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Cover: A computer chart of alternative conservation practices, superimposed on an eroded field, symbolizes the role of computer models in creating cost-effective conservation programs (pp. 381, 384, 387). SCS photo by Lynn Betts.

The Soil Conservation Society of America is dedicated to promoting the science and art of good land use, with emphasis on conservation of soil, water, air, and related natural resources, including all forms of beneficial plant and animal life. To this end, SCSA seeks through the *Journal of Soil and Water Conservation* and other programs to educate people so that mankind can use and enjoy these natural resources forever.

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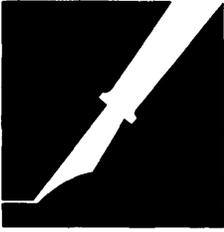
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PEN POINTS

Plaudits for "new approaches"

I was very pleased to see the excellent article entitled "New Approaches to Commodity Programs and Conservation Goals" by Milton E. "Bud" Mekelburg, in the July-August 1983 issue of the *JSWC* [pages 324-325].

The problem of commodity programs having a negative effect on conservation is one that has troubled conservationists for many years. It is good to see the president of our National Association of Conservation Districts taking the lead in this effort to reorient commodity programs.

With a more realistic approach by USDA [U.S. Department of Agriculture] and with the considerable progress we are making in greater participation in conservation tillage, I believe that we can finally see a light at the end of a very long and dark tunnel.

Charles V. Liles
Salem, Oregon

A craving satisfied

Thank you for publishing Martin N. Culik's article concerning alternative farming systems. With the increased use of cover crops, especially those that fix nitrogen, it is evident that this is the information that farmers are craving but we professionals are grossly lacking. This is the stuff I need. Please, keep it coming.

Daniel M. Rosswurm
Boonville, Indiana

A problem in reporting

The "In the News" section of the July-August 1983 *JSWC* [Report wars: The assessment 'game', pp. 343-344] contains a number of statements pertaining to the forthcoming book *Global 2000 Revised* that are apparently based on the introduction to the report prepared by the editors, Julian Simon and Herman Kahn, and, although attributed to us, were not taken directly from our paper, "Economics of Soil Erosion in the United States." The July 22, 1983, issue of *Science* ("Simon and Kahn versus Global 2000," pp. 341-343) points out that the executive summary prepared by Simon and Kahn is far more provocative than the individual contributions by the

various authors and that most of the papers avoid extreme positions.

Some of the statements in the July-August *JSWC* note are consistent with the information in our paper, while other statements are not. The introduction to *Global 2000 Revised* draws on the editors' own analyses as well as the papers in the volume. A few comparisons will serve to illustrate similarities and differences in substance and emphasis between our paper and the report appearing in the July-August *JSWC*. We agree that cropland availability in the United States will not be an increasingly serious constraint on agricultural production in the near future. In the *JSWC* report, you attribute to us the statement that "...the loss of farmland is an illusion based on 'faulty data'...[and] that the supply of arable land has increased at a much faster rate [than that reported in the *Global 2000 Report*] in recent decades."

We have a short section on U.S. land supplies in our paper. We conclude that a net supply of U.S. land does exist for expansion of crop production, albeit at higher costs. We note that the likely transfers of agricultural land to non-agricultural uses in the United States are not mammoth if gauged against the possibilities in zoning and the considerable supply of land that could be transferred to crops. We cite the 1967 CNI [Conservation Needs Inventory] and 1977 NRI [National Resources Inventory] data regarding the convertible supply of land but do not comment on the quality of the data base for these estimates. The *JSWC* reference to rates of increase in arable land are assumed to refer to worldwide estimates and hence pertain to a topic not covered in our paper. The *JSWC* also reports that we are "critical of state and local programs to combat farmland conversion, arguing that such programs have hampered the housing industry and raised housing prices." Our paper did not treat the impact of state and local programs regarding farmland conversion. In fact, we suggest that zoning, as well as the considerable supply of potential cropland, could provide an offsetting influence on the impacts of increases in land requirements for non-farm activities.

