

# MAINTENANCE OF OUTDOOR SCULPTURE

## An Annotated Bibliography

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by Shelley Sturman, Julie Unruh and Helen Spande

**N**ote: the full bibliography includes over 400 entries, with sections

on acid rain, metal, corrosion, coatings, stone and wood. Contact SOS!  
to purchase a copy. The general section follows. You may access the bibliography  
through the SOS! home page, <http://www.nic.org/sos/sos.html>.

1. Armstrong, Bob. "Rise or Fall of Public Art." Public Art: Who Cares?, ed. Donna Midwinter, Marilyn Karet and Bridget Pirrie, 25–28. Art Gallery of New South Wales, 1993.

This paper discusses the types of monitoring and inspections to consider in  
maintenance programs for public art. — NGA.

2. Ashton, John. "Conservation Needs of a Bronze Memorial Sculpture Simpson and His Donkey." Public Art: Who Cares?, ed. Donna Midwinter, Marilyn Karet and Bridget Pirrie, 48–52. Art Gallery of New South Wales, 1993.

Details production of a sculpture for a public site from inception to artist selection,  
including wording for a contract that calls for participation and/or approval of the  
artist in the maintenance of the work. Brief description of specific conservation  
techniques. — NGA.

3. Asmus, John F. "More Light for Art Conservation." Circuits and Devices Magazine 2, no. 2 (1986): 6–15.

After a brief introduction to the problems of cleaning art works, the variable effects of  
a pulsed laser beam are described with formulas. Treatment of outdoor marble  
sculpture in Venice is discussed and test cleanings on tarnished silver threads,  
stained paper, encrusted stain glass, etc., are mentioned. The major problem in the  
practical implementation of laser conservation has been producing a uniform result.  
Overlapping of laser impact spots, recondensation of accretions and slow progress  
are cited as problems. Both laser and xenon flashlamp systems can be used for  
divestment. Several hundred square feet of murals in Sacramento have been  
divested of overpaint and 7000 square feet of antique iron in Dallas have been  
divested of rust using laser and flashlamp radiation. Carbon dioxide lasers, relatively

high in efficiency and low in cost, appear to be useful only for metal cleaning. Surface divestment with light may be a more universally successful conservation alternative when more versatile laser types become commercially available. — AATA.

4. Australian Institute for the Conservation of Cultural Material Incorporated (AICCM Inc.). "Conservation on the Move — Caring for Outdoor Sculptures and Monuments."

This is an important brochure for individuals, collectors, dealers and institutions without in-house conservation staff. The brochure succinctly states how different environmental factors affect sculptures and offers advice on what steps should be taken in order to maintain sculpture outdoors.

5. Bach, Penny Balkin. "Choreography and Caution: The Organization of a Conservation Program." *Sculptural Monuments in an Outdoor Environment*, ed. Virginia Naudé, 51–57. Philadelphia: Pennsylvania Academy of Fine Arts, 1985.

The historical background of the Fairmount Park Commission indicates that in its early years statuary was erected without considering future maintenance. The issues of care, maintenance, artistic intent and environment are discussed as general principles. Specific policies regarding maintenance implemented by the author on behalf of the Fairmount Park Art Association are described; legal protection for the owner of the work and for the conservator are covered. — AATA.

6. Baer, Norbert. "Conservation Notes: Maintenance of Outdoor Bronze Sculpture." *The International Journal of Museum Management and Curatorship* 7, no. 1 (1988): 71–75.

A review was made of conservation treatments used by 30 conservation departments and institutions based on the appendix from *Sculptural Monuments in an Outdoor Environment*. The most commonly reported treatment was the application of a protective coating (wax or Incralac); second was cleaning, frequently followed by corrosion-product removal, benzotriazole treatment or patination. Results from a telephone survey on maintenance schedules are also presented. — ICCROM.

7. Bath, Mike. "NPS/NIC Seminar Provides Hands-on Instruction for Sculpture Professionals." *SOS! Update* 3, no. 1 (Winter 1991–92): 2.

Restoration painter Bath participated in a two-part course on the preservation of outdoor monuments presented in Sept. 1991 by the NPS in conjunction with NIC. — SOS!

8. Beale, Arthur. "Conservation of Outdoor Sculpture, An Overview. Keynote Address." *Dialogue/89 — The Conservation of Bronze Sculpture in the Outdoor Environment: A Dialogue Among Conservators, Curators, Environmental Scientists, and Corrosion Engineers* (11–13 July 1989, Johns Hopkins University, Baltimore), ed. Terry Drayman-Weisser, 3–12. Houston: NACE, 1992.

Through association with state, national and international organizations, the author observes that trends in art conservation are mirroring global concerns for the preservation of the planet and the dwindling species that inhabit it. These realizations include a better understanding of the magnitude of the collections conservation task, an awareness of the limit of resources needed to accomplish that

task and, as a result of the first two realizations, a trend towards the establishment of priorities. Much sculpture found in the present outdoor environment is in priority one condition: it is in peril of loss if not treated immediately. — Author & NGA.

