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Report for the National Center for Preservation Technology and Training (NCPTT) on Funding Priorities in Materials Conservation

Results of a survey of the AIC membership

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SUMMARY PAGE

The American Institute for Conservation of Historic and Artistic Works (AIC) is the national membership organization of conservation professionals. In response to a request by National Center for Technology and Training (NCPTT), the AIC polled its membership in May 1996 via a mail-survey to provide an updated and refined list of the most critical needs for research and training in the field of materials conservation. This report contains information on the survey development, structure, results and data analysis.

Survey Structure

Seven specialty groups (Architecture, Book and Paper, Objects, Paintings, Photographic Materials, Textiles and Wooden Artifacts) within AIC were included in the study. Because each specialty group has specific conservation methods and products, individualized surveys were tailored to incorporate topics most appropriate.

The results from a previous series of questionnaires on conservation research needs (Hansen and Reedy, 1994) were used as a basis for the selection of topics listed on the current surveys. The topic lists were then reviewed and revised by volunteers within each group. Results from recent surveys in the Book and Paper Group and Photographic Materials Group were also incorporated. For all the surveys, the topics were organized into three sections (I. Technical Updates; II. Research Priorities; and III. Materials Evaluation) with each division occupying a separate page (see Appendix 1).

Results

Three thousand two hundred and fifty-six (3256) surveys were sent to members of AIC specialty groups. From these surveys, 614 were returned for a response of 18.9 percent. The responses on each form were tallied, summed and entered into tabulated data sheets (Appendix 2). Summary sheets for each specialty group listing high priority responses were prepared and presented to members at the AIC annual meeting in June 1996 (Appendix 3).

Over 500 topics were provided on the seven surveys for consideration and ranking. The survey results showed that greater than 85% of the topics in the research priorities section received an above average priority rating. Even though the need for research and technical updates was great on many topics, the results were trimmed to the highest rated topics in each specialty group with the priorities for each group having equal weight.

The top priorities for the field of materials conservation, ten in each of three sections (I. Technical Updates, II; Research Priorities; III. Material Evaluation) are shown in Table 1. **All topics on this list should receive highest consideration for project support.**

Table 1. Top Ten Priorities in Conservation for three Sections: I. Technical Updates; II. Research Priorities; and III. Materials Evaluation. Topics are listed in alphabetical order in each section.

Adhesives and consolidants
Consolidation techniques
Cleaning methods for fragile, friable and porous objects (deteriorated silk, etc.)
Cleaning techniques (solvents, aqueous, non-submergent, etc.)
Cleaning systems (gels, enzymes, soaps, mixtures, commercial products, etc.)
Fill materials
Low-tech analysis methods
Removal of adhesives, consolidants and varnishes
Stain removal methods
Treatment of color photographs
Aqueous cleaning methods and solutions
Consolidation methods
Deterioration of synthetic resins
In-situ and low-tech examination practices and analysis methods
Light bleaching versus chemical bleaching of paper
Long-term effects of solvent treatments
Metal protection and corrosion inhibition
Optimum exhibition parameters
Removal of adhesives and consolidants
Removal of insoluble varnishes
Acrylic resins
Consolidants
Corrosion inhibitors/anti-oxidants
Epoxies
Dry mounting adhesives
Fill materials
In-painting materials
Pressure sensitive adhesives
Protective finishes and coatings
Surfactants/soaps/enzymes

BACKGROUND

The conservation profession recognized early on that establishing research priorities is essential to the development of appropriate scientific research and to the promotion of more responsible conservation treatments. In 1979, the National Conservation Advisory Council (NCAC) and the Smithsonian Institution published a report that identified scientific needs in conservation. In 1984, the National Institute for the Conservation of Cultural Property (NIC) established an advisory committee to develop priorities for scientific support in museum conservation. The committee produced a document outlining proposed priority research topics for use by funding organizations and scientific facilities in focusing resources to areas of need.

In 1991, an AIC Conservation Science Task Force opened a new door to communications between practicing conservators and research scientists, Each specialty group within AIC was surveyed to provide input on treatment problems and issues. The surveys provided an avenue for the conservator to identify and define specific research questions as they pertained to the practice of conservation, thus indicating to the scientist some areas in which their research efforts could be focused. A 1994 AIC publication compiled the results of the surveys into organized lists of scientific research interests by specialty group (Hansen and Reedy, 1994).

Now, in 1996, the timely request by NCPPT to develop an updated list of top conservation research and training priorities prompted this follow-up survey of each AIC specialty group. With the 1994 report as a starting base, a set of surveys was developed to allow the AIC members to assess current conservation practices and prioritize their needs for information and education.

Seven specialty groups in AIC (Architecture [ASG], Book and Paper [BPG], Objects [OSG], Paintings [PSG], Photographic Materials [PMG], Textiles [TSG] and Wooden Artifacts [WAG]) were surveyed. Because each specialty group has specific conservation methods and products, seven separate, individualized surveys were prepared. Volunteers within each specialty group then reviewed and revised topics included in the surveys. Each of the surveys contained the same basic structure.

SURVEY STRUCTURE

One of the most important findings in the 1994 survey report was a discrepancy between perceived and actual research needs. The results indicated a critical need not only for research into methods and materials but also for greater dissemination of work already completed and released in conservation and allied fields. Thus, the first goal of this new survey (Section I) was to prioritize the topics that require education. A second goal was to prioritize topics in need of new or additional research. The research topics were split into two focuses: 1) research related to conservation methods

(Section II); 2) research related to conservation materials (Section III). The survey format provided one page of topics for each of the three primary sections.

Definition and Scope for Three Sections of the Surveys

Section I: TECHNICAL UPDATES

A technical update compiles and disseminates information on a particular subject. It can point out areas where research is needed. Dissemination is critical to the understanding, recognition and application of current and past research results. Information can be in the form of written publications, educational resources or conferences/symposia.

Written publications are the best long-term source of information. They promote, document, compile and compare facts, ideas and methods. They may be in the form of a book, journal article, bibliography, critical review, newsletter article, resource text or essay. The primary advantage for written information sources is that they are widely and cheaply available through libraries, journal subscriptions, computer services or purchase. The primary disadvantage is that the acquisition of information from a written resource relies basically on an individual's initiative and background. Some valuable written resources are rarely understood or used because the information or source is poorly accessible to the appropriate audience.

Effective education can take many forms. Most common are individualized settings, such as internships, and small group sessions such as workshops. Workshops are ideal for hands-on learning and for exploring technical topics in a focused environment. Direct interaction between participants and instructors can facilitate deeper understanding of a subject while also providing immediate responses to questions. The drawbacks of workshops are that a limited number of people can be accepted and that the location of a workshop may impinge on limited travel funds. One method to offset the disadvantages is to prepare course-related textbooks, training manuals or videos for distribution to a wider audience.

Conferences and symposia provide optimum settings for presentation of new research results and for topical presentations by specialists. One advantage is the relatively unlimited space for participants to listen to the presentations. The gathering of experienced professionals in one setting can lead to fruitful discussions and is often a productive way to approach controversial topics. The disadvantage is that attendance can still be restricted by time and travel expenses. Often the audiences that may reap the most benefit, those fresh out of school and those beginning to feel their training is out of date, may be the most unlikely to attend due to limited travel funds and heavy work schedules. As with workshops, one method to offset the disadvantages is to prepare proceedings, meeting reviews or videos for distribution to a wider audience.

Survey Instructions -- Section I

On the Technical Update page of the survey, each respondent was asked to select the ten most important topics. For each topic, the respondent was then queried as to the best format (book/article, workshop, symposium).

Section II: RESEARCH PRIORITIES

A research project provides new information on a specific topic. It may critically evaluate treatments, materials and processes or develop and apply new methods. Research is often categorized as either basic or applied. Basic research explores underlying physical properties and chemical processes, thus allowing generalizations and predictions to be made for a class of materials. Applied research examines cause and effect relationships for various parameters on a given system usually in a controlled environment.

For this survey, the research topics were classified by their general focus rather than as basic and applied research. The reasoning is that, within a general topic, whether a research project is basic or applied depends on the experimental design. This survey is not attempting to determine which experimental designs are most productive, but rather to assess which topics are in critical need of additional information thereby broadening the knowledge base for more productive work.

The topics included in the surveys are oriented toward research that is directly applicable to the practice of conservation. They are grouped in the following general categories: Adhesives; Albumen and Collodion Binders; Analysis and Examination; Bleaching; Cleaning Methods; Conservation Treatments; Compensation; Composite Materials; Deacidification; Deterioration Studies; Display, Storage and Shipping; Gelatin; Modern Photographs; Stabilization Methods; Structural Treatments; Treatment of Excavated Artifacts; Varnishes; and Washing. Not all classifications applied to each specialty group.

Survey Instructions -- Section II

On the Research Priorities page of the survey, the respondents were asked to evaluate the priority of every topic on the list. Topics within each group were considered as either a project that would 1) develop a new method for the topic or 2) evaluate the use of that topic. The topics assessed as most critical to their practices were assigned a value of 1; the topics of least interest were assigned a value of 5.

Section III: MATERIALS EVALUATION

Evaluation of materials is critical prior to their use on or near objects and sites. The materials were grouped into two categories, either by the chemical classifications (i.e., acrylic resins) or by their function (i.e., pressure sensitive adhesive). The materials were grouped in this fashion, rather than as specific commercial products, to encourage comparative evaluations and

reports on parameters such as aging characteristics, working properties, uses, compatibility, availability, removability, etc. Additionally, commercial products may change their names and/or formulations.

Survey Instructions -- Section III

On the Materials Evaluation page of the survey, the respondents were asked to select a maximum of ten topics.

SURVEY RESPONSES

Distribution

Surveys were mailed or faxed to members of each AIC specialty group in early April with a response deadline of May 3, 1996 (surveys were faxed to overseas members). Since some of AIC members belong to more than one specialty group, it was possible that an individual could receive and return more than one survey form for different specialty groups.

Response

Of the 3256 surveys sent to members of each specialty group in MC, 614 were returned for a response of 18.9 percent. Table 2 lists the numbers of surveys sent and received for each specialty group. The percent responses ranged from 16.1 to 25.1. This correlated to the largest and smallest specialty groups. The Book and Paper specialty group has the highest total number of members, 863, and also had the highest number of surveys returned, 139. However, the percent response for the group was the lowest at 16.1. The Architectural Materials specialty group is the newest and smallest with 215 members. Only 54 surveys were returned, but this was an excellent 25.1 % response rate.

Table 2. Summary of number of surveys sent and received by specialty group.

Specialty Group	# Sent	# Received	% Response
Architectural Materials	215	54	25.1
Book and Paper	863	139	16.1
Objects	573	116	20.2
Paintings	698	108	15.5
Photographic Materials	351	72	20.5
Textiles	254	61	24.0
Wooden Artifacts	302	64	21.2
Total	**3256**	**614**	**18.9**

Data Processing

The responses on each returned survey, by specialty group, were tallied, summed and entered in the tabulated data sheets (included as appendix 2).

Section 1: Technical Update

For section I the respondents were asked to select their top ten choices of topics as well as specify the format, Publish, Workshop. Symposium, that they felt would be the best for dissemination of the information.

On the tally sheet a single mark was made for each response. If the respondent felt that a book would be the best presentation format for that selected topic, then the tally mark was made in the Publish column. In some instances, the respondent selected ten choices without indicating the best format for presentation. In these cases, a tally mark was placed in the No desig(nation) column. In other cases, the respondent selected their top ten choices, then selected more than one 'best' presentation method. In these cases, also, a tally mark was placed in the No desig(nation) column. This was done to ensure that only one tally mark was given for each selected topic. In most cases where multiple choices were given for the 'best' presentation method, Publish was selected along with either or both Workshop and Symposium. A few respondents commented saying that Workshop (or Symposium) was the best format for learning the information but that their travel funds were limited and they would also like to have the information available as a publication.

The tabulated data sheet (Appendix 2) incorporates the sum of the tally marks for each of the categories, Publish, Workshop. Symposium along with the No desig.(nation) column and a column for Total. The raw data page is printed with the topics sorted by the Total column, thus indicating the topic with the highest overall votes. Any write-in topics were added to the bottom of the list.

On the tabulated data sheets (Appendix 2), the numbers on the very left side of the topic indicate the category under which they were originally listed on the survey. Thus, a topic such as in-painting may have been listed under category 2. Deterioration Studies as well as under category 5. Compensation. The categories are listed at the bottom of the tabulated data form.

Section II: Research Priorities

For section IL the respondents were asked to evaluate the priority of every topic on the list. The topics assessed as most critical to their practices were assigned a value of 1; the topics of least interest were assigned a 5.

On the tally sheet, a single mark was made for each response. Most respondents evaluated the priority of each topic on the full list. A few respondents only indicated the highest priority choices (i.e., several marks in the 1 column). Any write-in topics were added to the bottom of the list.

The tabulated data sheets (Appendix 2) indicate the total for each priority value that each topic received. The responses are sorted by the highest number of priority 1 votes. Additionally, the weighted average for each topic was calculated. For the weighted averages, a lower number means a higher priority. With a value of 1 as a high priority and a value of 5 as a low priority, then a value of 3 is assumed to be a moderate priority. Over 85% of the topics in each specialty group received a weighted average of below 3.0 indicating that over 85% of the topics were felt to have an above average priority. A few comments indicated that all the topics on the list were important and that it was hard to make choices.

Additionally on the tabulated data form, the numbers on the very left side of the topic indicate the category under which they were originally listed on the survey. The categories are listed at the bottom of the tabulated data form.

Section III: Materials Evaluation

For section III, the respondents were asked to circle a maximum of ten topics.

On the tally sheet, one mark was made for each topic checked by a respondent. These were summed and entered on the tabulated data sheets. The tabulated data sheet (Appendix 2) separates the materials listed by composition and by function on the survey. The data is sorted with the highest number of responses at the top of each list.

Specialty Group Summaries

Summary sheets for each specialty group listing high priority responses were prepared and presented to members at the AIC annual meeting in June 1996 (attached as appendix 3).

The summary sheets were prepared by selecting the top choices from each division (I. Technical Updates; II. Research Priorities; III. Materials Evaluations). For the Technical Updates page, the choices indicated for the separate dissemination methods (Publish, Workshop and Symposium) were listed separately rather than as the total response for all three.

This data is important for internal review within each of the specialty groups. It can serve to evaluate and define the immediate needs of their membership. Additionally it may be used to direct the focus of future conference sessions, review articles or catalog chapters.

CONSERVATION PRIORITIES

The top priorities for the field of materials conservation, ten in each of three sections (I. Technical Updates, II. Research Priorities, Ill. Material Evaluation) are shown in Table 1. These were selected by combining the first and second highest rated topics in each specialty group as listed by the total votes. The resultant list is shown in alphabetical order within each of the three sections. Equal weighting was given to each of the specialty groups in the selection of the high priority topics. When topics of very similar scope were selected from more than one specialty group, the wording of the topic may have been slightly changed to encompass both. For example, New types of low-tech methodologies (TSG), **Low-tech methods of analysis** (WAG) **and In-situ and low-tech examination practices** (ASG) **became In-situ and low-tech examination practices and analysis methods.**

COMMENTS

Recurrent Priorities

Many of the top priorities recurred in different specialty groups, such as **stain removal methods** leading the Technical Update list for both Book and Paper and Photographic Materials groups and **low-tech analysis methods** appearing the highest in the Research list for the Architecture, Textiles and Wooden Artifacts Groups.

The recurrence of high priority topics is significant, showing that some basic problems (i.e. analysis, cleaning, exhibition) are dealt with by each of the specialty groups. The distinction lies in solving the problems to the satisfaction of each specialty since the wide variety of materials encountered in conservation have significantly different optimum treatments. For example, research into cleaning is a high priority in all specialty groups, but the specific topic of most interest in the Paintings Specialty Group is removal of insoluble varnishes on paintings while the Book and Paper Specialty Group is most interested in determining the potential adverse effects of solvent cleanings on paper. The cleaning systems applicable to varnishes may or may not be deleterious to paper, which is why extensive tests must be done before one method can be applied to different substrates.

Because of this recurring interest in many topics, it would be interesting to evaluate the relationships (information transfer, research approaches, etc.) between the seven specialty groups. Often techniques and methods developed within one specialty group for a specific set of materials have been successfully adapted for other materials (e.g., suction tables, gels, enzymes, etc.).

Impact of Research

One important direction for future work is to thoroughly examine the data generated by the surveys and their implications for past and future research projects. This would include a search of literature and training sources to evaluate coverage, scope, depth, and availability as it applies to each of the topics. It is also important to evaluate current dissemination, communication and education methods to determine the impact and accessibility of research on daily conservation practice.

CONCLUSIONS

A survey of the AIC membership provided the opportunity for conservators to evaluate and prioritize their immediate needs for information. The high priority list (Table 1) shows the most critical topics as selected by the 18.9% of returned surveys. This priority list provides topics for projects as defined according to three sections: education, research priorities and materials evaluation. All topics on the list should receive highest consideration for project support.

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Appendix 1
Original Surveys
(By specialty Group)

Architecture Specialty Group Survey

Purpose of Survey

The National Center for Preservation Technology and Training (NCPTT) commissioned the AIC to perform a follow-up survey of each MC subgroup in order to develop a list of top conservation research and training priorities. The NCPTT is federally mandated to undertake and direct research relevant to historic preservation and, to this end, must establish research priorities in various scientific disciplines.

