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**Petersham's Ayers Brinser:
Distinguished American Conservationist¹**

By

Gerald F. Vaughn

Ayers Brinser (1909-1967), gentleman farmer of Petersham, Massachusetts, also became an ardent conservationist and erudite professor of resource economics and policy at Harvard University, the University of Colorado, and the University of Michigan. Norman A. Berg, retired Chief of the U.S. Soil Conservation Service and long an outstanding national leader in land use and conservation movements, regards Brinser as “a giant, deserving some recognition equal to that devoted to others, i.e. Aldo Leopold, and even Hugh H. Bennett as related to land use.”²

Brinser began his intellectual journey by observing and studying the land use and conservation problems of Massachusetts and New England. When Brinser was named to direct Harvard's land use and conservation program in the mid-1950s, Harvard political scientist John M. Gaus recommended him with these words:

¹ The author expresses appreciation for information from Norman A. Berg, Marion Clawson, Melville H. Cohee, James D. Collinson, Peter Dorner, George R. Francis, Delight Haines, Maynard M. Hufschmidt, Hugh A. Johnson, Jack L. Knetsch, Stephen L. McDonald, Joy McGrath, Curt Meine, Paul E. Nickel, and Gunter Schramm.

² Letter to author from Norman A. Berg, April 22, 1996.

... the important thing is to find a person with a concrete grasp of some problem of regional import plus a sense of attachment to and concern for the region. I think that Ayers has this for New England, and that it is good for some of our students to be brought into acquaintance, through him, to the tangible resources, problems and opportunities of this region.³

Around the same time, the president of the University of Massachusetts, J. Paul Mather, was interested in Brinser for a faculty position. Gaus wrote to Mather regarding Brinser: "...I know of no one who has a literally better grounding about New England, whether land use or industry or roads and places."⁴

It was Brinser's attachment to New England that made him a driving force in the conservation of New England's natural resources in the 1940s and 1950s and enabled his eventual contributions beyond the region. Brinser writes of New England:

It has always had an outgoing concern and never has turned inward on itself in a narrow provincialism. It has a long history of exporting things and people and services and ideas. In all of this it has been equally as conscious of the American continent at its back as of the Old World in front.⁵

³ John M. Gaus to Edward S. Mason, Dean of the Harvard Graduate School of Public Administration, Feb. 9, 1955, in the Gaus Papers, University of Wisconsin-Madison Archives. Gaus was president of the American Political Science Association in 1945 and of the American Society for Public Administration in 1951. He was an authority in the field of regional planning.

⁴ John M. Gaus to J. Paul Mather, March 16, 1955, in the Gaus Papers, University of Wisconsin-Madison Archives.

⁵ Ayers Brinser, "New England: Identity and Need for Regional Approach," in *Essays on Natural Resource Management*, [a compilation of selected published and unpublished writings by Brinser], Paul E. Nickel and Marilyn M. Wallace, eds. (Winnipeg, Canada, 1976), Book 3, p. 23.

Even at the University of Michigan in the 1960s, Brinser's attachment to New England stood out. George R. Francis, one of his doctoral students at Michigan, recalls: "Back when I was a grad student at Ann Arbor it was clear that Brinser was attached to the New England region with a kind of landed gentry devotion.... Certainly, New England was in back of much of what Brinser talked about...."⁶

Brinser's approach to conservation was adaptive. It assumes change: "In the case of human affairs, change is the common condition; order is for the most part an abstraction or an assumption created for the purpose of making useful, if partial, decisions to direct the course of change." The key is comprehensive designs implemented by incremental plans for directed change, in which "solutions are necessarily partial solutions to satisfy an evolving objective rather than specific measures to meet fixed objectives." Berg, a Conservation Fellow at Harvard in 1955-1956, before becoming Chief of the U.S. Soil Conservation Service, remembers Brinser's "once challenging us to name one problem that had really been solved long-term."⁷

Incremental planning is the underlying premise of adaptive ecosystem management, which since the 1970s has come into increasing use by conservation biologists. Might Ayers Brinser be a progenitor of adaptive ecosystem management? Others, before and after Brinser, have contributed ideas to the basic concept of adaptive management. However, Brinser's early and specific application of adaptive management to land use and conservation, and his teaching it to so many federal and state conservationists and other professionals working in natural resources management, can be regarded as instrumental to the concept's modern application in ecosystem management.