9. ———. "The Varying Role of the Conservator in the Care of Outdoor Monuments: Ethical Dilemmas." *Sculptural Monuments in an Outdoor Environment*, ed. Virginia Naudé, 39–50. Philadelphia: Pennsylvania Academy of Fine Arts, 1985.  
Contains a review of conservation ethics with regard to the code of ethics and standards of practice adopted by AIC. This includes demonstrating reversibility. Presentation focuses on whether the rules governing two-dimensional artworks are applicable to outdoor sculpture. The dilemma for the conservator is finding appropriate and ethical treatments that address the problem of corrosion and application of protective coatings, while remaining sensitive to the aesthetic needs of each individual sculpture. — ICCROM & AATA.
10. ———. "What Is Outdoor Sculpture?" *SOS! Update* (Fall 1990): 1.  
From a technical viewpoint and for the purposes of *SOS!*, outdoor sculpture can be defined as three-dimensional work that is created with materials such as stone, wood, metal, ceramic or synthetic materials. — *SOS!*
11. Biddle, Sherron. "PaSOS! Enlists Ace Corps of Civil War Buffs for Gettysburg Campaign." *SOS! Update* 7, no. 1 (Dec. 1996): 7.  
PaSOS! needed to recruit a large corps of volunteers to survey the Gettysburg National Military Park, which encompasses 1,420 monuments, historical markers and brigade markers in its 30 square miles. They turned to the Friends of the National Parks at Gettysburg, whose response was immediate and overwhelming. — NIC.
12. Bogle, Michael. "Public Art or Monument to Anarchy." *Public Art: Who Cares?*, ed. Donna Midwinter, Marilyn Karet and Bridget Pirrie, 67–69. Art Gallery of New South Wales, 1993.  
Comments about some of the problems that have beset public art programs, including funding, conservation, re-siting of site-specific works, artists' rights and ethical issues. Introduces concepts that have far-reaching consequences and cannot be overlooked. — NGA.
13. Borsella, S. "Il Restauro Del Complesso Storico, Architettonico e Monumentale Del Prato della Valle Di Padova." *Il Prato Della Valle e Le Opere in Pietra Calcarea Collocate All'Aperto* (1990): 21–52.  
The architectural complex called Prato della Valle presents an elliptic shape with 78 statues, vases, obelisks and benches. The complex was built in the late 18th century and later transformed. Its state of preservation has worsened in the last decades of this century. Conservation work was planned on the basis of the study of ancient maintenance practices and the results of experimental tests — scientific analyses, conservation methods, work duration, technical evaluation and final maintenance. — CIN.

14. *Bronze and Masonry in the Park Environment* (20–21 Oct. 1983, New York), Preprints. New York: Center for Building Conservation, 1983.  
Contains seven preprints of the meeting, “Bronze and Masonry in the Park Environment” (New York, 1983), sponsored by the Center for Building Conservation. Topics include conservation treatment of outdoor bronze monuments, conservation and cleaning of stone and masonry monuments and graffiti removal. Papers abstracted separately in this bibliography. — CIN.
15. Christiansen, Peter. “The Perils of Public Art.” *Public Art: Who Cares?*, ed. Donna Midwinter, Marilyn Karet and Bridget Pirrie, 40–44. Art Gallery of New South Wales, 1993.  
Strong warning regarding a variety of potential problems city planners, artists and people involved in acquiring a public art face. These warnings are based on an unfortunate experience in Melbourne. — NGA.
16. Cohen, Jean Lawlor. “An Inside Look at Outdoor Conservation.” *Sculpture* (Nov./Dec. 1988): 10–15.  
The author describes the difficulties inherent in preserving works of art outdoors due to the severe problems of acid rain, chemical corrosion, unpredictable materials and vandalism. She advises that the solutions are too technical for anyone except a trained professional conservator. The article then examines ways for the nonconservator to select a conservator for a project. — NGA.
17. Commonwealth of Pa., Department of General Services, Bureau of Engineering and Architecture. “Request for Proposal for Conservation and Maintenance Cleaning of the Outdoor Bronze Sculpture of the Pa. State Capitol Building.” 1988.  
This describes the tasks needed to conserve, preserve and restore the outdoor bronze sculptures at the Pa. State Capitol Building. Part 1 (General Information) describes, in separate subsections, the purposes, objectives, goals, methods, personnel, qualifications, contract, insurance and payment. Part 2 (Selection and Award) describes the proposal, criteria for selection and award. Part 3 is the Scope of Work. Three entrance doors, two light standards and five statues are included in the Scope of Work. The general requirements, quality controls, additional considerations and documentation of the work are listed. Appendix A is a blank Form of Agreement that will be signed by the conservator and the Commonwealth of Pa. Exhibit 2 is a blank proposal form. A Department of General Services Questionnaire and Financial Statement is also included. — CIN.
18. Cristin-Poucher, Steve. “For Its New Contemporary Sculpture Garden, LACMA’s Conservators Faced Intriguing Challenges Mounting and Protecting Outdoor Art.” *Newsletter* (Western Association for Art Conservation) 13, no. 2 (May 1991): 12.  
Conservation problems posed by the outdoor installation of several large contemporary sculptures at LACMA were handled in a variety of ways. Specific approaches included refabricating parts, using special paints and using cathodic protection to control the corrosion of a steel artwork. — NGA.

