BLUE RIVER
INDIANA

Drawer 35

Dr 35

P99/D-379

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF OUTDOOR RECREATION
Region 4

FOR GOVERNMENT USE ONLY

September 13, 1963

Memorandum

To: The Director, Bureau of Outdoor Recreation

From: Lake Central Study Team

Subject: Blue River, Indiana

The Blue River in the State of Indiana does not meet the five criteria established for inclusion within the proposed nationwide system of wild rivers. The river does not possess outstanding recreational qualities from a national standpoint. In addition, although the stream is of sufficient length, it is relatively shallow, averaging from a few inches to a foot in depth, making boating difficult. The stream is floatable, but entails lengthy hauls or tiring portages.

The river does possess recreational, historic and scientific values of state significance, and state action to preserve these qualities should be encouraged.

Lake Central Study Team

FOR GOVERNMENT USE ONLY

Wild Rivers Study

For The

BLUE RIVER

in

Indiana

September 1963

Lake Central Study Team

William M. Byers, Jr.
U. S. Forest Service

Donald M. Spalding
National Park Service

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THREE-STEP

I. RIVER AREA INVENTORY FORM

II. CRITERIA

III. FINDINGS

MAP EXPLANATI

HIGHWAYS

U.S. Routes are shown in red but they are not always the best or shortest routes between points.

U.S. Routes / State Routes

- Multilane Divided
- Multilane Undivided
- 2 Lane, Paved
- Dustless

ROADS WITH ACCES FULLY CONTROLLE

- Multilane To
- Multilane Di
- Under Construction
- Traffic Interchange
- Access Denie
- County Access Road

64 Interstate Routes 40 U.S. Routes 9 State Rout

Road mileage shown thus:

Mileage shown from center to center of towns.

GENERAL

Symbols of incorporated cities and towns by population grou

- Over 25,000
- Over 5,000
- Over 3,50
- Under 3,500
- Unincorporated Town
- Municipal Airport
- Military Airport
- Roadside Park
- State Colleges and Univer
- Other Colleges and Univers
- Indiana University Ext. Cent

Y GARAGES

I. RIVER AREA INVENTORY FORM

General information

1. Name of river - **Blue River in southeast Indiana**

2. Location of study unit(s) - **that portion of the main stem from New Pekin, Indiana, to its confluence with the Ohio River east of Leavenworth, Indiana.**

3. State(s) - **Indiana**

4. County(ies) **Crawford, Harrison, Washington**

5. Major drainage basin (see appendix A) **Ohio River basin**

6. Population within 50 miles 1,265,000 ; 150 miles 4,000,000;
250 miles 15,000,000

7. Weather characteristics by seasons and inclusive dates when study unit(s) is best suited for public use and normal weather conditions during that period

As a rule the winters are not severe. The summer heat, although at times intense, does not last too long. The humidity is normally high and the temperature changes frequently. Rainfall is frequent and well distributed throughout the year. There are occasional short-lived summer drought conditions. During the spring and summer and early fall convection storms of intense precipitation are frequent. During this same period there are occasional cyclonic storms. The growing season averages 180 days. The average temperature ranges between 70° and 80° F. Precipitation amounts to 35 to 40 inches annually.

Source: U. S. Weather Bureau data.

B. Description and characteristics of river (by study unit(s)):

1. Number of miles in study unit(s) The study unit started 24 miles above the confluence of the north and south fork of the Blue River. The study commenced at New Pekin, Indiana. The total length of the area studied - 80 miles.

2. Width characteristics - The average width of the stream varies from 10 to 20 feet at New Pekin, Indiana, to 100 feet at the junction of the Blue River with the Ohio River. During the months of July and August the upper stretch of the River averages 20 feet in width, the lower stretch 60 feet in width. During December and January, the upper stretch of the River averages 35 feet in width, the lower stretch 100 feet in width.

Source: Personal observation of the Study Group.

3. Depth characteristics - During the summer the River is too shallow and rocky to be floated with a canoe as numerous riffles and shallow stretches will have to be portaged. The River becomes quite narrow, fallen snags block passage, and it becomes extremely shallow. There are some pools in the upper stretches. The average stream depth varies from one-half foot to 4 feet with the exception of the deeper pools. Early springtime is the best time to float this stream.

Source: William B. Barnes, Asst. Director, Division of Fish and Game

4. Flow characteristics - The flow is rapid and heavy in the spring with numerous riffles to be negotiated. During the summer and fall the stream narrows down and becomes pools and very shallow riffles. It is then a good wading and bank fishing stream with some boat fishing in the pools. Hard rains cause the stream to fluctuate although heavy flooding is infrequent.

