction of a statewide assessment would be further defined by the sponsoring organizations and a formally convened advisory group.

2. Formalize an advisory committee. An advisory committee, representing the interests and expertise of the various state agencies involved in water resource planning in Illinois, would be formed to oversee the completion of the assessment. As the project developed, each resource

value team would also be represented by its chairperson on the advisory committee.

3. Finalize resource value categories. It is expected that the Advisory Committee will review the recommended resource categories listed and defined below and will make final decisions on the appropriate river resource values to be evaluated. Information about rivers will be collected and analyzed based upon these categories.

4. Organize resource value teams, one for each stream resource category. Resource team nominations for membership should reflect a strong interest/expertise in the designated categories. Representation would be drawn from state agency personnel, academe, local government agencies, or federal agencies identified with water resource management.

5. Select a universe of streams to be assessed. Decide upon definitions of streams and stream segments and how each is to be measured. In order to be consistent across categories and understandable by the public, river segments should be clearly defined by using such markers as confluence with another river or bridges. At this point, consideration should also be given to mapping needs and the presentation of the final product.

6. Establish minimum criteria for inclusion in each category. Initially the standards should identify "minimum threshold" criteria which are used to determine if a river or river segment should be evaluated in

the particular category. As a second step, a more detailed set of criteria should be developed and perhaps quantified so that the river corridors can be rated within each resource category. During this process, information sources and data deficiencies should be identified and evaluated.

Draft criteria, as identified in the section on Resource Value Categories, can serve as a catalyst for discussion in determining the criteria to be used for each category. However, it is expected that some time and effort would be needed to finalize criteria.

7. Gather data and describe existing river resources. The criteria that are set may depend upon available data or easily obtained data. All the river corridor areas that have been included in each individual category should be thoroughly analyzed in order to substantiate river values.

8. Set standards in each category against which rivers can be rated as excellent, good, fair, and limited. The results of Step 7 are used to rank within each category.

9. Once the individual categories have been completed, an overall stream ranking across all resource value categories can be assigned. This step identifies key river resources spanning multiple resource categories that can be targeted for protection and special management. The overall rankings proposed for the Illinois assessment are:

Highest Quality Stream Resource: streams with excellent ratings in most categories, and no limited ratings,

Superior Quality Stream Resource: streams with excellent ratings in at least two categories and no more than one limited rating,

Good Quality Stream Resource: streams with good ratings in most categories and no more than two limited ratings, and

Unknown Stream Resource: streams with insufficient data to assign ratings for all categories.

Resource Value Categories

The following natural resource value categories are considered to be of importance in an Illinois streams assessment:

Aquatic Biodiversity Streams: streams representative of the highest quality aquatic areas in the state, as measured by their aquatic biodiversity,

Riparian Habitat Streams: streams representative of areas of extensive riparian vegetation capable of supporting both game and nongame wildlife species,

Recreational Streams: streams capable of supporting boating, canoeing, swimming, hiking, or superior fishing,

Water Quality Streams: streams that exceed water quality standards as identified by IEPA criteria,

Natural and Cultural Heritage Streams: streams that are free-flowing and relatively free of development or possess outstanding cultural or archeological resources, and

Urban Corridor Streams: streams in populated areas that have high urban recreational value and could be developed as linear parks or greenways.

In the initial selection of these categories, a review was conducted of categories used by other states. For example, the state of South Carolina identified a total of 14 categories that reflected a wide range of stream uses in the state. In the selection of categories for Illinois, emphasis was placed on building upon many of the existing Illinois inventories and then creating new categories for those values not reflected in any existing inventories. A brief review of databases available was also conducted in order to determine if available data would support the formation of all categories, because the assessment would not involve the collection of extensive new data. In order to further illustrate the categories and to make an initial determination of data needs for assessing the streams, a list of criteria that could be used in each category was devised. These draft criteria are listed in a discussion of each category below. However, the final determination of criteria would rest with the resource team.

Aquatic Biodiversity Streams. The category of Aquatic Biodiversity Streams builds upon the existing Biological Stream Characterization (BSC), an on-going cooperative venture between the Illinois Environmental Protection Agency (IEPA) and the Department of Conservation. This

classification system is based largely on the type and condition of the fishery resource. Information from fish population surveys was used to analyze the biodiversity of the fish community. Aquatic macroinvertebrate information and instream habitat information were also used to round out the characterization of the stream. However, for the category named in this assessment, additional information on mussel diversity and federal and state threatened and endangered species would be combined with the BSC to create a more complete characterization of the stream's biodiversity. This additional work is currently being conducted by the Natural History Survey with funding from the Illinois Department of Conservation Nongame Wildlife Conservation Fund and the Department of Energy and Natural Resources. Potential criteria for inclusion and ranking in this category are:

- Length,
- Diversity of aquatic organisms,
- Presence or absence of state or federal threatened or endangered species, and
- Presence or absence of unique or unusual habitats such as boulder riffles or spring-fed headwaters, rare species, or other significant characteristics.

Riparian Habitat Streams. The category of Riparian Habitat Streams is an example of a natural resource value that has not been assessed in Illinois. The value that this category seeks to capture is the ability of the riparian stream corridor or stream corridor segment to maintain a diverse wildlife population. However, in meetings between the Department of Conservation, the Department of Energy and Natural Resources, and the Natural History Survey, it was determined that no statewide database of wildlife sightings existed that could be used to adequately define a

"wildlife habitat" corridor. Therefore, subsequent meetings looked at the possibility of using Illinois Streams Information System data on riparian cover, combined with information from the National Wetlands Inventory on riparian wetlands, to determine those streams with a sufficient extent and quality of vegetation to support wildlife. This concept is presently being explored by the Natural History Survey with funding from the Department of Energy and Natural Resources. Potential criteria for inclusion and ranking in this category are:

- Length/Width,
- Bankside and riparian habitat suitable for game species,
- Presence or absence of threatened or endangered species,
- Presence or absence of unique habitat conditions such as rock outcroppings or wetlands or other geological or physical features, and
- Quality of hunting opportunities.