⁶ Letter to author from George R. Francis, Feb. 19, 1996. For insights into the tradition of the landed gentry of Massachusetts, see Tamara Plakins Thornton, *Cultivating Gentlemen: The Meaning of Country Life among the Boston Elite, 1785-1860* (New Haven, 1989).

⁷ Ayers Brinser, "The Physical and Institutional Settings of the Planning Unit," in *Essays on Natural Resource Management*, Book 4, p. 61; Ayers Brinser, "Planning Unit Analysis," in *Essays on Natural Resource Management*, Book 2, p. 82; letter to author from Berg, April 22, 1996.

Ayers Brinser was born to Claude E. and Henrietta Brinser on January 12, 1909, at Steelton (near Harrisburg) in the Pennsylvania Dutch farming country of central Pennsylvania. Brinser's conservation philosophy finds its roots in a strong sense of stewardship for the land, beginning when he was a youth. In Pennsylvania's Lancaster Valley, soil-conserving farm practices stood in sharp contrast to the soil-exhausting agriculture throughout most of the Northeast. Brinser knew:

To the Germans of the Lancaster Valley, the land was a loan from nature to be used, improved, and then passed on to their children, and their children's children forever.⁸

Young Ayers prepared for college at Harrisburg Academy, a prominent private school for boys. Admitted to undergraduate study at Harvard University, he received a scholarship from the Harvard Club of Philadelphia. An English major, he served as an editor of the *Harvard Crimson* (the student-published newspaper). Receiving his B.A. degree in 1931, he worked professionally as an editor with *Time-Fortune*, *Every Week* magazine, and the Harper Brothers publishing company, until World War II.⁹

In 1936 Brinser married the former Joan Waldo of the Boston building supplies family (Waldo Brothers). Her father, Charles Sidney Waldo, Jr., graduated from Harvard University in 1906 and became president of the family business in 1916. Her paternal great-grandfather was John Larkin Lincoln, Brown University's noted professor and scholar of Latin language and literature. Joan studied at Lausanne, Oxford, and Bennington. Ayers and Joan Brinser eventually had three daughters, Hope, Barbara, and Mariana.

The Brinser family resided at the Waldo country estate known as Linwald Farm, a dairy operation near Petersham, where Ayers became a gentleman farmer notably interested in breeding Guernsey cattle. Describing himself as "a Pennsylvania Dutchman by birth and

⁸ Ayers Brinser (with Ward Shepard), *Our Use of the Land* (New York, 1939), p. 11.

⁹ Brinser's decision to major in English at Harvard may have been influenced by Harrisburg Academy's headmaster Arthur Edward Brown, himself a teacher of English and Harvard-educated.

temperament," he said "I like cows in the same way that other people like politics, the theatre, or finance."¹⁰

For decades dairy farms in the Petersham area were too far from large cities to profitably ship their milk except in the forms of butter, cheese, and fresh cream. It was not until around 1940 that tanker trucks began to pick up fluid milk from the Petersham area and transport it to Worcester and Boston, substantially increasing the incomes of local dairymen. Delight Haines, of the Petersham Historical Society, attributes regular milk tanker pick-up to Brinser's efforts.¹¹

Brinser was a leader in Petersham's recovery efforts after the disastrous hurricane of 1938. He was one of the organizers of the Petersham Forest Cooperative Association and the Petersham Agricultural Association. A well-respected local community leader, he also served as a member of the Petersham School Committee, trustee of the Petersham Memorial Library, and moderator at Town Meetings.

Keenly interested in land use and conservation of natural resources, Brinser traveled widely throughout the nation to study the subject as the basis for writing a book. In 1939 he authored, in collaboration with Ward Shepard, a junior high school textbook entitled, *Our Use of the Land*. The Brinser-Shepard book described America's land problems and New Deal land-management policies and conservation programs. Their exposition was intended "to show the government in action, attempting to solve one of our basic problems." They treated government as a living force in the use of our resources and hoped that government would be seen "in its dynamic relation to the people and the land."¹²

Collaboration with Shepard taught Brinser some important principles of sound land use and conservation. Shepard, who was trained as a forester and for most of his career worked with the U. S. Forest Service and U.S. Office [now Bureau] of Indian Affairs, was director of the

¹⁰ Ayers Brinser, biographical sketch in section headed "Personal and Otherwise," *Harper's Magazine* 190(June 1945), among unnumbered pages at end of issue.