Source: William B. Barnes, Asst. Director, Division of Fish and Game

5. Course characteristics and stability - Blue River rises in the flat Salem plain region. It then meanders through limestone hills with frequent rock outcrops and limestone cliffs 60 to 100 feet high along its side. The banks are relatively stable and floods are not too frequent. The entire watershed must receive a heavy rain of 2 to 3 inches before floods become serious. Local heavy rains do not cause floods.

Source: Bill Steen, Geologist, Water Resource Division

6. Bed material - Limestone outcrops, sand, and rubble.

   Source: Bill Steen, Geologist, Water Resource Division

7. Water quality (kind, degree and source of pollution) - Pollution is extremely low and what there is is mostly of agriculture type. Water is in very good condition. This is probably the best water in southern Indiana as far as quality is concerned. There is no industrial pollution and the cities of Salem, Palmyra, and Leavenworth have acceptable sewage treatment plants. The small towns of Fredricksburg, Marengo, and Milltown have septic systems and it is felt that some pollution may enter the stream although it is not apparent at this time.

   Source: H. E. McReynolds, Chief Aquatic Biologist

8. Type of fishery (warm or cold water) and dominant species of fish (commercial and sport) - The stream supports warm water fishery and such species as large and small mouth bass, spotted bass, rock bass, catfish, crappie, blue gill, and carp. It is locally noted as being one of the two streams in southern Indiana that have Ohio River muskelunge. During the spring non-local fishermen outnumber the local people fishing by 3 to 1. During the summer the ratio is 1 to 1.

   Source: H. E. McReynolds, Chief Aquatic Biologist

C. Description and characteristics of setting (by study unit(s)):

1. Nature of topography - The area along the stream is hilly with steep slopes, limestone cliffs, and small, flat bottomland areas immediately adjacent the stream.

Source: Bill Steen, Geologist, Water Resource Division

2. Ecological type (deciduous, coniferous, prairie, desert, shrub, or other) and brief description

A narrow screen of mixed deciduous forest borders most of the River on both sides. There are a few places where cleared lands border the River, but behind the narrow screen about 70% of the land in the upper stretches is cleared for agriculture. On the lower stretch of the River the area is rougher or wooded, hilly with steep cliffs, and less agricultural development.

Source: Bob Raisch, State Forester

3. Important species of wildlife and status

The following species of wildlife are on the increase: whitetail deer, raccoon, and wood duck. Ther wildlife species where the population is remaining stable are: red and gray fox squirrels, rabbits, muskrat, opossum, and quail. Wildlife species on the decrease are: skunk. Recent species introduced are ruffed grouse and wild turkey. Their status is not known at this time.

Source: William B. Barnes, Asst. Director, Division of Fish and Game

D. River access

1. Types and locations of public access (spot on map)
Access to the stream in this area is very poor as there are no developed public access locations. However, access can be had where roads cross the stream through private land by permission of the owner. One small tract of the Harrison State Forest borders the River but the topography is too steep for an access development.

Source: William B. Barnes, Asst. Director, Division of Fish and Game

2. Factors limiting public access (physical, legal) - There are several stretches along the River where steep cliffs and steep River banks limit access. Long stretches of private ownership and posted land on both sides of the River limit access without permission of the private landowner.

Source: Map and personal observation of Study Group.

E. Special scientific, educational and esthetic values

1. Geologic - There are two major limestone caves in the area. Wyandotte Cave at Wyandotte, Indiana, State Highway No. 62 one-half mile northeast of Blue River; Marengo Cave, State Highway No. 64 and 66 four miles west of Blue River. Both of these areas have been developed for recreation and have such accommodations as motels, cabins, dining rooms, trails, fishing, etc. There are high limestone and sandstone cliffs along the River. The area has a large number of springs, one being the largest spring in Indiana.

Source: Bill Steen, Geologist, Water Resource Division

2. Biotic - The rare Chuck Will's widow is found in this area and the Ohio River muskelunge is taken from the stream by anglers. This area is good for the re-introduction of ruffed grouse and wild turkey. Chuck Will's widow is a bird and a member of the Goatsucker family and a relative of the Whip-Poor-Will.

Source: William Barnes, Asst. Director, Division of Fish and Game.

3. Historic - The River has some past historic importance only in connection with old water mills. Traces of water mills are found at Roth Rock, Milltown, and at White Cloud. The Wyandotte Cave was once used by the Indians as their tribal headquarters before being moved to Kansas.

Source: James Briscoe, Conservation Officer, Milltown, Indiana

4. Archeologic - None.

5. Other - None.

Present quality of recreation and environmental factors limiting quality.