Recreational Streams. A diversity of information now exists that could be used to determine the recreational value of a stream. For example, the Department of Conservation has completed creel surveys and keeps records of sport fish in rivers, a canoe survey has been conducted to determine popular canoe rivers, and a boating access guide has been developed for the state. Associated values such as natural areas have been identified through the Illinois Streams Information System (ISIS). In addition, this category may involve the assessment of information from other categories such as water quality or fish diversity. However, other information such as width, depth, and seasonal flow levels, which can be used to assess recreational potential, may need to be developed as additional information. Potential criteria for inclusion and ranking in this category are:

Length/Width/Depth,
Flow volume and regularity,
Degree of public access (e.g. boating or fishing),
Fisheries population size,
Scenic or unique features,
Use by canoeists,
Proximity to public lands,
Water quality, and
Economic importance.

Water Quality Streams. In fulfillment of Section 305(b) of the Federal Clean Water Act, the Illinois Environmental Protection Agency has for some time regularly published information on water quality in Illinois streams. According to this report, categories of use support have been developed for about 93 per cent of Illinois' stream miles. The IEPA used the Biological Stream Characterization in determining use support. The intent in compiling this category would be to assess water quality of Illinois Streams. Potential criteria for inclusion and ranking in this category are:

Aquatic Life Use Support and
Attainment of Clean Water Act Goals

Natural and Cultural Heritage Streams. In 1982, the National Park Service published a Nationwide Rivers Inventory that identified significant free-flowing rivers. All river or river segments of 25 miles or greater in length were evaluated against three general criteria: free-flowing, presence of undeveloped river and river corridor, and the presence of outstanding natural and cultural characteristics along the river. The category of Natural and Cultural Heritage Streams would expand upon the concept of this inventory. An attempt would be made to quantify the

concept and more completely define cultural and archeological resources.

Potential criteria for inclusion and ranking in this category are:

- Length/Width,
- Degree of adjacent development,
- Presence of river-oriented site,
- Site listed as a Natural Historic Landmark,
- Site listed or potential for National Register of Historic Places,
- Free from hydrologic modifications, and
- Landscape diversity.

Urban Corridor Streams. The category of Urban Corridor Streams is a relatively new concept in statewide stream assessments. However, this category could build upon the efforts of planning commissions or municipal governments. For example, the Northeastern Illinois Planning Commission has proposed identifying suitable corridors for a Chicago-area greenbelt. This category was deemed necessary because urban streams are often already degraded and devoid of high quality natural resource values, conditions that make these streams poor prospects in other categories. Yet their proximity to urban populations and high potential for urban recreational use and appreciation as open spaces make them candidates for identification and preservation efforts. Potential criteria for inclusion and ranking in this category are:

- Length/Width,
- Existing stream and shoreline use,
- Planned stream and shoreline use,
- Presence of river-oriented site,
- Site listed as a Natural Historic Landmark,
- Site listed or potential for National Register of Historic Places,
- Proximity to urban areas,
- Present and forecast population intensity,
- Proximity to trails and other recreational sites,
- Greenway and trail system plans,
- Presence of wetlands and other unique habitat,
- Presence of riparian vegetation,
- Presence of geologic or hydrologic features, and
- Multipurpose stormwater management.

Data Needs

Once the categories were defined and the draft criteria were established, it became possible to assess data needs and availability. Many databases were discussed that could prove useful. A complete listing and description of relevant state databases is given in Appendix I. It is evident that data would need to be gathered from various agencies. For example, the Department of Energy and Natural Resources has stream flow data, species collections, and threatened and endangered species locations in the Geographic Information System. The Department of Conservation has stream-related data in the Illinois Streams Information System, threatened and endangered species data and natural areas data in the Natural Heritage Database, habitat information in the Fish and Wildlife Information System, wetland locations in the National Wetlands Inventory, and fish species samples in the Streams Program Database, which includes the Biological Stream Characterization. The Illinois Environmental Protection Agency has water quality data in the STORET, tracks 305(b) water quality assessments within the Waterbody System database, and is proceeding with storage of biological and habitat data into the BIOS database.

Categories that may not be well covered by these databases are riparian habitat, especially forest habitats, and urban corridors. As stated earlier, an effort is on-going to further assess the feasibility of the riparian habitat category. For some categories, such as aquatic biodiversity, extensive data have been collected by different agencies at different times. For certain other categories, such as recreation, the criteria would need to be carefully defined in order to get useful ratings for streams in that category.

Committee Responsibilities

The Advisory Committee would consist of those state agencies, represented on the State Water Plan Task Force, whose responsibilities encompass some facet of the management of stream resources. The Department of Conservation, the Department of Energy and Natural Resources, the Illinois Environmental Protection Agency, the Department of Agriculture, the Department of Transportation/Division of Water Resources, and the Governor's Office have been selected to be represented on this committee because of their significant involvement in water resources. The National Park Service would be included because of its past experience with stream assessments in other states. In addition, each resource team would be represented on the Advisory Committee through its chairperson. (A draft organizational chart is shown on page 15.)

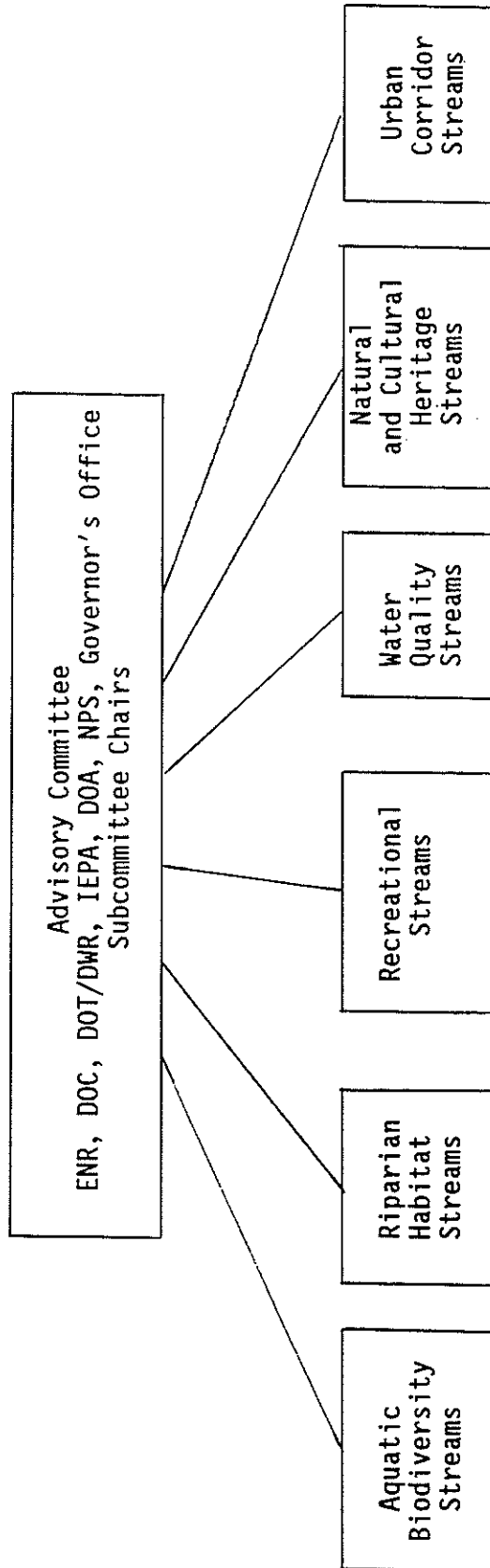
The responsibilities of the Advisory Committee would be:

