



Rivers Quarterly

Newsletter of Rivers Unlimited, Ohio's Statewide River Protection Organization

Special Edition

Outstanding Economic Opportunities with Ohio's Rivers

Those in the State Scenic Rivers system . . .
our degraded rivers . . . all our rivers *by Mike Fremont*

Director Sam Speck of the Ohio Department of Natural Resources inspired this article by asking us what the public could do to expand the State Scenic Rivers System.

This is our oblique response to his question.

The public can do everything to expand the System if it understands what clean, beautiful and natural rivers can do for them. The System is now about one percent of our river miles, or 2.3 percent of our perennial stream miles.

We believe it would pay if all our rivers were upgraded and protected. ODNR can be the department to help make that happen.

Opportunities discussed here have to do with recreation, property values, water supply, fish and wildlife, tourism and travel, public image, tax base and the diverse infrastructure to support economic uses.¹

Currently there is no effort or coherent plan for river corridor improvement, or for water quality improvement, expressly for *economic benefit*, in Ohio.

In this discussion, "redevelopment" and "economics" in connection with the restoration of degraded rivers, mean river corridor reforestation, removal of derelict structures, cleanup, streambank stabilization by natural means, and cleaner water. *There is no conflict here between economic redevelopment and environmental benefits.* Very simply, the economic benefits from most of Ohio's rivers can come only from real water quality improvements, true scenic beauty and near-natural character.

At the same time, the sacrifice of natural attributes along rivers, in the interest of development, can be an economic disbenefit.

¹Major economic exploitation of "working" rivers is beyond the scope of this discussion. That is, dams for water supply, irrigation and hydropower; dams for barge transportation, power plant cooling water, interbasin transfers, diversions of river courses and flows, and bulk water export.

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As prime *natural* resources, by definition, all of Ohio's rivers should be the responsibility of the Ohio Department of Natural Resources.

As prime *economic* resources our rivers should also be of particular interest to the Ohio Department of Development.

Ohio's rivers represent an enormous trove of potential economic benefits, including even our most degraded streams. Until these benefits are recognized, and until degraded rivers are restored, we cannot capture this potential.

Except for federally supported wastewater treatment plants, we haven't improved rivers substantially since 1968. All our waters were to be fishable and swimmable by 1983, and pollution-free by 1985. We are at 58% fishable and swimmable in 1999 (60% nationally).

In 31 years only three-tenths of one percent of the nation's rivers - 11,000 miles out of 3,500,000 miles - enjoy the protection of the National Wild and Scenic Rivers System. After 31 years, only 1.1 % of Ohio's streams are in the Ohio Wild and Scenic Rivers System, 679 miles out of 61,000.

With present laws, and policies of the National Park Service, USEPA, ODNR and OEPA we're not improving our rivers rapidly if at all. It is indeed a national deficiency, not just Ohio's.

Ohio is effectively ignoring the productive capability of at least half of our rivers and streams at great economic cost to the state. The public, our agencies and our elected officials are not aware of the economic opportunity under our noses.

However great we are at agriculture, manufacturing and tourism, we're nearly a total loss at recognizing the value of our rivers. *We should invest in showing how rivers can improve the economies of communities and regions.*

Resource Economics gives us the means to restore and protect rivers. This simple process says: study a degraded river, or one not considered satisfactorily productive. Determine what its economic possibilities could be if the river were restored. Determine the cost of improvements in scenic beauty, corridor redevelopment and water quality. Determine the benefit-cost ratio of undertaking some or all of those improvements. If it is cost-effective to restore the river, the project is clearly in the public interest and can capture public, agency and political support.

Little has been published about river resource economics save in the cases of dams for hydropower and water supply versus fish and/or recreation.

Rivers Unlimited has been active since 1972 in Army Corps of Engineers dam benefit/cost analyses, Ohio Ditch Law benefits and costs, Ohio Conservancy Act benefits and costs of stream channelization, and relative property values along branches of a stream, one natural and the other channelized. We commissioned a resource economics study of the Muskingum River in 1997, to be complete this year, in the interest of helping an economically depressed county. This is a pioneer study, we believe the first of its kind in the nation. The Ohio State University Department of Agricultural, Environmental and Developmental Economics is doing this study.

