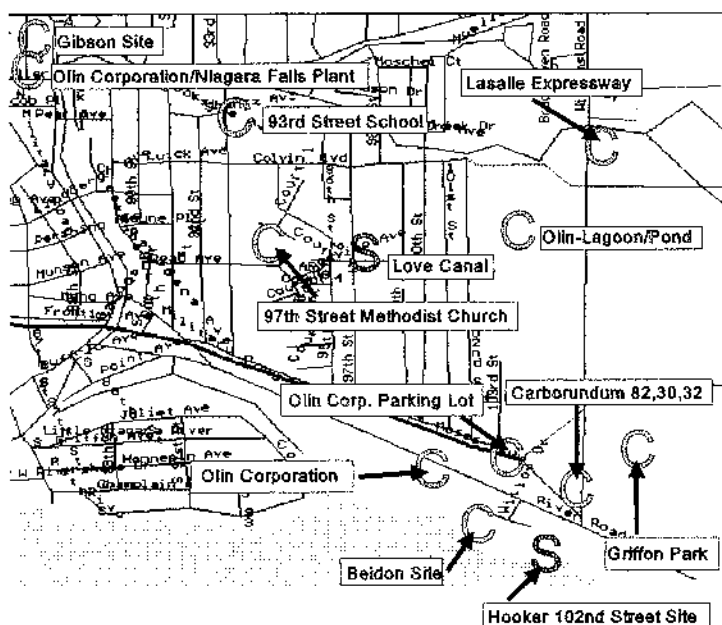


Environment, Technology, and Society

Newsletter of the Section on Environment and Technology
American Sociological Association

Toxic Waste Sites Love Canal Area



- S** Superfund Site on NPL
C Superfund Site - Not on NPL

LANDVIEW II: INFORMATION FOR COMMUNITY EMPOWERMENT

Robert J. Brulle
Department of Sociology and
Anthropology,
George Mason University,
Fairfax, VA

A fundamental premise of a democratic social order is that citizens can meaningfully participate in decisions about their community. A key component in ensuring meaningful public participation is access to reliable information about the current situation. Nowhere is this more essential than in controlling the risks from pollution. Citizens have a right to know what environmental risks they are being exposed to. One significant step in providing this type of information to the

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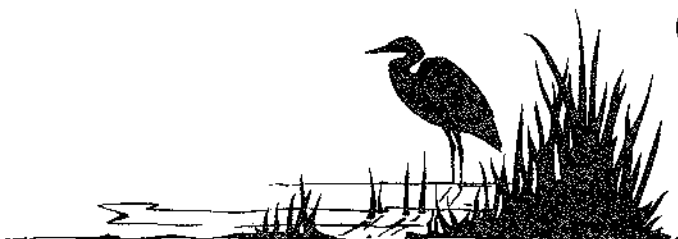
Notes from the Editor...

Here it is, my first issue of ET&S as new editor. I must acknowledge all the help I received from past editor Chris Cluett, as well as Gene Rosa and Penelope Canan, and, of course, everyone who sent in contributions. Please keep them coming!

For me, the past few months have been a busy time of many changes. I have joined the faculty of Wilson College, and am teaching in the residential College for Women, as well as the co-ed College for Continuing Education. Wilson has recently converted some tenant-farmed land into a Center for Sustainable Living. The farm and greenhouse will serve as a working model of techniques for sustainable agriculture and development. Also, the farm is a valuable part of the developing environmental studies curriculum. Currently, the farm provides some produce to the dining hall, and houses a composting facility for the manure produced by the horses in the College's equestrian program. I will bring you more on this exciting new project in the next issue.

I am trying to continue the tradition of a bold graphic for the cover—this issue has a graphic produced by a new software package, *Landview*, which is useful for displaying social and environmental variables on maps of various levels of detail.

You will notice that other aspects of the layout have changed, however. Just a change of pace (and of software). Feel free to comment.