Our general view of the prospects for U.S. agriculture in the remainder of this

century are optimistic. Our paper concludes as follows:

"We believe that there is a period of perhaps several decades when continuation of productivity trends in the U.S. and growth of agricultural production in developing countries can maintain food supply fairly strongly against food demand. This will substantially reduce the pressure to use the more erosive soils for production. Further, the increasing adoption of conservation tillage by farmers illustrates that a practical method exists for producers to reduce the annual rates of soil losses on cropland that is used. In the past decade, land in conservation tillage has increased four-fold and it has been estimated that by the year 2010, conservation tillage will be used on 50 to 90 percent of U.S. cropland (Ritchie and Follett, *JSWC*, May-June 1983).... We judge that the prospects are good for maintaining an efficient, low-cost, agriculture in the United States and, at the same time, reduce the rates of soil erosion on our farmland. This is in contrast to the prediction in the *Global 2000 Report*: 'Because corn (maize) is relatively poor at holding soil, the corn-growing lands...will fare the worst. The United States, as the world's largest corn producer is in particular danger' (*Global 2000 Report*, p. 280)."

Earl R. Swanson
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University of Illinois
Urbana, Illinois

and

Earl O. Heady
Center for Agricultural
and Rural Development
Iowa State University
Ames, Iowa

The JSWC staff has apologized to Drs. Heady and Swanson for our failure to check the accuracy of one of the sources ("Land Use Planning Report," June 6, 1983) used in writing the note on the release of Global 2000 Revised. That source misquoted the "more provocative" executive summary written by Simon and Kahn as the words of contributors Heady and Swanson.—Editor

A research need remains

Cox, Morton, LaBaume, and Renard, in their paper "Reviving Arizona's Rangelands" (*JSWC*, July-August 1983, pp. 342-345), present some thought-provoking concepts regarding future water sources for both agricultural and urban uses in the Southwest and this nation's continuing capacity for producing red meat. This historic trend of deteriorating semidesert grasslands in Arizona is typical of vast areas of such grasslands in the western United States.

Unfortunately, the authors were forced to speculate on what the results "might" be of restoring the semidesert grasslands as a supplement to recent groundwater legislation and plans for importation of water into southeastern Arizona. They state that whether the results they suggest would indeed follow is impossible to answer because the available watershed (hydrologic) data are from degraded rangelands and do not represent restored grassland conditions. They suggest the need for data from an entire watershed large enough for wide-scale manipulation of the vegetation.

That was precisely the original plan for research on the Walnut Gulch Experimental Watershed in southeastern Arizona and on the Upper Alamogordo Creek Experimental Watershed in eastern New Mexico. The two watersheds were selected to represent black grama and blue grama climax grasslands, respectively. Their instrumentation for basic hydrologic data collection was undertaken in 1953 with the expectation that, following an initial measurement period under existing conditions, a watershed-wide grass improvement project would be started on each and the progressive hydrologic effects evaluated.

For budgetary and other reasons, that plan has not been carried out, and the Alamogordo Creek Experimental Watershed was quite recently dropped from the ongoing program of the Agricultural Research Service. Although much valuable basic hydrologic (engineering design) data has been collected, an original, major objective of the research on those experimental watersheds is yet to be attained. Hopefully, this recent paper by Cox, Morton, LaBaume, and Renard may again focus attention on the need

for more conclusive information on the feasibility and possible long-range values of improving and conserving our nation's semidesert grasslands.

Robert B. Hickok
Riverside, California

Begetting action

The article, *Soil conservation and water quality improvement: What farmers think* by Christensen and Morris [*JSWC* 38(1): 15-20] discusses policy for achieving soil conservation and the constraints caused by various factors that influence decisions.

The article states that economic modelling studies assume that a farmer's primary motivation is profit maximization, but that there may be other factors involved in a farmer's adoption of best management practices. Personal values and beliefs, neighborhood, and social pressures and traditions may have as much or more effect on a farmer's decision to adopt a conservation practice. The paper disproves these hypotheses.