Since starting the Muskingum Study, RU worked with Ohio EPA on the benefits and costs of water pollution permitting. OEPA then hired OSU Resource economists to carry on this work. We believe that this agency should consider the adverse impacts of additional pollution before granting permits. We hope that collectively we can develop a methodology for this complex issue.

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“Highest Quality” water is defined as ... the highest water quality as measured by the IBI, QHEI and chemical and physical characteristics.

Rivers Unlimited and The Ohio State University are looking at the costs of pesticide removal from drinking water supplies in the Maumee River. Making this cost known will be a factor in restoring clean water in pesticide-affected rivers.

RU expects to work with OSU and the U.S. Fish and Wildlife Service in determining the costs and benefits of dam removal at various sites on various rivers, and the costs and benefits of toxic waste removal from bottom sediments at another site. We hope these collected studies will become the impetus for studies of several rivers, making it possible to determine the cost-effectiveness of restoration at each one and resulting, we have confidence, in remedial action.

A. Preserve the Highest Quality streams in the State. What is “highest quality”?

The Ohio Wild and Scenic Rivers System is set up to preserve such streams. “Highest Quality”, although not defined in the Act, may include highest water quality as measured by the Index of Biotic Integrity (IBI), Qualitative Habitat Evaluation Index (QHEI) and chemical and physical characteristics.

It may mean highest wild, scenic or recreational quality, which implies a substantial corridor width of trees or equivalent strongly-rooted vegetation for much of the length of the river, stable banks and limited nearby settlement. In Ohio the standard is now a minimum 300-foot-deep forested buffer for 25% of the river length.

“Highest Quality” may also include valuable cultural, historic, geologic, fish and wildlife attributes in the corridor and water.

These values are important to scientists and resource specialists, and of course to residents along these streams, recreation interests and tourists.

For a river to be a “highest quality” economic resource to a community - region - state, it must be scenic and have clean water.

Here are some economic interests affected by water quality and the scenic character of a river:

1. River-area Residents

The value of river and lake-related property is affected by scenic beauty and water quality for these reasons:

- fishing opportunities - gained or lost
- boating, swimming, camping, picnicking - attractive or not
- health fears and concerns - pollution from upstream is intolerable
- water-borne litter
- siltation
- presence or absence of wildlife
- image, beautiful setting, quality-of-life. These are extremely compelling reasons, as can be seen on the Grand, Chagrin, Little Miami and Darby

2. *Banking and Real Estate*

Income from real estate transfers is dependent on river-area property values, thus

- the higher the value, the livelier the market, the more transfers, the more lending. Banking and real estate transfers are linked.
- the higher the value, the larger the mortgage
- the higher the value, the greater and costlier the infrastructure of services, service establishments and their banking needs

3. *Counties, Townships, Municipalities – Council and Managers*

Their number one goal is increased tax base to pay for schools, fire, police, roads, sewers etc. Tax base is proportional to appraised value. River area properties and economic activity contribute to this tax base.

4. *Service Industries*

River use and tourism depend on water quality and scenic beauty. They attract motels, service stations, restaurants, shops, bed and breakfasts, marinas, boats and marine supplies, fishing tackle, liveries, excursion boats etc. and all their required services

5. *Developers*

Clean, attractive waters mean higher quality of life for home buyers, who will pay more to live near such a playground, nationally 28% more on average, according to two studies cited by USEPA. This also means the region is more attractive to industries and commerce.

6. *Chambers of Commerce*

Tourism is the second biggest business in Ohio, after agriculture. Sport fishing could be a two billion dollar a year business in Ohio. It is now less than half that. On streams alone it is about \$200 million and should be more than twice that. Development is attracted to park-like areas with clean water; retirement and vacation homes seek high quality of life addresses.

Certain industries – beverage, food, pharmaceuticals, some electronics – need high-purity water for their products and processes.