Environment, Technology, and Society Newsletter

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Publication Schedule:

The deadline for the Spring issue is February 15, 1996. If at all possible, please submit text items electronically or on IBM-formatted diskette, as this greatly facilitates the newsletter production process. Also, please submit articles on current research that can be represented graphically on the front page.

public was realized in May 1995 when the Landview II system was released. This data system was developed by the Environmental Protection Agency, the Bureau of the Census, and the National Oceanic and Atmospheric Administration. The aim of this information system was to facilitate the implementation of the Emergency Planning and Community Right-to-Know Act, and the Environmental Justice Executive Order by making information on chemical hazards in the community publicly available.

This data system is an important new tool for use by sociologists, in both their professional and community activities. Landview has a considerable potential for assisting citizens in reaching informed decisions about their own community. In addition, it shows promise both as a teaching resource and research tool. Landview can be used in environmental education activities. Students can be trained to use the system, and then perform research on local community pollution problems. Finally, the data sets contained in Landview can be used to research the relationships between pollution, industrial activity, and population characteristics. This article seeks to encourage the use and evaluation of this system by describing and illustrating some of this system's capabilities.

WHAT'S IN LANDVIEW? Landview contains information compiled from three separate data bases:

1. **EPA Regulated Sites.** Sites of pollution releases and monitoring sites are identified for five data bases:

- **Air Pollution Sites** - Facilities emitting more than 100 tons per year of any criteria pollutant identified by the Clean Air Act.
- **Hazardous Waste Generation Sites** - Major Hazardous Waste Generators regulated under the Resource Conservation and Recovery Act (RCRA).
- **Toxic Waste Sites** - Abandoned, inactive, or uncontrolled hazardous waste sites regulated by Superfund.
- **Waste Water Discharge Sites** - Industrial and municipal treatment plants permitted to discharge wastewater by the Clean Water Act.
- **Toxic Chemical Release Sites** - Regulated facilities that release toxic chemicals listed in the Emergency Planning and Community Right-to-Know Act.

2. **CENSUS DATA.** Landview II contains detailed demographic data based on the Census Summary Tape Files 1 & 3. (STF1a and STF3a). It is provided for several geographic divisions, including State, County, Census Tract, and Census Block Group. For each of these locations, demographic information is available for the following items.

- Number of persons, families, & households
- Persons by age & race
- Median Household Income
- Households by occupancy type
- Land Area
- Water Area

In addition, the county data set contains 24 additional fields containing information on education, employment, and economic characteristics.

3. **GEOGRAPHIC DATA.** The geographic maps which provides the template for all of the maps produced by Landview are based on the Census Department's Topologically Integrated Geographic Encoding and Referencing (TIGER) System. TIGER is a digital geographic database that automates the mapping and related geographic activities of the data bases in Landview. Map elements include:

- Roads (Both Major and Minor)
- Rivers, Lakes, Shorelines, and Watershed Boundaries
- Railroads
- Landmarks
- Boundaries for Census Districts
- Zip Code Areas

CAPABILITIES: The Landview system provides desktop mapping capabilities for searching, displaying, and identifying all data base items. The primary display shows a given geographic region, and the location of the selected map objects. Objects are shown in color, which facilitates the understanding and interpretation of the information presented. An example of a typical map created by Landview is shown on the cover.

All of the items displayed in the map are under the control of the operator. Different locations and pollution sources can be displayed. In addition, information about specific map objects can be retrieved and displayed. Users can also add new data sets by creating their own layers of spatial data. Landview supports any program that uses the dBase file structure. In addition, since the Landview II CD-ROM covers a large geographic area, users who are interested in only a small area (such as a county) can extract the pertinent data from the CD-ROM onto the hard disk. Finally, one important capability of Landview is its ability to use Census data to determine

(continued on page 4)

the population characteristics within a circle of any radius around a point anywhere in the U.S.

GETTING AND RUNNING LANDVIEW: Hardware Requirements: In order to run Landview II, you need an IBM or compatible PC with at least a 286 CPU with 640 K and a CDROM reader. Since the graphic display and analysis functions of Landview II require intensive processing, it is recommended that you use a computer with a 486 or Pentium processor, and a dual speed (2X) or faster CDROM reader.