Kinds	Quality: Excellent	Good	Fair	Poor	Environmental Limiting Factors
Boating:					
Motor				X	too shallow
Non-motor			X		drifts, pools, & riffles
Fishing		X			
Hunting					
Big game		X			poaching, dogs
Small game		X			
Water fowl				X	access to streams, not much food
Camping			X		access
Swimming			X		access and water depth
Hiking		X			few trails & private ownership
Sightseeing		X			access
Nature study		X			access
Other					

Source: William Barnes, Asst. Director, Division of Fish and Game.

G. Classification of study unit(s) (according to six ORRRC classes)

Class II - General outdoor recreation areas. Areas subject to substantial development for a wide variety of specific recreation uses.

Class III - Natural environment areas - various types of areas that are suitable for recreation in a natural environment and usually in combination with other uses.

Source: Study Group.

H. Status of economic development

1. Characterize the economy of the general river area

The economy of the area is mixed agriculture and small industrial sites. People whose livelihood is primarily forestry and agriculture supplement this income by working in New Albany and Louisville, Kentucky.

The limited narrow bottom flood plain fields lend themselves to producing general grain crops, pasture, small tobacco patches, orchards, and strawberries. However, interest in this type of farming is dwindling.

There is an influx of people from the larger cities to buy land for development as weekend retreats. A considerable amount of this land that is changing hands is along the stream.

Source: Paul Byrum, Postmaster, Milltown, Indiana
Don Sloan, Area Conservationist, SCS, English, Indiana

2. Is the economy growing, declining, stagnant? What economic activities are those that are growing, declining?

The economy of the area is declining. Farming has been on the decline for several years. Some small manufacturing plants have left the area. However, the population remains stable as many of the people have found employment in the larger cities 30 to 60 miles distant.

The land use has changed from crop land to grass land farming and timber production by the non-resident owners.

Source: Don Sloan, Area Conservationist, SCS, English, Indiana
Paul Byrum, Postmaster, Milltown, Indiana

3. Describe the transportation routes to and through the general area (rail, air, boat, auto) and facilities found on [illegible] The area has a fairly well developed transportation system. The local road system is predominantly all-weather surfaced and State Highway 62, 64, 56, and 60 cross the area in an east and west direction and State Highways 135, 335, 66, and 337 cross in a north-south direction. The area is served by the Southern, Chicago, Indianapolis and local railroads. Commercial freight depots are located at Louisville, Kentucky, and Albany, Indiana, 25 to 30 miles distance

Source: Map of area.

PRESENT DEVELOPMENT

I. Describe and give the status of plans for water resource developments in the general area by Federal agencies and others that would drastically and permanently affect the study unit(s).

There are no plans for water resource development at this time. There has been some interest in a PL-566 project in the headwaters but as yet no application has been made. The town of Fredricksburg has contacted the Corps of Engineers and the State of Indiana Water Resource Division for help in clearing and snagging along the River to ease flood conditions in the town.

Source: Don Sloan, Area Conservationist, SCS, English, Indiana
William Barnes, Asst. Director, Division of Fish and Game
Henry C. Prang, Chief Engineer, Dept. of Conservation
Donald E. Foltz, Director, Dept. of Conservation

J. What impact (detrimental or beneficial) will the following uses (present or planned) have on the qualities of the study unit(s):

1. Agriculture

Agriculture erosion in the uplands is detrimental. However, some land has been abandoned to forest cover which is beneficial. On the whole, various farm programs by different Federal agencies have helped the agricultural situation.

Source: Don Sloan, Area Conservationist, SCS, English, Indiana

2. Forestry

Beneficial. Trees are being planted and land is being placed in a State classified forest program. The pasturing of woodlots is down, however, logging is sometimes detrimental for a short period of time. One of the major factors is that non-resident land purchasing has resulted in more land being placed under timber management.

Source: Bob Raisch, State Forester

3. Mining

The old limestone quarry at Milltown has been abandoned and this is beneficial.

Source: Bill Steen, Geologist, Water Resources Division

4. Transportation

Interstate 64 will cross through the upper part of the watershed. This may present a problem for a short period of time. Limited access may present a problem to people wanting to enter the area. On the whole transportation is beneficial.

Source: Map, Henry C. Prang, Chief Engineer, Dept. of Conservation

5. Industry

The small industries within the area are not detrimental. These industries are broiler plants, shoe factory, and two cabinet factories.

Source: Don Sloan, Area Conservationist, SCS, English, Indiana

6. Recreation

Recreational boating is limited because of the shallowness of the water. Fishing is heavy in the spring and moderate in the summer. However there is increase in fishing, boating, picnicing, and hunting. The springs in the area tend to open the River earlier than normal and this allows for early fishing. The trend of recreational use is increasing.

Source: Don Sloan, Area Conservationist, SCS, English, Indiana

7. Residential - Community

Since the population is remaining stable, there is a little if any effect on residential communities. One small subdivision of ten houses is being constructed in Milltown. This will have no effect upon the River.