The introductory material quite clearly relates to achievement of soil conservation, but then the concept of attitudes is introduced in such a manner as to demonstrate lack of appreciation of the difference between desires and action. In fact, the title combines the two, action being embodied in the words "soil conservation" and "improvement" and attitude being represented by the word "think."

The review covers works that have related various factors to *adoption* and development of *attitudes* but with the two intermingled in such a way as to confuse. It is necessary to analyze and separate the statements made, and when this is done it is clear that the paper shows quite clearly that while personal, physical, institutional, and economic factors influence attitudes, only economics is effective in achieving adoption. The former three factors mentioned have no positive or negative correlation with adoption....

In extension work, it is quite satisfying to work to develop attitudes and desires in farmers. Lack of subsequent action, however, can be frustrating and can engender views of the farmer as being conservative, procrastinating, and unreliable. Conversion of people's de-

sires into action is an essential part of extension but is a process that is not appreciated by researchers and academia. Conversion of desire into action is constrained by lack of economic information. Providing economic information is virtually essential to general adoption of desirable practices. The article by Christensen and Norris did not seem to set out to confirm that hypothesis, but it did so.

There is no question that Christensen's review shows that economics is the only significant motivator, even though the paper raised the familiar platitude that "there may be other factors involved in a farmer's adoption of best management practices."

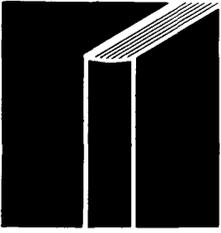
To support my claim that conversion of desires into action is a part of extension not appreciated by research and academia, it is necessary simply to refer to research papers that have included sections on justification or benefits. These show expectations that research will lead to benefits without consideration of the constraints with which extension has to cope.

If researchers were required to consider bridging of the gap between production of research results and actually achieving the benefits they envision, they would help to generate research, possibly into economics and development, that would be of greater use to extension.

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Program director/coordinator for the American Registry of Certified Professionals in Agronomy, Crops, and Soils (ARCPACS), a membership service of the American Society of Agronomy. Candidate must have at least a B.S. degree, preferably an M.S. or equivalent in experience, in agronomy, crops, soils, or closely related field and must be certified or eligible for certification by ARCPACS. Responsibilities include development of the ARCPACS program and the Registry. Minimum salary: \$20,000. Will be located in Madison, Wisconsin. Closing date for receipt of resumes is October 31, 1983, or until a suitable candidate is identified. Send nominations or applications, including resumes with names and addresses of three references, to: D. M. Kral, Chairman, ARCPACS Screening Committee, American Society of Agronomy, 677 South Segoe Road, Madison, Wisconsin 53711.



BOOKS, ETC.

Wildlands and Woodlands: The Story of New England's Forests. By Lloyd C. Irland. 217 pp., illus., index, 1982. University Press of New England, Hanover, N.H. 03755. \$17.50.

In this delightful little volume, the author spreads all his biases before the reader. Dr. Irland is at once a forester, an economist, a philosopher, and an optimist.

As a forester, he revels in pristine wilderness, in New England as it was in colonial days when forests were in "dynamic equilibrium" with growth balancing mortality, and in a mindset which says that all forests are wonderful and well-managed forests are heaven on earth. He speaks easily, knowledgeably, and intelligibly of forestry practices and the difference between quantity and quality of timber resources.

As an economist, he displays a talent for drawing selectively upon historical data, trends, predictions, and budgets, using them skillfully to explain what he observes and what he feels lies ahead. In crystal balling the next 50 years, he allows himself to consider the influence of man's activities over a full four centuries.

Dr. Irland waxes philosophical at times as he discusses motivation, social issues, and demographics, and he is clearly an idealist when he speaks of "developing the ecological conscience of all people concerned with the forest." He is also something of a poet, describing the forest by means of an imaginary hike from the valley floor to the tundra above the treeline. He discusses the forest with affection, statistics with skill and merciful restraint, and problems with sensitivity.