¹¹ John D. Black and Ayers Brinser, *Planning One Town: Petersham, A Hill Town in Massachusetts* (Cambridge, 1952), p. 7; letter to author from Delight Haines, Dec. 21, 1995.

¹² Brinser and Shepard, *Our Use of the Land*, p. xiv.

Harvard Forest of Harvard University from 1936 to 1939 and a member of the faculty of Harvard's Graduate School of Public Administration. In 1937 Brinser was a student in Shepard's graduate seminar on land use.

Shepard exerted an early and important ecological influence on Brinser. Brinser later was closely associated with Hugh M. Raup (botanist and director of the Harvard Forest) and Ernest M. Gould, Jr. (economist on the Harvard Forest staff). Raup's special research interest was plant ecology and plant geography. Gould was trained as a biologist and forester as well as an economist.

Brinser's view of destructive land use in the 1930s reflected the acute concern of Aldo Leopold, Ward Shepard, Hugh Hammond Bennett, and other leading conservationists of the era. Over the years, Brinser's view widened to encompass Erich W. Zimmermann's insight that resources may not only be destroyed but, more vitally, are created by technological progress. Brinser eventually argued: "In the case of a limited number of natural resources there may be instances of irreversible destruction, but in most instances expanding technology, investment in research and development, and institutional innovation could increase the supply and, what is more important, achieve better distribution, which would overcome the present appearances of scarcity." While recognizing the need to protect against resource destruction, Brinser's emphasis gradually evolved to resource management and creation or, as he saw it, environmental resource development that will create possibilities for more rewarding choices.¹³

Both Shepard and Brinser were ardent supporters of the soil and water conservation movement, and Shepard later authored the book *Food or Famine: The Challenge of Erosion*. In the mid-1930s, Shepard had been among the key Federal officials who recommended that state legislatures enable creation of self-governing soil conservation districts for active cooperation with the Federal government, whereby landowners would bear most of the cost of soil conservation practices and the

¹³ See Stephen L. McDonald, "Erich W. Zimmermann: The Dynamics of Resourceship," in *Economic Mavericks: The Texas Institutionalists*, Ronnie J. Phillips, ed. (Greenwich CT, 1995), pp. 151-183; Ayers Brinser, "Standards and Techniques of Evaluating Economic Choices in Environmental Resource Development," in *Future Environments of North America: Transformation of a Continent*, F. Fraser Darling and John P. Milton, eds. (Garden City NY, 1966), p. 243.

government's role would be mainly technical assistance. In 1937, President Roosevelt recommended model legislation, the Standard Soil Conservation District Act, to the state governors; 45 of the 48 states adopted it (with some modifications) by 1945.¹⁴

Brinser extended that line of thought while serving as a consultant to the U.S. National Resources Planning Board in the early 1940s. In 1943, the NRPB published a plan he wrote for better land use in New England, entitled, *Better Rural Life*. A key recommendation urged creation of soil conservation districts:

In those states that have passed an enabling act for a soil conservation district law the town planning board could consider the advisability of establishing a soil conservation district. One of the chief reasons why this is an extremely important step is the fact that it is the responsibility of the town to provide for a kind of land use that will be most profitable to the land users and least expensive to the town.¹⁵

Brinser saw the soil conservation district as “a unit to develop better land use in the community” and as a means to “clarify and expand the whole pattern of our thinking about land use.” In the mid-1940s, Brinser served as first chairman of his local (Northwestern Worcester County) soil conservation district. He also served as first chairman of the

¹⁴ Shepard was chairman of the Committee on Soil Erosion, appointed by Harold L. Ickes, Secretary of the Interior, which recommended this cooperative mechanism of action. The other members of the Committee on Soil Erosion were W. W. Johnston of the U.S. Reclamation Service and Prof. Charles F. Shaw of the University of California. See Ward Shepard, *Food or Famine: The Challenge of Erosion* (New York, 1945), pp. 42-43; Gladys L. Baker, Wayne D. Rasmussen, Vivian Wiser, and Jane M. Porter, *Century of Service: The First 100 Years of the United States Department of Agriculture* (Washington, DC, 1963), pp. 193 and 197.

¹⁵ Ayers Brinser, *Better Rural Life*, (Boston, 1943), p. 37.