End Use of Survey

The results of this survey will be discussed at the Architecture Specialty Group business meeting at the MC annual meeting in Norfolk, VA. After the discussion, a final report will be written and sent to NCPTT. This top priority list will be used to assist NCPTT in their conservation grant funding process as well as in the development of their in-house research program.

Return Date

This survey needs to be returned to the AIC office by May 3, 1996.

Contents

This survey contains three sections:

- **TECHNICAL UPDATES** - A technical update compiles information about a particular subject to bring the reader or participant up to date in that area. It can point out areas where research is needed.
- **RESEARCH** - A research project provides new information on a specific topic. Each check box line presents a general category of interest that can encompass several specific research projects.
- **MATERIALS** - Materials are listed by general groups rather than as specific commercial products to encourage comparative evaluations such as the comparison of aging characteristics or working properties.

NCPTT (The National Center for Preservation Technology and Training) NCPTT is an interdisciplinary effort by the National Park Service to advance the practice of historic preservation in the fields of archeology, historic architecture, landscapes, materials conservation and history. The Center's mission is implemented through its components: research, training and information management. The Center's activities include PTTGrants which are one-year grants awarded annually. Proposals for research and training projects are encouraged that develop and distribute preservation skills and technologies for the identification, evaluation, conservation and interpretation of cultural resources.

For a copy of the 1997 PTTGrants Request for Proposals contact NCPTT, NSU Box 5682, Natchitoches, LA 71497 or visit the Center's gopher or web sites at the following addresses:

gopher://gopher.ncpct.nps.gov

http://www.cr.nps.gov/ncptt/

Survey to Determine Conservation Funding Priorities for NCPTT

RETURN BY .MAY 3. 1996

SECTION 1: TECHNICAL UPDATES - ARCHITECTURE GROUP

PLEASE choose a **maximum of 10** reviews and updates MOST CRITICAL TO YOUR WORK. On your selections, mark the best presentation format, i.e., books/ journal articles, workshops, or symposia

Top Ten?	Book/ article	Work shop	Symposia	1. General
☐ Y	☐ B	☐ W	☐ S	Chemistry for conservators
☐ Y	☐ B	☐ W	☐ S	Health and safety
☐ Y	☐ B	☐ W	☐ S	Regulations and impact on use of materials (VOC's, etc.)
☐ Y	☐ B	☐ W	☐ S	Materials and testing standards (ASTM, etc.)
☐ Y	☐ B	☐ W	☐ S	Lists of analytical service labs, supplies and equipment
☐ Y	☐ B	☐ W	☐ S	Research: funding, methodology and writing
☐ Y	☐ B	☐ W	☐ S	Environmental monitoring and control (including pollution)
☐ Y	☐ B	☐ W	☐ S	Biodeterioration: identification and control
☐ Y	☐ B	☐ W	☐ S	Retreatability

Top Ten?	Book/ article	Work shop	Symposia	2. Analysis and Examination
☐ Y	☐ B	☐ W	☐ S	Non-destructive site and materials examination
☐ Y	☐ B	☐ W	☐ S	Examination of surfaces and layered structures/systems
☐ Y	☐ B	☐ W	☐ S	Material characterization (e.g.,wood, stone, mortars, metals)
☐ Y	☐ B	☐ W	☐ S	Evaluation of existing materials (e.g.,reversibility, durability)
☐ Y	☐ B	☐ W	☐ S	Microscopy
☐ Y	☐ B	☐ W	☐ S	Instrumental analyses
☐ Y	☐ B	☐ W	☐ S	Physical property testing methods
☐ Y	☐ B	☐ W	☐ S	Porosity, osmotic action, salt/water dynamics
☐ Y	☐ B	☐ W	☐ S	Measurement of color, reflectivity, appearance
☐ Y	☐ B	☐ W	☐ S	Photographic, digital and video imaging techniques
☐ Y	☐ B	☐ W	☐ S	Documentation methods
☐ Y	☐ B	☐ W	☐ S	Geotechnical industrial methods adapted for use in structure
☐ Y	☐ B	☐ W	☐ S	Building/site systems and system failures

Top Ten?	Book/ article	Work shop	Symposia	3. Materials (e.g., use, problems)
☐ Y	☐ B	☐ W	☐ S	Adhesives and consolidants
☐ Y	☐ B	☐ W	☐ S	Coatings (compatibility, water repellency, durability, etc)
☐ Y	☐ B	☐ W	☐ S	Architectural finishes and paints
☐ Y	☐ B	☐ W	☐ S	Metals
☐ Y	☐ B	☐ W	☐ S	Architectural glass
☐ Y	☐ B	☐ W	☐ S	Masonry (stone, brick, terra-cotta, etc.)
☐ Y	☐ B	☐ W	☐ S	Mortars and renders
☐ Y	☐ B	☐ W	☐ S	Concrete
☐ Y	☐ B	☐ W	☐ S	Earth and soil
☐ Y	☐ B	☐ W	☐ S	Wood

Top Ten?	Book/ article	Work shop	Symposia	4. Conservation Treatments
☐ Y	☐ B	☐ W	☐ S	Solvent cleaning (gels, mixtures, toxicity etc.)
☐ Y	☐ B	☐ W	☐ S	Aqueous cleaning (gels, enzymes, soaps, acids/bases)
☐ Y	☐ B	☐ W	☐ S	Large scale cleaning techniques
☐ Y	☐ B	☐ W	☐ S	Abrasive/mechanical cleaning
☐ Y	☐ B	☐ W	☐ S	Desalination
☐ Y	☐ B	☐ W	☐ S	Corrosion: prevention and treatment(glass, metal)
☐ Y	☐ B	☐ W	☐ S	Application and treatment of coatings
☐ Y	☐ B	☐ W	☐ S	Compensation, fills and in-painting
☐ Y	☐ B	☐ W	☐ S	Consolidation
☐ Y	☐ B	☐ W	☐ S	Composite repair: wood, masonry, stone, etc.
☐ Y	☐ B	☐ W	☐ S	Plaster reattachment
☐ Y	☐ B	☐ W	☐ S	Structural and engineering modifications
☐ Y	☐ B	☐ W	☐ S	Site planning and protection
☐ Y	☐ B	☐ W	☐ S	Backfilling/site drainage

COMMENTS OR ADDITIONS:

Survey to Determine Conservation Funding Priorities for NCPTT

RETURN MAY 3, 1996

SECTION II: RESEARCH PRIORITIES - ARCHITECTURE GROUP

Please assign a HIGHEST priority rating only to topics most critical to your work

1. Analysis and Examination

highest ---------- lowest

Projects that develop, define or evaluate :

- ☐1 ☐2 ☐3 ☐4 ☐5 Material characterization and classification
- ☐1 ☐2 ☐3 ☐4 ☐5 Conservation-based Historic Structure Reports (HSRs)
- ☐1 ☐2 ☐3 ☐4 ☐5 Collaborative professional practices in examination / site analysis
- ☐1 ☐2 ☐3 ☐4 ☐5 Sampling methods and standards
- ☐1 ☐2 ☐3 ☐4 ☐5 Documentation methods and standards
- ☐1 ☐2 ☐3 ☐4 ☐5 High-tech non-destructive testing techniques
- ☐1 ☐2 ☐3 ☐4 ☐5 In situ and low-tech examination practices
- ☐1 ☐2 ☐3 ☐4 ☐5 Surface appearance and color measurement
- ☐1 ☐2 ☐3 ☐4 ☐5 Water vapor transmission and porosimetry testing

2. Deterioration

highest ---------- lowest

Projects that define, evaluate or prevent deterioration:

- ☐1 ☐2 ☐3 ☐4 ☐5 Deterioration/condition terminology and guidelines (by material)
- ☐1 ☐2 ☐3 ☐4 ☐5 Classification of deterioration mechanisms, by material / systems
- ☐1 ☐2 ☐3 ☐4 ☐5 Environmental/climatic dynamics and monitoring
- ☐1 ☐2 ☐3 ☐4 ☐5 Deleterious or outdated treatment practices
- ☐1 ☐2 ☐3 ☐4 ☐5 Effects of atmospheric pollution (wet, dry, gas)
- ☐1 ☐2 ☐3 ☐4 ☐5 Salt/water dynamics
- ☐1 ☐2 ☐3 ☐4 ☐5 Relationship between strength of mortar to strength of masonry unit

3. Cleaning

highest ---------- lowest

Projects that develop or evaluate cleaning methods for :

- ☐1 ☐2 ☐3 ☐4 ☐5 Masonry: structural/decorative stone, concrete, terracotta
- ☐1 ☐2 ☐3 ☐4 ☐5 Metals, interior and exterior, structural and non-structural
- ☐1 ☐2 ☐3 ☐4 ☐5 Graffiti
- ☐1 ☐2 ☐3 ☐4 ☐5 Soil and grime
- ☐1 ☐2 ☐3 ☐4 ☐5 Metallic staining
- ☐1 ☐2 ☐3 ☐4 ☐5 Pollution byproducts: removal of chemically reactive depositions
- ☐1 ☐2 ☐3 ☐4 ☐5 Poorly bound or soluble paints and plasters
- ☐1 ☐2 ☐3 ☐4 ☐5 Poulticing materials, methods, performance
- ☐1 ☐2 ☐3 ☐4 ☐5 Non-toxic application and removal systems for solvents
- ☐1 ☐2 ☐3 ☐4 ☐5 Evaluation of commercial cleaning processes - modifications to meet conservation standards

4. Treatments

highest ---------- lowest

Projects that develop treatment methods for or evaluate the use of :

- ☐1 ☐2 ☐3 ☐4 ☐5 Retreatability
- ☐1 ☐2 ☐3 ☐4 ☐5 Removal of adhesives and consolidants
- ☐1 ☐2 ☐3 ☐4 ☐5 Safe methods for lead paint removal
- ☐1 ☐2 ☐3 ☐4 ☐5 Consolidation
- ☐1 ☐2 ☐3 ☐4 ☐5 Compensation, fills, in-painting
- ☐1 ☐2 ☐3 ☐4 ☐5 Plaster reattachment
- ☐1 ☐2 ☐3 ☐4 ☐5 Replacement materials
- ☐1 ☐2 ☐3 ☐4 ☐5 Casting materials and methods
- ☐1 ☐2 ☐3 ☐4 ☐5 Mortars: aggregate, binders, additives
- ☐1 ☐2 ☐3 ☐4 ☐5 Grouts and grout injection systems
- ☐1 ☐2 ☐3 ☐4 ☐5 Composite repair: wood, masonry, plaster
- ☐1 ☐2 ☐3 ☐4 ☐5 Repair of wood
- ☐1 ☐2 ☐3 ☐4 ☐5 Repair of metal
- ☐1 ☐2 ☐3 ☐4 ☐5 Repair of stucco
- ☐1 ☐2 ☐3 ☐4 ☐5 Repair of stone
- ☐1 ☐2 ☐3 ☐4 ☐5 Cast stone and concrete
- ☐1 ☐2 ☐3 ☐4 ☐5 Modern architecture materials (plastic, rubber, etc.)
- ☐1 ☐2 ☐3 ☐4 ☐5 Coating durability (color, UV stability, etc.)
- ☐1 ☐2 ☐3 ☐4 ☐5 Protective coatings (from pollution, corrosion, graffiti)
- ☐1 ☐2 ☐3 ☐4 ☐5 Rejuvenated coatings (e.g., metal, wood)
- ☐1 ☐2 ☐3 ☐4 ☐5 Water repellents
- ☐1 ☐2 ☐3 ☐4 ☐5 Stabilization of earthen materials
- ☐1 ☐2 ☐3 ☐4 ☐5 Backfilling methods and materials
- ☐1 ☐2 ☐3 ☐4 ☐5 Fungicides/ biocides/biocidal materials
- ☐1 ☐2 ☐3 ☐4 ☐5 Pest containment/removal/management

Survey to Determine Conservation Funding Priorities for NCPTT

RETURN MAY 3, 1996

SECTION III: RESEARCH PRIORITIES - ARCHITECTURE GROUP

Please choose a maximum of 10 items on this page for comprehensive evaluation.

Polymer groups

- ☐ acrylic resin paints (Magna, etc.)
- ☐ acrylic emulsion paints (Liquitex, Golden, etc.)
- ☐ acrylic resins (Acryloid, methyl methacrylate, etc.)
- ☐ acrylic emulsions (Rhoplex, etc.)
- ☐ cellulose ethers (methyl cellulose, Klucel, etc.)
- ☐ cellulose esters (cellulose acetate, etc.)
- ☐ epoxies (Araldite, etc.)
- ☐ ethylene vinyl acetate (EVA, Elvace, etc.)
- ☐ polyesters (Mylar, Melinex, netting, lining, etc.)
- ☐ polyethylene (storage sleeves, etc.)
- ☐ polypropylene (sleeves, lining, etc.)
- ☐ polystyrene (Styrofoam, Fome-cor, etc.)
- ☐ polyurethane (coatings, foam, elastomers, etc.)
- ☐ polyvinyl acetate (AYAA, AYAF, etc.)
- ☐ polyvinyl alcohols
- ☐ organo-silicons (alkoxy silanes, silicate esters, siloxanes, consolidants, etc.)
- ☐ silica emulsions

General Classes

- ☐ pesticides, biocides and fungicides
- ☐ corrosion inhibitors, anti-oxidants, etc.
- ☐ commercial chemical (acid/alkaline/solvent/aqueous) systems
- ☐ commercial mechanical/abrasive systems
- ☐ proprietary cleaning products
- ☐ gels and poultices
- ☐ enzymes
- ☐ surfactants (soaps, detergents, sequestrants, etc.)
- ☐ patching compounds
- ☐ composite masonry repair
- ☐ grouts/mortars
- ☐ lime and cement
- ☐ organically modified earth
- ☐ glues/adhesives (general, wood, masonry, etc.)
- ☐ structural adhesives (crack repair, etc.)
- ☐ wood consolidants and finishes
- ☐ masonry consolidants
- ☐ caulks and sealants
- ☐ damp proofing systems
- ☐ replacement materials (RFG, cast stone, etc.)
- ☐ protective finishes and coatings (water repellent, breathable, penetrants, anti-graffiti, etc.)
- ☐ commercial and industrial paints
- ☐ textiles (geosynthetics, etc.)

Additional Materials

Book and Paper Specialty Group Survey

Purpose of Survey

The National Center for Preservation Technology and Training (NCPTT) commissioned the AIC to perform a follow-up survey of each AIC subgroup in order to develop a list of top conservation research and training priorities. The NCPTT is federally mandated to undertake and direct research relevant to historic preservation and, to this end, must establish research priorities in various scientific disciplines.

End Use of Survey

The results of this survey will be discussed at the Book and Paper Specialty Group business meeting at the AIC annual meeting in Norfolk, VA. After the discussion, a final report will be written and sent to NCPTT. This top priority list will be used to assist NCPTT in their conservation grant funding process as well as in the development of their in-house research program.

Return Date

This survey needs to be returned to the AIC office by **May 3, 1996.**

Contents

This survey contains three sections:

- **TECHNICAL UPDATES** - A technical update compiles information about a particular subject to bring the reader or participant up to date in that area. It can point out areas where research is needed.
- **RESEARCH** - A research project provides new information on a specific topic. Each check box line presents a general category of interest that can encompass several specific research projects.
- **MATERIALS** Materials are listed by general groups rather than as specific commercial products to encourage comparative evaluations such as the comparison of aging characteristics or working properties.