19. Cruikshank, Jeffrey L., and Pam Korza. *Going Public: A field guide to developments in art and public places*. Amherst, Mass.: Arts Extension Service of the University of Massachusetts in cooperation with the Visual Arts Program of the NEA, 1988.  
Workbook with case studies and annotated sample documents about the administration and preservation of public art, including outdoor sculpture. Includes chapters about collections management, documentation, conservation and funding models. — NGA.
20. Gardner, Don. "Course Offers Basics of Conservation Through Lecture, Hands-on Format." *SOS! Update* (Sept. 1992): 7.  
Savannah, Ga., learned how to take responsible action for the conservation of outdoor sculpture from the course "The Preservation of Outdoor Monuments" (July 1992, Chicago). — SOS!
21. Gazzard, Marea. "Why the Artist Needs the Conservator." *Sculpture, Monuments and Outdoor Cultural Materials Special Interest Group of the AICCM* (2–3 Mar. 1993, New South Wales). 1994.  
This article, presented by an artist rather than a conservator, illustrates artists' desires to understand how to avoid inherent structural problems and their dismay when artists' intentions are not considered during conservation. Cooperative roles of conservators and artists in the formulation of contracts for public buildings is discussed. — NGA.
22. Giusti, Annamaria. "Sculture e Sosia: Resoconto Della Tavola Rotonda." *OPD Restauro: Rivista Dell'Opificio Delle Pietre Dure e Laboratorie Di Restauro Di Firenze* 3 (1991): 160–66.  
Summary transcription of a discussion by Giorgio Bonsanti, Francesco Nicosia, Mario Manieri Elia, Mina Gregori and others at the conference sponsored by the Opificio delle Pietre Dure at Palazzo Vecchio (Florence, Dec. 6, 1990) on the substitution of copies or casts for outdoor sculptures, mainly in Florence and Rome. Issues examined involved ethical and practical aspects of conservation policy and responsibility for the cultural heritage. — CIN.
23. Haggard, Carolann. "As I See It . . ." *SOS! Update* 3, no. 1 (Winter 1991–92): 4.  
As pilot project coordinators, Jim Schippers' and Haggard's experience with the SOS! training materials and methodology help improve these components for coordinators who join SOS! in 1992 and 1993. — SOS!
24. Haraburda, Donica N. "Via Phone, Fax, the Net — and Even in Person — Researchers Draw on Inventory's 54,000 Entries." *SOS! Update* 7, no. 1 (Winter 1996): 2.  
Since the IAS opened to the public in 1992, database users have made more than 2,000 requests by telephone, by mail and in person. With the advent of remote searching, IAS staff notes an increase in requests for on-line help. As of 1995, IAS lists more than 54,000 indoor and outdoor sculptures, including 4,000 of the approximately 21,000 SOS! reports submitted to date. — SOS!