Southern New England chapter of the Soil Conservation Society of America; SCSA honored him with election as a Fellow in 1960.¹⁶

Brinser's view of land use and conservation was ecological, and in 1945 he would write, "the fundamental science of agriculture is ecology, not economics." However, in the mid- and late-1940s, Brinser's interest in economics steadily increased as he worked for the U.S. Office of Price Administration and the Federal Reserve Bank of Boston. He also served as chairman of the New England Regional Milk Price Committee in 1948-1949.¹⁷

Returning to graduate school to obtain advanced training in economics relatively late in his life, Brinser was already 41 years old when, in 1950, he received his M.A. degree at Harvard. There he studied under noted economists such as John D. Black and John Kenneth Galbraith and received his Ph.D. in political economy and government in 1951. At Harvard Brinser went on to serve as the Allston Burr Senior Tutor at Kirkland House, acting secretary of the Graduate School of Public Administration, lecturer on economics, director of research in agriculture and marketing, and most notably director of the university's land use and conservation program. He was a member of the Housing Association of Metropolitan Boston and also served on the advisory committee to the Massachusetts Civil Liberties Union.¹⁸

The influences of John D. Black, Siegfried Von Ciriacy-Wantrup, John Kenneth Galbraith, and John M. Gaus, undergird Brinser's thinking about public policymaking. From Black and Ciriacy-Wantrup, he acquired a sound understanding of agricultural and resource economics, from Galbraith, a greater sensitivity to quality of life issues in an affluent

¹⁶ Ayers Brinser, "What the Small Farmer Needs," *New Republic* 112 (Feb. 19, 1945), p. 258; Ayers Brinser, "Districts Provide a Pattern of Thinking," *Soil Conservation* 12, (March 1947), p. 187.

¹⁷ Ayers Brinser, "Don't Plow Us Under," *Harper's Magazine* 190 (June 1945), p. 668.

¹⁸ Brinser's doctoral dissertation was entitled "A History of the Administration of Rationing in the United States During the Second World War," written as part of a research project supervised by John Kenneth Galbraith. While employed at Harvard, Brinser and his wife maintained a home near Cambridge in addition to their farm at Petersham.

society, and from Gaus, the expanding dimensions of public administration.

Brinser's thinking about public policymaking also derives from the welfare economics theories of British economists such as Ian M. D. Little and George L. S. Shackle. Brinser seems to apply specifically to environmental policy-making the general theories of Little and Shackle on expectations, choices, and decision-making. Brinser was interested in Shackle's view of decision-making as a creative, and therefore unpredictable, act based on elements such as free will, imagination, and inspiration. All of this Brinser integrated with the educational approaches of British scientists Sir Joseph Hutchinson and Max Nicholson in the area of natural resources.¹⁹

The interdisciplinary land use and conservation seminar program in Harvard's Graduate School of Public Administration, and Brinser's role in the program's development, are of special interest. It should be understood that Harvard's graduate school of public administration was rather different from similar schools at other universities. Harvard emphasized the *policy* aspects of public administration, rather than managerial techniques.²⁰

The seminar program in land use and conservation was set up by John D. Black, one of the world's leading agricultural economists, as an outgrowth from his long series of agriculture, forestry, and land-use policy seminar programs beginning in the late 1930s. Black increasingly saw a need to add to the fund of knowledge and develop policy-making skills toward more productive use of renewable natural resources.

Black's land use and conservation seminar program was offered for the first time specifically for Conservation Fellows in the 1950-51 academic year, with fellowship aid from the Ford Foundation beginning soon thereafter. Conservation Fellows were promising mid-career professionals working in Federal and state governmental resource management positions, whose agencies would select them to apply for the

¹⁹ For the continuing relevance of Shackle's views to public policy-making, see John Pheby, "Shackle, George Lennox Sharman," in *The Elgar Companion to Institutional and Evolutionary Economics, L-Z*, Geoffrey M. Hodgson, Warren J. Samuels, and Marc R. Tool, eds. (Brookfield VT, 1994), pp. 281-284.

²⁰ Ayers Brinser and Hugh M. Raup, "The Land Use and Conservation Program at Harvard," *Journal of Soil and Water Conservation* 13, (Nov. 1958), pp. 269-271.

fellowships awarded. Each year up to nine applicants (about one-tenth of the professionals who applied) were chosen to spend nine months at Harvard for a program of intensive study. In the summer, prior to autumn registration at the university, the students assembled for two weeks of orientation and field studies, first at the Harvard Forest (about 65 miles west of Cambridge), then followed by an extended field trip to the far reaches of New England. In addition, each year's program enrollment included some half-dozen other graduate students who were at Harvard to major in related fields, making a total of approximately 15 students in the seminar yearly.