NCPTT (The National Center for Preservation Technology and Training)

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For a copy of the **1997 PTTGrants Request for Proposals** contact NCPTT, NSU Box 5682, Natchitoches, LA 71497 or visit the Center's gopher or web sites at the following addresses:

gopher://gopher.ncptt.nps.gov
http://www.cr.nps.gov/ncptt/

THE AMERICAN INSTITUTE FOR CONSERVATION OF HISTORIC AND ARTISTIC WORKS
1717 K STREET N.W. SUITE 301 WASHINGTON D.C. 20006 (202)452-9545 FAX (202)452-9328

Survey to Determine Conservation Funding Priorities for NCPTT

RETURN BY MAY 3, 1996

SECTION I: TECHNICAL UPDATES - BOOK AND PAPER GROUP

PLEASE choose a **maximum of 10** reviews and updates MOST CRITICAL TO YOUR WORK.
On your selections, mark the best presentation format, i.e. catalog chapters, books/ journal articles, workshops or symposia)

Top Ten?	Book/ article	Work shop	Sym-posia	1. General
☐ Y	☐ B	☐ W	☐ S	Chemistry for conservators
☐ Y	☐ B	☐ W	☐ S	Conservation equipment
☐ Y	☐ B	☐ W	☐ S	List of analytical service labs
☐ Y	☐ B	☐ W	☐ S	Research: funding, methodology and writing
☐ Y	☐ B	☐ W	☐ S	Environmental monitoring and control
☐ Y	☐ B	☐ W	☐ S	Pollutant measurement and control
☐ Y	☐ B	☐ W	☐ S	Pest control
☐ Y	☐ B	☐ W	☐ S	Micro-organism identification and control
☐ Y	☐ B	☐ W	☐ S	UV light protection

Top Ten?	Book/ article	Work shop	Sym-posia	2. Analysis and Examination
☐ Y	☐ B	☐ W	☐ S	Analytical techniques
☐ Y	☐ B	☐ W	☐ S	Physical property testing methods
☐ Y	☐ B	☐ W	☐ S	Surface examination techniques
☐ Y	☐ B	☐ W	☐ S	pH testing methods
☐ Y	☐ B	☐ W	☐ S	Identification of fibers
☐ Y	☐ B	☐ W	☐ S	Identification of adhesives
☐ Y	☐ B	☐ W	☐ S	Identification of dyes
☐ Y	☐ B	☐ W	☐ S	Measurement of color
☐ Y	☐ B	☐ W	☐ S	Photographic and digital imaging
☐ Y	☐ B	☐ W	☐ S	Pre-testing and evaluation for cleaning

Comments:

Top Ten?	Book/ article	Work shop	Sym-posia	3. Deterioration
☐ Y	☐ B	☐ W	☐ S	Artificial aging methods
☐ Y	☐ B	☐ W	☐ S	Cellulose: chemistry and deterioration
☐ Y	☐ B	☐ W	☐ S	Protein: chemistry and deterioration
☐ Y	☐ B	☐ W	☐ S	Lightfastness of dyes and inks

Top Ten?	Book/ article	Work shop	Sym-posia	4. Material Properties
☐ Y	☐ B	☐ W	☐ S	Adhesives and consolidants
☐ Y	☐ B	☐ W	☐ S	Display, packing and storage materials
☐ Y	☐ B	☐ W	☐ S	Paper: history, preparation, processing

Top Ten?	Book/ article	Work shop	Sym-posia	5. Structural Treatments
☐ Y	☐ B	☐ W	☐ S	Suction techniques
☐ Y	☐ B	☐ W	☐ S	Humidification treatments
☐ Y	☐ B	☐ W	☐ S	Consolidation
☐ Y	☐ B	☐ W	☐ S	Tear mending
☐ Y	☐ B	☐ W	☐ S	Lining and mounting techniques

Top Ten?	Book/ article	Work shop	Sym-posia	6. Conservation
☐ Y	☐ B	☐ W	☐ S	Adhesive removal methods
☐ Y	☐ B	☐ W	☐ S	Stain removal methods
☐ Y	☐ B	☐ W	☐ S	Cleaning techniques
☐ Y	☐ B	☐ W	☐ S	Use of soaps, detergents, gels, enzymes
☐ Y	☐ B	☐ W	☐ S	Bleaching methods
☐ Y	☐ B	☐ W	☐ S	Deacidification methods
☐ Y	☐ B	☐ W	☐ S	Preparation and application of adhesives
☐ Y	☐ B	☐ W	☐ S	Conservation of leather and skin

Survey to Determine Conservation Funding Priorities for NCPTT

RETURN BY MAY 3, 1996

SECTION II: RESEARCH PRIORITIES of the BOOK and PAPER GROUP

Please assign a HIGHEST priority rating only to topics most critical to your work

1. Analysis and Examination

highest ---------- lowest

Projects that develop analysis methods for or evaluate the use of :

☐1 ☐2 ☐3 ☐4 ☐5	Identification of finishes and sizes
☐1 ☐2 ☐3 ☐4 ☐5	Comparison of pH test methods
☐1 ☐2 ☐3 ☐4 ☐5	Methods to determine usability of paper
☐1 ☐2 ☐3 ☐4 ☐5	Adhesive migration

2. Deterioration Studies

highest ---------- lowest

Projects that develop methods to evaluate or prevent deterioration:

☐1 ☐2 ☐3 ☐4 ☐5	Long-term effects of bleaching on paper
☐1 ☐2 ☐3 ☐4 ☐5	Long-term effects of washing on paper
☐1 ☐2 ☐3 ☐4 ☐5	Long-term effects of pH on paper
☐1 ☐2 ☐3 ☐4 ☐5	Long-term effects of solvent treatments
☐1 ☐2 ☐3 ☐4 ☐5	Long term effects of adhesives on paper
☐1 ☐2 ☐3 ☐4 ☐5	Degradation due to residues and stains
☐1 ☐2 ☐3 ☐4 ☐5	Magnetic media (longevity, durability, etc.)
☐1 ☐2 ☐3 ☐4 ☐5	Optimum storage parameters for paper and film
☐1 ☐2 ☐3 ☐4 ☐5	Effects of microclimates (air circulation, moisture, etc.)

3. Washing

highest ---------- lowest

Projects that develop or evaluate washing methods for :

☐1 ☐2 ☐3 ☐4 ☐5	Optimum bath conditions (time, number, water quality, etc.)
☐1 ☐2 ☐3 ☐4 ☐5	Effects of solvents and solvent/water mixtures
☐1 ☐2 ☐3 ☐4 ☐5	Effects on media and colorants
☐1 ☐2 ☐3 ☐4 ☐5	Effects on sizings and finishes
☐1 ☐2 ☐3 ☐4 ☐5	Removal of stains (from mold, water, metals, etc.)
☐1 ☐2 ☐3 ☐4 ☐5	Use of enzymes
☐1 ☐2 ☐3 ☐4 ☐5	Use of detergents, surfactants, etc.
☐1 ☐2 ☐3 ☐4 ☐5	Residues (type, amount, long-term effects, etc.)

4. Bleaching

highest ---------- lowest

Projects that evaluate bleaching methods as follows :

☐1 ☐2 ☐3 ☐4 ☐5	Light bleaching vs. chemical bleaching
☐1 ☐2 ☐3 ☐4 ☐5	As a function of solution (water/solvent)
☐1 ☐2 ☐3 ☐4 ☐5	As a function of pH
☐1 ☐2 ☐3 ☐4 ☐5	As a function of wavelength
☐1 ☐2 ☐3 ☐4 ☐5	As a function of paper type and condition
☐1 ☐2 ☐3 ☐4 ☐5	Residues (amount, type, long-term effects, etc.)
☐1 ☐2 ☐3 ☐4 ☐5	Effects on inks, dyes and media

5. Deacidification

highest ---------- lowest

Projects that develop methods for or evaluate the effects of deacidification :

☐1 ☐2 ☐3 ☐4 ☐5	Paper (strength, flexibility, color, etc.)
☐1 ☐2 ☐3 ☐4 ☐5	Non-paper components (media, finishes, dyes, ink)
☐1 ☐2 ☐3 ☐4 ☐5	Comparison of active ingredients
☐1 ☐2 ☐3 ☐4 ☐5	Use of non-aqueous solutions

6. Other Treatments

highest ---------- lowest

Projects that develop methods for or evaluate the use of :

☐1 ☐2 ☐3 ☐4 ☐5	Consolidation or fill techniques
☐1 ☐2 ☐3 ☐4 ☐5	New artist materials (inks, coated papers, etc.)

Comments

Survey to Determine Conservation Funding Priorities for NCPTT

RETURN BY MAY 3, 1996

SECTION III: Materials Evaluation - BOOK AND PAPER GROUP

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Polymer groups

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- ☐ acrylic emulsion paints (Liquitex, Golden, etc.)
- ☐ acrylic resins (Acryloid, etc.)
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- ☐ epoxies (Araldite, etc.)
- ☐ ethylene vinyl acetates (EVA, Elvace, etc.)
- ☐ polyesters (Mylar, Melinex, netting, lining, etc.)
- ☐ polyethylene (Ethafoam, storage sleeves, etc.)
- ☐ polypropylene (sleeves, lining, etc.)
- ☐ polystyrenes (styrofoam, Fome-cor, etc.)
- ☐ polyurethane (coatings, foam, elastomers, etc.)
- ☐ polyvinyl acetates (AYAA, AYAF, etc.)

General Classes

- ☐ biocides and fungicides
- ☐ gels and poultices
- ☐ enzymes
- ☐ surfactants (soaps, detergents, etc.)
- ☐ animal glues
- ☐ starch pastes/seaweed
- ☐ dry mounting adhesives
- ☐ cold-set adhesives
- ☐ heat-set adhesives
- ☐ hot-melt adhesives
- ☐ pressure-sensitive adhesives
- ☐ natural resin coatings
- ☐ synthetic coatings
- ☐ in-painting materials
- ☐ paper (glassine, Permalife, buffered, etc.)
- ☐ fabrics (cotton, polyester, non-woven, etc.)
- ☐ lining materials
- ☐ laminating plastics
- ☐ linen tapes
- ☐ mat boards
- ☐ netting (Nylon, polyester, etc.)
- ☐ plastic sleeves/sheets/solid supports
- ☐ solander boxes

Additional Materials

Objects Specialty Group Survey

Purpose of Survey

The National Center for Preservation Technology and Training (NCPTT) commissioned the AIC to perform a follow-up survey of each AIC subgroup in order to develop a list of top conservation research and training priorities. The NCPTT is federally mandated to undertake and direct research relevant to historic preservation and, to this end, must establish research priorities in various scientific disciplines.

End Use of Survey

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Survey to Determine Conservation Funding Priorities for NCPTT

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SECTION I: TECHNICAL UPDATES - OBJECTS GROUP

Please choose a maximum of 10 reviews and updates most critical to your work.
On your selection, mark the best presentation format, i.e. books/articles workshops symposia)

Top Ten?	Book/ article	Work shop	Sym- posia	1. General
☐ Y	☐ B	☐ W	☐ S	Chemistry for conservators
☐ Y	☐ B	☐ W	☐ S	Conservation equipment
☐ Y	☐ B	☐ W	☐ S	List of analytical service labs
☐ Y	☐ B	☐ W	☐ S	Research: funding, methodology and writing
☐ Y	☐ B	☐ W	☐ S	Environmental monitoring and control
☐ Y	☐ B	☐ W	☐ S	Pollutant measurement and control
☐ Y	☐ B	☐ W	☐ S	Pest control
☐ Y	☐ B	☐ W	☐ S	Micro-organism identification and control
☐ Y	☐ B	☐ W	☐ S	UV light protection
☐ Y	☐ B	☐ W	☐ S	Artificial aging methods

Top Ten?	Book/ article	Work shop	Sym- posia	2. Analysis and Examination
☐ Y	☐ B	☐ W	☐ S	Analytical techniques
☐ Y	☐ B	☐ W	☐ S	Physical property testing methods
☐ Y	☐ B	☐ W	☐ S	Low tech analysis methods
☐ Y	☐ B	☐ W	☐ S	Cross section examinations
☐ Y	☐ B	☐ W	☐ S	Identification of wood
☐ Y	☐ B	☐ W	☐ S	Identification of adhesives
☐ Y	☐ B	☐ W	☐ S	Identification of coatings
☐ Y	☐ B	☐ W	☐ S	Identification of stone
☐ Y	☐ B	☐ W	☐ S	Photographic and digital imaging techniques
☐ Y	☐ B	☐ W	☐ S	Metallography

Top Ten?	Book/ article	Work shop	Sym- posia	3. Structural Treatments
☐ Y	☐ B	☐ W	☐ S	Consolidation techniques
☐ Y	☐ B	☐ W	☐ S	Mounting procedures
☐ Y	☐ B	☐ W	☐ S	Pinning and doweling procedures

Top Ten?	Book/ article	Work shop	Sym- posia	4. Materials
☐ Y	☐ B	☐ W	☐ S	Adhesives: comparison of properties
☐ Y	☐ B	☐ W	☐ S	Coatings: comparison of properties
☐ Y	☐ B	☐ W	☐ S	Fill materials: comparison of properties
☐ Y	☐ B	☐ W	☐ S	Historical recipes for adhesives
☐ Y	☐ B	☐ W	☐ S	In-painting materials.
☐ Y	☐ B	☐ W	☐ S	Exhibition and storage materials

Top Ten?	Book/ article	Work shop	Sym- posia	5. Conservation Treatments
☐ Y	☐ B	☐ W	☐ S	Reversing past treatments
☐ Y	☐ B	☐ W	☐ S	Cleaning techniques
☐ Y	☐ B	☐ W	☐ S	Preparation and application of adhesives
☐ Y	☐ B	☐ W	☐ S	Use and preparation of fills
☐ Y	☐ B	☐ W	☐ S	Treatment of corroded metal
☐ Y	☐ B	☐ W	☐ S	Conservation of leather, skin and other proteins
☐ Y	☐ B	☐ W	☐ S	Rock art conservation
☐ Y	☐ B	☐ W	☐ S	Sculpture conservation
☐ Y	☐ B	☐ W	☐ S	Metal conservation
☐ Y	☐ B	☐ W	☐ S	Stone conservation
☐ Y	☐ B	☐ W	☐ S	Glass conservation
☐ Y	☐ B	☐ W	☐ S	Low-fired ceramic conservation
☐ Y	☐ B	☐ W	☐ S	Lacquer conservation

Comments:

Survey to Determine Conservation Funding Priorities for NCPTT

RETURN BY MAY 3, 1996

SECTION II: RESEARCH PRIORITIES - OBJECTS GROUP

Please assign a HIGHEST priority rating only to topics most critical to your work.

highest ---------- lowest **1. Analysis and Examination**

Projects that develop analysis methods for or evaluate the use of :

☐1 ☐2 ☐3 ☐4 ☐5	Spot test for metals
☐1 ☐2 ☐3 ☐4 ☐5	Spot tests for synthetic resins
☐1 ☐2 ☐3 ☐4 ☐5	Identification of encrustations and soluble salts
☐1 ☐2 ☐3 ☐4 ☐5	Fluorescent dye procedures
☐1 ☐2 ☐3 ☐4 ☐5	Identification and detection of cleaning residues
☐1 ☐2 ☐3 ☐4 ☐5	Flow charts for ID of materials (stone, wood, etc.)
☐1 ☐2 ☐3 ☐4 ☐5	Authenticity and dating studies

highest ---------- lowest **2. Deterioration**

Projects that evaluate deterioration and conservation of :

☐1 ☐2 ☐3 ☐4 ☐5	Leather, skin, and other proteins
☐1 ☐2 ☐3 ☐4 ☐5	Glass, enamels, glazes
☐1 ☐2 ☐3 ☐4 ☐5	Natural resins, synthetic resins
☐1 ☐2 ☐3 ☐4 ☐5	Wood, paper
☐1 ☐2 ☐3 ☐4 ☐5	Stone, ceramics
☐1 ☐2 ☐3 ☐4 ☐5	Metals

highest ---------- lowest **3. Stabilization Methods**

Projects that develop methods for or evaluate the use of :

☐1 ☐2 ☐3 ☐4 ☐5	Reversibility of fills and consolidants
☐1 ☐2 ☐3 ☐4 ☐5	Strength of fills and consolidants
☐1 ☐2 ☐3 ☐4 ☐5	Working properties of fills and consolidants
☐1 ☐2 ☐3 ☐4 ☐5	Facing materials and procedures

Comments or additions:

highest ---------- lowest **4. Conservation Treatments**

Projects that develop methods for or evaluate the use of :

☐1 ☐2 ☐3 ☐4 ☐5	Reversing past conservation treatments
☐1 ☐2 ☐3 ☐4 ☐5	Stain removal methods
☐1 ☐2 ☐3 ☐4 ☐5	Poulticing methods
☐1 ☐2 ☐3 ☐4 ☐5	Cleaning with soaps, gels and enzymes
☐1 ☐2 ☐3 ☐4 ☐5	Changes in morphology due to cleaning
☐1 ☐2 ☐3 ☐4 ☐5	Long-term effects of residual materials or cleaners
☐1 ☐2 ☐3 ☐4 ☐5	Effects of solvents on acrylic resins
☐1 ☐2 ☐3 ☐4 ☐5	Coatings: application and removal
☐1 ☐2 ☐3 ☐4 ☐5	Metal protection and corrosion inhibition
☐1 ☐2 ☐3 ☐4 ☐5	Effects of cold temperatures on polymers
☐1 ☐2 ☐3 ☐4 ☐5	Effects of outdoor weathering on coatings

highest ---------- lowest **5. Treatment of Excavated Artifacts**

Projects that develop methods for or evaluate :

☐1 ☐2 ☐3 ☐4 ☐5	Stabilization methods for excavated materials
☐1 ☐2 ☐3 ☐4 ☐5	Cleaning techniques
☐1 ☐2 ☐3 ☐4 ☐5	Desalination methods
☐1 ☐2 ☐3 ☐4 ☐5	Dehydration procedures

highest ---------- lowest **6. Display, Storage and Shipping**

Projects that develop methods for or evaluate :

☐1 ☐2 ☐3 ☐4 ☐5	Off-gassing of display, storage or shipping materials
☐1 ☐2 ☐3 ☐4 ☐5	Effectiveness of barriers and sealants
☐1 ☐2 ☐3 ☐4 ☐5	Effects of aging on display, storage and shipping materials

Survey to Determine Conservation Funding Priorities for NCPTT

RETURN BY MAY 3, 1996

SECTION III: Materials Evaluation Objects Group

Please choose a maximum of 10 items on this page for comprehensive evaluation.

Polymer groups

- ☐ acrylic resin paints (Magna, etc.)
- ☐ acrylic emulsion paints (Liquitex, Golden, etc.)
- ☐ acrylic resins (Acryloid, etc.)
- ☐ acrylic emulsions (Rhoplex, etc.)
- ☐ cellulose ethers (methyl cellulose, Klucel, etc.)
- ☐ cellulose esters (cellulose acetate, etc.)
- ☐ epoxies (glass repair, stone repair, etc.)
- ☐ ethylene vinyl acetates (BEVA, Elvace, etc.)
- ☐ polyesters (Mylar, Melinex, netting, lining, etc.)
- ☐ polyethylene (Ethafoam, storage sleeves, etc.)
- ☐ polypropylene (sleeves, lining, etc.)
- ☐ polystyrene (Styrofoam, Foma-cor, etc.)
- ☐ polyurethane (coatings, foams, elastomers, etc.)
- ☐ polyvinyl acetates (AYAA, AYAF, etc.)
- ☐ polyvinyl butyral (Butvar, etc.)