7. *Drinking Water Suppliers*

Whether public or private, water treatment costs reflect background pollution levels in waters coming to the treatment plant. More chemicals and greater filtration may be required as pollution is increased. Residents may be driven to seek alternative sources or bottled water for drinking. Activated carbon filtration is needed to remove pesticides from public supplies in several regions.

8. *County and Municipal Health Authorities*

Water quality is related to sickness, doctor and hospital visits, and lost work hours even though the “Civil Action” circumstances, cluster diseases induced by polluted drinking water, are not all identified or researched. Forty-two percent of Ohio’s streams are not fishable or swimmable, according to OEPA. If they are not swimmable it’s not an esthetic matter - it’s public health.

Economic Interests

affected by water quality and the scenic character of a river:

- River-area residents
- Banking and real estate
- Counties, townships, municipalities
- Service industries
- Developers
- Chambers of Commerce

See **ECONOMICS** on Page 5.

Economics cont.

- Drinking water suppliers
- County and municipal health authorities
- Scientific institutions
- State interest in outdoor recreation, fish and wildlife

9. *Scientific Institutions*

For scientific research and education, poor water quality limits the population, diversity and quality of aquatic plants, fauna such as mollusks, turtles, muskrat, beaver, otter, snakes, fish and insects. In Mill Creek in Cincinnati, 4000 schoolchildren have learned to do water quality modeling and analysis - many people live near, and there is a diversity of pollutants - but not many living things, and great concern about catching a disease or infection from the water. Across the country thousands of children under a number of programs have learned to do water quality testing, modeling and analysis.

10. *State Interest in Outdoor Recreation, Fish and Wildlife*

State environmental and natural resource departments have particular interest in improved water quality and habitat as crucial to their ability to serve public recreation and natural resource protection purposes.

B. The Ohio Wild and Scenic Rivers System

The Ohio Wild and Scenic Rivers Act, 31 years after enactment, has been protective of, and enhanced the values of its chosen rivers:

- Through protective oversight of planned federal and state-involved projects such as dams, channelization and highways, and veto power over some.
- By fostering a resource-protective image (good for riparian real estate).
- By protecting and increasing property value, thus exciting the interest of banks and realtors; increasing tax base, so important to elected officials.
- Through the moral sanction as a state river - not to be degraded
- Because there is a state interest, there should be enforcement of protective stream and water laws.
- The state interest in water quality, recreation, fish, fishing, and hunting is not just environmental and natural resources. It is also jobs and business.

The state interest induces land bequests, gifts and easements by landowners and others who feel the security promised by their continuing tenancy and future legacy.

These are not casual considerations.

C. Ohio's Degraded Rivers

Considering all the rivers of Ohio, at least 50% of them are significantly degraded. That means that even if they meet "designated uses" they are not in good condition respecting:

- water quality - 42% not fishable or swimmable, and many of the remaining 58% only marginally so
- limitations as to wildlife habitat
- old-style hydromodification (channelization etc.), treeless, ditched, eroding
- little or no forested buffer - one row of trees etc.
- significant erosion - farmed to the river's edge
- levees, constricting floodplains
- dams, restricting fish passage, reducing natural oxygenation

The contribution of these degraded streams is meager, respecting what they do for the economic welfare of the community, the region and the state, the quality of life of riparian residents, the fishing and all forms of river recreation. Such streams do little more than convey stormwater, wastewater, irrigation and processing flows and leachates. In fact, they're open sewers.

It's time to assess our rivers. From numerous examples of water quality improvements, greenway benefits, riparian real estate appreciation, dam removals or breachings, cost of municipal water supplies, effect of access, zoning, natural streambank stabilization etc., it is clear that in many cases we should restore rivers to serve the public economic interest.

D. Economics and the State Scenic System

Degraded rivers, perhaps, but how does that apply to the Ohio Wild and Scenic Rivers System?