Source: Paul Byrum, Postmaster, Milltown, Indiana

8. Other

The proximity of the Ohio River and backwaters that will be caused by the Cannelton Locks and Dam project of the Corps of Engineers will have some effect upon the recreational development along the Ohio. Water will be backed up the Blue River and this will increase the depth to a point where larger boats will be able to come up the River for several miles. Since Blue River is the only large stream west of the city of Louisville, it now gets heavy use and should get increased use once Cannelton Locks and Dam project is completed.

Source: William B. Barnes, Asst. Director, Division of Fish and Game

K. Condition of headwater lands and trends in management

There has been a decided change in the management of the headwater lands. Farming has changed from crops to the grassland variety. The absentee ownership has meant an additional change from agriculture to forestry. Erosion, although still present, is decreasing.

The limestone formation underlines a considerable portion of this area, allows and accounts for a large amount of under water drainage into the River.

Source: Don Sloan, Area Conservationist, SCS, English, Indiana

L. Land ownership (general pattern of federal, State and private ownership) (show on map)

90% of the watershed is in scattered small private holdings. The remaining 10% of the watershed is land owned by the State of Indiana and is a part of the Harrison State Forest. Only one 40-acre tract of the Harrison State Forest borders the River.

Source: Donald Foltz, Director, Dept. of Conservation
William Barnes, Asst. Director, Division of Fish and Game
Captain Gene Clark, Law Enforcement Division, Dept. of Conservation

M. Actions that have been taken or are planned to protect the natural qualities of the river and its environment (such as special local legislation, zoning, easements, etc.)

None.

Both Harrison and Crawford counties are anticipating the need in the near future for rural zone planning. They both are making preliminary studies.

Source: William Barnes, Asst. Director, Division of Fish and Game

N. Other

None.

O. Sources of reference and information (maps, reports, agencies, persons, etc.)

Donald E. Foltz - Director, Indiana Dept. of Conservation
William B. Barnes - Asst. Director, Division of Fish and Game
H. E. McReynolds - Chief Aquatic Research Biologist
W. Bechert - Director, Water Resource Division, Dept. of Conservation
Henry C. Prang - Chief Engineer, Dept. of Conservation
Bill Steen - Geologist, Water Resource Division
Captain Gene Clark - Director, Enforcement Division, Dept. of Conservation
James Briscoe - Conservation Officer, Milltown, Indiana
Paul Byrum - Postmaster, Milltown, Indiana
Don Sloan - Area Conservationist, Soil Conservation Service, English, Ind.
Bob Raisch - State Forester, Dept. of Conservation
U. S. Forest Service
U. S. Park Service
Bureau of Outdoor Recreation
Bureau of Sport Fisheries

P. Photographs (color and black and white) (label and spot on map)

1. Looking upstream toward shallow riffles. River is not canoeable during late spring, summer, and fall months because of these type rapids throughout upper and middle reaches.

2. View across the River showing shallow riffles and gravel bar from exact location as picture #1.

3. Looking downstream toward shallow riffles from exact point as in pictures 1 and 2.

4. One of the many quiet pools. Looking up stream.

5. A long shallow riffle. Water 4 to 8 inches deep. Not canoeable. Looking downstream from exact location as picture #4 was taken.

6. Looking upstream from county road bridge 2 miles above Rothrock Mill dam. Pool formed by Rothrock Mill dam backwater.

7. Looking downstream from county road bridge 2 miles above Rothrock Mill dam. Pool formed by Rothrock Mill dam backwater.

8. Rothrock Mill dam pool. View upstream from the top of Rothrock Mill dam.

9. Rothrock Mill dam and old mill. Mill now abandoned.

10. Pan fishing with fly rod in the shallow pool and riffles below Rothrock Mill dam. Dam is 8 to 10 foot high.

11. Riffles and shallows immediately below Rothrock Mill dam.

12. Rothrock Mill. Abandoned. Machinery partly removed.

Q. Method of study

Personal contacts were made with State of Indiana personnel and local officials and residents. An aerial observation was made of the River and ground observations were made at most of the county and State highway road crossings.

R. Period of study

August 5 and 6, 1963 - W. M. Byers

II. CRITERIA

Based on the information and impressions gained during the study, evaluate the river area against the following five criteria. To qualify for further consideration for status in a national system of wild rivers, a river area should meet all of these criteria:

1. The river is still relatively undeveloped, unpolluted, and free-flowing and the scene as viewed from the river is pleasing whether primitive or rural-pastoral, or these conditions must be capable of restoration as far as practicable and within foreseeable legislative, financial and technical capabilities.