General groups

- ☐ biocides and fungicides
- ☐ corrosion inhibitors
- ☐ gels and poultices
- ☐ enzymes
- ☐ surfactants (soaps, detergents, etc.)
- ☐ animal glues
- ☐ starch pastes/seaweed
- ☐ dry mounting adhesives
- ☐ cold-set adhesives
- ☐ heat-set adhesives
- ☐ hot-melt adhesives
- ☐ pressure-sensitive adhesives
- ☐ fill materials
- ☐ in-painting materials
- ☐ natural resin coatings
- ☐ synthetic coatings
- ☐ UV light absorbers (Tinuvin, etc.)
- ☐ batting materials
- ☐ lining materials
- ☐ plastic sleeves/sheets/solid supports
- ☐ fabrics (synthetic, cotton, Stabilitex, non-wovens, etc.)

Additional Materials

Paintings Specialty Group Survey

Purpose of Survey

The National Center for Preservation Technology and Training (NCPTT) commissioned the AIC to perform a follow-up survey of each AIC subgroup in order to develop a list of top conservation research and training priorities. The NC FIT is federally mandated to undertake and direct research relevant to historic preservation and, to this end, must establish research priorities in various scientific disciplines.

End Use of Survey

The results of this survey will be discussed at the Paintings Specialty Group business meeting at the AIC annual meeting in Norfolk, VA. After the discussion, a final report will be written and sent to NCFFT. This top priority list will be used to assist NCPTT in their conservation grant funding process as well as in the development of their in-house research program.

Return Date

This survey needs to be returned to the AIC office by May 3, 1996.

Contents

This survey contains three sections:

- **TECHNICAL UPDATES** - A technical update compiles information about a particular subject to bring the reader or participant up to date in that area. It can point out areas where research is needed.
- **RESEARCH** - A research project provides new information on a specific topic. Each check box line presents a general category of interest that can encompass several specific research projects.
- **MATERIALS** - Materials are listed by general groups rather than as specific commercial products to encourage comparative evaluations such as the comparison of aging characteristics or working properties.

NCPTT (The National Center for Preservation Technology and Training)

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For a copy of the **1997 PTTGrants Request for Proposals** contact NCPTT, NSU Box 5682, Natchitoches, LA 71497 or visit the Center's gopher or web sites at the following addresses:

gopher://gopher.ncptt.nps.gov
http://www.cr.nps.gov/ncptt/

Survey to Determine Conservation Funding Priorities for NCPTT

RETURN MAY 3, 1996

SECTION I: Technical Updates - PAINTINGS GROUP

PLEASE choose a maximum of 10 reviews and updates MOST CRITICAL TO YOUR WORK.
On your selections, mark the best presentation format, i.e. catalog chapters, books/ journal articles, workshops, or symposia)

C

Top Ten?	Catalog Chapter	Book/ article	Work shop	Sym-posia	1. General
☐Y	☐C	☐B	☐W	☐S	Chemistry for conservators
☐Y	☐C	☐B	☐W	☐S	Conservation equipment
☐Y	☐C	☐B	☐W	☐S	Environmental monitoring and control
☐Y	☐C	☐B	☐W	☐S	Artificial aging methods
☐Y	☐C	☐B	☐W	☐S	Research: funding, methodology and writing
☐Y	☐C	☐B	☐W	☐S	List of analytical service labs

Top Ten?	Catalog Chapter	Book/ article	Work shop	Sym-posia	2. Analysis and Examination
☐Y	☐C	☐B	☐W	☐S	Surface examination techniques
☐Y	☐C	☐B	☐W	☐S	Analytical techniques
☐Y	☐C	☐B	☐W	☐S	Physical property testing methods
☐Y	☐C	☐B	☐W	☐S	Measurement of color
☐Y	☐C	☐B	☐W	☐S	Examination of layered structures
☐Y	☐C	☐B	☐W	☐S	Identification of pigments
☐Y	☐C	☐B	☐W	☐S	Identification of binders
☐Y	☐C	☐B	☐W	☐S	Identification of coatings
☐Y	☐C	☐B	☐W	☐S	Identification of restoration materials
☐Y	☐C	☐B	☐W	☐S	Photographic imaging techniques
☐Y	☐C	☐B	☐W	☐S	Digital imaging
☐Y	☐C	☐B	☐W	☐S	Artists: materials and methods

Top Ten?	Catalog Chapter	Book/ article	Work shop	Sym-posia	3. Material Properties
☐Y	☐C	☐B	☐W	☐S	Adhesives and consolidants
☐Y	☐C	☐B	☐W	☐S	Cleaning systems
☐Y	☐C	☐B	☐W	☐S	Varnishes
☐Y	☐C	☐B	☐W	☐S	Fillers
☐Y	☐C	☐B	☐W	☐S	In-painting
☐Y	☐C	☐B	☐W	☐S	Packing materials

Top Ten?	Catalog Chapter	Book/ article	Work shop	Sym-posia	4. Structural Treatments
☐Y	☐C	☐B	☐W	☐S	Stretchers
☐Y	☐C	☐B	☐W	☐S	Panel treatments
☐Y	☐C	☐B	☐W	☐S	Consolidation
☐Y	☐C	☐B	☐W	☐S	Distortion relaxation
☐Y	☐C	☐B	☐W	☐S	Tear mending
☐Y	☐C	☐B	☐W	☐S	Lining techniques
☐Y	☐C	☐B	☐W	☐S	Suction table techniques
☐Y	☐C	☐B	☐W	☐S	Structural problems

Top Ten?	Catalog Chapter	Book/ article	Work shop	Sym-posia	5. Cleaning and Varnishing
☐Y	☐C	☐B	☐W	☐S	Solvent cleaning techniques
☐Y	☐C	☐B	☐W	☐S	Surfactants (soaps and detergents)
☐Y	☐C	☐B	☐W	☐S	Enzyme systems
☐Y	☐C	☐B	☐W	☐S	Gel cleaning systems
☐Y	☐C	☐B	☐W	☐S	Varnish removal/cleaning
☐Y	☐C	☐B	☐W	☐S	Varnish application

Top Ten?	Catalog Chapter	Book/ article	Work shop	Sym-posia	6. Compensation
☐Y	☐C	☐B	☐W	☐S	Fills
☐Y	☐C	☐B	☐W	☐S	Texturing fills above and below compensation
☐Y	☐C	☐B	☐W	☐S	In-painting

COMMENTS:

Survey to Determine Conservation Funding Priorities for NCPTT

RETURN BY MAY 3, 1996

SECTION II: Research Priorities. PAINTINGS GROUP

Please assign a HIGHEST priority rating only to topics most critical to your work.

highest ..... lowest **1. Analysis and Examination**

Projects that develop analysis methods for or evaluate the use of :

- ☐1 ☐2 ☐3 ☐4 ☐5 Analysis of pre-primed canvas boards
- ☐1 ☐2 ☐3 ☐4 ☐5 Spot tests for varnish identification
- ☐1 ☐2 ☐3 ☐4 ☐5 Identification of previous restorations
- ☐1 ☐2 ☐3 ☐4 ☐5 Non-invasive pigment identification
- ☐1 ☐2 ☐3 ☐4 ☐5 Art historical analyses

highest ..... lowest **2. Deterioration Studies**

Projects that develop methods to evaluate or prevent deterioration:

- ☐1 ☐2 ☐3 ☐4 ☐5 Wax/resin linings
- ☐1 ☐2 ☐3 ☐4 ☐5 Acrylic paints
- ☐1 ☐2 ☐3 ☐4 ☐5 Synthetic resins
- ☐1 ☐2 ☐3 ☐4 ☐5 Stabilized varnishes
- ☐1 ☐2 ☐3 ☐4 ☐5 Varnish failures (delamination, etc.)
- ☐1 ☐2 ☐3 ☐4 ☐5 Varnish bloom or exudates
- ☐1 ☐2 ☐3 ☐4 ☐5 Computer modeling to predict effects of poor storage
- ☐1 ☐2 ☐3 ☐4 ☐5 Determination of best storage conditions for composite materials

highest ..... lowest **3. Structural Treatments**

Projects that develop methods for or evaluate the use of :

- ☐1 ☐2 ☐3 ☐4 ☐5 Stretcher designs
- ☐1 ☐2 ☐3 ☐4 ☐5 Surface consolidation
- ☐1 ☐2 ☐3 ☐4 ☐5 Interlayer consolidation
- ☐1 ☐2 ☐3 ☐4 ☐5 Infusion
- ☐1 ☐2 ☐3 ☐4 ☐5 Lining procedures
- ☐1 ☐2 ☐3 ☐4 ☐5 Cold table techniques
- ☐1 ☐2 ☐3 ☐4 ☐5 Humidification procedures

highest ..... lowest **4. Cleaning methods**

Projects that develop methods for or evaluate the use of :

- ☐1 ☐2 ☐3 ☐4 ☐5 Removal of insoluble varnishes
- ☐1 ☐2 ☐3 ☐4 ☐5 Stain removal
- ☐1 ☐2 ☐3 ☐4 ☐5 Solvent cleaning (gels, mixtures, etc.)
- ☐1 ☐2 ☐3 ☐4 ☐5 Water cleaning (gels, soaps, detergents, etc.)
- ☐1 ☐2 ☐3 ☐4 ☐5 Enzyme cleaning
- ☐1 ☐2 ☐3 ☐4 ☐5 Effects of residual finishes or cleaning products

highest ..... lowest **5. Varnishes**

Projects that develop methods for or evaluate the use of :

- ☐1 ☐2 ☐3 ☐4 ☐5 Isolating varnishes
- ☐1 ☐2 ☐3 ☐4 ☐5 Compatibility of multiple layered materials
- ☐1 ☐2 ☐3 ☐4 ☐5 UV/ light stabilization of varnishes
- ☐1 ☐2 ☐3 ☐4 ☐5 Non-toxic delivery systems for solvents

highest ——— lowest **6. Compensation**

Projects that develop methods for or evaluate the use of :

- ☐1 ☐2 ☐3 ☐4 ☐5 Fills or consolidants
- ☐1 ☐2 ☐3 ☐4 ☐5 Texturing fills above and below in-paint
- ☐1 ☐2 ☐3 ☐4 ☐5 In-painting materials and methods
- ☐1 ☐2 ☐3 ☐4 ☐5 Failure of in-painting
- ☐1 ☐2 ☐3 ☐4 ☐5 Color fastness of modern paints

Comments or additions:

Survey to Determine Conservation Funding Priorities for NCPTT
RETURN - MAY 3, 1996

SECTION III: Materials Evaluation - PAINTINGS GROUP

Please choose a maximum of 10 items on this page for comprehensive evaluation.

Polymer groups

- ☐ acrylic resin paints (Magna, etc.)
- ☐ acrylic emulsion paints (Liquitex, Golden, etc.)
- ☐ acrylic resins (Acryloid, etc.)
- ☐ acrylic emulsions (Rhoplex, etc.)
- ☐ cellulose ethers (methyl cellulose, Klucel, etc.)
- ☐ cellulose esters (cellulose acetate, etc.)
- ☐ epoxies (Araldite, etc.)
- ☐ ethylene vinyl acetates (BEVA, Elvace, etc.)
- ☐ polyesters (Mylar, Melinex, netting, lining, etc.)
- ☐ polyethylene (Ethafoam, storage sleeves, etc.)
- ☐ polypropylene (sleeves, lining, etc.)
- ☐ polystyrenes (Styrofoam, Fome-cor, etc.)
- ☐ polyurethane (coatings, foam, elastomers, etc.)
- ☐ polyvinyl acetates (AYAA, AYAF, etc.)

General Classes

- ☐ natural resin coatings
- ☐ synthetic coatings
- ☐ UV light absorbers (Tinuvin, etc.)
- ☐ biocides and fungicides

- ☐ surfactants/detergents (Triton, etc.)
- ☐ enzymes
- ☐ gels

- ☐ lining fabrics
- ☐ cold lining adhesives
- ☐ dry mounting adhesives
- ☐ hot-set adhesives (epoxies, etc)
- ☐ hot-melt adhesives (wax/ resins, etc.)
- ☐ heat seal adhesives (BEVA, PVA, etc.)

- ☐ consolidants
- ☐ fills
- ☐ in-painting materials

Additional Materials

Photographic Materials Specialty Group Survey

Purpose of Survey

The National Center for Preservation Technology and Training (NCPTT) commissioned the AIC to perform a follow-up survey of each AIC subgroup in order to develop a list of top conservation research and training priorities. The NCPTT is federally mandated to undertake and direct research relevant to historic preservation and, to this end, must establish research priorities in various scientific disciplines.

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THE AMERICAN INSTITUTE FOR CONSERVATION OF HISTORIC AND ARTISTIC WORKS
1717 K STREET. N W SUITE 301 WASHINGTON DC 20006 (202)452-9545 FAX (202)452-9328

Survey to Determine Funding Priorities for NCPTT

RETURN BY MAY 3, 1996

SECTION I: Technical Updates. PMG

PLEASE choose a maximum of 10 reviews and updates MOST CRITICAL TO YOUR WORK.

On your selections, mark the best presentation format, i.e. books/ journal articles. workshops or symposia

Top Ten?	Book/ article	Work shop	Sym-posia	1. General
☐ Y	☐ B	☐ W	☐ S	Chemistry for conservators
☐ Y	☐ B	☐ W	☐ S	Conservation equipment
☐ Y	☐ B	☐ W	☐ S	List of analytical service labs
☐ Y	☐ B	☐ W	☐ S	Research: funding, methodology and writing
☐ Y	☐ B	☐ W	☐ S	Artificial aging methods

Top Ten?	Book/ article	Work shop	Sym-posia	2. Analysis and Examination
☐ Y	☐ B	☐ W	☐ S	Surface examination techniques
☐ Y	☐ B	☐ W	☐ S	Identification of restoration materials
☐ Y	☐ B	☐ W	☐ S	Identification of coatings
☐ Y	☐ B	☐ W	☐ S	Identification of binders
☐ Y	☐ B	☐ W	☐ S	Identification of photo processes
☐ Y	☐ B	☐ W	☐ S	Physical property testing methods
☐ Y	☐ B	☐ W	☐ S	Analytical techniques
☐ Y	☐ B	☐ W	☐ S	Low tech methods of analysis
☐ Y	☐ B	☐ W	☐ S	Micro-organism identification and control
☐ Y	☐ B	☐ W	☐ S	Pollutant measurement and control

Top Ten?	Book/ article	Work shop	Sym-posia	3. Material Properties
☐ Y	☐ B	☐ W	☐ S	Adhesives and consolidants
☐ Y	☐ B	☐ W	☐ S	Coatings
☐ Y	☐ B	☐ W	☐ S	Binders and emulsions

Top Ten?	Book/ article	Work shop	Sym-posia	4. Structural Treatments
☐ Y	☐ B	☐ W	☐ S	Consolidation techniques
☐ Y	☐ B	☐ W	☐ S	Tear mending
☐ Y	☐ B	☐ W	☐ S	Distortion relaxation

Top Ten?	Book/ article	Work shop	Sym-posia	5. Photo Processes
☐ Y	☐ B	☐ W	☐ S	History of photographic processing
☐ Y	☐ B	☐ W	☐ S	Color photographic processing and chemistry
☐ Y	☐ B	☐ W	☐ S	Components in modern photographs
☐ Y	☐ B	☐ W	☐ S	Chemical intensification of images
☐ Y	☐ B	☐ W	☐ S	Reproduction techniques
☐ Y	☐ B	☐ W	☐ S	Digital imaging

Top Ten?	Book/ article	Work shop	Sym-posia	6. Conservation Treatments
☐ Y	☐ B	☐ W	☐ S	Solvent cleaning techniques
☐ Y	☐ B	☐ W	☐ S	Dry cleaning techniques
☐ Y	☐ B	☐ W	☐ S	Aqueous cleaning techniques
☐ Y	☐ B	☐ W	☐ S	Coatings: application and removal
☐ Y	☐ B	☐ W	☐ S	Stain removal techniques
☐ Y	☐ B	☐ W	☐ S	Adhesive removal methods
☐ Y	☐ B	☐ W	☐ S	In-painting: materials and methods
☐ Y	☐ B	☐ W	☐ S	Treatment of color photographs

Top Ten?	Book/ article	Work shop	Sym-posia	7. Exhibition and Storage
☐ Y	☐ B	☐ W	☐ S	Cold storage
☐ Y	☐ B	☐ W	☐ S	Storage materials and methods
☐ Y	☐ B	☐ W	☐ S	Environmental monitoring and control
☐ Y	☐ B	☐ W	☐ S	UV light protection

Comments:

Survey to Determine Funding Priorities for NCPTT

RETURN BY MAY 3, 1996

SECTION II: Research Priorities of the PMG

Please assign a HIGHEST priority rating only to topics most critical to your work.

highest ..... lowest **1. Analysis and Examination**

Projects that develop analysis methods for or evaluate the use of :

☐1 ☐2 ☐3 ☐4 ☐5	Identification of overpaint and restorations
☐1 ☐2 ☐3 ☐4 ☐5	Spot tests for coating identification
☐1 ☐2 ☐3 ☐4 ☐5	Monitoring methods for color changes
☐1 ☐2 ☐3 ☐4 ☐5	Identification of photographic print materials
☐1 ☐2 ☐3 ☐4 ☐5	Archaeometric and art historical analyses
☐1 ☐2 ☐3 ☐4 ☐5	Labeling procedures (safety, permanence)

highest ..... lowest **2. Stabilization**

Projects that develop new methods or evaluate present methods for :