1. Meeting once every three months,
2. Directing and guiding resource teams,
3. Decision-making in areas that affect all resource teams, such as methodology, participation, final format of information, definition of universe of rivers,
4. Ensuring public involvement,
5. Selecting and inviting resource team members, and
6. Assisting resource teams in interagency coordination, such as in identifying expertise, data collection, or providing mailing lists.

The responsibilities of the Resource Teams would be:

1. Meeting once a month or as needed,
2. Ranking rivers in their categories, including decisions about minimum criteria for inclusion, criteria for ranking, data collection and analysis, and final ranking,
3. Delivering final information in format compatible with Advisory Committee Guidelines, and
4. Identifying and soliciting other expertise as needed to complete team tasks.

Organizational Chart
Illinois Streams Natural Resource Assessment



Public Participation:

An additional area explored by the Subcommittee was the extent of public participation in the project. Communication and coordination with the general public could be encouraged through the following activities:

1. Press releases would be issued upon the initiation of the event as well as at various points throughout the project.

2. After rivers have been chosen for ranking within the categories, a brochure, modeled after the Kentucky rivers assessment, would be mailed to a broad representation of the public. This brochure could describe the project, assessment categories, criteria for inclusion of rivers, and the rivers which have been selected to be evaluated. Members of the public could be asked to review the rivers and nominate other rivers if, in their view, the river merits inclusion. Their nominations and comments would be turned over to the resource teams for consideration.

3. A public review and comment period would be held upon completion of the draft assessment document. The draft document review could take one of two forms. The first method would be to mail the document to selected groups of people and individuals and respond to written comments. The second is to conduct one to three public meetings in the state, which would allow for both verbal and written comments. A decision on which method would be used could be made about a year into the project, or when the level of public interest can be appropriately assessed, in order to determine the degree of need for public comment.

Time Frame

Depending upon the starting date, approximately two years would be needed to complete the assessment.

Cost

The cost of this initiative would be \$400,000 in new funds over two years. Funds would be divided equally between the two lead agencies, DOC and ENR. DOC funds would be used for staff, printing costs, ISIS enhancement and data analysis with related subcontract work. ENR funds would be used for staff, data collection and research, and entering streams assessment information into the Geographic Information System. Other state agencies would provide available data, participate in resource value teams to review criteria and rank streams, and provide written input in their area of expertise. The National Park Service would provide technical assistance to the resource teams and would assist in preparation and publication of the streams assessment document.

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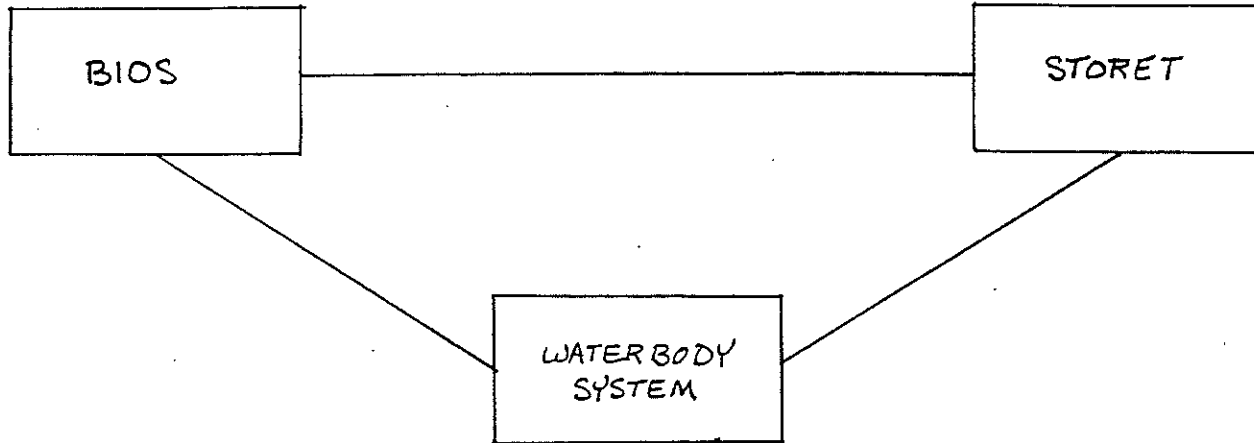
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Subject _____

Data _____

Reviewed by _____ Date _____

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
AMBIENT MONITORING DATABASES



WATERBODY SYSTEM

- Tracks assessments of water quality conditions as required by the Federal Clean Water Act
- Maintains assessments for 13,123 stream miles in and bordering Illinois

STORET

- Water and sediment chemistry raw database
- Contains seven data files consistent with monitoring programs

BIOS

- Biological database including macroinvertebrate, fisheries, habitat, fish tissue residue, bioassay types of data
- Currently entering historical data
- Since 1974, this will include:
 - 7162 macroinvertebrate stations
 - 380 fish stations
 - 711 habitat stations

REACH FILE (Index for Federal databases)

- Integrates or links ambient monitoring databases

Appendix A. Waterbody - Specific Information for Streams
Definitions of Abbreviations Used in Tables

In fulfillment of the requirement for providing waterbody-specific information in a format compatible with the Waterbody System (WBS), IEPA has elected to include a printout of segment-specific data in the '90 cycle report submission. The following is provided as an explanation of WBS formatted information used in the printouts found in Appendix Tables A-1 to A-14.

Columns included on the tables will be discussed beginning with left to right.