PURCHASING LANDVIEW: Landview is distributed in a set of 11 compact disks. Each of disks one through ten focuses on a certain geographic area and contains complete data bases and maps for that area. Disk #11 contains all of the data files and maps for the twelve largest Metropolitan Statistical Areas. The current prices for Landview are \$95 per disk, or \$795 for the entire set. For ordering information, call the Bureau of the Census Customer Services at (301) 457-4100. Additional information on using Landview II, and detailed descriptions of the EPA data sets can be obtained by calling the Emergency Planning and Community Right-to-Know Information Hotline at 1-800-535-0202.

The environment on line...

Join our own Environment, Technology, and Society listserve: Send a one-line message to listserv@csf.colorado.edu with the four word text **sub envtecsoc yourfirstname yourlastname**. Share ideas and information with fellow members every day!

Also of interest...*On the Horizon* is a combined on-line listserve and published newsletter which provides educational leaders with an interactive platform for discussing emerging trends and potential developments in

the social, technological, economic, environmental, and political sectors and their implications for education. Check it out on the World Wide Web at the following URL address: <http://sunsite.unc.edu/horizon>. For more information, or to submit abstracts or essays, contact James L. Morrison, editor, *On the Horizon*, Professor of Educational Leadership, CB 3500 Peabody Hall UNC-CH, Chapel Hill, North Carolina 27599; Morrison@unc.edu; (919) 962-2517, (919) 962-1533 (fax).

The 1996 Annual Meetings...

The E & T Section has three sessions allotted at the 1996 ASA meetings: Two sessions are open submissions with no specified theme, papers will be accepted on the basis of quality and some preference will be given to those that include at least one physical environmental variable and one social variable. Submissions should be sent by the deadline date of 10 January 1996 to: Eugene A. Rosa, Environment & Technology Program Chair, Department of Sociology, Washington State University, Pullman, WA 99164-4020; Tel: (509) 335-4621, Fax: (509) 335-6419;

e-mail: facrosa@wsuvm1.csc.wsu.edu. Roundtable submissions should also be sent to the same address.

The third session will be co-sponsored with the ASA Section on Medical Sociology with the theme of "environmental health." Submissions for that session should be sent to Phil Brown, Department of Sociology, Brown University, Box 1916, Providence, RI 02912; Tel: (401) 863-2367; Fax: (401) 863-3213; e-mail pbrown@brownvm.brown.edu.

Member News...

Andy Szasz's book, *EcoPopulism: Toxic Waste and the Movement for Environmental Justice*, is the winner of the Association for Humanistic Sociology's 1994-95 Book Award.

Susan Weber Seybolt presented her paper "Atomized Environmentalism: The Influence of Individualism on the American Environmental Movement" at the 1995 Conference on Communication and Our Environment, held in April in Chattanooga, Tennessee.

Teaching about Commons Problems and Solutions: Links between Population Growth, Common Property, and Environmental Justice

Tom Rudel, Rutgers University

For students to understand the 'big picture' in my environmental sociology courses, they need to see the substantive connections between the themes we discuss in different sections of the course. In some instances these connective tissues seem fragile or difficult to discern, particularly in the case of commons problems and solutions. Like most other environmental sociologists, it seems important to me to introduce students to Garrett Hardin's (1969), "Tragedy of the Commons", but I have had difficulty relating commons problems to the course's other substantive themes, like the population - environment nexus and environmental justice issues. I have the conceit to think that this problem results not just from my own stupidity but from a problem in the field, a failure of environmental sociologists to engage with and contribute to the fund of knowledge about commons problems and solutions. In the following paragraphs I try to outline ways in which we can contribute. Because these ideas connect our more traditional concerns with the commons literature, they may also help us integrate discussions of commons problems into courses on environmental sociology.

1. Population Growth and the Commons Dilemma

Even a superficial reading of the 'commons dilemma' would seem to indicate the centrality of population increase to an understanding of what causes the dilemma. Growth in the number of users, either humans or animals, reaches a point where we can no longer make unrestrained use of the resource without degrading it.