☐1 ☐2 ☐3 ☐4 ☐5	Consolidation of damaged binders on paper prints
☐1 ☐2 ☐3 ☐4 ☐5	Consolidation of damaged binders on glass plate negatives
☐1 ☐2 ☐3 ☐4 ☐5	Treatment of severe curling
☐1 ☐2 ☐3 ☐4 ☐5	Treatment of glass corrosion

highest ..... lowest **3. Gelatin, Albumen and Collodion Binders**

Projects that develop new methods or evaluate present methods for :

☐1 ☐2 ☐3 ☐4 ☐5	Surface cleaning using solvents
☐1 ☐2 ☐3 ☐4 ☐5	Surface cleaning using water
☐1 ☐2 ☐3 ☐4 ☐5	Cleaning with aqueous solutions (surfactants, ammonia, alcohol etc.
☐1 ☐2 ☐3 ☐4 ☐5	Use of erasers for cleaning (effects of plasticizers, etc.)
☐1 ☐2 ☐3 ☐4 ☐5	Removal of adhesive from binder side of prints
☐1 ☐2 ☐3 ☐4 ☐5	Cleaning photos after storage in poor plastic sleeves
☐1 ☐2 ☐3 ☐4 ☐5	Comparison of drying methods
☐1 ☐2 ☐3 ☐4 ☐5	Determination of the effects of heat
☐1 ☐2 ☐3 ☐4 ☐5	Use of coatings and their effects

highest ..... lowest **4. Modern Photographs**

Projects that develop new methods or evaluate :

☐1 ☐2 ☐3 ☐4 ☐5	Effects of water on modern photographs
☐1 ☐2 ☐3 ☐4 ☐5	Effects of solvents on resin coated papers
☐1 ☐2 ☐3 ☐4 ☐5	Effects of solvents of color photographs
☐1 ☐2 ☐3 ☐4 ☐5	Treatment of stained photographs
☐1 ☐2 ☐3 ☐4 ☐5	Effects of drying methods, including heat, on photos
☐1 ☐2 ☐3 ☐4 ☐5	Stability of Xerox or ink jet prints
☐1 ☐2 ☐3 ☐4 ☐5	Isolating varnishes for in-painting

highest ..... lowest **5. Exhibition and Storage**

Projects that develop new methods or evaluate :

☐1 ☐2 ☐3 ☐4 ☐5	Optimum exhibition parameters
☐1 ☐2 ☐3 ☐4 ☐5	Optimum cold storage parameters
☐1 ☐2 ☐3 ☐4 ☐5	Storage of nitrates and acetates
☐1 ☐2 ☐3 ☐4 ☐5	Storage of thermolaxes
☐1 ☐2 ☐3 ☐4 ☐5	Effects of light levels
☐1 ☐2 ☐3 ☐4 ☐5	Effects of air circulation in storage containers
☐1 ☐2 ☐3 ☐4 ☐5	Effects of buffered paper in contact with prints
☐1 ☐2 ☐3 ☐4 ☐5	Mounting procedures and materials
☐1 ☐2 ☐3 ☐4 ☐5	Substitute components for case photographs

Comments or additions:

Appendix 2
Survey Responses: Tabulated data
(By Specialty Group)

Section I: Technical Updates - ASG
(sort by TOTAL selections)

Technical updates	TOTAL	No desig.	Publish	Workshop	Symposia
4. Consolidation	25	3	13	3	6
3. Adhesives and consolidants	23	0	17	3	3
3. Masonry (stone, brick, terra-cotta)	21	2	9	4	6
4. Large scale cleaning techniques	20	3	8	3	6
3. Architecture finishes and paints	19	2	9	3	5
4. Aqueous cleaning (gels, enzymes, soaps, detergents)	16	2	9	3	2
1. Chemistry for conservators	16	2	8	4	2
4. Solvent cleaning (gels, mixtures, toxicity, etc.)	16	2	6	5	3
2. Non-destructive site and materials examination	15	0	8	5	2
3. Coatings (compatibility, water repellency, etc.)	14	1	10	1	2
4. Composite repair: wood, masonry, stone, etc.	14	1	6	5	2
2. Evaluation of existing materials	14	1	5	5	3
2. Material characterization	13	0	5	4	4
3. Mortars and renders	12	1	7	0	4
2. Documentation methods	11	2	7	0	2
1. Retreatability	11	1	4	2	4
4. Plaster reattachment	10	2	5	1	2
1. Lists of supplies, equipment, analytical services	9	0	9	0	0
4. Desalination	9	0	7	0	2
2. Building/site systems and system failures	9	0	4	3	2
4. Corrosion: prevention and treatment	8	1	7	0	0
1. Environmental monitoring and control	8	2	4	1	1
2. Examination of surfaces and layered structures	8	0	3	3	2
2. Photographic, digital and video imaging techniques	7	1	4	1	1
2. Porosity, osmotic action, salt/water dynamics	7	0	4	1	2
1. Regulations and impact on material use	7	1	4	1	1
3. Metals	7	0	3	2	2
2. Measurement of color, reflectivity, appearance	7	1	3	3	0
2. Microscopy	7	0	1	5	1
2. Physical property testing methods	6	0	5	1	0
3. Wood	6	0	4	2	0
4. Application and treatment of coatings	6	2	3	1	0
1. Research: funding, methodology and writing	6	1	2	3	0
1. Materials and testing standards	5	1	4	0	0
3. Concrete	5	1	3	0	1
1. Biodeterioration: identification and control	5	0	3	0	2
4. Site planning and protection	5	0	2	1	2
2. Instrumental analyses	5	0	1	2	2
4. Structural and engineering modifications	4	1	2	0	1
4. Compensation, fills and in-painting	4	0	2	1	1
3. Architecture glass	4	0	2	1	1
1. Health and Safety	4	2	2	0	0
4. Backfilling/site drainage	4	0	1	0	3
4. Abrasive/mechanical cleaning	4	1	1	0	2
2. Geotechnical industrial methods adapted for use	3	0	2	0	1
3. Earth and soil	2	0	1	0	1
4. In situ mosaics, wall paintings, rock art, etc.	2	0	0	0	2

Sections: 1. General; 2. Analysis and Examination;
3. Materials (e.g. use, problems); 4. Conservation Treatments

Section II: Research Priorities – ASG (sort by Priority 1's)

Sec.# Research Priorities	Average	1's	2's	3's	4's	5's
1. In situ and low-tech examination practices	1.75	23	9	5	1	2
4. Consolidation	1.81	20	9	5	1	2
3. Cleaning masonry	2.00	20	4	7	2	3
4. Repair of stone	2.06	20	4	6	2	4
3. Evaluation of commercial cleaning processes	2.03	18	5	10	3	1
2. Deleterious or outdated treatment practices	2.14	14	10	4	6	1
4. Plaster reattachment	2.20	14	9	5	5	2
4. Grouts and grout injection systems	2.09	13	11	5	4	1
4. Coating durability	2.38	13	8	4	5	4
1. Conservation-based Historic Structure Reports	2.54	12	6	9	7	3
4. Fungicides/biocides/biocidal materials	2.28	11	9	13	1	2
3. Non-toxic application and removal-solvents	2.29	11	10	7	4	2
4. Mortars: aggregate, binders, additives	2.37	11	9	7	7	1
4. Composite repair: wood, masonry, plaster	2.42	11	12	3	7	3
3. Cleaning poorly bound or soluble paints or plasters	2.49	11	8	5	7	2
1. Material characterization and classification	2.53	11	4	12	4	3
1. Documentation methods and standards	2.61	11	7	9	8	3
4. Compensation, fills, in-painting	2.47	10	7	9	7	1
4. Water repellents	2.50	10	7	10	4	3
1. Water vapor transmission and porosimetry testing	2.53	10	10	10	4	4
3. Mortar strength to masonry relationship	2.56	10	10	6	6	4
2. Effects of atmospheric pollution	2.64	10	6	11	5	4
4. Protective coatings	2.24	9	13	7	2	2
3. Poulticing materials, methods, performance	2.25	9	13	10	4	0
4. Retreatability	2.47	9	8	8	5	2
1. Sampling methods and standards	2.57	9	8	5	7	2
4. Cast stone and concrete	2.71	9	8	7	6	5
2. Classification of deterioration mechanisms	2.49	8	14	9	6	2
4. Replacement materials	2.51	8	7	16	2	2
4. Removal of adhesives and consolidants	2.58	8	9	12	4	3
2. Salt/water dynamics	2.65	8	10	10	5	4
4. Safe methods for lead paint removal	2.76	8	8	7	6	5
3. Cleaning metals	2.81	8	7	11	6	5
4. Repair of stucco	2.82	8	8	6	6	6
4. Stabilization of earthen materials	3.22	8	4	5	3	12
3. Cleaning metallic staining	2.53	7	13	8	6	2
1. High-tech non-destructive testing techniques	2.61	6	11	11	7	1
4. Repair of wood	2.91	6	8	9	5	6
1. Collaborative professional practices in examination/site i	2.66	5	15	8	1	6
3. Cleaning graffiti	2.71	5	12	8	6	3
1. Surface appearance and color measurement	2.71	5	11	10	7	2
2. Deterioration/condition terminology	2.81	5	10	12	5	4
4. Repair of metal	2.91	5	10	9	5	6
4. Modern architecture materials	3.15	5	7	8	6	8
2. Environmental/climatic dynamics and monitoring	2.77	4	7	15	2	3
3. Cleaning pollution byproducts	2.83	4	13	7	7	4
4. Backfilling methods and materials	3.50	4	7	4	3	14
4. Pest containment/removal/management	3.29	3	6	12	6	8
3. Cleaning soil and grime	2.93	2	9	9	9	1
4. Rejuvenated coatings	3.25	2	8	7	10	5
4. Casting materials and methods	3.59	0	6	8	11	7

1. Analysis and Examination; 2. Dterioration; 3. Cleaning Techniques; 4. Treatments

Section III: Materials Evaluation
(sort by Architecture Specialty Group selections)

	ASG	BPG	OSG	PSG	PMG	TSG	WAG	TC
Materials by composition								
organo-silicon (silicate ester)	23	0	0	0	6	0	0	
epoxies	23	5	72	25	4	5	45	
acrylic resins	14	12	48	51	8	7	31	
acrylic emulsions	13	24	35	45	16	10	13	
silica emulsions	11	0	0	0	0	0	0	
polyvinyl acetates	8	28	22	45	12		19	
acrylic resin paints	7	8	17	35	4	4	10	
acrylic emulsion paints	7	21	30	46	9	8	12	
polyvinyl alcohols	5	0	0	0	0	0	0	
ethylene vinyl acetates	5	32	27	57	14	21	7	
polyurethanes	4	6	27	6	7	12	16	
polyethylene	2	15	26	5	18	29	7	
polyesters	2	30	19	23	18	27	5	
cellulose ethers	2	38	23	12	22	18	11	
polypropylene	1	15	12	5	15	5	2	
polyvinyl butyral	0	0	25	0	0	0	0	
cellulose esters	0	12	7	6	7	5	6	
polystyrenes	0	22	12	15	17	14	5	
Materials by usage								
protective finishes and coatings	25				12			
proprietary cleaning products	22				28			
masonry consolidants	20							
commercial chemical systems	19							
surfactants/detergents/soaps	18	34	54	55	14	39	19	
lime and cement	15							
gels and poultices	14	26	62	40				
corrosion inhibitors, anti-oxidants, etc	14		69		16		19	
biocides/fungicides/pesticides	14	35	41	24	18	13	15	
structural adhesives	12							
patching compounds	12							
grouts/mortars	12							
starch paste/seaweed	11	34	16		12	8	3	
enzymes	11	37	28	31	14	27	19	
composite masonry repair	11							
commercial and industrial paints	11							
mechanical/abrasive systems	10							
replacement materials	9							
glues/adhesives	9							
wood consolidants and finishes	8							
damp proofing systems	8							
animal glues	6	17	19			6	35	
textiles (geosynthetics, etc..)	5							
caulks and sealants	4							
organically modified earth	2							
UV/light absorbers	0		32	50			17	
synthetic coatings	0	5	34	78			30	
natural resin coatings	0	5	20	53			30	

Section I: Technical Updates - Book and Paper Group
(sort by TOTAL selections)

Technical updates	TOTAL	No desig.	Publish	Workshop	Symposia
6. Stain removal methods	99	11	37	41	10
6. Adhesive removal methods	92	14	31	39	8
4. Adhesives and consolidants	77	4	52	11	10
2. Identification of adhesives	64	6	29	27	2
5. Suction techniques	63	9	11	40	3
6. Bleaching methods	60	4	26	19	11
6. Use of soaps, detergents, gels, enzymes, etc.	57	3	30	18	6
5. Consolidation	54	3	23	24	4
4. Display, packing and storage materials	51	4	27	11	9
3. Lightfastness of dyes, inks, watercolors	48	1	40	2	5
5. Lining and mounting techniques	46	6	9	29	2
6. Deacidification methods	45	2	26	11	6
3. Cellulose: chemistry/deterioration	40	3	30	3	4
6. Cleaning techniques	40	3	20	14	3
1. Chemistry for conservators	39	3	18	14	4
5. Humidification treatments	39	4	16	14	5
6. Conservation of leather and skin	37	8	18	7	4
1. Conservation equipment and supplies	31	2	20	5	4
1. Environmental monitoring and control	28	2	13	7	6
5. Tear mending	27	1	8	17	1
2. Photographic and digital imaging	26	0	11	8	7
2. Analytical techniques	25	2	11	10	2
2. Pretesting and evaluation for cleaning	24	3	12	8	1
2. Surface examination techniques	23	1	11	9	2
6. Preparation and application of adhesives	23	0	9	14	0
1. UV/light protection	22	1	16	3	2
1. List of analytical service labs	21	1	20	0	0
4. Paper:history, preparation, processing	20	0	13	2	5
3. Artificial aging methods	18	1	9	2	6
2. Identification of dyes	18	2	9	5	2
2. Identification of fibers	18	0	6	11	1
3. Protein: chemistry/deterioration	17	3	11	1	2
2. Measurement of color	17	2	7	5	3
1. Research: funding, methodology and writing	16	0	9	4	3
2. pH testing methods	15	1	9	5	0
1. Biodeterioration: identification and control	14	5	6	2	1
2. Physical property testing methods	13	0	7	5	1
1. Pest management	13	1	7	1	4
1. Pollutant measurement and control	10	0	5	3	2
Drying and flattening	1	1			

1. General; 2 Analysis and Examination; 3. Deterioration Studies; 4 Material Properties; 5. Structural Treatments; 6. Conservation

Section II: Research Priorities - Book and Paper Group (sort by Priority 1's)

Research Priorities	Average	1's	2's	3's	4's	5's
2. Long-term effects of solvent treatments	1.71	74	32	18	6	2
4. Light bleaching vs chemical bleaching	1.81	74	29	15	8	6
2. Long-term effects of bleaching on paper	1.94	68	21	25	7	7
2. Long-term effects of washing on paper	1.83	67	35	19	7	4
3. Removal of stains	1.83	60	41	15	10	1
2. Long-term effects of adhesives on paper	1.95	58	36	26	5	5
3. Optimum bath conditions	2.12	58	30	23	15	7
3. Effects of solvents and solvent/water mixtures	1.89	55	47	21	10	0
4. Effects of bleaching on inks, dyes, media	1.96	51	48	17	7	5
4. Residues from bleaching	2.14	51	31	23	12	7
3. Effects of washing on media and colorants	1.92	50	49	21	8	1
5. Effects of deacidification on paper properties	2.01	50	37	24	6	5
5. Use of non-aqueous solutions for deacidification	2.06	50	40	19	12	5
6. New artist materials (inks, coated, papers, etc.)	2.20	49	34	21	16	7
5. Effects of deacidification on non-paper components	2.09	47	38	30	7	5
2. Degradation due to residues and stains	2.13	45	39	30	13	2
2. Long-term effects of pH on paper	2.21	45	31	33	10	6
3. Effects of washing on sizes and finishes	2.08	39	54	28	9	1
2. Effects of microclimates (air circulation, etc)	2.24	39	36	34	8	6
4. Bleaching as a function of paper type/condition	2.23	37	45	18	14	6
3. Residues after washing	2.38	34	33	36	13	6
6. Consolidation of fill techniques	2.51	34	27	33	18	9
1. Adhesive migration	2.56	34	32	31	14	15
5. Comparison of active deacidification materials	2.37	29	37	30	15	4
2. Optimum storage parameters for paper and film	2.54	29	28	39	15	8
1. Identification of finishes and sizes	2.77	27	28	28	33	10
2. Magnetic media (longevity, durability, etc.)	3.22	25	24	8	20	40
4. Bleaching as a function of solution	2.61	24	37	32	16	11
3. Use of detergents, surfactants, etc.	2.75	24	25	44	18	12
3. Use of enzymes	2.66	23	31	41	21	7
1. Methods to determine usability of paper	2.99	23	23	30	18	25
4. Bleaching as a function of pH	2.70	21	34	32	19	11
1. Comparison of pH test methods	3.28	20	16	34	29	32
4. Bleaching as a function of wavelength	3.09	17	23	32	21	23

Sections: 1. Analysis and Examination; 2 Deterioration Studies; 3. Washing; 4. Bleaching; 5. Deacidification; 6. Other Treatments

Section III: Materials Evaluation
(sort by Book and Paper Group selections)