- (1) Water Body Identifier -- State waterbody identification number used in the Waterbody System (WBS).
- (2) Station code -- Alpha-numeric identification code for sample station location. An asterik (*) preceding a station code indicates toxics were analyzed in one or more sampling media including fish tissue, and/or sediment, and/or water column samples.
- (3) Reach Index -- 11 digit number (first 8 being USGS cataloging units) to index the waterbody to various data systems. /ON indicates a reach index number currently in USEPA's River Reach System. /OFF indicates a reach index number not currently in USEPA's River Reach System at the time of this report.
- (4) Water Body Name -- Name of stream, river, lake, reservoir, etc.
- (5) I (Type) -- identifies the type of waterbody as follows:
 - R = River or Stream
 - GL = Great Lake
 - L = Inland Lake
 - E = Estuary (not applicable in Illinois)
 - W = Wetland
- (6) Size -- Numerical size of the waterbody type as follows:
 - For River or Stream, size = river miles
 - For Great Lake, size = shore miles
 - For Inland Lake, size = acres
 - For Estuary, size = (miles)² not applicable
 - For Wetland, size = acres
- (7) Date -- Date of collection of monitoring data used in assessment.
- (8) AL (Assessment Level) "total" waters assessed are subdivided into 2 categories:
 - M = "monitored waters" are those waterbodies for which the assessment is based on current site-specific ambient and/or intensive data (i.e., data no more than 5 years old).
 - E = "evaluated waters" are those waterbodies for which assessment is based on information other than current site-specific ambient or intensive data, such as data on land use, location of sources, predictive modelling using estimated input variables, surveys of fisheries personnel, and citizen complaints. As a general guide, if an assessment is based on data that is older than 5 years, it is considered an evaluated assessment.
- (9) DU -- (Generic Designated and Impaired Uses) - Identifies the designated use and those that are impaired, using the following codes:

01	Aquatic Fish and Wildlife	40	Recreation
03	Warm water fishery	42	Primary contact
06	Cold water fishery	44	Secondary contact
08	Shellfish protection	46	Noncontact
10	Domestic water supply	50	Navigation
20	Agriculture	70	High quality/ Nondegradation
21	Irrigation		
22	Livestock watering		
30	Industrial		

(10) Degree of Use Support -- the degree of use support corresponding to the size of each category as follows:

Full = Full Support
Full/Threatened = Indicates a full support waterbody maybe showing indications of worsening conditions
Partial/Minor = Partial Support of designated use with Minor impairment
Partial/Moderate = Partial Support of designated use with Moderate impairment
Nonsupport = Nonsupportive of designated use

(11) Fish/Swim (Fishable/Swimmable) -- Refers to attainment of the fishable/swimmable Clean Water Act (CWA) goals.

Y = Yes, meeting a goal
N = No, not meeting a goal
P = Partial, or partially meeting a goal
(blank) = goal was not assessed

(12) W.Q. Lim. -- (Water Quality Limited) only based on WQI values where available, and does not necessarily indicate or reflect sources (i.e. point source or nonpoint source) which are limiting water quality. (See Appendix H; water quality index methodology).

N = No; WQI values are less than 20, and/or biotic indices determined aquatic life use support as fully supporting
Y = Yes; WQI values are greater than 20
blank = No WQI available

(13) Causes -- indicates causes of impaired uses from the codes below. Also indicated is the magnitude to which the cause contributes to the use impairment (H = high; M = moderate, S = slight).

0 = cause unknown	12 = organic enrichment/DO
1 = unknown toxicity	13 = salinity
2 = pesticides	14 = thermal modification
3 = priority organics	15 = flow alteration
4 = nonpriority organics	16 = other habitat alterations
5 = metals	17 = pathogens
6 = ammonia	18 = radiation
7 = chlorine	19 = oil and grease
8 = other inorganics	20 = taste and odor
9 = nutrients	21 = suspended solids
10 = pH	22 = noxious aquatic plants
11 = siltation	23 = filling and draining

(14) Sources -- indicates the sources that contribute to the causes listed above. Also, indicated is the magnitude to which the source contributes to the use impairment (H = high, M = moderate, S = slight).

0 POINT SOURCES
01: Industrial Point Sources
02: Municipal Point Sources
04: Combined sewer overflows
09 Nonpoint Sources (unspecified)

- | | |
|--|---|
| <p>10 <u>Agriculture</u>
 11: Nonirrigated crop production
 12: Irrigated crop production
 13: Specialty crop production
 (e.g., truck farming and Orchards)
 14: Pasture land
 15: Range land
 16: Feedlots - all types
 17: Aquaculture
 18: Animal holding/management areas
 19: Manure lagoons</p> <p>20 <u>Silviculture</u>
 21: Harvesting, reforestation, residue
 management
 22: Forest management
 23: Road construction/maintenance</p> <p>30 <u>Construction</u>
 31: Highway/road/bridge
 32: Land development</p> <p>40 <u>Urban Runoff/Storm Sewers</u></p> <p>50 <u>Resource Extraction/Exploration/Development</u>
 51: Surface mining
 52: Subsurface mining
 53: Placer mining
 54: Dredge mining
 55: Petroleum activities
 56: Mill tailings
 57: Mine tailings</p> <p>60 <u>Land Disposal (Runoff/Leachate From Permitted Areas)</u>
 61: Sludge
 62: Wastewater
 63: Landfills
 64: Industrial land treatment
 65: On-site wastewater systems (septic tanks, etc.)
 66: Hazardous waste
 67: Septage Disposal</p> | <p>70 <u>Hydrologic/Habitat Modification</u>
 71: Channelization
 72: Dredging
 73: Dam construction
 74: Flow regulation/modification
 75: Bridge construction
 76: Removal of riparian vegetation
 77: Streambank modification/
 destabilization
 78: Draining/filling of wetlands</p> <p>80 <u>Other</u>
 81: Atmospheric deposition
 82: Waste storage/storage tank
 leaks
 83: Highway maintenance and runoff
 84: Spills
 85: In-place contaminants
 86: Natural
 87: Recreational Activities
 88: Upstream Impoundment
 89: Salt Storage Sites</p> <p>90 <u>Source unknown</u></p> |
|--|---|

- (15) WQI - Water Quality Index, See Appendix H for methodology.
- (16) MBI - Macroinvertebrate Biotic Index, See Appendix F for methodology.
- (17) IBI - Index of Biotic Integrity, See Appendix E for methodology.
- (18) HAB - Habitat Assessment, See Appendix G for methodology.
- (19) 303(d) - Status of waterbody regarding 303(d) requirements.