   Yes X

   No _____

   Explain

   For the most part this river is still relatively undeveloped. The upper reaches of the river have a rural pastoral character because of the high percentage of farming activities in the area. As the stream drops off this agricultural plain, it begins to cut down through a narrow limestone valley with frequent small flat valley bottoms. Limestone hills and cliffs are prominent from the mid reaches through the lower reaches of the valley. Several small towns exist along the River. These in no way detract from the stream and would serve as possible points of supply and access.

2. The river area possesses recreation, scientific, historic, or esthetic values of outstanding quality.

   Yes _____

   No X

   Explain

   Although this area does possess recreation, scientific, historic, and aesthetic values, these are not outstanding but should be considered to be above average for this section of the State. Although they are of high enough quality to attract visitors from 50 to 100 miles away, they are not of the quality that would be attractive to visitors from adjacent or far distant points or states.

3. The river area is large enough to sustain existing public recreation use or accumulate more without resulting in appreciable reduction of the quality of the experience or damage to the resource (rule of thumb: 50 miles long and 50 feet wide).

Yes_____

No __X__

Explain

This River, although of sufficient length, is too small in width and is extremely shallow in numerous places. It cannot be negotiated with a boat without the user being subjected to frequent and tiresome long portages over the shallow areas. On most of the riffles or shallows, water varies from a few inches to a foot in depth and cannot be negotiated by the boater. This condition is prevalent throughout most of the summer and fall seasons.

4. The quality, size, and uniqueness of the river and its setting is of sufficient importance to attract use from beyond the boundaries of the locality and state(s) and would appear to outweigh other uses of the river.

Yes_____

No __X__

Explain

The stream is only valuable for use by the local resident who is willing to wade and fish or portage his boat across the shallow areas to still fish the deeper pools. Since most of the present users are local residents, the problem of access across private land into the better known deeper pools for fishing and swimming does not exist. However, for the out-of-area or out-of-state resident this would be a problem of great magnitude and this potential user would not remain in the area but would travel on to better and more accessible locations.

5. Plans for other uses of the river or its setting that would permanently and drastically impair the natural conditions have not progressed to the point that construction has commenced.

Yes X

No

Explain

There are no known plans for future development of this River that would impair its natural conditions. There was mentioned, however, of the possibility that the residents of Fredricksburg, Indiana, wanted the Corps of Engineers to clear the stream above their town of the snags and logs partially blocking the flow of water which was causing them some problems during periods of high water. It is not known whether this proposal has progressed beyond the inquiry stage.

It is felt that the quality of this stream is of such significance that it has considerable value to the local populace. The State of Indiana could improve and enhance the value of this stream locally by acquiring and developing access points on the lower stretches of the River below Milltown. The old mill at Rothrock dam would be a point of considerable local interest if this was to purchased and rehabilitated by the State.

While the stream has no national significance or potentiality, it is felt that the State of Indiana could improve the stream to the point where it would be of considerable value economically to the local people. This stream does attract considerable numbers of fishermen in the early spring. These fishermen come from as far away as Louisville, Kentucky, some forty to fifty miles distance. Another point to consider is that these same residents of Louisville are acquiring tracts along the stream for summer home sites. The stream does have significance locally but not nationally.