	ASG	BPG	OSG	PSG	PMG	TSG	WAG	TOTAL
Materials by composition								
cellulose ethers	2	38	23	12	22	18	11	126
ethylene vinyl acetates	5	32	27	57	14	21	7	163
polyesters	2	30	19	23	18	27	5	124
polyvinyl acetates	8	28	22	45	12		19	134
acrylic emulsions	13	24	35	45	16	10	13	156
polystyrenes	0	22	12	15	17	14	5	85
acrylic emulsion paints	7	21	30	46	9	8	12	133
polypropylene	1	15	12	5	15	5	2	55
polyethylene	2	15	26	5	18	29	7	102
cellulose esters	0	12	7	6	7	5	6	43
acrylic resins	14	12	48	51	8	7	31	171
acrylic resin paints	7	8	17	35	4	4	10	85
polyurethanes	4	6	27	6	7	12	16	78
epoxies	23	5	72	25	4	5	45	179
polyvinyl butyral	0	0	25	0	0	0	0	25
polyvinyl alcohols	5	0	0	0	0	0	0	5
silica emulsions	11	0	0	0	0	0	0	11
organo-silicon (silicate ester)	23	0	0	0	6	0	0	29
Materials by usage								
pressure sensitive adhesives	0	49	21		29	7	2	108
paper (glassine, Permalife)	0	44			33	13		90
enzymes	11	37	28	31	14	27	19	167
dry mounting adhesives	0	37	5	12	37	2	1	94
biocides/fungicides/pesticides	14	35	41	24	18	13	15	160
surfactants/detergents/soaps	18	34	54	55	14	39	19	233
starch paste/seaweed	11	34	16		12	8	3	84
hot (heat)-set adhesives	0	34	15	6	25	2	6	88
gels and poultices	14	26	62	40				142
in-painting materials	0	21	34	59	15		32	161
cold lining (set) adhesive	0	21	21	60	21		8	131
mat boards	0	20			16	0		36
lining materials	0	20	3	39	9			71
plastic sleeves, sheets, supports	0	19	11		22	6	3	61
animal glues	6	17	19			6	35	83
solander boxes	0	16			18	3		37
linen tape	0	11			10	2		23
laminating plastics	0	7			4			11
hot-melt adhesives	0	6	21	30	7	7	10	81
synthetic coatings	0	5	34	78			30	147
natural resin coatings	0	5	20	53			30	108
netting (nylon, polyester)	0	3			0	21		24

Section I: Technical Updates - Objects Group
(sort by TOTAL selections)

Technical updates	TOTAL	No desig.	Publish	Workshop	Symposia
2. Low-tech analysis methods	70	8	34	28	0
4. Adhesives: comparison of properties	66	2	50	6	8
3. Consolidation techniques	64	5	21	29	9
5. Cleaning techniques	58	2	24	26	6
4. Fill materials: comparison of properties	57	1	39	9	8
4. Coating: comparison of properties	50	3	30	10	7
4. Exhibition and storage materials	41	3	26	9	3
1. Chemistry for conservators	38	3	23	7	5
5. Reversing past treatments	38	1	20	8	9
2. Identification of adhesives	36	2	23	10	1
5. Treatment of corroded metal	35	5	18	6	6
5. Conservation of leather, skin and other protein	33	5	13	9	6
5. Sculpture conservation	32	2	16	8	6
2. Identification of coatings	31	6	15	10	0
1. Conservation equipment	30	2	17	9	2
5. Use and preparation of fills	30	2	11	17	0
1. List of analytical service labs	28	2	25	1	0
2. Analytical techniques	28	1	12	10	5
5. Ceramic and porcelain conservation	26	5	13	4	4
1. Environmental monitoring and control	26	6	9	5	6
5. Glass conservation	24	3	9	8	4
3. Pinning and doweling procedures	24	0	8	15	1
1. Research: funding, methodology and writing	23	4	8	7	4
5. Lacquer conservation	23	5	7	5	6
5. Stone conservation	22	1	11	7	3
2. Physical property testing methods	22	2	10	7	3
4. In-painting materials	21	1	17	2	1
1. Pollutant measurement and control	21	1	12	5	3
5. Metal conservation	21	2	7	8	4
1. Pest control	20	0	15	4	1
2. Identification of stone	19	1	10	6	2
5. Preparation and application of adhesives	18	0	8	9	1
1. UV/light protection	16	0	11	2	3
1. Artificial aging methods	16	3	9	3	1
2. Photographic and digital imaging techniques	15	0	4	8	3
2. Cross section examinations	15	5	4	4	2
3. Mounting procedures	14	0	4	10	0
2. Metallography	14	1	4	5	4
4. Historical recipes for adhesives	13	0	11	1	1
1. Biodeterioration: identification and control	12	0	11	1	0
2. Identification of wood	10	1	5	3	1
5. Rock art conservation	5	0	2	2	1

Sections: 1. General; 2 Analysis and Examination;
3. Structural Treatments; 4. Materials; 5. Conservation Treatments

Section II Research Priorities - Objects Group
(sorted by Priority 1's)

Research Priorities	Average	1's	2's	3's	4's	5's
6. Off-gassing of display, storage or shipping materials	2.20	38	26	17	8	8
6. Effects of aging on display storage,shipping materia	2.26	37	24	18	10	8
6. Effectiveness of barriers and sealants	2.15	33	30	17	9	4
5. Stabilization methods for excavated materials	2.39	34	24	10	7	15
5. Desalination methods	2.41	29	22	17	9	10
5. Dehydration procedures	3.12	13	17	19	13	20
5. Cleaning techniques for excavated artifacts	2.41	25	29	18	5	11
4. Stain removal methods	2.18	24	47	15	7	4
4. Reversing past conservation treatments	2.43	27	24	34	14	3
4. Poulticing methods	2.14	26	42	21	5	3
4. Metal protection and corrosion inhibition	2.08	46	25	18	9	6
4. Long-term effects of residual materials or cleaners	1.94	38	35	14	3	4
4. Effects of solvents on acrylic resins	3.16	11	18	24	18	18
4. Effects of outdoor weathering on coatings	2.59	27	29	11	10	17
4. Effects of cold temperatures on polymers	3.43	9	8	22	23	19
4. Coatings: application and removal	2.20	37	26	20	11	5
4. Cleaning with soaps, gels and enzymes	2.05	43	27	17	5	7
4. Changes in morphology due to cleaning	2.33	22	36	23	9	4
3. Working properties of fills and consolidants	2.18	32	34	25	5	5
3. Strength of fills and consolidants	2.21	30	34	20	9	4
3. Reversibility of fills and consolidants	2.04	40	31	13	11	3
3. Facing materials and procedures.	3.28	11	13	24	19	20
2. Deterioration of wood and paper	2.67	19	22	29	14	8
2. Deterioration of stone and ceramics	2.18	41	20	15	11	7
2. Deterioration of natural and synthetic resins	2.30	30	23	21	12	4
2. Deterioration of metals	2.12	36	29	14	9	5
2. Deterioration of leather, skin and other proteins	2.51	35	17	13	10	16
2. Deterioration of glass, enamels and glazes	2.40	24	22	22	12	4
1. Spot tests for synthetic resins	2.33	30	28	17	10	8
1. Spot test for metals	2.62	25	24	19	9	15
1. Identification of encrustations and soluble salts	2.18	38	28	20	6	8
1. Identification and detection of cleaning residues	2.57	23	22	23	17	6
1. Fluorescent dye procedures	3.59	6	11	21	21	26
1. Flow charts for ID of materials (stone, wood, etc.)	2.49	27	32	16	12	12
1. Authenticity and dating studies	2.82	24	19	16	16	17

Sections: 1. Analysis and Examination; 2. Deterioration; 3. Stabilization Methods; 4. Conservation Treatments; 4. Excavated Artifacts; 6. Display, Storage and Shipping

Section III: Materials Evaluation
(sort by Objects Specialty Group selections)

	ASG	BPG	OSG	PSG	PMG	TSG	WAG	TOTAL
Materials by composition								
epoxies	23	5	72	25	4	5	45	179
acrylic resins	14	12	48	51	8	7	31	171
acrylic emulsions	13	24	35	45	16	10	13	156
acrylic emulsion paints	7	21	30	46	9	8	12	133
polyurethanes	4	6	27	6	7	12	16	78
ethylene vinyl acetates	5	32	27	57	14	21	7	163
polyethylene	2	15	26	5	18	29	7	102
polyvinyl butyral	0	0	25	0	0	0	0	25
cellulose ethers	2	38	23	12	22	18	11	126
polyvinyl acetates	8	28	22	45	12		19	134
polyesters	2	30	19	23	18	27	5	124
acrylic resin paints	7	8	17	35	4	4	10	85
polypropylene	1	15	12	5	15	5	2	55
polystyrenes	0	22	12	15	17	14	5	85
cellulose esters	0	12	7	6	7	5	6	43
organo-silicon (silicate ester)	23	0	0	0	6	0	0	29
silica emulsions	11	0	0	0	0	0	0	11
polyvinyl alcohols	5	0	0	0	0	0	0	5
Materials by usage								
corrosion inhibitors, anti-oxidants, etc	14		69		16		19	118
fill materials			66	31			37	134
gels and poultices	14	26	62	40				142
surfactants/detergents/soaps	18	34	54	55	14	39	19	233
biocides/fungicides/pesticides	14	35	41	24	18	13	15	160
synthetic coatings		5	34	78			30	147
in-painting materials		21	34	59	15		32	161
UV/light absorbers			32	50			17	99
enzymes	11	37	28	31	14	27	19	167
fabrics			21					21
hot-melt adhesives		6	21	30	7	7	10	81
cold lining (set) adhesive		21	21	60	21		8	131
pressure sensitive adhesives		49	21		29	7	2	108
natural resin coatings		5	20	53			30	108
animal glues	6	17	19			6	35	83
starch paste/seaweed	11	34	16		12	8	3	84
hot (heat)-set adhesives		34	15	6	25	2	6	88
plastic sleeves, sheets, supports		19	11		22	6	3	61
batting materials			6			25	4	35
dry mounting adhesives		37	5	12	37	2	1	94
lining materials		20	3	39	9			71

Section I: Technical Updates - Paintings Group
(sorted by TOTAL selections)

SEC.# Technical updates	TOTAL	No des.	Catalog	Book	Workshop	Symposi
3. Cleaning systems	70	14	13	20	17	6
5. Varnish removal/cleaning	64	11	14	18	14	7
3. Adhesives and consolidants	54	8	16	20	6	4
5. Solvent cleaning techniques	50	13	13	12	9	3
3. Varnishes	46	7	8	17	8	6
4. Lining techniques	45	6	9	10	14	6
2. Artists: materials and methods	44	10	4	23	0	7
4. Tear mending	41	7	9	10	13	2
5. Surfactants (soaps and detergents)	40	11	7	15	5	2
4. Consolidation	40	6	7	13	10	4
4. Distortion relaxation	39	7	8	12	11	1
5. Gel cleaning systems	38	4	5	17	10	2
4. Suction table techniques	34	6	4	9	15	0
6. Texturing fills above & below compensation	34	6	6	8	13	1
2. Identification of coatings	32	4	5	11	10	2
4. Structural problems	26	5	5	8	4	4
2. Identification of binders	26	4	4	7	10	1
5. Enzyme systems	26	3	4	11	8	0
2. Examination of layered structures	25	6	4	9	5	1
4. Panel treatments	24	3	4	10	4	3
3. In-painting materials	23	5	3	8	5	2
6. In-painting methods	22	6	1	4	6	5
1. Conservation equipment	22	4	6	9	3	0
1. Chemistry for conservators	21	3	2	11	5	0
6. Fills	20	6	4	5	5	0
5. Varnish application	19	4	2	7	5	1
1. Environmental monitoring and control	18	2	3	7	2	4
2. Photographic imaging techniques	18	1	1	3	11	2
2. Identification of restoration materials	15	5	1	4	4	1
4. Stretchers	15	3	6	6	0	0
2. Surface examination techniques	15	2	3	3	6	1
2. Digital imaging	15	2	1	3	6	3
1. List of analytical service labs	15	0	6	9	0	0
2. Identification of pigments	15	0	1	6	6	2
2. Analytical techniques	14	2	1	3	6	2
1. Artificial aging methods	14	0	4	8	2	0
3. Fillers	11	4	2	2	2	1
2. Physical property testing methods	10	1	1	2	6	0
1. Research: funding, methodology and writing	9	1	2	4	1	1
2. Measurement of color	7	0	3	2	1	1
3. Packing materials	4	0	1	3	0	0

Sections: 1. General; 2. Analysis and Examination; 3. Material Properties; 4. Structural Treatments; 5. Cleaning and Varnishing; 6. Compensation

Section II: Research Priorities - Paintings Group
(sorted by Priority 1's)

Sec.# Research Priorities	Average	1's	2's	3's	4's	5's
4. Removal of insoluble varnishes	1.30	81	13	4	3	0
2. Synthetic resins	1.50	59	27	9	1	0
2. Stabilized varnishes	1.67	54	27	10	3	2
4. Water cleaning (gels, soaps, detergents, etc.)	1.71	54	26	20	2	0
4. Solvent cleaning (gels, mixtures, etc.)	1.70	49	31	13	2	1
3. Interlayer consolidation	1.74	49	32	12	3	2
3. Surface consolidation	1.78	48	30	15	4	1
5. Compatibility of multiple layered materials	1.81	48	28	13	4	3
3. Humidification procedures	1.88	48	23	21	3	3
1. Spot tests for varnish identification	2.04	47	28	13	7	8
5. Non-toxic delivery systems for solvents	2.06	46	20	18	11	4
3. Lining procedures	2.04	45	27	14	10	5
4. Stain removal	2.14	41	24	20	7	7
4. Effects of residual finishes or cleaning products	2.04	40	26	21	10	1
6. In-painting materials and methods	1.95	39	29	18	5	2
5. UV/light stabilization of varnishes	2.06	38	29	20	9	2
3. Cold table techniques	2.14	38	23	23	5	6
2. Acrylic paints	2.25	36	23	21	9	7
6. Fills or consolidants	2.30	34	33	21	12	7
6. Texturing fills above and below in-paint	2.32	34	26	21	12	7
5. Varnish bloom or exudates	2.10	31	32	17	10	1
6. Failure of in-painting	2.36	31	16	33	10	4
5. Varnish failures (delamination etc.)	2.22	30	21	27	10	1
5. Isolating varnishes	2.31	28	24	25	3	8
4. Enzyme cleaning	2.44	26	24	29	12	5
6. Color fastness of modern paints	2.56	24	21	30	13	7
1. Non-invasive pigment identification	2.56	24	20	29	8	10
3. Infusion	2.41	23	28	24	9	6
2. Wax/resin linings	2.69	23	20	33	11	12
3. Stretcher designs	2.79	20	23	19	16	14
1. Art historical analyses	2.97	19	18	21	15	19
1. Identification of previous restorations	2.75	15	27	27	12	11
2. Determination of best storage conditions	3.34	9	16	23	18	23
2. Computer modeling to predict effects of storage	3.97	6	5	16	18	41
1. Analysis of pre-primed canvas boards	3.74	4	14	17	15	35

Sections: 1. Analysis and Examination; 2. Deterioration Studies;
3. Structural Treatments;4. Cleaning Methods; 5. Varnishes; 6. Compensation

Section III: Materials Evaluation
(sort by Paintings Specialty Group selections)

	ASG	BPG	OSG	PSG	PMG	TSG	WAG	TOTAL
Materials by composition								
ethylene vinyl acetates	5	32	27	57	14	21	7	163
acrylic resins	14	12	48	51	8	7	31	171
acrylic emulsion paints	7	21	30	46	9	8	12	133
polyvinyl acetates	8	28	22	45	12		19	134
acrylic emulsions	13	24	35	45	16	10	13	156
acrylic resin paints	7	8	17	35	4	4	10	85
epoxies	23	5	72	25	4	5	45	179
polyesters	2	30	19	23	18	27	5	124
polystyrenes	0	22	12	15	17	14	5	85
cellulose ethers	2	38	23	12	22	18	11	126
cellulose esters	0	12	7	6	7	5	6	43
polyurethanes	4	6	27	6	7	12	16	78
polypropylene	1	15	12	5	15	5	2	55
polyethylene	2	15	26	5	18	29	7	102
polyvinyl alcohols	5	0	0	0	0	0	0	5
silica emulsions	11	0	0	0	0	0	0	11
organo-silicon (silicate ester)	23	0	0	0	6	0	0	29
polyvinyl butyral	0	0	25	0	0	0	0	25
Materials by usage								
synthetic coatings		5	34	78			30	147
consolidants				66				66
cold lining (set) adhesive		21	21	60	21		8	131
in-painting materials		21	34	59	15		32	161
heat seal adhesives				58		21		79
surfactants/detergents/soaps	18	34	54	55	14	39	19	233
natural resin coatings		5	20	53			30	108
UV/light absorbers			32	50			17	99
gels and poultices	14	26	62	40				142
lining materials		20	3	39	9			71
enzymes	11	37	28	31	14	27	19	167
fill materials			66	31			37	134
hot-melt adhesives		6	21	30	7	7	10	81
biocides/fungicides/pesticides	14	35	41	24	18	13	15	160
dry mounting adhesives		37	5	12	37	2	1	94
hot (heat)-set adhesives		34	15	6	25	2	6	88

Section I: Technical Updates - Photographic Materials Group
(sort by TOTAL selections)