L = Long list
M = Medium (Mini) list

MB:sp242n/1-3

EXAMPLE

APPENDIX TABLE A-1. WATERBODY SPECIFIC INFORMATION FOR RIVERS AND STREAMS IN THE DES PLAINES/LAKE MICHIGAN RIVER BASIN, 1988-1989.

WQID	STATION	REACH	NAME	P	SIZE	DATE	AL	DU	USE	SUPPORT	SWIMMABLE	WATER QUALITY LIMITED	CAUSES	SOURCES	WQI	ARI	A101	P101	303(d)	I
11C01	G01	07120004-001/0n	DesPlaines R.	R	3.8	1988 M	01	P/Mod	P/				11(S), 16(M), 21(S), 09(H)	02(M), 71(S), 40(S), 01(H), 74(S)	44.1	7.4	33.0	45.0	L	
11C01	G24	07120004-002/0n	DesPlaines R.	R	3.0	1988 M	01	P/Mod	P/				09(H), 06(M), 17(M), 11(S), 21(S)	01(M), 02(M), 32(M), 40(M), 71(S), 74(S)	50.3	6.4	20.0	35.0	L	
11C01	G24	07120004-004/0n	DesPlaines R.	R	8.0	1988 E	01	P/Mod	P/				09(H), 06(M), 17(M), 11(S), 21(S)	01(M), 02(M), 32(M), 40(M), 71(S), 74(S)	50.9	6.3	20.0	35.0	L	
11C08	G29	07120004-012/0n	DesPlaines R.	R	5.4	1989 M	01	Full	Y/P				09(S), 11(M), 16(M), 21(M), 12(S)	11(S), 77(M), 14(S), 71(S), 76(S)	31.2		44.0	38.0	L	
11C11	G33	07120004-010/0n	DesPlaines R.	R	4.9	1983 M	01	P/Mod	N/N				17(H), 09(M), 11(M), 12(M), 19(M)	04(M), 40(M), 02(S), 73(S), 83(S), 89(S)	42.3		27.0	48.0	L	
11C11	G18	07120004-010/0n	DesPlaines R.	R	6.8	1983 M	01	Non	N/N				17(H), 09(M), 11(M), 12(M), 16(M)	04(M), 40(S), 71(M), 02(M), 83(S)	53.4		20.0	48.0	L	
11C11	G03	07120004-010/0n	DesPlaines R.	R	8.0	1983 M	01	P/Mod	N/N				17(H), 09(M), 11(M), 12(M), 16(M)	40(S), 71(M), 01(M), 02(M), 83(S)	52.0		22.0	48.0	L	
11C11	G11	07120004-010/0n	DesPlaines R.	R	6.3	1989 M	01	P/Mod	N/N				17(H), 09(H), 11(M), 12(M), 19(S)	01(M), 02(M), 40(M), 71(S), 74(S), 83(S)	60.9		28.0	60.0	L	
11G12	G12	07120004-002/0n	DesPlaines R.	R	3.0	1983 E	01	P/Mod	N/				09(H), 11(M), 16(M), 05(S), 06(S)	02(M), 40(M), 01(S), 04(S), 71(S), 74(S)	56.5		21.0	48.0	L	
11G12	G12	07120004-004/0n	DesPlaines R.	R	8.0	1983 M	01	P/Mod	N/				09(H), 11(M), 16(M), 05(S), 06(S)	02(M), 40(M), 01(S), 04(S), 71(S), 74(S)	60.0		21.0	48.0	L	
11G23	G23	07120004-006/0n	DesPlaines R.	R	3.9	1989 M	01	P/Mod	N/N				09(H), 11(S), 12(H), 16(M), 05(S)	01(M), 02(M), 40(S), 71(S)	60.0		9.1	45.0	L	
11G30	G07	07120004-011/0n	DesPlaines R.	R	9.3	1989 M	01	P/Mod	Y/Y				09(M), 11(M), 05(S), 06(S), 07(S)	02(M), 01(S), 11(S), 14(S), 32(S), 40(S)	44.1		33.0	45.0	L	
11G30	G26	07120004-011/0n	DesPlaines R.	R	5.8	1983 M	01	Full	Y/Y				09(H), 11(M), 16(M), 05(S), 06(S)	02(M), 32(M), 40(M), 11(S)	55.8		36.0	35.0	L	
11G30	G35/30	07120004-011/0n	DesPlaines R.	R	4.1	1983 M	01	P/Mod	P/P				09(H), 11(M), 17(M), 21(M), 05(S)	02(M), 31(M), 32(M), 40(S), 73(S), 77(S)	53.2		23.0	35.0	L	
11G30	G36/19	07120004-011/0n	DesPlaines R.	R	7.8	1983 M	01	P/Mod	P/P				09(H), 11(M), 17(M), 21(M), 05(S)	02(M), 31(M), 32(M), 40(S), 73(S), 77(S)	53.2		26.0	35.0	L	
11G30	G32	07120004-011/0n	DesPlaines R.	R	2.6	1989 M	01	P/Mod	P/P				09(M), 11(M), 17(M), 21(M), 05(S)	31(M), 32(M), 40(M), 02(S), 73(S), 77(S)	46.2		22.0	35.0	L	
11G30	G28	07120004-011/0n	DesPlaines R.	R	8.9	1983 M	01	P/Mod	P/P				09(M), 11(M), 17(M), 21(M), 05(S)	31(M), 32(M), 40(M), 02(S), 73(S), 77(S)	49.2		22.0	35.0	L	
11G30	G15	07120004-011/0n	DesPlaines R.	R	3.4	1989 M	01	P/Mod	N/N				17(H), 09(H), 11(M), 12(M), 16(M)	02(M), 04(M), 40(S), 32(S), 73(S), 83(S)	52.0		20.0	48.0	L	
11G30	G30/37	07120004-011/0n	DesPlaines R.	R	3.8	1983 M	01	Non	N/N				11(H), 12(H), 17(H), 09(M), 19(M)	02(M), 04(M), 40(M), 32(S), 73(S), 83(S)	46.2		20.0	48.0	L	
11G30	G32	07120004-011/0n	DesPlaines R.	R	5.0	1983 M	01	Non	N/N				11(H), 12(H), 17(H), 09(M), 19(M)	02(M), 04(M), 40(M), 32(S), 73(S), 83(S)	51.3		18.0	48.0	L	
11G401	G401	07120004-001/01f	GRANT CR.	R	11.0	1983 M	01	P/Mod	P/				09(S), 16(S)	11(S), 14(S), 71(S)	14.8		28.0	39.0	L	
11C401	G401	07120004-017/0n	DuPage R.	R	5.5	1989 M	01	P/Mod	Y/N				09(H), 11(M), 05(S), 12(S), 16(S)	02(M), 11(S), 40(S), 73(S), 74(S)	78.2		40.0	51.0	L	