III. FINDINGS

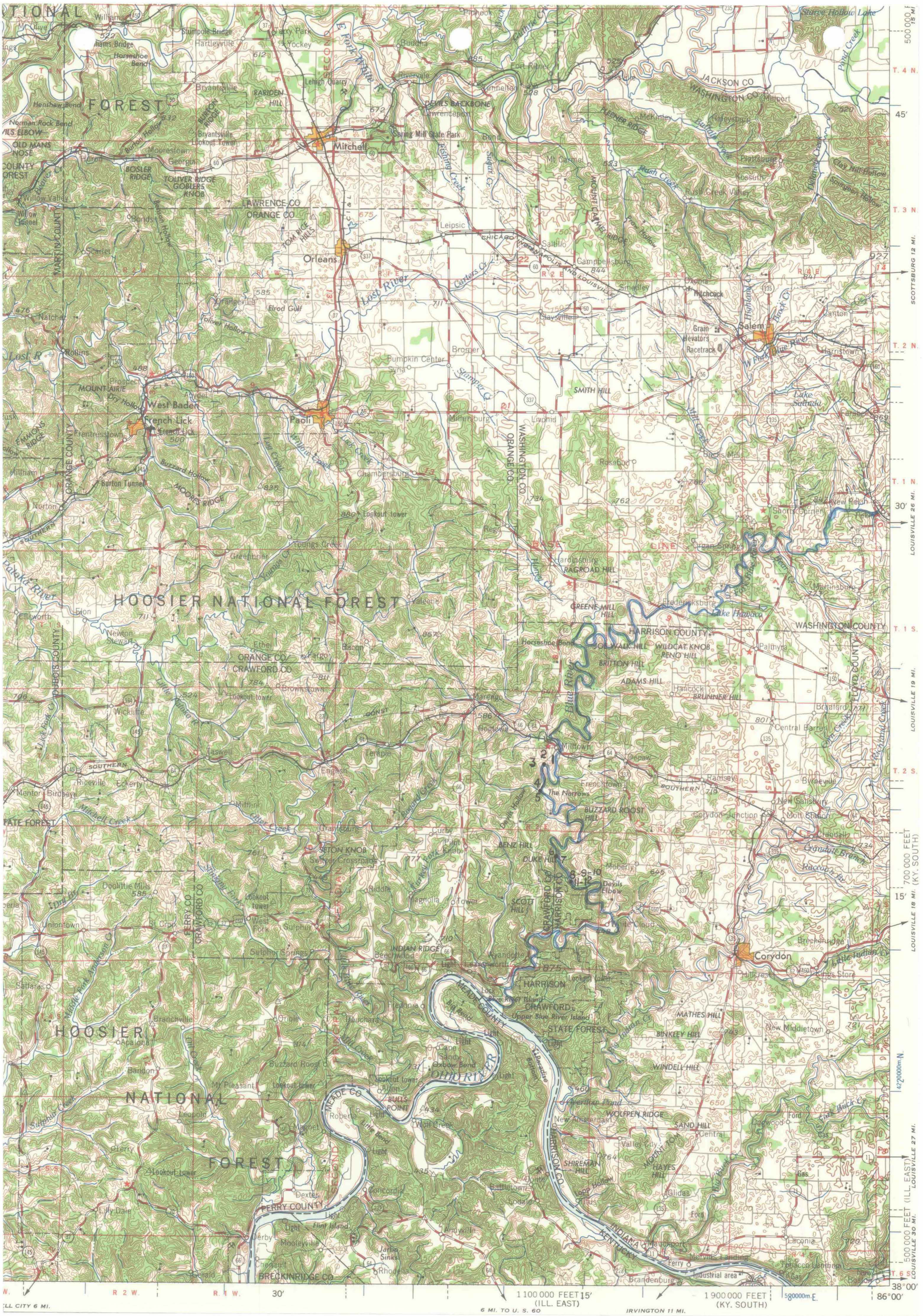
If the river area meets the five criteria and thereby qualifies for further consideration for status in a national system of wild rivers as an alternative to other uses that may be proposed:

1. Summarize briefly the basis for your conclusion.

2. Identify the river unit(s) that are worthy of wild river status and deliniate on a map the lands that should be included inorder to effectively protect the river and its setting.

3. Identify problems that may be encountered should efforts be made to protect the river area and its watershed, and suggest possible solutions.