25. Hirzy, Ellen. "Adopt-a-Sculpture: Innovative Private-Public Partnerships Support Conservation." *LodeSTAR* 5, no. 1 (Feb. 1994): 1.  
Adopt-a-Sculpture programs, which often have formal or informal administrative links to city agencies, match private donors with public sculptures. Tips are given on how cities can develop such a program. — SOS!
26. ———. "Energy, Spirit and Commitment: Volunteers Make a Difference." *LodeSTAR* 6, no. 2 (Summer 1995): 1. Volunteers of all ages and for many reasons have participated in and benefited from SOS! — SOS!
27. ———. "Public Awareness: Building a Constituency for Care." *LodeSTAR* 6, no. 1 (Winter 1995): 1.  
Public interest and enthusiasm are critical to the ongoing success of SOS! Some efforts to date have included workshops and symposia, exhibitions, tours, publications, media coverage, holiday events, community fairs and festivals, college courses, public service announcements and officially designated SOS! days, weeks or months. — SOS!
28. ———. "Public Funds: Tapping State, Local Resources for Conservation of Endangered Sculptures." *LodeSTAR* 7, no. 1 (Winter 1996): 1–4.  
Public agency partnerships, bond issues, percent-for-art programs, the federal highway bill and private–public joint efforts are possible sources for raising or acquiring money for the conservation of outdoor sculpture. — SOS!
29. ———. "Selecting and Contracting with a Conservator: Informed Decision Making Eases the Process." *LodeSTAR* 5, no. 2 (Summer 1994): 1.  
Finding a qualified conservator is important. A decision is best made after taking the following steps: clarify your purposes and expectations; identify several qualified conservators; screen potential candidates; ask for written proposals and cost estimates; evaluate proposals; and negotiate a contract. — SOS!
30. Hochfield, Sylvia. "Mortal Monuments." *ARTnews* 90, no. 6 (Summer 1991): 114–29.  
An extended article in an issue devoted to the environment and ecology discusses the saving of major world monuments. Problems of the Parthenon, the Sphinx, Mayan temples, the Temple of Luxor, Stonehenge, Venice, the Leaning Tower of Pisa, Angkor, ancient Tiwanaku sculptures in Bolivia and St. Ann's Church in Brooklyn are surveyed. — AATA & NGA.
31. Hughes, Janet. "Collection Management of National Memorials and Artworks in Canberra, Australia." *Metal 95: An International Conference on Metals Conservation, ICOM CC Metals Working Group (25–28 Sept. 1995, Semur en Auxois, France)*. Paris: ICOM.  
The National Capital Planning Authority is responsible for 96 memorials and artworks in Canberra, including plaques, fountains, flagpoles, graves, war relics, decorative coats of arms on buildings as well as traditional bronze and stone statues. Major current conservation projects are outlined. Strategies for managing the works include improved documentation, condition reporting, financial planning and commissioning new works with design and conservation in mind. — Author.

32. Kendellen, Peggy. "In Portland, Oreg., Arts Council's Partnerships With Bureaus, Schools Pay Dividends for City." *SOS! Update* 7, no. 1 (Winter 1996): 5.  
In Portland, conservators train city workers and university students through workshops and apprenticeships. Public education is accomplished through television interviews and city celebrations. — SOS!
33. Khoury, Franko. "Pictures That Speak Louder Than Words." *SOS! Update* 5, no. 2 (Summer 1994): 8.  
Two photos powerfully illustrate the case that can be made by composite before-and-after photos of professionally treated sculpture.  
— SOS! & NGA.
34. Kippes, Wolfgang. "Vorbeugen Statt Restaurieren: — Vom Vermeintlichen Widerspruch Zwischen Okonomie und Denkmalpflege." *Restauratorenblätter* 15 (1994): 63–70.  
The Imperial Castle of Schonbrunn owned by the Republic of Austria has been managed by a private company since 1992. A new marketing strategy is in place that stresses the high historical and aesthetic values of the castle and its park and optimizes the presentation to visitors. Additional improvements to cover preventive care consist of climate control, ventilation, building maintenance and cleaning, winter shelter for outdoor sculptures and regulating visitor attendance. — CIN.
35. Lemaire, Jacques. "La Prévision Du Comportement à Long Terme De Matériaux Polymères Synthétiques D'Après Des Expériences De Vieillessement Artificiel." *Symposium '91: Saving the Twentieth Century; the Degradation and Conservation of Modern Materials*, 123–34. 1993.  
This article describes the photo-aging of synthetic polymers commonly used in modern sculptures found in outdoor settings. Cross-linked unsaturated polyesters and various polyacrylates and polymethacrylates presented as examples of unstabilized matrices whose properties can be modified during the polymerisation, on drying from solution or emulsion and by introduction of additives. Photo-oxidation and thermal oxidation of dienic elastomers and oxidation of polyacetals described. Lifetimes of polymers can be predicted from the measured lifetimes in artificial conditions, taking acceleration factors into account. — Author.
36. Marshak, Boris. "Panjikent: A Pre-Islamic Town in Central Asia." *Adobe 90 Preprints, 6th International Conference on the Conservation of Earthen Architecture (14–19 Oct. 1990, Las Cruces, N. Mex.)*, ed. Kirsten Grimstad, 230–32. Marina del Ray, Calif.: GCI, 1990.  
Ancient Panjikent (5th–8th centuries), situated some 55 km east of Samarkand, has been under excavation for more than 40 years. An excavated area of six hectares has yielded a town with hundreds of two-storied houses, a ruler's palace, two temples, streets and bazaars encircled by city walls. The mudbrick and adobe buildings (pakhsa) of Panjikent, which originally reached a height of 10 to 12m (preserved up to about 7m) were decorated with murals and sculptures that have now gained worldwide recognition. Enormous problems of conservation and exhibition exist at Panjikent. These involve the creation of an open-air museum, like

that at Pompeii, where visitors may be introduced to the town as a whole. This fascinating work and the resolution of these problems would greatly benefit from international cooperation. — CIN.