11C401	G403	07120004-017/0n	DuPage R.	R	4.5	1983 M	01	P/Mod	Y/N				09(H), 11(M), 05(S), 12(S), 16(S)	02(M), 11(S), 14(S), 16(S), 40(S)	52.4		38.0	48.0	L	
11C401	G401	07120004-017/0n	DuPage R.	R	2.0	1983 M	01	P/Mod	Y/N				09(H), 11(M), 05(S), 12(S), 16(S)	11(M), 73(M), 14(S), 40(S), 74(S)	50.9		28.0	48.0	L	
11C401	G401	07120004-004/01f	ROCK RUN	R	9.8	1983 M	01	P/Mod	P/				09(H), 11(M), 16(M), 05(S), 06(S)	02(M), 32(M), 40(S), 71(M), 11(S), 76(S)	51.4		6.8	27.0	L	
11C401	G402	07120004-017/01f	LILLY CACHE CR.	R	14.5	1983 M	01	P/Mod	P/				06(H), 07(H), 16(H), 09(S)	02(H), 71(S), 32(M), 40(M), 77(M), 11(S)	38.8		27.0	42.0	L	
11C401	G401	07120004-017/01f	LILLY CACHE CR.	R	5.0	1983 M	01	P/Mod	P/				09(H), 11(M), 05(S), 06(S), 12(S)	11(S), 02(S), 40(S), 71(S), 76(S)	20.5		9.8	21.0	L	
11C405	G405	07120004-019/0n	DuPage R.	R	8.8	1983 M	01	P/Mod	P/N				07(H), 16(H), 17(H), 06(M), 09(H)	02(M), 71(S), 11(M), 32(M), 40(S), 77(M)	68.5		5.5	21.0	38.0	L
11C405	G409	07120004-019/0n	DuPage R.	R	6.6	1989 M	01	P/Mod	P/N				16(H), 17(H), 06(M), 07(M), 09(H)	02(M), 71(S), 11(M), 32(M), 40(S), 77(M)	71.0		5.8	21.0	38.0	L
11C405	G407	07120004-019/0n	DuPage R.	R	5.0	1983 M	01	P/Mod	P/N				17(H), 06(M), 09(H), 11(M), 12(M)	02(M), 32(M), 40(S), 71(S), 31(S), 76(S)	65.0		6.3	25.0	48.0	L
11C405	G405	07120004-019/0n	DuPage R.	R	3.0	1989 M	01	P/Mod	P/N				09(H), 11(M), 17(M), 19(M), 09(S)	02(M), 32(M), 40(M), 73(M), 11(S), 31(S)	73.1		7.3	44.0	L	
11C405	G412	07120004-019/0n	DuPage R.	R	4.0	1983 M	01	P/Mod	P/N				09(H), 11(M), 17(M), 19(M), 09(S)	02(M), 40(M), 73(M), 71(S), 74(S), 32(S)	58.5		5.7	27.0	48.0	L
11C405	G401	07120004-019/0n	DuPage R.	R	3.6	1983 M	01	P/Mod	P/N				09(H), 11(M), 17(M), 19(M), 09(S)	02(M), 32(M), 40(M), 71(S), 77(S)	67.3		5.6	28.0	48.0	L
11C405	G402	07120004-019/0n	DuPage R.	R	2.7	1983 M	01	P/Mod	P/N				09(M), 11(M), 17(M), 19(M), 09(S)	02(M), 32(M), 40(M), 77(S)	47.8		5.7	29.0	48.0	L
11C401	G410	07120004-017/0n	DuPage R.	R	3.1	1989 M	01	P/Mod	P/N				09(H), 11(M), 12(M), 05(S), 06(S)	02(M), 11(M), 32(M), 40(M), 76(S)	73.0		6.2	48.0	L	
11C401	G412	07120004-017/0n	DuPage R.	R	2.9	1983 M	01	P/Mod	P/N				09(M), 11(M), 12(M), 05(S), 06(S)	02(M), 40(M), 11(S), 32(S), 76(S)	42.7		6.3	34.0	L	
11C401	G409	07120004-017/0n	DuPage R.	R	3.6	1983 M	01	P/Mod	P/N				09(M), 11(M), 12(M), 05(S), 06(S)	40(M), 01(S), 11(S), 14(S), 76(S)	45.5		5.7	32.0	L	
11C401	G413	07120004-017/0n	DuPage R.	R	4.4	1983 M	01	P/Mod	P/N				09(M), 11(M), 05(S), 06(S), 12(S)	02(M), 11(S), 14(S), 40(S), 76(S)	47.9		5.7	34.0	L	
11C401	G411	07120004-018/0n	DuPage R.	R	4.9	1983 M	01	Non	P/N				06(H), 07(H), 09(H), 12(H), 16(H)	02(H), 71(M), 32(M), 40(M), 76(M), 77(M)	58.7		7.9	21.0	35.0	L
11C401	G410	07120004-018/0n	DuPage R.	R	4.9	1983 M	01	P/Mod	P/N				06(H), 07(H), 09(H), 12(H), 16(H)	02(M), 71(S), 32(M), 40(M), 31(S), 76(S)	53.1		6.3	25.0	L	
11C401	G410	07120004-018/0n	DuPage R.	R	5.9	1983 M	01	P/Mod	P/N				16(H), 08(M), 09(H), 11(M), 12(M)	71(S), 02(M), 11(M), 31(M), 32(M), 40(M)	71.5		6.1	44.0	L	
11C401	G410	07120004-018/0n	DuPage R.	R	3.1	1989 M	01	P/Mod	P/N				16(H), 08(M), 09(H), 11(M), 12(M)	71(S), 02(M), 11(M), 31(M), 32(M), 40(M)	60.2		6.7	29.0	L	
11C401	G410	07120004-018/0n	DuPage R.	R	4.8	1983 M	01	P/Mod	P/N				16(H), 08(M), 09(H), 11(M), 12(M)	71(S), 02(M), 31(M), 32(M), 40(M), 71(M)	68.8		6.9	28.0	L	
11C401	G410	07120004-018/0n	DuPage R.	R	6.4	1983 M	01	P/Mod	P/N				09(H), 11(M), 12(M), 16(M), 17(M)	02(M), 11(M), 31(M), 32(M), 40(M), 71(M)	88.8		6.9	42.0	L	

Illinois Natural History Survey

Among the activities of the INHS are studies of the statewide distributions and ecological requirements of native species. Some of the major activities of INHS relevant to the proposed stream classification are summarized below.