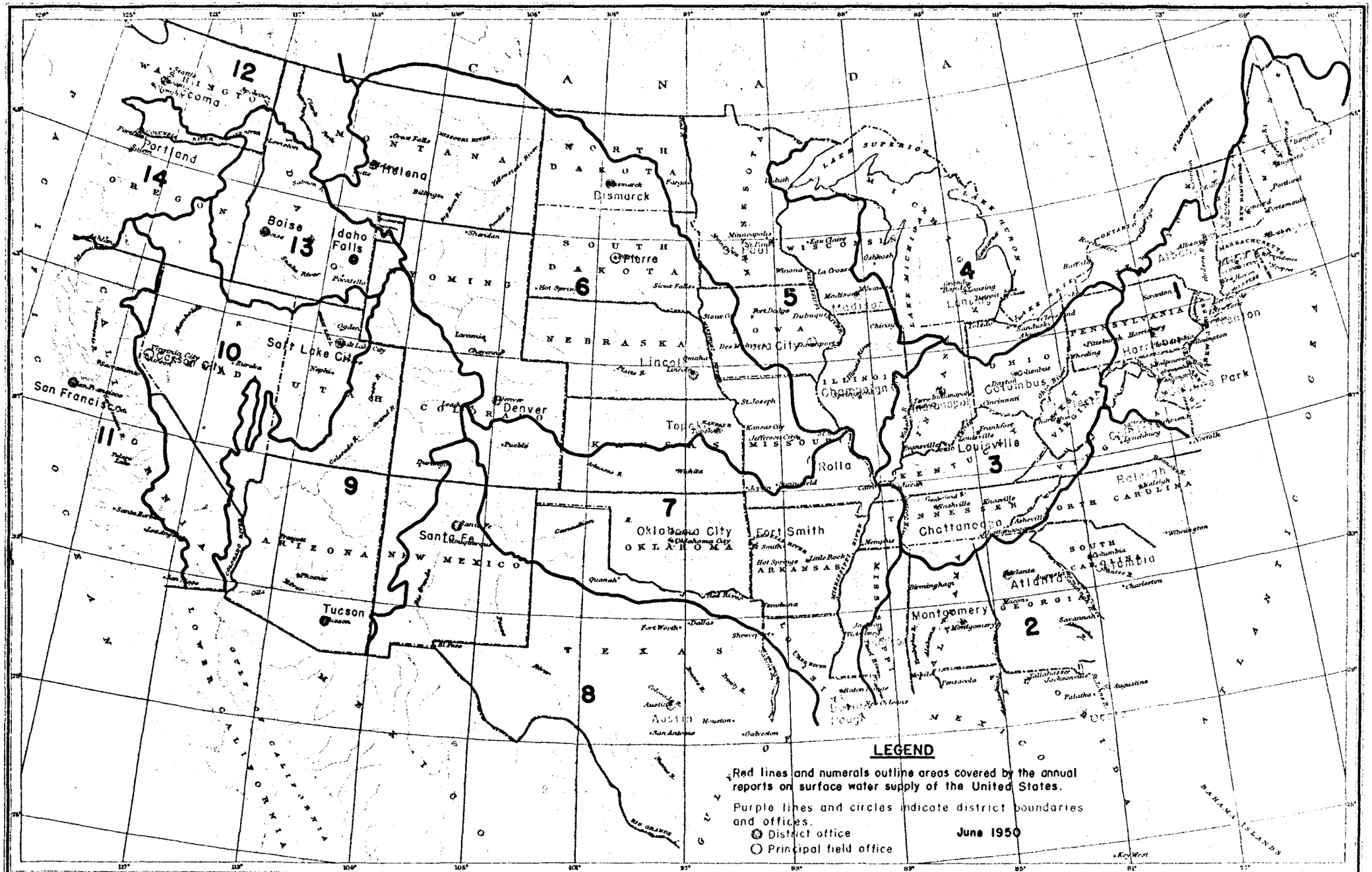
4. Other


HOOSIER NATIONAL FOREST
Mitchell
Orleans
Paoli
West Baden
French Lick
Salem
Corydon
Spring Mill State Park
DEVILS BACKBONE
Lawrencepor
Lehigh Quarry
Bryantsville
Bryantsville Lookout Tower
BURTON RIDGE
RARIDEN HILL
Stumpole Bridge
Hartleyville
Tarry Park
Yockey
Buddha
Rivervale
Fort Ritner
Tunnelton
Sparksville
JACKSON CO
WASHINGTON CO
Millport
Haleysburg
PLEENER RIDGE
McKinley
Mt Carmel
MOUNT CARMEL RIDGE
Rush Creek
Rush Creek Valley
Kossuth
Plattsburg
Clay Hill Hollow
Spurgeon Hollow
Starve Hollow Lake
Pond Creek
LAWRENCE CO
ORANGE CO
TOM RICE HILLS
Leipsic
Saltillo
Campbellsburg
CHICAGO INDIANAPOLIS AND LOUISVILLE
Smedley
Oxonia
Hitchcock
Claysville
Grain elevators
Racetrack
Canton
Harristown
W Fork Blue River
Lake Salinda
SMITH HILL
Livonia
Millersburg
Bromer
Pumpkin Center
Syria
Lost River
Carters Cr
Stamper Cr
Elrod Gulf
Orangeville
Toliver Hollow
BOSLER RIDGE
TOLIVER RIDGE
GOBLERS KNOB
Moorestown
Georgia
Huron
Willow Valley
Willow Tunnel
OLD MANS NOSE
Norman Rock Bend
Henshaw Bend
Horseshoe Bend
Williams
Williams Bridge
Mt Olive
MARTIN COUNTY
ORANGE COUNTY
Bonds
Scarlet
Natchez
Rollins
Lost R
MOUNT AIRIE
Prospect
Abydel
Frentresstown
EMMONS RIDGE
Hillham
Burton Tunnel
Norton
Buzzard Hollow
MOORES RIDGE
Lick Creek
Willow Creek
Chambersburg
Lookout tower
Youngs Creek
Greenbrier
Patoka River
Ellsworth
Elon
Newton Stewart
Valeene
Ethel
Pargo
Bacon
ORANGE CO
CRAWFORD CO
Brownstown
DUBOIS COUNTY
Wickliffe
Little Patoka R
Taswell
Temple
English
Eckerty
Riceville
Mentor
Birdseye
STATE FOREST
Mitchell Creek
Mifflin
Otter Creek
Grantsburg
SETON KNOB
Switzer Crossroads
Riddle
Magnolia
Tower
Curby
Pilot Knob
Doolittle Mills
PERRY CO
CRAWFORD CO
Uniontown
St Croix
West Fork
Sulphur
Sulphur Springs
INDIAN RIDGE
Beechwood
Leavenworth
Wyandotte
Sattaras
Branchville
Oriole
Deuchars
Fredonia
HOOSIER
Apalona
Bandon
NATIONAL
Mt Pleasant
Buzzard Roost
Leopold
Terry
FOREST
Magnet
Dexter
Lilly Dale
Derby
Mooleyville
Chenault
Gerald
PERRY COUNTY
BRECKINRIDGE CO
Flint Island
Concordia
Jarbo Sinks
Rhodelia
Andyville
MEADE CO
Roberta
Little Bend
BULLS POINT
Wolf Creek
Alton
Cape Sandy
Oxbow Bend
OHIO RIVER
Big Bend
MEADE COUNTY
Lock
Blue River Island
Upper Blue River Island
HARRISON CRAWFORD STATE FOREST
Paradise Bottom
Overflow Pond
New Amsterdam
WOLFPEN RIDGE
SAND HILL
Central
Valley City
MOUNT TOM
HAYES HILL
SHIREMAN HILL
HARRISON CO
Lopp Hollow
Titus
Battletown
Lodale
Glidas
Ford
Mauckport
INDIANA