37. Megerian, Maureen. "Balancing Intent: Outdoor Sculpture Conservation at Storm King Art Center." AIC: Abstracts of Papers Presented at the 22nd Annual Meeting, Nashville, Tenn., June 6–11, 1994, 19–20. Washington, D.C.: AIC, 1994.  
The Storm King Art Center maintains over 120 outdoor works, many by living artists. In caring for its collections, the art center has attempted to find answers to: How does the museum both honor an artist's intent and provide the best and most cost-effective care for a piece? To what extent does the museum base its decisions about acquiring and borrowing works of art upon issues of long-term survival? What is the relationship between the museum's conservator and an artist? Honoring the artist's intent is discussed in conjunction with two examples of painted steel sculpture, *The Arch* (1975) by Alexander Calder and *Mother Piece* (1970) by Mark di Suvero. Durability is discussed through examples of von Rydingvard's cedar sculptures. — NGA.
38. Merk-Gould, Linda. "Viewpoint." *SOS! Update* 2, no. 2 (Summer 1991): 3.  
The accuracy of the information incorporated into the IAS database depends in large part on the structure of the "SOS! Survey Questionnaire." Local SOS! project coordinators use the *SOS! Surveyor's Handbook*, the "SOS! Survey Questionnaire" and a 30-minute training video. — SOS!
39. Midwinter, Donna. "Network or Web? Are Conservators Credible?" *Public Art: Who Cares?*, ed. Donna Midwinter, Marilyn Karet and Bridget Pirrie, 61–63. Art Gallery of New South Wales, 1993.  
Overview of ideas that led to creation of the seminar, "Public Art: Who Cares?" Midwinter cautions that the conservator's aim to inhibit damage, especially on outdoor artworks, is a study in compromise between stabilizing materials and maintaining aesthetics. Article concludes that networking is essential for effective management and maintenance of public art. — NGA.
40. Midwinter, Donna, Marilyn Karet and Bridget Pirrie, ed. *Public Art: Who Cares?* Art Gallery of New South Wales, 1993.  
Proceedings of the Mar 2–3, 1993, seminar presented by the Sculpture, Monuments, & Outdoor Cultural Materials special interest group of the Australian Institute for Conservation of Cultural Material (AICCM). Contains short papers by conservators, curators, artists and arts ministers on various aspects of public art, including maintenance of outdoor sculpture. Relevant papers abstracted in this bibliography. — NGA.
41. Montagna, Dennis R. "NPS Cares for Gettysburg's Monuments." *CRM: Cultural Resources Management* 18, no. 1 (1995): 41–44.  
Gettysburg National Military Park, Pa., an NPS property, contains over 400 monuments, largely of bronze and stone, commemorating aspects of the battle. In 1989 a team from the NPS regional office made a systematic condition assessment of all the monuments as a basis for a program of responsible treatment with long-



term care. (Previous maintenance had not been systematic). Under the plan, trained park staff would clean major statues with powdered walnut shell abrasive applied at low pressure followed by a wax coating applied to the heated bronze. Other bronze elements would be washed with soap and water and then waxed. Stone would be cleaned by detergent scrubbing and pressure washing. To date, over half the monuments have been treated with retreatment scheduled to start by 1996. — CIN & NGA.

42. National Park Service. CRM: Cultural Resources Management — Public Monuments and Outdoor Sculpture 18, no. 1, ed. Dennis Montagna, Susan Nichols and Rebecca Shiffer. 1995.

This issue is devoted to the history of public sculpture, the inventory projects for outdoor sculpture and maintenance programs and treatments of outdoor sculpture.

43. Naudé, Virginia, and Glenn Wharton. Guide to the Maintenance of Outdoor Sculpture. Washington, D.C.: AIC, 1993.

A guide for developing maintenance programs for outdoor sculpture. Provides information on general maintenance practices and materials, contracting with conservators, creating and managing a maintenance program, writing a long-range maintenance plan, surveying the collection and more. Covers the care of metals, stone, concrete, ceramics, wood, plastics and fountains. — AATA.

44. New York Conference on Conservation of Stone and Wooden Objects (7 –13 June 1970, New York), Preprints of the Contributions. London: IIC, 1970.

Contains 11 papers on the conservation of wooden artifacts including waterlogged, insect-infested, swamp-degraded, burnt and otherwise damaged and deteriorating artifacts. Included are case histories of architectural elements, both indoor and outdoor sculpture and ethnographic objects. — NGA.

45. Nichols, Susan. "Save Outdoor Sculpture! Program Update." AIC: Abstracts of Papers Presented at the 22nd Annual Meeting, Nashville, Tenn., June 6–11, 1994, 61–62. Washington, D.C.: AIC, 1994.

A status report on SOS! projects across the country are discussed and new adopt-a-sculpture programs, scheduled workshops and funding sources are reported. Several presentations at professional organizations are planned. Updates to the IAS database discussed. — NGA.

46. ———. "Saving Outdoor Sculpture: A Nationwide Survey Is Underway." CRM 16, no. 5 (1993): 6–8.