Upon successful completion of the full course of study, the degree of Master of Public Administration was conferred. Many fine conservationists, planners, and economists benefited from study in this unique program as they prepared for positions related to policy-making.

Initially Black directed the seminar program, with Brinser assisting (especially by arranging and conducting the field trips). As Black neared retirement, Brinser gradually became more responsible for the program's overall direction. When Black retired in 1956, Brinser succeeded him as director.

The Harvard land use and conservation seminar program was interdisciplinary and intended to help bridge the gap between the natural sciences and the social sciences, along lines of the ecology-based fusion that faculty such as natural scientists Franz A. Aust and Aldo Leopold, together with social scientists George S. Wehrwein, John H. Kolb, and John M. Gaus, developed at the University of Wisconsin in the 1930s. The Wisconsin offering anticipated the Harvard program, and the link connecting the two programs seems to have been Gaus, who left Wisconsin and came to teach at Harvard in 1947.²¹

Harvard faculty from several relevant disciplines, such as Hugh M. Raup and Ernest M. Gould, Jr., from the Harvard Forest, G. Holmes Perkins from the school of design, Charles Haar from the school of law,

²¹ For several years beginning around 1934, these University of Wisconsin professors were among the key faculty in an interdisciplinary "Rural-Regional Planning" curriculum option. A seminar of that title, for graduate students or seniors with consent of instructors, was the centerpiece of the program. The seminar analyzed case studies of land classification, land utilization, and rural ecology as applied to preparing rural development plans and zoning ordinances in specific regions.

and Charles Cherington, John M. Gaus, and Arthur A. Maass from the department of government, joined economists Black and Brinser as an integral part of the program's team. Natural resources experts such as Marion Clawson and Joseph Fisher of Resources for the Future, Luna Leopold of the Geological Survey, Charles Kellogg of the Soil Conservation Service, Sherman Johnson of the Agricultural Research Service, Walter Horning of the Bureau of Land Management, and Max Nicholson of England's Nature Conservancy, were guest speakers at the seminar. Gaus later wrote: "I am grateful that the latter years of my teaching included this opportunity to participate under these ideal conditions, in an educational program with public servants at that strategic point in their careers at which they are moving from preoccupation with substantive fields to the relating of them to wider public responsibilities."²²

Maynard M. Hufschmidt was a Conservation Fellow in the seminar program in 1954-1955 and recalls:

Although Professor John Black was in charge, the class was largely run by Ayers "Fritz" Brinser ... Ayers played an important role in my intellectual development following my return to academia after about 15 years of government service. He introduced us to the economics of conservation via Ciriacy-Wantrup's difficult but seminal book, *Resource Conservation: Economics and Policies*. He emphasized the broad political economy of planning and management rather than a narrow economic or a technocratic approach. For this, Dahl and Lindblom's *Politics, Economics and Welfare* was given to us as a basic reference.

Further, Brinser "emphasized broad, comprehensive plans but an incremental approach to implementation... he emphasized a flexible

²² John M. Gaus, "Practical Experience: A Memoir," in *Teaching Political Science: A Challenge to Higher Education*, Robert H. Connery, ed. (Durham NC, 1965), p. 215.

approach to land and water use planning, with preservation of options as an important criterion."²³

Peter Dorner, a Conservation Fellow in 1956-1957, recalls that "Brinser was always concerned with a hands on approach to public policy issues in the field of resource use and conservation." The program's student research projects included study of many diverse policy and management problems, such as: regulation of weather modification activities; farm and other operating-unit land use planning; rural planning in Worcester County, Massachusetts; flood control, development of water resources, and stream pollution in selected watersheds; a forest area in Grafton County, New Hampshire; and development of a model law creating the proposed Massachusetts state department of conservation.²⁴

The land use and conservation program served as a model for Harvard's water resources program, which began in 1956 under the leadership of Arthur A. Maass (assisted by Maynard M. Hufschmidt, who succeeded Maass as director). The water resources program similarly was an intensive master's degree program for mid-career Federal and state professionals in the water resources field. It, too, was interdisciplinary, involving economists (including Brinser), water resource engineers, and political scientists. Qualified students participated in both the land use and conservation and the water resources seminar programs.