Applying this insight in a larger frame, the dramatic increases in human populations over the past fifty years should have created countless commons dilemmas. Because resource users sometimes try to solve commons problems by creating common property institutions to manage and safeguard resources, one might expect to see a proliferation of common property institutions in places experiencing population increases. This simple minded logic does not get much support in the literature. One prominent theorist recently argued that there was no empirical connection between population growth and the creation of common property institutions (Netting, 1993).

People may have trouble seeing the connection between these two processes because the sequence of events leading from one to the other is not clear. In this respect Ester Boserup's seminal work on population growth and technological change is useful (1967). She argues that population growth over time imposes hardships on resource users; in particular they have to work longer hours to get the same return. Under these conditions they innovate; in some instances the innovations are tools like a plow that enable cultivators to make more complete use of the land. The innovation can also be an organization, a common property institution like an irrigation district or a grazing association which limits access to the commons and, in so doing, promotes a more sustainable and over time more complete use of the resource. These induced innovations all require more work,

but resource users willingly undertake the additional work because, like it or not, their situation will continue to deteriorate if they do nothing. Population increase will further degrade the resource in question and impose more work on them if they do not create an organization to control resource use. Obviously other factors, nicely summarized by Ostrom (1990), play important roles in explaining why people respond to commons problems by creating common property institutions, but it would seem that population growth plays an underappreciated role in the process. Put differently, commons dilemmas and common property institutions appear to mediate and condition the population - environment relationship in important ways.

2. Common Property and Environmental Justice

When we think of common property institutions, groups of primary resource users, fisherman, farmers, and pastoralists come first to mind. This image of common property institutions is misleading because it suggests that commons problems and solutions are primarily issues for rural resource users. In fact there are many common property institutions in urban and suburban areas. Associations of ground water users in Los Angeles, California have created common property institutions to regulate withdrawals of aquifer water. More broadly, residential landowners are in effect creating a common property

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institution when they enact restrictive zoning laws. In this last example, the commons that these people are trying to preserve may be an ineffable 'residential atmosphere' (Rudel, 1989). The zoning law example throws into bold relief an important aspect of common property institutions. They have exclusionary effects. They conserve resources by creating a limited group of privileged resource users who agree to rules for resource use set by the group. The exclusionary nature of these institutions is quite evident in fishing disputes which pit conservation minded users (Canada, in the current cod fishing dispute off of Newfoundland) against outsiders (Spanish fisherman) who would exploit the resource more intensively. In this instance the outsiders are highly capitalized, so equity concerns seem less important, but in instances like land use laws where affordable housing may be the issue concerns over environmental inequities are much more salient. Generally, common property institutions promote conservation by partitioning resources and privileging groups of users. In historian Andrew Hurley's words (1995:172) "it (is) no

coincidence that the age of ecology corresponds with the rise of environmental inequality." By organizing to preserve their resources through common property institutions, local groups push the most abusive resource users into the less organized districts usually inhabited by poor people.

Conclusions

Population growth may offer an important explanation for the increased incidence of common property institutions, and their prevalence may in turn explain why environmental inequalities seem so evident in advanced industrial societies. Although conclusive evidence for these wide ranging conjectures is notoriously difficult to accumulate and organize, they seem plausible given existing fund of knowledge in environmental social science. They provide a way of knitting together some of the main themes in environmental sociology courses. They also suggest that, despite our relative silence on commons dilemmas and common property institutions, we may have much to contribute to the ongoing debate about the efficacy of common property institutions in conserving

natural resources without creating environmental inequities.

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- Ostrom, Elinor, 1990. *Governing the Commons*. Cambridge, Eng.: Cambridge University Press.
- Rudel, Thomas K., 1989. *Situations and Strategies in American Land-Use Planning*. Rose Monograph Series, American Sociological Association. Cambridge, Eng.: Cambridge University Press.

Human Dimensions of Global Environmental Change Meeting

Jean-Guy Vaillancourt, Département de Sociologie, Université de Montréal

The first open meeting of the Human Dimensions of Global Environmental Change Community in the U.S. was held at Duke University's Levine Science Research Center in Durham, North Carolina, June 1-3, 1995. This milestone conference was sponsored by the Social Science Research Council of the United States and its Committee for Research on Global Environmental Change, the Human Dimensions

Programme of the International Social Science Council, the Consortium for International Earth Science Information Network, and the Duke University School of the Environment.

