JAMES RIVER
VIRGINIA
I. RIVER AREA INVENTORY FORM

A. General information:

1. Name of river: James including two principal tributaries, the Cowpasture and the Calfpasture

2. Location of study unit(s): The mainstem of the James River from Lynchburg to Eagle Rock. Tributary Cowpasture from Eagle Rock to Williamsville; tributary Calfpasture from Glasgow to Goshen.

3. State(s): Virginia

4. County(ies): Botetourt, Rockbridge, Bedford, Amherst, Campbell, Highland, Bath, Alleghany, Augusta

5. Major drainage basin (see appendix A): Number 1, North Atlantic slope basins (James River).

6. Population within 50 miles 600,000; 150 miles 14 million; 250 miles 29,000,000

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: Winter season, December through March, cold with snow. Spring, April through June, cool and pleasant. Summer, July and August, hot with showers. Fall, September through November, cool and pleasant. Maximum recreational use would be April through October. Fall coloring in November would have some impact on area visitation.

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

1. Number of miles in study unit(s): Mainstem of the James - 30 miles; tributary Cowpasture - 64 miles; tributary Calfpasture - 78 miles.

2. Width characteristics: Mainstem of the James 50 to 300 feet; maximum width in impounded areas. Cowpasture average would be 50 feet or better for 80 percent of the stream. Calfpasture upstream from Goshen intermittent flow with long stretches of dry bed. Downstream from Goshen average about 50 feet.

3. Depth characteristics: Mainstem of the James shallow in natural riverbed areas, deep in impoundments. Cowpasture long shallow shoals with intermittent deeper pools. Calfpasture upper end dry gravel bed; lower sections, shallow, deeper intermittent pools.
4. Flow characteristics: Mainstem of the James, rapid to sluggish behind impoundments. Cowpasture - the flow is rapid and heavy in late winter and early spring and slacks off during summer and fall. Calfpasture flow characteristics similar to Cowpasture.

5. Course characteristics and stability: Course characteristics of the mainstem of the James and tributaries in the study unit are considered meandering and stable.

6. Bed material: Mainstem of the James and two tributaries in the study unit similar. Bedrock, sand, gravel with some silt deposits.

7. Water quality (kind, degree and source of pollution): Mainstem of the James has industrial pollution entering the river from papermill at Covington. Other industrial plants located at Big Island, Buena Vista, and Glasgow. Tributary - Cowpasture heavy siltation during times of high flow in late winter and spring. Relatively clear during summer and fall months. Tributary - Calfpasture, some industrial pollution noted entering the river at Goshen. Silt concentration during high water flow evident.

8. Type of fishery (warm or cold water) and dominant species of fish (commercial and sport): Mainstem of the James River, warm water sport fishery consisting of a limited population of large mouth bass, other species of sunfish, catfish, carp, and suckers. Tributary - Cowpasture, warm water fishery consisting of small mouth bass, rock bass, other species of sunfish and catfish. One of the tributaries of Cowpasture, Bullpasture, supports a "put and take" fishery for rainbow trout. A few of these fish enter Cowpasture. Tributary - Calfpasture, fish populations would be similar to those mentioned in Cowpasture with exception of "put and take" trout characteristics.

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

1. Nature of topography: River flows through sections of the Blue Ridge Mountain range with elevations averaging 2,500 feet. There are agricultural valleys in this immediate vicinity of river.

2. Ecological type (deciduous, coniferous, prairie, desert, shrub, or other) and brief description: Deciduous forest with a mixture of coniferous species coming in on the poor and drier sites.

3. Important species of wildlife and status: Big game consists of deer (common), bear (scarce), wild turkey (common); small game consisting of squirrels, rabbits, raccoons, fox, possums, etc. Beaver are reported to be present on sections of Cowpasture tributary.
D. River access:

1. Types and locations of public access (spot on map): Public may gain access to the James River and its tributaries from many State, Federal and county highways.

2. Factors limiting public access (physical, legal): Topography may have some effect on certain segments. The main obstacle seems to be private ownership along the courses of these rivers.

E. Special scientific, educational and esthetic values:

1. Geologic: Excellent examples of folded and faulted rock strata are to be found in this area, where the James River has cut through various mountain ridges. Classic example of this type of geologic phenomenon is located on the mainstem of the river at Eagle Rock. This formation is described and pictured in many geology textbooks used throughout the world. Natural Bridge, Virginia, which has been one of the prime tourist attractions in the Eastern United States, is also located in the James River drainage system.

2. Biotic: The biotic communities in this area are widely diversified and there seems to be nothing which might be termed unusual.

3. Historic: The entire drainage area of the James River is of historic importance.

4. Archeologic: Very little detailed archeological survey or excavation has been undertaken in the river valley. No sites of importance are presently known in the drainage basin.