The continuing relevance of Brinser's teaching model is brought out by Jack L. Knetsch, a Conservation Fellow in 1958-1959 and now professor of economics and resource management at Simon Fraser University in Canada:

He certainly had a lot of useful insights to pass on, and I have found myself still arguing with people along the lines that Fritz would have used. One continuing example is the way we run our Resource Management program here at SFU -- I still use some of the same

²³ Letter to author from Maynard M. Hufschmidt, Feb. 16, 1996. He refers to S. V. Ciriacy-Wantrup, *Resource Conservation: Economics and Policies* (Berkeley, 1952) and R. A. Dahl and C. E. Lindblom, *Politics, Economics and Welfare* (New York, 1953).

²⁴ Letter to author from Peter Dorner, Feb. 16, 1996.

reasons that the Harvard program was set up in the way it was, to suggest how we should be doing things.²⁵

Nonetheless, sustainable funding for the Harvard land use and conservation program remained a tenuous proposition, and Brinser reluctantly decided he must seek a more promising situation elsewhere. He chose the University of Colorado, which had initiated the annual Western Resources Conference in 1959, and he took himself, his family, and his seminar program to the West in 1960. However, Brinser soon realized that the university's teaching and research resources were not sufficient to support the high-caliber interdisciplinary seminar program he was ready to offer. Within one year, he concluded that the University of Colorado "did not and would not have the academic resources to give the program the intellectual integrity I believe it must have."²⁶

In 1961, Brinser relocated to the Department of Conservation, School of Natural Resources, at the University of Michigan. In 1963, he initiated an interdisciplinary doctoral program in natural resource economics, sponsored jointly by the School of Natural Resources and the Department of Economics. This was a highly structured and demanding program, which required a student to pass the core doctoral examinations in macro and micro economics and the choice of a second economics field in the Department of Economics, with natural resource economics as the third field to be covered.

Gunter Schramm says he and fellow graduate students regarded Brinser as "the last true 'Renaissance Man'; a thinker who did not stop at artificial boundaries drawn by 'specialists' and narrow-focused scientific researchers who drew arbitrary boundaries around their own specialties, but who had a unified view of the world and its critical interactions and inter-relationships." George R. Francis recalls: "He was well read in history and philosophy, which he saw as essential context for interpreting economics...."²⁷

²⁵ Letter to author from Jack L. Knetsch, March 4, 1996.

²⁶ Ayers Brinser to John M. Gaus, Nov. 7, 1961, in the Gaus Papers, University of Wisconsin-Madison Archives.

²⁷ Letter to author from Gunter Schramm, March 3, 1996; letter to author from George R. Francis, Feb. 5, 1996.

Brinser thought and taught about resource economics and policy in terms of ideas, concepts, and issues. He wrote, "The fact is that timid though we may be about ideas, it is ideas that govern what we do, the way we do it and, most important, why we do it."²⁸

Even when the ideas Brinser taught were neither original nor profound, actually little more than common-sense principles, he packaged them in appealing language by which he made them thought-provoking. Having been an undergraduate major in English, who worked as a professional editor for many years, Brinser admired and practiced "felicity in phrase and meaning."²⁹

Paul E. Nickel observes: "Brinser was a teacher who could take a simple concept and breathe such life and density and perspective into it that we became fascinated and pursued it in our own ways." Nickel says, "he painted with words and definitions and testing and lured us on to explore for ourselves." Brinser was always searching for ideas that were true and useful, and James D. Collinson notes: "He was a person who had read and thought about a wide range of subjects, and was able to put them into a context suitable for anyone who had a curious streak in them...." Outside the classroom Dr. and Mrs. Brinser invited students to barbecues at their home, and these social gatherings, too, were occasions for learning ... built around a swim, dinner, and great conversation. The Brinser guest list often included visiting notables, such as John Kenneth Galbraith, with whom the students talked.³⁰

Brinser was a seminal thinker among only a handful of economists working on environmental quality problems in the late 1950s and early 1960s. He offered an increasingly relevant approach to environmental

²⁸ Brinser, "Districts Provide a Pattern of Thinking," *ibid.* For an elaborate treatment of the role of ideas in public policy-making, see Robert B. Reich, ed., *The Power of Public Ideas* (Cambridge, 1990).

²⁹ Brinser characterized the power of the influence of the great German poet Rilke as "felicity in phrase and meaning." See Ayers Brinser, "The Limits of Rationalism," in *Essays on Natural Resource Management*, Book 1, p. 32.