Biological data available for assessing aquatic ecosystems.

Organisms	Data	Status
Fishes	Excellent historical and recent data. Statewide surveys published in 1908 and 1979. State threatened and endangered species recognized.	Essentially complete. Small amount of additional field work needed to make data useful for evaluating streams.
Crayfishes	Excellent recent data. Statewide survey published in 1985. State threatened and endangered species recognized.	Essentially complete. Small amount of additional field work needed to make data useful for evaluating streams.
Amphipods	Very good recent data, including unpublished statewide survey. State threatened and endangered species recognized.	Nearly complete. Limited additional field work and publication of statewide distributional data needed.
Isopods	Very good recent data, including unpublished statewide survey. State threatened and endangered species recognized.	Nearly complete. Limited additional field work and publication of statewide distributional data needed.
Mussels	Good historical and recent data, although no statewide survey conducted. State threatened and endangered species recognized.	Intermediate. Additional field and museum work needed.
Plants	Some historical and recent data, although no statewide survey conducted. State threatened and endangered species recognized.	Intermediate. Additional field and museum work needed.
Insects	Data variable on various groups. Few recent data.	Field and museum work needed.

April 9, 1990

Appendix I
Databases
SWS

Daily streamflow data available at about 200 streamgaging stations in Illinois form a very useful data set for developing various flow parameters of interest for streams assessment. Some of these parameters that may be of interest and that can be developed are described briefly.

1. Mean monthly, seasonal, and annual flows; their areal and temporal distribution patters; and delineation of equal-value contours.
2. Levels of variability of flows mentioned above, for evaluation of the stability, adequacy, and variability of the flow regimes to suit various habitat, recreation, and waste assimilation conditions.
3. Monthly and seasonal flow durations, evaluation of any significant trends of change, etc., for evaluating the long-term use for maintenance of stream ecological integrity, biotic diversity, and habitat suitability.
4. Magnitudes of flows during droughts and their durations, associated with various recurrence intervals, for evaluation of the severity of impacts on environment related stream factors.
5. Magnitude of flood flows and stages corresponding to various recurrence intervals, for evaluating their impacts on wetlands lying in the floodplains.
6. Delineation of streams with sufficient flows to meet the present offstream uses (with storage if needed) as well as instream uses with only minor problems at times.

IDOC NATURAL RESOURCE DATABASES

Database: **Illinois Streams Information System (ISIS)**
Division of Planning
Started: 1981 Completion: expected June 1, 1990

Data Types: Stream length, stream order, dams, levees, channelization, bankside vegetation, designated natural areas, historic sites, boat/canoe access sites, public recreation access, recreational use of streams

Coverage: All streams on USGS 7½' topographic maps that drain at least 10 square miles, which is about 1600 streams totaling approximately 26,000 miles.

Status & Description: Ongoing collection to complete the State by June 1, 1990; computerized; computer mapping capabilities; criteria checking; full availability

Relevant Categories: Aquatic Natural Areas, Wildlife Habitat, Recreational, Scenic Rivers, Urban Corridors

Database: **Permanent Facility and Site Program Inventory**
Division of Land Management
Started: 1989 Completion: expected Nov. 1989

Date Types: Park name, acreage, lake acreage, lake shore miles, river frontage, boat/canoe access, hunting, viewing platforms, and other recreational activities

Coverage: Regional, to become statewide.

Status & Description: Computerized; map locations, some site maps; limited availability

Relevant Categories: Wildlife Habitat, Recreational, Scenic Rivers, Urban Corridors

Database: **Illinois Natural Heritage Database**
Division of Natural Heritage
Started: 1986 Completion: expected 1990

Data Types: Site name, biological species, natural communities, geological features, Threatened & Endangered species, rare species, ownership

Coverage: All designated natural areas and Nature Preserves (about 1,340 sites)

Status & Description: Ongoing collection toward statewide coverage; site location maps; computerized; good availability

Relevant Categories: Aquatic Natural Areas, Wildlife Habitat, Scenic Rivers, Urban Corridors

Database: **National Wetlands Inventory**
Division of Planning
Started: 1985 Completion: January, 1989

Data Types: Wetland locations, acres, classification by type (e.g. marshes, swamps, bottomland forest or lakes), artificial or natural

Coverage: statewide

Status & Description: Completed statewide; computerized; location maps (7½' USGS topographic maps); computer mapping capabilities; good availability

Relevant Categories: Aquatic Natural Areas, Wildlife Habitat, Urban Corridors

Database: **Illinois Fish & Wildlife Information System**
Division of Planning
Started: 1982 Completion: ongoing

Data Types: Biological species locations, typical habitat

Coverage: Statewide; # species: Mollusks (75), Crustacea (56), insects (163), other invertebrates (3), amphibians (42), reptiles (70), fish (195), birds (376), mammals (64)

Status & Description: Computerized; mapping capabilities; additional species locations are being added as data become available (e.g. annual spring bird counts and hunting harvest); good availability

Relevant Categories: Wildlife Habitat

Database: **Streams Program**
Division of Fisheries
Started: 1981 Completion: Ongoing

Data Types: Fish species present, BSC ratings

Coverage: Select streams at sampling stations; basins completed:
Fox Des Plaines Rock
Kankakee Mackinaw Sangamon
Kaskaskia Big Muddy

Status & Description: Computerized; currently adding Little Wabash basin; good availability

Relevant Categories: Aquatic Natural Areas, Recreational

OTHER DATA SOURCES

Database: **Nationwide Rivers Inventory**
National Park Service
Started: unknown Completion: 1982

Data Types: List of rivers based on certain criteria

Coverage: Statewide

Status & Description: Published list, map (IDOC); full availability

Relevant Categories: Recreational, Scenic Rivers, Urban Corridors

Database: **GIS**
IL Natural History Survey
Started: unknown Completion: Summer 1989