Technical updates	TOTAL	No desig.	Publish	Workshop	Symposia
6. Stain removal techniques	35	6	9	19	1
6. Treatment of color photographs	35	6	13	11	5
2. Low-tech methods of analysis	33	4	16	9	4
6. Solvent cleaning techniques	31	5	13	12	1
4. Consolidation techniques	29	0	10	16	3
6. Aqueous cleaning techniques	29	5	12	11	1
5. Components in modern photographs	28	4	19	4	1
6. Dry cleaning techniques	27	3	15	7	2
7. Storage materials and methods	26	0	17	6	3
3. Properties of adhesives and consolidants	26	2	17	5	2
7. Cold storage	24	3	14	1	6
2. Identification of photo processes	23	5	7	8	3
6. Adhesive removal methods	22	4	10	8	0
4. Distortion relaxation	21	3	7	11	0
5. Digital imaging	21	3	9	3	6
5. Color photographic processing/chemistry	21	4	12	3	2
2. Pollutant measurement and control	20	4	11	2	3
1. Chemistry for conservators	19	1	8	5	5
6. In-painting: materials and methods	18	4	4	10	0
6. Coatings: application and removal	17	4	3	10	0
2. Identification of coatings	16	2	8	4	2
5. Reproduction techniques	16	3	8	4	1
7. Environmental monitoring and control	16	1	9	2	4
3. Properties of binders and emulsions	16	0	11	1	4
1. Conservation equipment	14	1	12	0	1
5. Chemical intensification of images	13	2	3	6	2
1. List of analytical service labs	13	0	13	0	0
4. Tear mending	12	0	4	7	1
2. Physical property testing methods	12	2	4	5	1
2. Analytical techniques	12	3	5	3	1
5. History of photographic processing	12	4	4	1	3
3. Properties of coatings	12	2	7	1	2
1. Artificial aging methods	12	2	8	1	1
2. Identification of binders	11	0	5	5	1
1. Research: funding, methodology and writing	11	0	6	4	1
2. Biodeterioration: identification and control	11	2	6	3	0
7. UV/light protection	11	0	9	1	1
2. Surface examination techniques	10	0	6	3	1
3. Identification of restoration materials	9	1	5	1	3

Sections: 1. General; 2 Analysis and Examination; 3. Material Properties;
4. Structural Treatments; 5. Photo Processes;
6. Conservation Treatments; 7. Exhibition and Storage

Section II: Research Priorities - Photographic Materials Group (sort by Priority 1's)

Research Priorities	Average	1's	2's	3's	4's	5's
3. Cleaning with aqueous solutions (soaps, ammonia, etc	1.88	32	11	10	3	3
5. Optimum exhibition parameters	1.89	30	5	15	3	1
5. Effects of buffered paper in contact with prints	1.97	29	13	9	6	2
3. Surface cleaning using organic solvents (protein bind	1.79	28	14	12	2	0
4. Effects of solvents on color photographs	1.87	27	11	9	4	1
5. Effects of light levels	1.96	27	11	11	4	2
4. Treatment of stained photographs	1.91	25	15	13	2	1
4. Effects of solvents on resin coated papers	1.98	25	14	11	5	1
2. Consolidation of damaged binders on paper prints	2.00	25	14	12	2	3
4. Effects of water on modern photographs	2.00	25	11	14	4	1
3. Surface cleaning using water (protein binders)	1.85	24	17	12	2	0
4. Stability of Xerox or ink jet prints	2.09	24	17	9	4	4
3. Use of erasers for cleaning	2.13	23	11	11	8	1
1. Monitoring methods for color changes	2.13	23	9	14	5	2
5. Mounting procedures and materials	2.06	21	18	7	4	3
5. Effects of microclimates in storage containers	2.33	21	10	15	8	3
4. Effects of drying methods on modern photos	2.06	20	14	13	5	0
3. Removal of adhesives from binder side of prints	2.19	18	16	11	7	1
5. Optimum cold storage parameters	2.33	17	11	14	7	2
1. Identification of photographic print materials	2.42	17	14	9	6	6
1. Labeling procedures (safety, permanence, etc.)	2.52	16	12	11	7	6
3. Cleaning photos after storage in poor plastic sleeves	2.55	16	9	14	6	6
2. Treatment of severe curling	2.36	15	17	15	7	2
2. Consolidation of damaged binders on glass plate neg	2.44	15	16	12	6	5
3. Comparison of drying methods (protein binders)	2.38	14	12	7	4	5
1. Spot tests for coating identification	2.58	13	16	12	9	5
3. Determination of the effects of heat	2.58	11	13	21	3	5
2. Treatment of glass corrosion	2.94	10	10	13	13	7
5. Storage of nitrate and acetates	2.90	9	11	15	10	7
5. Storage of thermofaxes	3.00	9	11	11	9	10
3. Use of coatings and their effects	2.76	8	15	9	8	6
4. Isolating varnishes for in-painting	3.20	7	8	15	6	13
1. Archaeometric and art historical analyses	3.73	5	2	11	8	18
5. Substitute components for case photographs	3.09	4	12	15	8	8
1. Identification of overpaint and restorations	3.79	3	3	12	12	17

Section Headers: 1. Analysis and Examination; 2 Stabilization; 3. Gelatin, Albumen and Collodion Binders; 4. Modern Photographs; 5. Exhibition and Storage

Section III: Materials Evaluation
(sort by Photographic Materials Group selections)

	ASG	BPG	OSG	PSG	PMG	TSG	WAG	TOTAL
Materials by composition								
cellulose ethers	2	38	23	12	22	18	11	126
polyethylene	2	15	26	5	18	29	7	102
polyesters	2	30	19	23	18	27	5	124
polystyrenes	0	22	12	15	17	14	5	85
acrylic emulsions	13	24	35	45	16	10	13	156
polypropylene	1	15	12	5	15	5	2	55
ethylene vinyl acetates	5	32	27	57	14	21	7	163
polyvinyl acetates	8	28	22	45	12		19	134
acrylic emulsion paints	7	21	30	46	9	8	12	133
acrylic resins	14	12	48	51	8	7	31	171
polyurethanes	4	6	27	6	7	12	16	78
cellulose esters	0	12	7	6	7	5	6	43
organo-silicon (silicate ester)	23	0	0	0	6	0	0	29
epoxies	23	5	72	25	4	5	45	179
acrylic resin paints	7	8	17	35	4	4	10	85
polyvinyl butyral	0	0	25	0	0	0	0	25
silica emulsions	11	0	0	0	0	0	0	11
polyvinyl alcohols	5	0	0	0	0	0	0	5
Materials by usage								
dry mounting adhesives		37	5	12	37	2	1	94
paper (glassine, Permalife)		44			33	13		90
pressure sensitive adhesives		49	21		29	7	2	108
proprietary cleaning products	22				28			50
hot (heat)-set adhesives		34	15	6	25	2	6	88
plastic sleeves, sheets, supports		19	11		22	6	3	61
cold lining (set) adhesive		21	21	60	21		8	131
cabinets (wood, metal, plastic)					19			19
solander boxes		16			18	3		37
biocides/fungicides/pesticides	14	35	41	24	18	13	15	160
mat boards		20			16	0		36
corrosion inhibitors, anti-oxidants, etc	14		69		16		19	118
in-painting materials		21	34	59	15		32	161
enzymes	11	37	28	31	14	27	19	167
surfactants/detergents/soaps	18	34	54	55	14	39	19	233
starch paste/seaweed	11	34	16		12	8	3	84
protective finishes and coatings	25				12			37
linen tape		11			10	2		23
lining materials		20	3	39	9			71
hot-melt adhesives		6	21	30	7	7	10	81
laminating plastics		7			4			11
netting (nylon, polyester)		3			0	21		24

Section I: Technical Updates - Textiles Group
(sort by TOTAL selections)

Technical updates	TOTAL	No desig.	Publish	Workshop	Symposia
5. Non-submergent cleaning methods	49	9	7	23	10
5. Cleaning deteriorated silk	37	7	11	11	8
5. Mounting and lining techniques	31	5	9	10	7
5. Wet cleaning	28	5	8	8	7
2. Pretesting and evaluation for cleaning	27	5	12	7	3
5. Consolidation of powdered silk	27	6	7	10	4
4. Synthetics and man-made materials	26	5	17	0	4
2. Optimum use of deionized water	26	3	13	5	5
3. Tide lines staining and foxing	26	3	12	7	4
2. Identification of adhesives	26	3	4	16	3
1. Chemistry for conservators	25	7	7	8	3
2. Volatiles in display cases	24	1	14	1	8
1. Pest control	22	1	14	4	3
4. Display, packing and storage materials	22	4	12	4	2
1. Environmental monitoring and control	22	4	11	3	4
3. Deterioration due to acidic or alkaline conditions	21	2	15	1	3
3. Fiber breakdown	20	3	13	0	4
4. Leather	20	4	11	2	3
2. Analytical techniques	20	2	9	7	2
2. Identification of dyes	18	1	5	8	4
1. UV/ light protection	17	2	13	2	0
3. Manufacturing and processing methods	17	2	12	0	3
4. Archaeological textiles	16	2	8	2	4
5. Treating losses as a result of mordant degradation	16	2	6	3	5
1. Conservation equipment	16	2	6	5	3
2. Moisture regain and retention	13	0	9	2	2
2. Soil redeposition	13	0	8	3	2
2. pH testing methods	13	1	5	7	0
1. Research: funding, methodology and writing	10	1	5	3	1

Sections: 1. General; 2. Analysis and Examination; 3. Deterioration; 4. Material Properties; 5. Conservation Treatment and Stabilization

Section II: Research Priorities - Textiles Group
(sort by Priority 1's)

Sec.# Research Priorities	Average	1's	2's	3's	4's	5's
2. New types of low-tech methodologies	1.60	32	17	3	2	1
3. Wet cleaning methods for textiles	1.71	30	11	7	4	0
1. Deterioration due to stains	1.85	27	12	12	2	1
3. Wet cleaning to remove stains and residues	1.77	26	20	7	3	0
3. Dry cleaning methods for textiles	2.02	26	14	4	7	3
1. Deterioration due to cleaning	1.91	22	18	9	4	0
3. Adhesive removal methods	2.11	21	15	7	10	0
3. Wet cleaning to neutralize acidic fibers	2.04	20	17	10	6	0
3. Wet cleaning with enzymes	1.90	18	21	5	4	0
3. Wet cleaning with surfactants or other additives	1.90	18	22	5	4	0
1. Deterioration due to storage	2.33	18	11	10	3	6
3. Choice of materials for lining and mounting	2.33	18	15	10	7	4
1. Deterioration due to environmental conditions	2.10	17	20	5	4	3
3. Wet cleaning with other solvents	2.17	16	16	15	5	0
3. Wet cleaning of composite materials	2.21	16	14	11	6	1
2. Identification of sizes and finishes	2.31	16	13	11	7	2
1. Deterioration due to residues	2.22	15	15	15	4	1
3. Stress associated with lining and mounting fabrics	2.38	15	18	13	7	3
3. Pest control	2.65	11	10	12	10	3
3. Preparation and application of adhesives	2.44	10	19	9	8	2
1. Deterioration due to pH	2.36	9	19	18	3	1
3. Storage, display and shipping methods and materials	2.77	9	16	12	10	6
1. Deterioration due to weighting of silk	2.91	9	8	13	10	6
3. Leather	2.83	8	13	12	9	6
1. Deterioration due to finishes (new and old)	2.69	7	15	16	6	4
2. identification and provenance of metallic additions	2.89	7	11	12	10	5
2. Identification of weighted silk	3.00	7	9	14	11	6
2. New advances in high-tech resources	2.68	6	21	12	5	6
1. Deterioration due to creasing	3.13	6	8	15	10	8
1. Deterioration due to mordants, dyes or inks	2.87	5	10	19	8	3
1. Deterioration due to bleaching	3.02	5	11	15	8	7
3. Wet cleaning of archaeological material	3.40	4	7	8	14	9
1. Deterioration due to pigments	3.53	4	5	11	13	12
3. Elasticized fiber garment parts	3.56	3	4	15	8	13
3. Marine textiles	3.95	3	2	9	9	20
1. Deterioration due to starch	3.07	1	12	17	11	3

Sections: 1. Deterioration Studies; 2 Analysis and Examination; 3. Treatment

Section III: Materials Evaluation
(sort by Textiles Specialty Group selections)

	ASG	BPG	OSG	PSG	PMG	TSG	WAG	TOTAL
Materials by composition								
polyvinyl acetates	8	28	22	45	12		19	134
polyethylene	2	15	26	5	18	29	7	102
polyesters	2	30	19	23	18	27	5	124
ethylene vinyl acetates	5	32	27	57	14	21	7	163
cellulose ethers	2	38	23	12	22	18	11	126
polystyrenes	0	22	12	15	17	14	5	85
polyurethanes	4	6	27	6	7	12	16	78
acrylic emulsions	13	24	35	45	16	10	13	156
acrylic emulsion paints	7	21	30	46	9	8	12	133
acrylic resins	14	12	48	51	8	7	31	171
epoxies	23	5	72	25	4	5	45	179
cellulose esters	0	12	7	6	7	5	6	43
polypropylene	1	15	12	5	15	5	2	55
acrylic resin paints	7	8	17	35	4	4	10	85
polyvinyl alcohols	5	0	0	0	0	0	0	5
silica emulsions	11	0	0	0	0	0	0	11
polyvinyl butyral	0	0	25	0	0	0	0	25
organo-silicon (silicate ester)	23	0	0	0	6	0	0	29
Materials by usage								
surfactants/detergents/soaps	18	34	54	55	14	39	19	233
enzymes	11	37	28	31	14	27	19	167
synthetic fabrics						27	6	33
batting materials			6			25	4	35
netting (nylon, polyester)		3			0	21		24
thread						21		21
physical adhesives (Velcro)						21		21
heat seal adhesives				58		21		79
dyes						20		20
sizes and finishes						18		18
coatings/consolidants						18		18
biocides/fungicides/pesticides	14	35	41	24	18	13	15	160
paper (glassine, Permalife)		44			33	13		90
natural fabrics (cotton)						12	2	14
starch paste/seaweed	11	34	16		12	8	3	84
hot-melt adhesives		6	21	30	7	7	10	81
pressure sensitive adhesives		49	21		29	7	2	108
plastic sleeves, sheets, supports		19	11		22	6	3	61
animal glues	6	17	19			6	35	83
solander boxes		16			18	3		37
linen tape		11			10	2		23
hot (heat)-set adhesives		34	15	6	25	2	6	88
dry mounting adhesives		37	5	12	37	2	1	94
mat boards		20			16	0		36

Section I: Technical Updates - Wooden Artifacts Group
(sort by TOTAL selections)

Technical updates	TOTAL	No desig.	Publish	Workshop	Symposia
6. Cleaning techniques	39	6	20	9	4
4. Fill materials: comparison of properties	32	4	20	6	2
2. Identification of coatings	32	4	14	13	1
4. Adhesives and consolidants	29	4	14	8	3
4. Coatings: comparison of properties	28	5	16	6	1
6. Conservation of leather and skin	26	5	7	8	6
5. Consolidation techniques	25	4	11	9	1
6. Soaps, detergents and gels (comparison, use, etc)	24	5	10	5	4
5. Use and preparation of fills	23	3	9	9	2
2. Surface examination techniques	23	3	9	10	1
1. Chemistry for conservators	21	2	13	6	0
6. Adhesive removal methods	20	3	9	6	2
6. Stain removal methods	20	4	8	5	3
2. Identification of adhesives	19	4	8	6	1
2. Pretesting and evaluation techniques for cleaning	18	4	9	4	1
6. Conservation of Oriental lacquers	18	3	6	5	4
2. Analytical techniques	18	0	6	10	2
2. Examination of layered structures	17	4	7	6	0
2. Identification of wood	17	0	6	10	1
3. Deterioration due to unconditioned environments	16	2	11	0	3
1. List of analytical service labs	14	0	14	0	0
3. Metal corrosion	14	4	6	2	2
3. Artificial aging methods	14	4	6	2	2
2. Photographic and digital imaging techniques	14	3	4	6	1
6. Enzymes (comparison, use, availability)	13	2	7	3	1
4. Historical recipes for coatings	13	2	7	2	2
1. Pest control	13	4	7	2	0
4. Historical recipes for adhesives	10	2	7	1	0
1. Conservation equipment	10	2	7	1	0
1. Environmental monitoring and control	9	1	7	1	0
1. UV/light protection	9	1	6	2	0
5. Humidification treatments	8	2	5	1	0
5. Joining techniques	8	0	4	4	0
1. Micro-biological identification and control	6	1	4	1	0
6. Preparation and application of adhesives	6	2	2	2	0
3. Protein: chemistry and deterioration	5	2	1	0	2
3. Cellulose: chemistry and deterioration	4	0	4	0	0
1. Pollutant measurement and control	4	0	3	1	0
2. Physical property testing methods	4	1	2	0	1
1. Research: funding, methodology and writing	4	0	2	1	1

Sections: 1. General; 2 Analysis and Examination; 3. Deterioration; 4. Materials; 5. Structural Treatment; 6. Conservation

Section II: Research Priorities - Wooden Artifacts Group
(sort by Priority 1's)