KENTUCKY
Perry
Morvins Landing
Brandenburg
Industrial area
Tobacco Landing
Gas
New Boston
Laconia
Dogwood
Big Indian Cr
MATHES HILL
BINKLEY HILL
WINDELL HILL
New Middletown
Hillcrest
Kings Store
Little Indian Cr
Breckenridge
White Cloud
Devils Elbow
SCOTT HILL
CRAWFORD CO
HARRISON CO
DUKE HILL
BENZ HILL
BUZZARD ROOST HILL
The Narrows
Devils Hollow
Frenchtown
Milltown
Hogtown
Marengo
Ouray
Ramsey
SOUTHERN
Corydon Junction
New Salisbury
Mott Station
Crandall
Crandall Branch
Raccoon Br
Byrneville
Central Barren
Bradford
FLOYD COUNTY
Corn Creek
Richland Creek
Hancock
BRUNNER HILL
ADAMS HILL
BRITTON HILL
JOE WALK HILL
WILDCAT KNOB
RENO HILL
Horseshoe Bend
Blue River
HARRISON COUNTY
WASHINGTON COUNTY
Palmyra
GREENE MILL HILL
Fredericksburg
Lake Hawaco
RAGROAD HILL
Hardinsburg
Rego
BASE LINE
Organ Springs
Shorts Corner
New Pekin
Pekin
Martinsburg
Rosebud
Becks Mill
Mill Creek
Farabee
T. 4 N.
T. 3 N.
T. 2 N.
T. 1 N.
T. 1 S.
T. 2 S.
T. 6 S.
R 2 W.
R 1 W.
R 2 E
R 3 E
R 4 E
45′
30′
15′
38°00′
86°00′
500 000 FEET
700 000 FEET (KY. SOUTH)
500 000 FEET (ILL. EAST)
1 100 000 FEET (ILL. EAST)
1 900 000 FEET (KY. SOUTH)
4220000m.N.
580000m.E.
SCOTTSBURG 12 MI.
LOUISVILLE 26 MI.
LOUISVILLE 19 MI.
LOUISVILLE 18 MI.
LOUISVILLE 27 MI.
LOUISVILLE 30 MI.
6 MI. TO U. S. 60
IRVINGTON 11 MI.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PARTS, DISTRICTS, AND PRINCIPAL STATE OFFICES
SURFACE WATER BRANCH
WATER RESOURCES DIVISION

UNITED STATES



LEGEND

Red lines and numerals outline areas covered by the annual reports on surface water supply of the United States.

Purple lines and circles indicate district boundaries and offices.

◉ District office
○ Principal field office

June 1950

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C.

Scales

100 0 100 200 300 400 500 600 Miles

100 0 100 200 300 400 500 600 Kilometers

Edition of Mar 1911, reprinted 1947
Polyconic projection.

Legend

1. North Atlantic slope basins (St. John River to York River)
2. South Atlantic and eastern Gulf of Mexico basins (James River to Mississippi River)
3. Ohio River Basin
4. St. Lawrence River Basin
5. Hudson Bay and upper Mississippi River Basins
6. Missouri River Basin
7. Lower Mississippi River Basin
8. Western Gulf of Mexico Basin
9. Colorado River Basin
10. The Great Basin
11. Pacific slope basin in California
12. Pacific slope basins in Washington and upper Columbia River Basin
13. Snake River Basin
14. Pacific slope basins in Oregon and lower Columbia River Basin