³⁰ Letter to author from Paul E. Nickel, Feb. 1, 1996; letter to author from James D. Collinson, March 25, 1996.

policy-making under the dilemma imposed by conditions of uncertainty, a dilemma of global significance today.³¹

Logically, the only possible solutions, Brinser insisted, are partial solutions since predicting the consequences of present decisions into the distant future is unrealistic: "With all uncertainties about present information and the difficulty of making projections, incremental planning would seem to be a necessity." He urges incremental planning by which "each solution is merely a stage in the process of going from what is known toward a future that becomes increasingly uncertain. For each solution leading to a present decision, a basic requirement is that it not foreclose the possibility of new and different solutions that may be required by new knowledge in the future." Incremental planning can be an educational process; planning processes and actions are experiments from which to learn and can be intentionally set up and monitored to facilitate learning.³²

Brinser argues: "The measure of success in managing the interaction of man and his environment is the quality of real choices open to him over time." He says, regarding investment in environmental resource development, "The criteria that are selected for alternative investment opportunities ... should be concerned with improving the quality of choices that will come in the future." What are the most significant choices? In general, Brinser feels: "The real questions are choices about how much to do, of what, by whom, and when." Specifically applied to investment in recreation, for instance, Brinser said "the real questions are more of what,

³¹ See Charles Perrings, "Reserved Rationality and the Precautionary Principle: Technological Change, Time and Uncertainty in Environmental Decision Making," in *Ecological Economics: The Science and Management of Sustainability*, Robert Costanza, ed. (New York, 1991), pp. 153-166; Curt Meine, "Conservation Biology and Sustainable Societies: A Historical Perspective," in *After Earth Day: Continuing the Conservation Effort*, Max Oelschlaeger, ed. (Denton TX, 1992), pp. 37-65; Charles F. Carter, "George Shackle and Uncertainty: A Revolution Still Awaited," *Review of Political Economy* 5, (1993), pp. 127-137; R. Edward Grumbine, "What Is Ecosystem Management?," *Conservation Biology* 8, (1994), pp. 27-38; and Michael Common, *Sustainability and Policy: Limits to Economics* (Cambridge, England, 1995), especially pages 172-179 on risk and uncertainty.

³² Brinser, "Standards and Techniques....," *ibid.*, pp. 243-244; Ayers Brinser, "A Systematic Approach to the Analysis of Natural Resource Policy," in *Essays on Natural Resource Management*, *ibid.*, Book 1, p. 67.

where, to be paid for by whom and at what sacrifices to other goods and values?"³³

Both the general and specific sets of questions would seem to be essential for action on so broad a front as conserving biodiversity. Three decades ago Brinser aptly observed that preserving ecological variety isn't achieved without cost, and priorities must be set. Just as our knowledge about the world's ecology is limited, so, too, is our financial capacity limited. In allocating scarce financial resources to preserve biodiversity, Brinser argued:

We have a problem of allocating the cost so it produces the highest return. Therefore it is important to decide where we should concentrate our efforts on preserving variety, and not just preserve for its own sake.... If out of ecological research could come the basis of choice decisions--choices that are ecologically valid, and that could then be translated into political, economic, and social terms--then I think we would be moving in a direction where the whole society could benefit.

Brinser held "that variety itself is no criterion for making decisions about how to proceed; that diversity does involve the matter of making choices."³⁴

Brinser regarded more and better choices as central to enhancing our quality of life: "For the purpose of this discussion welfare is defined as a process of improving the range and quality of choices made available.... Welfare, according to the given definition, is concerned with what, for lack of a more precise term or perhaps thought, is called the quality of life." He lamented the incompleteness of our knowledge about how to improve the quality of life, which poses a difficult conceptual and

³³ Brinser, *Standards and Techniques...*, *ibid.*, pp. 237, 238, 244; Ayers Brinser, "The Design of a Model for Guiding Investment in Outdoor Recreation," in *Essays on Natural Resource Management*, Book 5, p. 39.