1. *Many, if not all of Ohio's scenic rivers are in a somewhat degraded condition - polluted, unstable, eroding - too little riparian forest cover.* But because of their status as State Rivers we can more easily arrest and reverse the deterioration. *Designation has helped and will help.* These rivers get more attention. This is also a prime reason for the American Heritage Rivers System - to focus benevolent publicity and attention on rivers not necessarily "outstandingly remarkable" as wild, scenic or recreational - but nevertheless very important to their communities.
2. *Therefore, to serve the public interest, we should bring the rudimentary protection of our OW&SR System to more rivers.* (Certain categories are recommended later). That should lead to economic resource studies of these "better" but imperfect rivers, to show what cost-effective public investments in river corridor and water quality should be made to advance the regional economy.
3. *In order to protect Ohio's System, ODNR should become a factor in decisions to allow or deny increased pollution. (NPDES, PTI, 401).* If another 3000-home development in the Little Miami basin plans to discharge, ultimately, into the Little Miami, why should it actually be allowed to degrade this river? There are many alternatives. Few developers will go away if threatened with having to do higher-cost or alternative treatment, and if they do, they may not have been beneficial to the community.

By polluting they are externalizing their waste disposal costs on us, the users and residents of the river corridor. Millions of dollars have been spent to protect the river. ODNR has not addressed such development impacts.

Ohio doesn't have to remain stagnant, dead in the water, watching its prime natural resource degrade. There are some 700 "antidegradation" announcements from OEPA per year, each saying "the discharge from this proposed facility would result in degradation to or lowering of the water quality in (the receiving waters)...". And in response to almost every permit application, Ohio EPA assumes that granting the permit is in the public interest so long as the applicant claims there will be a gain of at least one job.

Many of Ohio's scenic rivers are in a somewhat degraded condition ...

Rivers Unlimited asks that:

1. ODNR recognize river-associated economic potential as a selection criterion for designation
2. ODNR commission resource economics studies of representative rivers
3. ODNR include all nationwide inventory rivers and state superior high quality waters as potential candidates for the OW&SRS

Ohio can do resource economics studies of a few representative streams to begin to understand what these streams can deliver to their communities, economically, in jobs and business activity, if improved. That could reform the entire process of pollution permitting, and stop this continued, piecemeal degradation. Pilot studies of this kind can be done at trivial cost, compared to the enormous investment we make in Travel and Tourism to get people to go to our more attractive places.

We know how much our farmlands contribute to Ohio's economy.
We know how much a downtown city block contributes in taxes and payroll.
We know how much timber is harvested in Ohio.
We know how much value is added by manufacture in Ohio.
We know the economic value of sport fishing in Ohio (\$836 million in 1998).
We know what tourism contributes (our 2nd biggest industry).
We know how much gravel and coal is mined in Ohio.

But we don't know, and we need to know, what scenic, clean rivers add to our economy, and what our degraded rivers could offer if they were restored.

For example, fishing adds \$11,000 to \$23,000 per river mile per year, statewide average. A non-urban greenway can add \$20 per visitor-day, on a 27-mile stretch of the Little Miami River Trail in Warren County (1999). That comes to a minimum of \$3 million a year expenditure by visitors, to the regional economy; and about \$2.4 million of this to the County alone.

Thus, in effect, we have not considered rivers an economic asset, whether they are evaluated by riparian residential values (equivalent rents) or quality-of-life (willingness-to-pay), tourism potential if enclaves are set aside for camping, parks or greenway; protective zoning or access. What increase could there be in fishing with dam removal, what increase in tax base with restoration, reforestation, streambank stabilization, clean water enforcement and other investments?

Ohio now has the means to determine how much this huge, degraded, neglected natural resource could mean to the state.

RECOMMENDATION #1: *That ODNR recognize river-associated economic potential as a selection criterion for designation – “Highest Quality Economic Potential” – in a class with wild and scenic, and water quality criteria.*

That would also overcome the failure to recognize recreation as a qualifying attribute for State rivers. It has been said since 1972 that Ohio could have the best trout stream in the world and it wouldn't necessarily qualify for Ohio's System. The Mad River is noted for trout, but doesn't qualify.

Instead of automatically diverting streams for highways and mall parking lots, and channelizing them to carry off stormwaters caused by impervious development, and polluting them for “jobs” when there is no assurance there will be a net increase in jobs, or whether the projects are in the public interest, should we not factor economic resource studies into the decisions?