He considers that New England now has five distinct but intermingled forests: the Industrial Forest (large holdings managed primarily for wood crops), the Recreational Forest (3 million acres associated with resorts and second homes), the Suburban Forest (undeveloped brush and small tracts caught in exurban sprawl—"a fortuitous clutter of bypassed real estate that happens to grow trees"), the Wild Forest (wilderness areas, watersheds, and many small dots of green space set aside for "conserving natural processes"), and the Rural Forest (former cropland or pasture). His descriptions of the metamorphosis of the forests of 1620 into those of today range from scholarly to folksy as he identifies man as the major influence and concludes that human action will be even more significant in the future. His account is clear, read-

able, interesting, well documented, and well illustrated. The enhanced notes are particularly helpful for authentication and further reading.

The author traces the rise, decline, and resurgence of fuel wood cutting, recreational uses, and forest industries, and he deals with social change and social conflict as they influence land use. He speaks of the diseases, hurricanes, forest fires, shoddy harvesting, and the historic instability of land use and ownership, and he sees the 1980s as a decade of new concerns.

He finds that traditional forestry approaches and federal subsidy programs have records of accomplishment, but that they are inadequate and afflicted by budget reductions. "Subsidies undermine responsibility," says Irland, of nonindustrial private forest owners. But he fails to suggest what might engender a sense of resource responsibility among those people. He urges a "complete reform" of landowner attitudes toward their forests because neither Yankee ingenuity nor the free enterprise system is equipped to do the job. Governmental regulation is not the answer, he says, except where environmental benefits and pesticides are involved.

In my opinion, this is a well-presented, interesting story of change in the forests of New England, of the conflict between what the author calls the "green backdrop" mentality and the commercial interests and what he considers to be the abiding ecological, social, and attitudinal conditions that will influence future forest policies. I believe the challenges he foresees for the next five decades are realistic and that the policies he proposes are largely consistent with those proposed by other thoughtful managers, but I am left groping in the gulf between the problems and the solutions.

If it is needful to engender in all people (landowner, nonlandowner, and logger alike) an ecological consciousness, a sense of resource responsibility, and a commitment to manage woodlands "sensitively," if it is necessary to initiate a broad-based educational effort to accomplish such sweeping philosophical changes, and if government is to play a reduced role, then to whom will the torch be passed? Without putting forth alternatives, Dr. Irland proposes discarding or overhauling all of yesterday's and today's tools, suggesting that the nonprofit sector take up the cause. If the discarding were to occur rapidly, the

reforms he seeks would be a great deal longer in coming than he might find acceptable. The potential certainly exists, but the motivation does not.—*WILLIAM S. CORLETT, Bureau of Forestry, Pennsylvania Department of Environmental Resources, Harrisburg, 17120.*

An Open Land: Photographs of the Midwest, 1852-1982. (A catalog of an exhibition). Curated by Rhondal McKinney and edited by Victoria Post Ranney. 80 pp., illus., index. Open Lands Project of Chicago, 53 West Jackson Street, Chicago, Illinois 60604. \$19.50.

In the foreword to the catalogue of this exhibition, the organizers state, "We have learned during our first twenty years that one of the greatest obstacles to conservation is the negative perception by many midwesterners of their own land." The purpose of the project is to expose midwesterners to an artistic tradition that documents and celebrates the midwestern landscape, in the hope that the experience will bring increased appreciation for conservation of the land. This is a lofty goal for any work of art and perhaps especially so for landscape photography.

Such consciousness-raising is formidable in part because of the midwesterner's notions of beautiful land are often reserved for wildland, according to Rhondal McKinney, the project's curator. In the preface, he recalls, "I can't see this as a beautiful landscape, a friend once said to me upon viewing some of my photographs. These cultivated fields are just food factories and I can't accept them as beautiful."