F. Present quality of recreation and environmental factors limiting quality:

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<th>Kinds</th>
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### Kind of Study

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<td>Big game</td>
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### G. Classification of study unit(s) (according to six ORRRC classes)

Class 3 - Natural Environmental Areas.

### H. Status of economic development:

1. Characterize the economy of the general river area. The economy of the area is predominantly founded on agricultural base and industrial complex being built up in the cities and small towns in the basin.

2. Is the economy growing, declining, stagnant: What economic activities are there that are growing, declining: Is the immediate vicinity of the river, economy seems static to slightly growing. Surrounding counties are not eligible for Area Redevelopment funds.

3. Describe the transportation routes to and through the general river area (rail, air, boat, auto) and facilities (such as landing strips, etc.): Larger cities in the area are serviced by major airlines, rail and bus connections. Smaller towns and villages are accessible by bus, Federal, state and county highways.

I. Describe present development 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):
On the mainstem of the James River included in the study unit, eight low water dams now exist impairing the free-flowing quality of this segment. There appear to be no structures on the tributaries, Cowpasture and Calfpasture, at this time. There appear to be no plans for further development which would impair the present characteristics of the James or its tributaries within the study area.

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

1. Agriculture: Land management practices are being improved throughout the river basin.

2. Forestry: Management on lands under control of the U. S. Forest Service is good; on those in private ownership practices are improving.

3. Mining: A few rock quarries are located in the river basin. Reports have been received that oil and gas exploration are scheduled for sections of the Cowpasture tributary.

4. Transportation: Interstate Highway No. 81 is scheduled for construction through the drainage basin. This would have a temporary effect on siltation in the river.

5. Industry: Without proper control any further industrial expansion would undoubtedly add to the pollution problem already present in the James River Valley.

6. Recreation: There is some evidence of recreational use behind impoundments on the mainstem of the James River. Several hunting camps were noted in the tributary areas of the study unit. Fishing seemed to be limited to local use.

7. Residential - Community: Residential development in the study area seemed to be limited to the cities and small towns in the valley. An occasional log cabin was noted but no extensive development seen.

K. Condition of headwater lands and trends in management: Condition probably due to drought conditions at the time of the study. Agricultural lands showed some erosion. The bulk of the upper watershed area is protected by forested lands.

L. Land ownership (general pattern of Federal, State and private ownerships) (show on map): Much of the headwater areas of this study unit are owned or controlled by the U. S. Forest Service. The bulk of the land in the valleys is in small private ownership.

5
M. Actions that have been taken or are planned to protect the natural qualities of the river and its environment (such as special State legislation, zoning, easements, etc.): None are known at this time.

O. Sources of reference and information (maps, reports, agencies, persons, etc.): Field observations by study group included airplane flight over the entire basin; state, county and local maps; U.S.G.S. topographic maps; U.S. Forest Service maps; U.S. Forest personnel from George Washington National Forest; publication - Canoeing White Waters in Northern Virginia, North-eastern West Virginia by Randy Carter, 1959-62; publication by U.S. Army Engineers - Water Resource Development in Virginia, 1 January 1963; interview with Mr. John Miller, Virginia Game and Fish Commission; interview with local residents; information furnished by National Park Service, Southeast Region.

Q. Method of study: Investigation was made by car along segments of road leading to or along the river. Aerial flights were made over the entire river basin. Information was extracted from U.S.G.S., Forest Service, state and local maps. Valuable information was gained from interviews with Forest Service personnel, state wildlife personnel and local residents.

R. Period of study: A field study was made during all or part of a two-day period, August 20-21, 1963.
1. Showing lower area of Cowpasture above confluence with James River Pastoral Scene.

2. Cow pasture River showing shoal and deeper pool midsection of stream.
3. Cowpasture River - Approaching head water area.

4. Cowpasture River - Dry river bed above confluence with Bullpasture Creek.
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
   No X

   On the mainstem of the James River, obstructions now exist. Industrial pollution is considered severe. Although the tributaries are still free-flowing they are not considered of sufficient quality for national river status at this time. It would highly be recommended that the State of Virginia give serious consideration to preserve the free-flowing status of major tributary Cowpasture and its tributary, Bullpasture, in the near future.

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

   Yes
   No X

   Although the James River has outstanding historical implications it is not felt that the other factors in the criteria (recreational, scientific, esthetic values) are of outstanding quality.

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 X
   No 

   The river well absorbs the use now being made and can undoubtedly handle additional recreational pressure. However, the general recreational values of the river do not seem of a high quality that would attract the appreciable increase in use.
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

Again with the exception of history, the river does not appear to have sufficient unique qualities to attract visitation from outside the immediate environment.

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

To our knowledge there are no plans that will drastically impair present natural conditions to be found in this river valley.