SOS! has worked to inform owners and administrators about proper care and maintenance of outdoor sculpture in public places. Threatened by vandalism, neglect and pollution, these sculptures are still emerging as a sort of national collection that reflects the history and art of the United States.

47. Oropesa Hernandez, Tomas, et al. "Mantenimiento y Conservacion De Esculturas Contemporaneas De Las Exposicion Internacional De Exculturas En La Calle." VIII Congr s De Conservacio De B ns Culturals (20–23 Sept. 1990, Valencia, Spain), ed. Pilar Roig Picazo, 268–81. Generalidad Valencia, 1990.

Maintenance and conservation of contemporary sculpture from the first open-air international sculpture exhibition. — CIN.

48. Panhorst, Michael W. "Annotated Bibliography of Guidebooks and Outdoor Sculpture Survey Publications." NAPAP State of Science and Technology, vol. 3. Appendix 21H of "Risk from Acidic Deposition."

Identifies 54 books on outdoor sculpture in 34 states and cities. Also includes entries for 23 thematic surveys on war monuments, architectural sculpture and other types of sculpture. — Author.

49. ———. "Sculpture Surveys: A Summary of Projects Completed, in Progress, and Planned." *Dialogue/89* —The Conservation of Bronze Sculpture in the Outdoor Environment: A Dialogue Among Conservators, Curators, Environmental Scientists, and Corrosion Engineers (11–13 July 1989, Johns Hopkins University, Baltimore), ed. Terry Drayman-Weisser, 309–38. Houston: NACE, 1992.

This paper provides an overview of sculpture surveys. It discusses a number of projects that are completed, underway or planned for the near future in the United States. It attempts to summarize the similarities among these diverse projects while being constructively critical of their goals and methods. — Author.

50. Pockman, Ted. "Save Outdoor Sculpture!" *Blueprints* 12, no. 1 (1994 Winter, CAL): 13–14.

51. Pullen, Derek, and Sandra Deighton. "Barbara Hepworth — Conserving a Lifetime's Work." From *Marble to Chocolate: The Conservation of Modern Sculpture* (Tate Gallery Conference, 18–20 Sept. 1995), ed. Jackie Heuman, 136–43. London: Archetype Publications, 1995.

This paper reviews the experience of conserving a large number of sculptures by one artist with examples of different materials and techniques. Hepworth's studio is described and her working technique is explored, including the use of a variety of materials — wood, stone, metals, string. Conservation case studies of two small indoor sculptures of wood and stone are presented. The final section discusses Hepworth's outdoor bronze casts and the conservation of *Four-square* (Walk Through). — NGA.

52. Rajer, Anton, Harry Alden and John Hackney. "Conserving 20th-Century Eccentric Sculpture in the Rural Art Parks of Wisconsin, USA." *AIC Abstracts of the 23rd Annual Meeting*, St. Paul, Minn., June 4–11, 1995, 75. Washington, D.C.: AIC, 1995.

This abstract summarizes the phenomenon of the informal outdoor sculpture collections, known as "Art Parks," that have formed around artists' homes and conservation efforts to maintain them. — NGA.

53. Reger, Lawrence L. "A National Initiative to Save Outdoor Sculpture!" *Dialogue/89* — The Conservation of Bronze Sculpture in the Outdoor Environment: A Dialogue Among Conservators, Curators, Environmental Scientists, and Corrosion Engineers (11–13 July 1989, Johns Hopkins University, Baltimore), ed. Terry Drayman-Weisser, 339–52. Houston: NACE, 1992.

To date, the care and conservation of outdoor sculpture has been undertaken in a random fashion by the organizations that own them, generally government agencies and corporations. A major national initiative, SOS! will locate and report on the condition of publicly accessible outdoor sculpture in the United States. The data will be added to the IAS, a research database at the Smithsonian Institution's NMAA. SOS!, co-sponsored by NIC and NMAA, aims to raise public awareness about America's sculptural heritage and promote responsible ongoing care for the works. — Author.

54. Reynolds, Patrick T. "The Threat to Outdoor Art." *Historic Preservation* 36, no. 3 (1984): 34–39.

The author notes concern about deterioration of bronze sculpture in cities of the United States, cites acid rain as principal cause of the damage and summarizes four methods of conservation treatment used and advocated by different conservators. Announcement of a National Trust for Historic Preservation project for a national survey to determine the most effective methods of treating outdoor sculpture and to identify research needs accompanies the article. This project was, in fact, the infant SOS! program. — AATA.
55. Riccomini, Eugenio. *Subito, Le Sculture All'Aperto*. Bologna: Palazzo d'Accursio, Bologna Centro Storico-Catalogo per la Mostra Bologna Centro Storico, 1970.