In another anecdote, McKinney writes, "What are you taking a picture of?' a woman asked me this one spring afternoon.

"I was standing on top of my truck with my camera and tripod and she had pulled her car alongside...."

"'Landscape,' I said. I spread my arms to indicate what I meant. Before my camera stood only land, sky, and horizon.

"The woman looked around in all directions and then back to me. 'What landscape?' she asked."

McKinney hopes that the photographs will point the way. "Often beauty is more easily sensed in the photograph than in the real scene," he writes. The collection McKinney has assembled from public and private sources, reveals admirable aesthet-

ic and thematic restraint. And though several essays and poems complement the selections, the photographs (more than 100 in the exhibition and half as many in the catalogue) are left largely to stand on their own.

About a third of the images are historic, including prints with scenes of Indian tents, early settlements and farms, the "only cyclone ever photographed," and people simply posing for the camera. These images remind one of the unique capacity of photography to reveal the surfaces of things from the distant past. Interestingly, most of the olden-day images include people, helping to document man's ever-evolving relationship with the land. But the contemporary images are devoid of the human figure, though not of evidence of the human presence. The latter rely on the photographic medium's strengths to dramatize the land. They generally emphasize subtle technique—elements such as play of light, lines, shapes, and patterns. There is little obvious darkroom manipulation or stylistic flamboyancy.

Nevertheless, a number of the images are readily striking, especially viewed as original prints in the exhibition. The simplicity of Lawrence MacFarland's "Wheatfield" belies a creative control that permits the viewer to experience a sense of the endless motion, of wheat, wind, and cloud. One of McKinney's contributions, "Illinois

Landscape," makes a field of corn shoots look as if it were grown solely to create a sensuous symmetry in the black soil. Like the land they portray, the most successful photographs in the show have a beauty that becomes more apparent with repeated viewing, a good reason to own the catalogue.

The collection avoids making a heavy-handed statement about man's impact on the land. In fact, man-made features sometimes can be seen to distinguish the land favorably. In one print, the lights of Bismarck, North Dakota, spread spectacularly across a wide horizon under bright stars, a fusion of human and cosmic light. At times, too, the juxtaposition of the man-made and the natural elements elicits mixed emotions. In a print from David Plowden, a nuclear generating station rises elegantly from stark terrain against a darkening sky.

The photographs succeed in reflecting at least two basic conditions of the midwestern landscape—that this land contains a more subtle beauty than other regions and that the nature of man's presence is often ambivalent. The exhibition and catalogue should be a pleasant experience for many viewers, especially those already sensitive to the grace of the midwestern landscape and aware of the demands of landscape photography.

(Since leaving the Chicago Art Institute

in August, the exhibition has been moved to the Illinois State Museum in Springfield, where it will stay until October 30. Its upcoming schedule includes the following locations: Illinois State University, Normal, March 3-April 11, 1984; Bard College, Annandale-on-Hudson, New York, July-August 1984; and the Nelson-Atkins Museum of Art, Kansas City, Missouri, November 2-December, 1984.)—JOHN WALTER, *assistant editor, SCSA.*

Ground Water. By H. M. Raghunath. 456 pp., illus., refs., apps., bibliog., 1982. John Wiley & Sons, Inc., New York, N.Y. 10158. \$29.95.

Precipitation Characteristics Affecting Hydrologic Response of Southwestern Rangelands. By Herbert B. Osborn. Agricultural Research Service, Oakland, Calif. 94612.

Role of Water in Urban Ecology. Edited by H. Hengeveld and C. De Vocht. 360 pp., 1982. Elsevier Scientific Publishing Co., New York, N.Y. 10017. \$86.00.

Ground Water: A Non-Technical Guide. By James Wilson. 105 pp., illus., refs., maps, index, 1982. Academy of Natural Sciences, Philadelphia, Pa. 19103.

Great Waters: A History of Boston's Water Supply. By Fern L. Nesson. University Press of New England, Hanover, N. Hamp. 03755. \$15.00.