The meeting brought together for three full days of discussion more than 200 members of the U.S. community of social scientists, as well as some humanists and natural scientists interested in networking,

research, teaching, and outreach in the growing field of human dimensions of global environmental change. There was significant international participation, mostly from the European Community, but also from developing countries and from Canada. In spite of the wide diversity of disciplinary backgrounds, those present at the meeting seemed to share the view expressed

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From the Chair...

I would like to keep this, the first of my columns as chair, brief for this issue. Two points do deserve attention. First, this is the first issue of the Newsletter under the editorship of Susan Roschke, who takes over for Chris Cluett. Everyone agrees on the fine job that Chris did for us and we are all truly grateful. The job of editor is a time-consuming, laborious, and sometimes frustrating one. Hence, we are equally grateful that Susan has agreed to take on this task. But I urge your continued support of our newsletter and encouragement for Susan. We can maintain the fine quality we have established for our newsletter only if members of our section continue to funnel submissions into the editor. So, please keep that news and other important submissions coming.

The second point is the principal agenda issue I have for my tenure as chair. If environmental sociology is to survive, if it is to remain vibrant, and if it is to make even greater strides in impacting mainstream sociology, it must ensure a steady increase in the quality of theory and research it undertakes. We should strive to achieve even greater visibility in the discipline and one vehicle for accomplishing that is in the improved quality of our work. Another vehicle is through coordinated interaction with other sections of ASA with intellectual interests convergent with our own. One manifestation of the latter vehicle is our continued commitment to jointly sponsored ASA sessions and to a jointly sponsored reception after our business meeting. I look forward to your support in this commitment to quality and I welcome any and all suggestions for meeting this commitment.

GEC meeting, continued from page 6

in many papers and discussions that the social aspects of the environment need to be studied just as intensely as natural science dimensions, and that interdisciplinary, comparative-historical, and policy-relevant research is increasingly necessary. Although some of the papers focused on traditional quantitative approaches and on issues such as landscape-scale economic modelling, integrated assessment models, and integrated databases, many of the sessions dealt with more qualitative socio-political and ethical issues, including sustainable development, environmental justice, international institutions, environmental education, social learning of global environmental risks, ecological vulnerability, property rights, public perceptions, and environmental policy at various levels. Very diverse problems like deforestation, population increases, human migrations, technological

change, land use, and ozone depletion were addressed, but nearly half of the papers touched on the issue of climate change.

Global warming, according to the natural and social scientists present at Duke, is not a shaky hypothesis, but a real phenomenon of portentous consequences for humans and for other forms of life on earth. Stephen Schneider, a climatologist from Stanford University, indicated that he is 90% sure that there is such a thing as global warming. Many others opt for a 95% probability. The evidence is mounting every year, and such a high probability warrants decisive action. The only sceptics that remain are those who are getting paid by the coal, oil, and gas industries.

A more comprehensive and all-encompassing meeting will be held in Geneva next September, under the auspices of the International Human Dimensions of Environmental Change Programme. The theme of that third International Scientific

Symposium will be "Global Change, Local Challenge," and it will be held at the International Conference Center of Geneva on September 20-25, 1996.

Let us hope that this forthcoming meeting will be truly international, and will be especially open to Third World participants and ideas. The U.S. meeting at Duke University welcomed some international participants, but a truly global community of human dimensions of global environmental change researchers remains to be created through the involvement in these issues of hundreds of experts presently active in many national and regional endeavors all over the world. With the recent creation of a Human Dimensions Committee by the Canadian Global Change Programme, and the forthcoming circulation of a position paper by that Committee, it seems that Canadians intend to play a role in fostering such an international community of researchers.

Competitions and Calls for Papers...