Discusses problems of open-air sculpture conservation. Types of damage, projects for rehabilitation: reduce smog, protective covers, models. Includes photos. — CIN.
56. Romich, Hannelore. "New Conservation Methods for Outdoor Bronze Sculpture." *European Cultural Heritage Newsletter on Research* 7 (Dec. 1993): 61–64.

Precursor to the extensive European Commission project on developing and testing a new coating for outdoor bronze sculpture published in 1996.
57. Schindel, Terry. "Using Gortex Fabrics to Protect Outdoor Sculpture." *AIC Abstracts of the 23rd Annual Meeting, St. Paul, Minn., June 4–11, 1995*, 74. Washington, D.C.: AIC, 1995.

An abstract of a talk that investigated the components of an outdoor sculpture and preventative conservation measures. — NGA.
58. Sinclair, K.K. "ISTEA: A New Approach to Transportation Planning Is Inclusive of Outdoor Sculpture." *LodeSTAR* 4, no. 1 (Summer–Fall 1993): 1.

ISTEA, signed into law in December 1991, is the highway, transit, safety, research and environmental bills all rolled into one package. If a sculpture is near a transportation corridor or affected by a corridor in some way it may be eligible to receive funding. — SOS!
59. SOS! "A Video Guide for the SOS! Volunteer."

Video. Running time 30:15 mins. A tour led by outdoor sculpture conservator Henry Lie introduces volunteers to the SOS! Survey Questionnaire. This is intended as a training supplement for SOS! volunteers. — NGA.
60. ———. "Adopt-A-Monument: The Dallas Story."

Video. Running time 24:30 mins. Richard Kneipper, chairman of Dallas Adopt-A-Monument, discusses the program's evolution, fund raising and collaboration with conservators. Between 1988 and 1995 the all-volunteer effort raised more than \$250,000 to treat and maintain 12 artworks. — SOS!

61. ———. "IAS Opens to Public, Scholars for Research." *SOS! Update* 4, no. 1 (Winter 1992–93): 1.

NMAA announces the opening of IAS, which includes records of more than 49,000 sculptures (chiefly indoor) in public and private collections. Although not about treatment, this inventory containing SOS! data will be extremely important to conservators and curators. SOS! data will be added continually to this listing. — SOS!

62. ———. Index of SOS! Publications.

This is a listing of the articles published in *SOS! Update* as well as LodeSTAR, videotapes and kits. Some of these are abstracted separately in this bibliography. — NGA.

63. ———. "Information from Museum's Art Inventories Now Accessible Electronically on the Internet." *SOS! Update* 6, no. 2 (Summer 1995): 2.

More than 50,000 indoor and outdoor works are now available on the IAS database. The database can be checked periodically for new entries. Although not about treatment, this inventory containing SOS! data will be important to conservators and curators. — SOS!

64. ———. "Major Meeting Will Explore Past, Future of SOS!" *SOS! Update — Confederate Camps and Chapters* (Special Issue): 2.

The SOS! International Symposium "Playing for Keeps: A Game Plan to Save Outdoor Sculpture" (Washington, D.C., 16–19 Nov. 1996) will celebrate SOS! results and consider next steps for action at local and national levels. — SOS!

65. ———. "National SOS! Checks Items Off '95 To Do List." *SOS! Update* 7, no. 1 (Winter 1996): 1.

Forty-four SOS! projects completed their obligations by the end of 1995. In 1996 SOS! plans to: produce a maintenance kit and a design criteria pamphlet; contact owners, administrators and heads of training programs for conservators and others who work with sculpture; continue a challenge grant program for condition assessments; assess entries to IAS for artistic significance and conservation vulnerability; and enhance the SOS! Home Page. — SOS!

66. ———. "SOS! Aids Projects as They Move to New Phase." *SOS! Update* 6, no. 2 (Summer 1995): 1.

National SOS! is helping the finished SOS! projects in three ways: by offering a regional workshop series, "Preservation of Outdoor Sculpture and Monuments"; by identifying maintenance issues and offering solutions; and by sponsoring the international symposium "Playing for Keeps: A Game Plan to Save Outdoor Sculpture!" (Washington, D.C., 16–19 Nov. 1996). — SOS!