³⁴ Ayers Brinser, discussion in *Future Environments of North America: Transformation of a Continent*, F. Fraser Darling and John P. Milton, eds. (Garden City NY, 1966), pp. 105-106, 219.

measurement problem. He knew it is “a sticky problem, and it becomes involved in many subjective evaluations....” Yet he insists:

It means devising systems of analysis in which the alternatives, in terms of the resulting quality of life, are fully conceived and presented so that society can understand what these alternatives really are. The ultimate purpose should be to consider the alternatives in terms of the quality of life that will result, rather than thinking in terms of enhancing the quality of the resources themselves.³⁵

The breadth of his thinking enabled Brinser and Lee R. Martin to co-direct a project for the New England Board of Higher Education, to recommend future direction for the agricultural colleges of New England; the Board published its 800-page book in 1964. Also in the early 1960s, Brinser was appointed by President Kennedy to work with Jerome B. Wiesner, Roger Revelle, and 20 other consultants to study land and water development of the Indus Plain, at the request of President Mohammed Ayub Khan of Pakistan. The report of the Revelle Panel (as the task force was known) on the potential for development of the vast Indus River basin was transmitted to President Ayub by President Johnson in 1964. Throughout his career, Brinser served as a consultant to various Federal agencies (mainly in the U.S. Department of the Interior) and to the U.S.-Canada Great Lakes Fishery Commission. In the mid-1960s, he also was a consultant to the Ford Foundation in Indonesia.³⁶

Ayers Brinser died suddenly of a heart attack on August 27, 1967, at his home in Ann Arbor, Michigan, at the age of 58. His loss was tragic, not only to his family and friends, but also to his profession. Had he lived longer, he likely would have extended his rather unique line of thought and contributed further toward improving environmental policy-making.

³⁵ Brinser, “The Design of a Model...,” *ibid.*, p. 33.

³⁶ Ayers Brinser and Lee R. Martin, *Agricultural Colleges in New England: A Study of the Opportunities Facing the Schools of Agriculture in the Six New England Land Grant Universities* (Winchester, MA, 1964).

I'd like to recall my lone personal experience with Brinser since it bears on his legacy. During the 1962 American Farm Economic Association annual meeting at Storrs, Connecticut, I heard Brinser speak on "Progress in Dealing with Measurement and Quality Problems in Planning Land and Water Use." I was sitting next to Hugh A. Johnson, who studied under Brinser at Harvard University, and at one point Mr. Johnson whispered to me, "This is brilliant!"; but almost everything Brinser said was going over my head. With the added experience of more than 35 years in this field, I can now read Brinser's paper in the proceedings and see how right Mr. Johnson was.³⁷

In Brinser's view, environmental policy-making should create possibilities for more rewarding choices. The more our current policies increase the range of choices by future generations about how much to do, of what, by whom, and when, the more these current policies will improve the quality of real choices. Conversely, the more our current policies inflexibly limit choices by future generations, the more these current policies will reduce the quality of real choices.

Brinser argued that the function of policy-making is to "increase the range of real choice over time. Policy should designate steps, which, when taken, would create the opportunity to take the next step that seems most likely to yield what people will want... This suggests that the objective of a proper flexible policy is not to find *the* solution but to make possible a process of establishing increasingly better solutions." This was the thrust of the Black-Brinser land use and conservation seminar program at Harvard: "It aims not at complete solutions of resource problems, but rather at statements of these problems in a form that will make partial solutions possible, considering the developing state of our knowledge."³⁸

In relating means to ends, there are inevitable conflicts between alternative policies. Different policies can be expected to have different effects on public welfare. Brinser argued that these conflicts must be

³⁷ Ayers Brinser, "Progress in Dealing with Measurement and Quality Problems in Planning Land and Water Use," *Journal of Farm Economics* 44 (Dec. 1962), pp. 1672-1683.

³⁸ Ayers Brinser, "Concept and Implementation of Policy," *Journal of Soil and Water Conservation* 17, No. 5 (Sept.-Oct. 1962), p. 213; Brinser and Raup, "The Land Use and Conservation Program at Harvard," *ibid.*, p. 269.

resolved "in such a way that the better alternatives for achieving public welfare become real choices."³⁹

Logical, articulate, and an exceptional teacher, Brinser was a forward thinker and activist who contributed importantly to environmental policy-making. For nearly a quarter of a century, he was a leading conservationist in Massachusetts and New England. From that experience, he became a distinguished conservationist throughout the United States and internationally. His legacy of an incremental or adaptive planning model for directed change continues to have great usefulness for environmental policy-making. Brinser's legacy is a valuable organizing view of natural resources management, by which to increase the range and quality of real choice and serve the continuation of progress.

³⁹ Brinser and Martin, *Agricultural Colleges in New England*, *ibid.*, p. 258.