RECOMMENDATION #2: *That ODNR, with ODOD, commission resource economics studies of representative rivers.*

Until we know what rivers can do for us, there is no logical basis for what the size of our scenic rivers system should be: how many rivers, how many miles, what degree of management - what private and in-house staff - their qualifications -

what changes in state law are due that ODNR could advocate; what links if any to Tourism and Travel might be advisable.

Ted Turner said “If you want to bring something back, you have to make it pay”. In the case of degraded rivers it may take major government investments. These can come if there is assurance of substantial payoff. That’s why we offer tax breaks for industry. That’s why we fund downtown redevelopment.

It’s the same with any industry: you have to spend money to make it.

E. Facts on Rivers and Water Quality

All of the following figures may not be exact or up-to-the-minute as given by OEPA, National Park Service recent publications, U.S. Fish and Wildlife Service, ODNR documents that may be dated, and our own calculations. RU will provide source upon request.

61,000	miles of streams in Ohio	perennial and intermittent (USEPA), relative to 3,500,000 miles nationally
29,000	“	Perennial
7,000	“	Fishable (research paper)
14,000	“	Fishable (Rivers Unlimited)
4000	“	Superior High Quality candidates (water quality). Estimates are from 500 to 4000 miles
16,820	“	Fishable and swimmable (OEPA '98)
12,180	“	Not fishable and swimmable (42%; nationally 40%)
679	“	State Scenic Rivers
191	“	National Wild and Scenic Rivers in Ohio, out of 11,000 miles in the nation. However, these flow through privately-owned land. Only about 1000 miles total, in the nation, flow through such lands.
?	“	American Heritage River (Cuyahoga)
1138	“	Nationwide Rivers Inventory (National Park Service) in Ohio
1200	“	Potential additions to OW&SR Systems (ODNR)
2200	“	Limited Quality Waters (1994 OEPA)
86	“	Potential Outstanding National Resource Water (Darby Creek)
?	“	Potential Outstanding State Resource Waters
22,620	“	Headwaters (78% of the 29,000 miles of perennial streams)
720	“	Non-point source impaired water quality
4800	“	Point-source impaired water quality

Classifying Ohio's River Miles

RECOMMENDATION #3: *Include all nationwide inventory rivers and state superior high quality waters as potential candidates for designation into the OW&SRS.*

Using approximate figures given by ODNR as 1200 miles of potential candidates, and adding 500 miles minimum identified as candidate Superior High Quality Waters, plus 1138 miles as worthy of inclusion as National W&S rivers, gives a total of 2838 miles. Adding this to the 679 miles now in the System would make 3517 miles, for a possible twelve percent of Ohio's perennial river miles, based only on the environmental qualities of these rivers, not including their economic qualities.

Note that there is overlap in some of these figures. The ultimate SHQ waters total could be as high as 4000 miles instead of 500, or 24% of our perennial stream miles.

To bring a privately-owned river into a state scenic rivers system requires property owner agreement, agency interest and political blessings which are frequently reserved for developments adverse to rivers. The economic factor, unexplored as yet, could change that presently unfortunate balance. A much-expanded Ohio Scenic Rivers System could result.

Ohio is not unique in ignoring the economic realities of rivers. Many states have made economic decisions to restore rivers for fish - by breaching or removing hydropower dams, and have made other decisions favoring recreation over water supply for growth, etc. But none has addressed resource economics in determining the total economic potential of even a single river stretch.

Rivers Unlimited's study with OSU of the Muskingum, and further studies toward a template economic methodology, will help the state in taking a new look at our rivers.

We recommend resource economic analysis as the only means by which Ohio can be confident that its existing water resource policies are serving us, the people,

- that we're getting the best return on the natural resource that we have protected, environmentally and economically,
- and that we have planned cost-effective public investments to maximize these returns by adding more rivers.

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RECOMMENDATION #4: *Become a member of Rivers Unlimited to stay informed of river progress and to send a message to lawmakers about the importance of protecting our environment. Simply complete the form at right and mail to the Rivers Unlimited office with your check.*

We appreciate your donation and commitment.

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