67. ———. "Thousands Survey to Save Outdoor Sculpture!" SOS! Update — Public Facilities Managers (Special Issue): 1.  
Building managers and park staff have joined to help SOS! in its second phase. The program began by enlisting volunteers and local organizations to inventory outdoor sculpture and now works to show public and private groups how they can help underwrite professional treatment of artworks. — SOS!
68. Storch, Paul S. "Getting the Shaft . . . and the Engine Too: The Approaches to the Conservation of Large Mechanical Composite Objects." Objects Specialty Group Abstracts in AIC Preprints, 16th Annual Meeting, AIC (1–5 June 1988, New Orleans), 263–64. Washington, D.C.: AIC, 1988.  
The South Carolina State Museum in Columbia, S.C., has an ambitious exhibits program planned to display, among other objects, mechanical and technical devices that contributed to the growth and development of the state and its industries. These objects include wagons, automobiles, engines and motors, and farm machinery. The materials involved in the construction of these objects range from polychromed wood and different types of metals to early plastics. This paper documents the treatment of several of the more complex and important objects, with emphasis on the techniques adapted for special problems. The overall treatment philosophy of minimal intervention and alteration, along with constant communication with historians and curators is emphasized. — Author.
69. Tarbox, Gurdon L. Jr. "Brookgreen Gardens: Caring for Outdoor Sculpture Through Ongoing Maintenance." SOS! Update 3, no. 2 (Spring 1992): 6.  
Since Brookgreen Gardens began in 1931, outdoor sculpture has been its main feature. Robert A. Baillie, a stone carver associated with Brookgreen Gardens from its beginning, instituted a system of care that is still followed. — SOS!
70. Tuttle, Marjorie. "Preserving the Present: Contemporary Public Art Requires Special Maintenance." SOS! Update 4, no. 1 (Winter 1992–93): 4.  
With the beginning of the contemporary outdoor art movement in the 1960s, sculptors began to create large, abstract works that moved beyond traditional statuary. Modern works often encompass public spaces and consist of non-traditional materials. Conservators and technicians must learn new techniques to care for modern artworks. — SOS!
71. Visual Dallas: A Visual Art Plan for the City, Dec. 1987.  
This is a milestone publication in public art planning which recommends that one sixth of the 1.5% art allocation suggested for all City of Dallas capital improvement projects be used for maintenance and conservation of the city's art collection. It includes copies of the ordinance and various policies formulated to support the goals of the document. — MP
72. Weinberg, Leslie. "Fontvielle, France: Unsafe at Any Speed." ARTnews 92, no. 1 (Jan. 1993): 50.  
Travelers complained that two 10-foot-tall male nude sculptures visible from the highway were too distracting, causing them to drive off the road. The sculptures were

damaged by vandalism and finally removed as a result of a vote of the town council.  
— CIN.

73. Wharton, Glenn. "Symposium Reflects Increasing Awareness for Systematic Maintenance of Outdoor Sculpture." *SOS! Update* 3, no. 3 (Fall 1992): 3.

A June 1992 symposium on outdoor sculpture sponsored by AIC brought together approximately 200 conservators, arts administrators and curators to explore maintenance issues of outdoor sculpture.

— SOS!

74. Wharton, Glenn, and Mary Stofflet. "Art in a Harsh Environment: Challenges in Maintaining Outdoor Sculpture at the San Diego Museum of Art." *AIC Abstracts of the 23rd Annual Meeting (4–11 June 1995, St. Paul, Minn.)*, 10–13. Washington, D.C.: AIC; 1995.

The San Diego Museum of Art recently developed a long-range maintenance plan for its collection of outdoor sculpture through a joint effort of the curator and contracted conservators. The curator researched the history and original intent of the artists and the garden itself. The conservators cleaned and examined each piece. Conservation decisions were made with the original intent of the garden, the artists' intent and public access issues in mind. — NGA.

NGA	National Gallery of Art, Washington, D.C.
AATA	Art and Archaeology Technical Abstracts
ICCROM	International Council for the Conservation and Restoration of Monuments
SOS!	Save Outdoor Sculpture!
NIC	National Institute for the Conservation of Cultural Property
CIN	Conservation Information Network
MP	Michael Panhorst

# RELATED AND USEFUL ORGANIZATIONS

American Institute for the Conservation of Historic and Artistic Works  
1717 K Street NW, Suite 301  
Washington, DC 20006-1501  
202-452-9545  
Fax: 202-452-9328

Americans for the Arts  
927 15th Street NW, Twelfth Floor  
Washington, DC 20005-2304  
202-371-2830  
Fax: 202-371-0424

National Assembly of State Arts Agencies  
1010 Vermont Avenue NW, Suite 920  
Washington, DC 20005-4902  
202-347-6352  
Fax: 202-737-0526

National Conference of State Historic Preservation Officers  
444 North Capitol Street NW, Suite 342  
Washington, DC 20001-1512  
202-624-5465  
Fax: 202-624-5419

National Institute for the Conservation of Cultural Property  
Save Outdoor Sculpture!  
3299 K Street NW, Suite 602  
Washington, DC 20007-4415  
202-625-1495/800-422-4612  
Fax: 202-625-1485

National Museum of American Art  
Inventory of American Sculpture  
601 Indiana Avenue NW, Suite 300  
MRC-230  
Smithsonian Institution  
Washington, DC 20560-0001  
202-786-2384

Fax: 202-633-9351

National Park Service  
Northeast Field Area  
200 Chestnut Street, Room 251  
US Custom House  
Philadelphia, PA 19106-2902  
215-597-5824  
Fax: 215-597-6599