General Social Survey -- Second Annual Student Paper Competition. Competitions are being held for both undergraduate and graduate student papers. Papers should include research using a GSS data set. The winner in each category will receive \$250, a commemorative plaque, and the MicroCase Analysis System, including the 1972-1994 GSSs (a \$1395 value). Deadline for the current round of competition is February 15, 1996. For more information, contact Tom W. Smith, Director, National Opinion Research Center, 1155 East 60th Street, Chicago, IL 60637; (312) 753-7500; fax (312) 753-7886; e-mail: nrtws1@uchimvs1.uchicago.edu.

Marvin E. Olsen Outstanding Graduate Student Paper Award. Manuscripts to be considered for the Environment and Technology Section's Marvin E. Olsen Outstanding Graduate Student Paper Award should be sent, by May 1, 1996, to the Olsen Student Paper Award Committee Chair, Stephen Couch, Department of Sociology, Penn State University, 200 University Drive, Schuylkill Haven, PA 17972. The Olsen Graduate Student Paper Award is chosen from graduate student authored papers accepted for presentation at the ASA Annual Meetings and is accompanied by a \$200 award to defray the expenses of travel to and lodging at the meetings.

ASA Environment and Technology Section Award for distinguished contributions to the sociology of the environment and technology.

The purpose of this award shall be to recognize individuals for outstanding service, innovation, or publication in environmental sociology or sociology of technology. It is intended to be an expression of appreciation, to be awarded when an individual is deemed extraordinarily meritorious by the Section. Deadline for submission of nominations in May 1, 1996. Send nominating letters to Tom Rudel, Chair, Distinguished Contribution Committee, Department of Human Ecology, Cook College, Rutgers University, P.O. Box 231, New Brunswick, N.J. 08903

Other Items of Interest...

The National Opinion Research Center, producer of the General Social Survey, seeks input and ideas on the replication of its survey items. Since there is now an environmental module, Section members may wish to

seize on this opportunity to improve the types of information now being collected or to suggest important additional information. Contact Tom W. Smith, Director, National Opinion Research Center, 1155 East 60th Street, Chicago, IL 60637; (312) 753-7500; fax (312) 753-7886; e-mail nrtws1@uchimvs1.uchicago.edu.

Subscriptions to GSS news are free--just contact Tom Smith at the addresses above.

Publications...

Burdge, Rabel J. and Colleagues. 1995. *A Conceptual Approach to Social Impact Assessment*. Middleton, WI: Social Ecology Press.

Burdge, Rabel J. 1995. *A Community Guide to Social Impact Assessment*. Middleton, WI: Social Ecology Press.

Position Announcement...

Michigan State University. The Department of Sociology invites applications for a tenure track, twelve month position at the Assistant Professor level beginning August 1996. The position is in the Human Dimensions of Wildlife Management with principal responsibilities for conducting applied sociological and survey research in environmental sociology, policy analysis, public-choice, program evaluation, and social impact assessment in wildlife and fisheries management and natural resource contexts. Cooperation with the Michigan Department of Natural Resources in conducting research on management policies and practices will be required. Other responsibilities include: develop and offer graduate level and professional development courses in environmental sociology; apply social science and survey methods to wildlife and fisheries management, public policy analysis and program planning; lecture occasionally in undergraduate courses; participate in faculty committees, public service outreach programs, and advising of graduate students. Tenure will be in Sociology with research and professional education assignments in the Department of Fisheries and Wildlife and the Institute for Public Policy and Social Research and its Survey Research Division. Ph.D. in Sociology is required, with strong quantitative skills and demonstrated competence in: 1) designing, conducting, and analyzing social surveys; and 2) program evaluation within natural resource public policy analysis contexts. Preference will be given to persons with interest and experience in environmental sociology applications to wildlife management issues. Applicants should submit a letter of application stating professional goals, objectives, and research agenda; a resume with supporting material including transcripts, writing samples, and three letters of reference to Dr. Lawrence Busch, Department of Sociology, Michigan State University, East Lansing, MI 48824-1111. Apply by December 1, 1995 for full consideration. MSU is an equal opportunity/affirmative action employer. Minority and women candidates are encouraged to apply. Handicapped persons have the right to request and receive reasonable accommodations.