Data Types: Aquatic Threatened & Endangered species associated with rivers

Coverage: Statewide

Status & Description: General locations of Threatened & Endangered species sited or sampled in rivers from 1950 to the present; map; computerized; full availability

Relevant Categories: Aquatic Natural Areas

DATABASES RELEVANT TO STREAM/WATER/RESOURCE ISSUES

October 6, 1988

ISIS Illinois Stream Information System	IDOC	Linear Information on riparian strip up to 75 feet Illinois	Streams with 10 mi. sq. or greater. Data at 1\10 mile intervals includes biological, physical, land use, locational information
IFWIS Illinois Fish and Wildlife Information System	IDOC	Database on wildlife Illinois	Species info. includes taxonomy, habitat, life history, distribution
ARC INFO GIS ENR Geographic Information System	ENR	Polygon Point Illinois	Several Data Sets with diff. scales including streams transportation, trails, public lands and pipelines
STORET Storage and Retrieval	IEPA	Database Illinois	Water quality data, hydrological index by river reach and geo. coordinates
Stream Gauging Network	USGS ISWS	Database Illinois	Over 100 stations Continuous flow info.
CADD Computer Assisted Drafting Database Digitizer	IDOT	Mapping Database Illinois	Create overlays for DOT EIS and planning 13 overlays
Regional Information	Various Agencies	Variable	
Illinois State Data Center Cooperative	US Census Illinois Bureau of the Budget		US Census data contact Demographic info.
Illinois Natural Areas Inventory	IDOC	Database Illinois	Significant natural features including 17 outstanding streams and lakes
ISEIRD Illinois Social & Economic Indicators for Rural Development	Ag Extension U of I	Database Illinois	Objective is to avoid unnecessary dup. of data collection

AIBI Average Index of Biotic Integrity	IDOC & IEPA	Database Illinois	Evaluate/classify streams in state by condition of biota
BSC Biological Stream Classification	IDOC & IEPA	Database Illinois	Classify streams based on diversity of fish & macroinvert. populations
NRMS Natural Resource Mgt. system	Army Corps of Engineers	Database National	Info on rec. sites maintained by the corps includes use, economics
LOS Land Ownership Survey	USDA	Database Survey National	Sample of 1% of land owners=demographic characteristics, mgt. practices
MLUR Major Land Use Report	USDA	Database National	Estimate acreage in various land use disaggregated to state level
RIM Recreational Information Mgt. system	USDA Forest Service	Database National	Data on recreation areas in FS system
RRE Renewable Resources	USDA Forest Service	Database National	Continuously updated information on FS lands
RPAW Renewable Planning Act Wildlife	USDA Forest Service	Database National by State	Habitat, ecosystem use data by groups of species and individ. species
COA Census of Agriculture	US Dept. of Commerce Bureau of Census	Database National	Farm land value, production, by state & county
ESUSA US Endangered Species Distribution File	Dept of Energy Bookhaven National Lab	Database National	Taxonomy, legal status, distribution by county

GEO Geoecology Data Base	US Dept of Energy Oak Ridgy Lab	Database National	Diverse environmental information at county and sub-county level
LHRRR Licensed Hydropower Developments Recreation Report	US Dept. of Energy	Database National	Inventory of rec. facilities and usage 850 hydro elect. sites
SEEDIS Socio-Economic Environmental Demographic Info. System	Dept. of Energy Lawrence Berkley Lab	Database National	Socio-economic, envir. demographic & health related data down to local governmental level
CLEAR Clearinghouse on EPA Data	USEPA	Database National	Not all computerized referenced source on air and water quality information
DIDS National Indicators Decision Info. Display System Evaluation	Office of the Pres.	Database National	Interactive info. system on pop., ed. employment, energy, water/air quality, etc state & county level
UPGRADE User Prompted Graphic Data Evaluation System	Office of the Pres.	Data analysis National	Interactive info. system to analyze STORET, NASQAN, Census data, etc. at state & county level
HBN Hydrologic Benchmark Network	USGS	Database National	Water quality info. on relatively pristine areas-52 sites
LWCF Land and Water Conservation Fund	US Park Service	Database National	Info. on projects receiving or proposed for LAWCON funds by site, city, state and congressional district
NNLP National Natural Landmarks Program	US Park Service	Printed Reports National	Register of Natural Landmarks by regional "theme studies"
NASQAN National Stream Quality Accounting Network	USGS	Database National	Uniform water quality parameter list by day, month, semi-year, year
NSFHW	USFWS	Database	Survey of users on

National Survey of Fishing, Hunting		National	expenditures, time, and demographics by state, region
TRAIL National Trails System	Park Service	Printed reports National	Designated national recreational, scenic, & historic trails by index number, name, use
Floodplain Maps	FEMA	Maps National	Maps flood hazard areas according to elevation and frequency
WATSTORE Water Data Storage and Retrieval	USGS	National Database	Occurrence, quality quantity, & movement of surface and sub-surface waters
NRI	USDA	National Database	County level assessment of natural resources especially ag. acreage
NWI National Wetlands Inventory	USFWS	Database maps National	Wetland location, size, vegetation by ecologic. region and state
RIVER Nationwide Rivers Inventory	Park Service	Database National	Survey of river segments over 25 mi. for conservation actions, "outstanding remarkable value" at regional level
NABBS North American Breeding Bird Survey	USFWS	Database national	Based on sitings by ecological regions
MRI Midwest Research Institute	Various Agency Input	Printed Reports	Water, land-use planning and mgt. associated with leisure and recreational uses
LOCAL Local Public Park and Recreation Services & Program	National Rec. & Park Assoc.	Database national	Survey of municipal, county, district areas
PDB The Preserve Data Base	Nature Conservancy	Database National	Baseline, scientific, land mgt. info. for areas that have passed preserve system by category, mgt., feature

SNHP State Natural Heritage Programs	Nature Conservancy	Database National	28 states site specific info.
PNW Recreation Data Program	Pacific Northwest River Basin Commission	Database Regional	Inventory and usage of sites in region
NAWDEX National Water-Data Exchange	USGS	Data Exchange	National program to assist in identifying locating and acquiring needed data
INRIS	ENR Surveys	Database Illinois	In development to include broad range of natural resource data
Flood Damage Potential	IDOT	Map Database	Classification by priority need for flood damage control
BIOS	IEPA	Illinois	Biological and habitat data
WBS Waterbody System	IEPA	Illinois	Maintains water quality assessments required by Section 305(b) of CWA