Research Priorities	Average	1's	2's	3's	4's	5's
1. Low-tech methods of analysis	1.55	36	10	7	2	0
2. Removal of adhesives/consolidants	1.62	35	16	6	3	0
4. Controlled removal methods of layered finishes	1.52	34	13	6	1	0
3. Reformation and rejuvenation of finishes	1.64	32	19	6	1	1
1. Finishes, paints, sizes, adhesives, etc.	1.47	31	16	4	0	0
3. Non-toxic solvents and delivery systems	1.64	27	17	4	1	1
4. Solvent cleaning techniques	1.78	25	13	10	2	0
3. Compatibility of multiple types of finishes	1.71	24	24	6	1	0
5. Properties of fills and consolidants	1.96	22	15	11	3	1
4. Surfactants (soaps, detergents,etc.)	1.84	21	18	7	3	0
5. Wood/fill interactions	1.94	21	20	8	5	0
5. Reversibility of consolidants	1.92	20	15	10	3	0
4. Gel cleaning systems	2.00	19	17	10	3	1
3. Modern coating: application and removal	1.92	18	23	10	2	0
3. Deterioration of finishes	1.96	18	22	11	1	1
2. Comparison of adhesive strength and flexibility	1.98	18	15	15	1	0
4. Effects of residual finishes or cleaning products	1.98	18	18	10	2	1
4. Stain removal (on wood, on finishes, etc.)	2.12	17	16	16	2	1
2. Effects of solvents on adhesive properties	2.08	14	24	10	1	2
4. Enzyme systems	2.30	14	14	12	5	2
2. Effects of additives on animal glue properties	2.35	13	20	9	5	4
2. Isolation of adhesives from wood surfaces	2.45	12	16	19	6	2
1. New techniques (microwave, ultrasound, etc.)	2.53	12	14	15	6	4
3. Discoloration of finishes	2.28	11	18	13	4	1
6. Removal of oxidized metal pieces	2.56	11	12	15	7	3
1. Cross section examination	2.51	10	10	19	4	2
5. Determination of key structural stress/strain points	2.48	9	17	15	4	3
6. Effects of added components	2.55	9	16	14	8	2
5. Effects of additives on fill properties	2.50	6	20	12	7	1
6. Isolation of additional components from wood	2.73	6	14	16	11	1
4. Removal and treatment of biological growths	2.95	4	10	14	14	1
1. Metals	3.24	4	7	18	8	9
2. Temperature effects on adhesives/coatings	3.35	4	7	15	12	10
Cleaning gilt surfaces	1.00	1				
Outdoor wood	1.00	1				
Display, storage and shipping materials	1.00	1				

Sections: 1. Analysis and Examination; 2 Adhesives; 3. Finishes;
4. Cleaning Methods; 5. Structural Treatments; 6. Composite Materials

Section III: Materials Evaluation
(sort by Wooden Artifacts Group selections)

	ASG	BPG	OSG	PSG	PMG	TSG	WAG	TOTAL
Materials by composition								
epoxies	23	5	72	25	4	5	45	179
acrylic resins	14	12	48	51	8	7	31	171
polyvinyl acetates	8	28	22	45	12		19	134
polyurethanes	4	6	27	6	7	12	16	78
acrylic emulsions	13	24	35	45	16	10	13	156
acrylic emulsion paints	7	21	30	46	9	8	12	133
cellulose ethers	2	38	23	12	22	18	11	126
acrylic resin paints	7	8	17	35	4	4	10	85
ethylene vinyl acetates	5	32	27	57	14	21	7	163
polyethylene	2	15	26	5	18	29	7	102
cellulose esters	0	12	7	6	7	5	6	43
polystyrenes	0	22	12	15	17	14	5	85
polyesters	2	30	19	23	18	27	5	124
polypropylene	1	15	12	5	15	5	2	55
organo-silicon (silicate ester)	23	0	0	0	6	0	0	29
polyvinyl butyral	0	0	25	0	0	0	0	25
silica emulsions	11	0	0	0	0	0	0	11
polyvinyl alcohols	5	0	0	0	0	0	0	5
Materials by usage								
fill materials			66	31			37	134
animal glues	6	17	19			6	35	83
in-painting materials		21	34	59	15		32	161
natural resin coatings		5	20	53			30	108
synthetic coatings		5	34	78			30	147
enzymes	11	37	28	31	14	27	19	167
surfactants/detergents/soaps	18	34	54	55	14	39	19	233
corrosion inhibitors, anti-oxidants, etc	14		69		16		19	118
UV/light absorbers			32	50			17	99
biocides/fungicides/pesticides	14	35	41	24	18	13	15	160
hot-melt adhesives		6	21	30	7	7	10	81
cold lining (set) adhesive		21	21	60	21		8	131
hot (heat)-set adhesives		34	15	6	25	2	6	88
synthetic fabrics						27	6	33
webbing							5	5
batting materials			6			25	4	35
plastic sleeves, sheets, supports		19	11		22	6	3	61
starch paste/seaweed	11	34	16		12	8	3	84
pressure sensitive adhesives		49	21		29	7	2	108
natural fabrics (cotton)						12	2	14
dry mounting adhesives		37	5	12	37	2	1	94
mat boards		20			16	0		36

Appendix 3
Conservation Priority Summaries
(by Specialty Group)

Architecture Specialty Group Survey.:

Purpose of Survey

The National Center for Preservation Technology and Training (NCPTT) commissioned the AIC to perform a follow-up survey of each AIC specialty group in order to develop a list of top conservation research and training priorities. The survey results and commentary will be incorporated in a final report for use by NCPTT in their conservation grant funding process as well as in the development of their in-house research program;

Tabulated Results of 54 surveys from 215 ASG members (25.2% response)

The topics receiving the highest votes in each of the three sections are listed below:

- **TECHNICAL UPDATES -**

  Publications (books, articles, proceedings, catalog chapters, etc.)
  1) Adhesives and consolidants
  2) Consolidation
  3) Coatings (compatibility, water repellency, etc.)

  Workshops
  1) Solvent cleaning (gels, mixtures, toxicity, etc.)
  2) Non-destructive site and materials examination
  3) Composite repair (wood, masonry, stone, etc.)
  4) Evaluation of existing materials

  Symposia
  1) Consolidation
  2) Masonry (stone, brick, terra-cotta, etc.).
  3) Large scale cleaning techniques
  4) Architecture finishes and paints

- **RESEARCH-**
  1) In-situ and low-tech examination practices
  2) Consolidation
  3) Cleaning masonry
  4) Repair of stone
  5) Evaluation of commercial cleaning processes
  6) Evaluation of deleterious or outdated treatment practices

- **MATERIALS -**
  1) Protective finishes
  2) Epoxies
  3) Organo-silicons
  4) Proprietary cleaning products
  5) Commercial chemical systems
  6) Surfactants, detergents and soaps

For a copy of the **1997 PTTGrants Request for Proposals** contact NCPTT, NSU Box 5682, Natchitoches, LA 71497 or visit the Center's gopher or web sites at the following addresses: gopher://gopher.ncptt.nps.gov
http://www.cr.nps.gov/ncptt/

Book and Paper Specialty Group Survey

Purpose of Survey

The National Center for Preservation Technology and Training (NCPTT) commissioned the AIC to perform a follow-up survey of each AIC specialty group in order to develop a list of top conservation research and training priorities. The survey results and commentary will be incorporated in a final report for use by NCPTT in their conservation grant funding process as well as in the development of their in-house research program.

Tabulated Results of 139 surveys from 863 BPG members (16.1% response)

The topics receiving the highest votes in each of the three sections are listed below:

- **TECHNICAL UPDATES -**

  Publications (books, articles, proceedings, catalog chapters, etc.)

  1) Adhesives and consolidants
  2) Lightfastness of dyes, inks, watercolors
  3) Stain removal methods
  4) Adhesive removal methods

  Workshops

  1) Stain removal methods
  2) Suction techniques
  3) Adhesive removal methods
  4) Lining and mounting techniques

Symposia

1) Bleaching methods
2) Adhesives and consolidants
3) Stain removal methods
4) Display, packing and storage materials

- **RESEARCH-**
  1) Long-term effects of solvent treatments
  2) Light bleaching vs. chemical bleaching
  3) Long-term effects of bleaching on paper
  4) Long-term effects of washing on paper
  5) Removal of stains (chelation, spot cleaning, etc.)
  6) Long-term effects of adhesives on paper

- **MATERIALS -**
  1) Pressure sensitive adhesives
  2) Paper (glassine, Permalife, etc.)
  3) Cellulose ethers
  4) Dry mounting adhesives
  5) Enzymes
  6) Biocides/fungicides/pesticides

For a copy of the **1997 PTTGrants Request for Proposals** contact NCPTT, NSU Box 5682, Natchitoches, LA 71497 or visit the Center's gopher or web sites at the following addresses: gopher://gopher.ncptt.nps.gov
http://www.cr.nps.gov/ncptt/

Objects Specialty Group Survey

Purpose of Survey

The National Center for Preservation Technology and Training (NCPTT) commissioned the AIC to perform a follow-up survey of each AIC specialty group in order to develop a list of top conservation research and training priorities. The survey results and commentary will be incorporated in a final report for use by NCPTT in their conservation grant funding process as well as in the development of their in-house research program.

Tabulated Results of 116 surveys from 573 OSG members (20.2% response)

The topics receiving the highest votes in each of the three sections are listed below:

- **TECHNICAL UPDATES -**

  Publications (books, articles, proceedings, catalog chapters, etc.)
  1) Adhesives: comparison of properties
  2) Fill materials: comparison of properties
  3) Low-tech analysis and examination methods
  4) Coatings: comparison of properties

  Workshops
  1) Consolidation techniques
  2) Low-tech analysis and examination methods
  3) Cleaning techniques

  Symposia
  1) Consolidation techniques
  2) Reversing past treatments
  3) Adhesives
  4) Fill materials

- **RESEARCH -**
  1) Metal protection and corrosion inhibition
  2) Cleaning with soaps, gels, and enzymes
  3) Deterioration of stone and ceramics
  4) Reversibility of fills and consolidants
  5) Long-term effects of residual materials or cleaners

- **MATERIALS -**
  1) Epoxies
  2) Corrosion inhibitors, anti-oxidants, etc.
  3) Fill materials
  4) Surfactants, detergents and soaps
  5) Acrylic resins (Acryloid, etc.)

For a copy of the **1997 PTTGrants Request for Proposals** contact NCPTT, NSU Box 5682, Natchitoches, LA 71497 or visit the Center's gopher or web sites at the following addresses:
gopher://gopher.ncptt.nps.gov
http://www.cr.nps.gov/ncptt/

Paintings Specialty Group Survey

Purpose of Survey

The National Center for Preservation Technology and Training (NCPTT) commissioned the AIC to perform a follow-up survey of each AIC specialty group in order to develop a list of top conservation research and training priorities. The survey results and commentary will be incorporated in a final report for use by NCPTT in their conservation grant funding process as well as in the development of their in-house research program.

Tabulated Results of 108 surveys from 698 PSG members (15.5% response)

The topics receiving the highest votes in each of the three sections are listed below:

- **TECHNICAL UPDATES -**

  Publications (books, articles, proceedings, catalog chapters, etc.)
  1) Cleaning systems
  2) Adhesives and consolidants
  3) Varnish removal/cleaning
  4) Solvent cleaning techniques
  5) Artists: materials and methods

  Workshops
  1) Cleaning systems
  2) Suction table techniques
  3) Varnish removal/cleaning
  4) Lining techniques

  Symposia
  1) Artists: materials and methods
  2) Varnish removal/cleaning
  3) Varnishes
  4) Lining techniques

- **RESEARCH-**
  1) Removal of insoluble varnishes
  2) Synthetic resins
  3) Stabilized varnishes
  4) Water cleaning (gels, soaps, detergents, etc.)
  5) Solvent cleaning (gels, mixtures, safety, etc.)
  6) Consolidation, interlayer and surface

- **MATERIALS**
  1) Synthetic coatings
  2) Consolidants
  3) Cold lining adhesives
  4) In-painting materials
  5) Heat set adhesives

For a copy of the **1997 PTTGrants Request for Proposals** contact NCPTT, NSU Box 5682, Natchitoches, LA 71497 or visit the Center's gopher or web sites at the following addresses: gopher://gopher.ncptt.nps.gov
http://www.cr.nps.gov/ncptt/

Photographic Materials Specialty Group Survey

Purpose of Survey

The National Center for Preservation Technology and Training (NC FIT) commissioned the AIC to perform a follow-up survey of each AIC specialty group in order to develop a list of top conservation research and training priorities. The survey results and commentary will be incorporated in a final report for use by NCPTT in their conservation grant funding process as well as in the development of their in-house research program.

Tabulated Results of 72 surveys from 351 PMG members (20.5% response)

The topics receiving the highest votes in each of the three sections are listed below:

- **TECHNICAL UPDATES -**

  Publications (books, journal articles, proceedings, catalog chapters, etc.)
  1) Components in modem photographs
  2) Storage materials and methods
  3) Properties of adhesives and consolidants
  4) Low-tech analysis and examination methods
  5) Dry cleaning techniques

  Workshops
  1) Stain removal techniques
  2) Consolidation techniques
  3) Solvent cleaning techniques
  4) Aqueous cleaning techniques

  Symposia
  1) Cold storage
  2) Digital imaging
  3) Treatment of color photographs

- **RESEARCH -**
  1) Cleaning with aqueous solutions (soaps, ammonia, etc.)
  2) Optimum exhibition parameters
  3) Effects of buffered paper in contact with prints
  4) Surface cleaning of protein binders using organic solvents
  5) Effects of solvents on color photographs
  6) Effects of light levels

- **MATERIALS -**
  1) Dry mounting adhesives
  2) Paper (glassine, Permalife, etc.)
  3) Pressure sensitive adhesives
  4) Proprietary cleaning products
  5) Heat-set adhesives

For a copy of the **1997 PTTGrants Request for Proposals** contact NCPTT, NSU Box 5682, Natchitoches, LA 71497 or visit the Center's gopher or web sites at the following addresses: gopher://gopher.ncptt.nps.gov
http://www.cr.nps.gov/ncptt/

Textile Specialty Group Survey

Purpose of Survey

The National Center for Preservation Technology and Training (NCPTT) commissioned the AIC to perform a follow-up survey of each AIC specialty group in order to develop a list of top conservation research and training priorities. The survey results and commentary will be incorporated in a final report for use by NCPTT in their conservation grant funding process as well as in the development of their in-house research program.

Tabulated Results of 61 surveys from 254 TSG members (24.0% response)

The topics receiving the highest votes in each of the three sections are listed below:

- TECHNICAL UPDATES -

  Publications (books, articles, proceedings, catalog chapters, etc.)
  1) Synthetics and man-made materials
  2) Deterioration due to acid or alkaline conditions
  3) Volatiles in display cases
  4) Pest control

  Workshops
  1) Non-submergent cleaning methods
  2) Identification of adhesives
  3) Cleaning deteriorated silk
  4) Consolidation of powdered silk

  Symposia
  1) Non-submergent cleaning methods
  2) Cleaning deteriorated silk
  3) Mounting and lining techniques
  4) Wet cleaning methods

- **RESEARCH -**
  1) Low-tech methods for analysis and examination
  2) Wet cleaning methods for textiles
  3) Deterioration due to stains
  4) Wet cleaning to remove stains and residues
  5) Dry cleaning methods for textiles
  6) Deterioration due to cleaning

- **MATERIALS -**
  1) Surfactants/detergents/soaps
  2) Polyethylenes
  3) Polyesters
  4) Enzymes
  5) Synthetic fabrics
  6) Batting materials

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http://www.cr.nps.gov/ncptt/

Wooden Artifact Specialty Group Survey

Purpose of Survey

The National Center for Preservation Technology and Training (NCPTT) commissioned the AIC to perform a follow-up survey of each AIC specialty group in order to develop a list of top conservation research and training priorities. The survey results and commentary will be incorporated in a final report for use by NCPTT in their conservation grant funding process as well as in the development of their in-house research program.

Tabulated Results of 64 surveys from 302 WAG members (21.2% response)

The topics receiving the highest votes in each of the three sections are listed below:

- **TECHNICAL UPDATES -**

  Publications (books, articles, proceedings, catalog chapters, etc.)
  1) Cleaning techniques
  2) Fill materials: comparison of properties
  3) Coatings: comparison of properties
  4) Adhesives and consolidants
  5) Lists of supplies, equipment, analytical service labs

  Workshops
  1) Identification of coatings
  2) Surface examination techniques
  3) Analytical techniques
  4) Identification of wood

  Symposia
  1) Conservation of leather and skin
  2) Cleaning techniques
  3) Soaps/detergents/gels
  4) Conservation of Oriental lacquers

- **RESEARCH-**
  1) Low-tech analysis and examination methods
  2) Removal of adhesives/consolidants
  3) Controlled removal methods for layered finishes
  4) Reformation and rejuvenation of finishes
  5) Analysis of finishes, paints, sizes, adhesives, etc.
  6) Solvent cleaning techniques (mixtures, safe-solvent delivery systems, etc.)

- **MATERIALS -**
  1) Epoxies
  2) Fill materials
  3) Animal glues
  4) In-painting materials
  5) Acrylic resins (Acryloid, etc.)

For a copy of the **1997 PTTGrants Request for Proposals** contact NCPTT, NSU Box 5682, Natchitoches, LA 71497 or visit the Center's gopher or web sites at the following addresses: gopher://gopher.ncptt.nps.gov
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Survey to Determine Funding Priorities for NCPTT

RETURN BY MAY 3, 1996

SECTION III: Materials Evaluation. PMG

Please choose a maximum of 10 items on this page for comprehensive evaluation.

Polymer groups

- ☐ acrylic resin paints (Magna, etc.)
- ☐ acrylic emulsion paints (Liquitex, Golden, etc.)
- ☐ acrylic resins (Acryloid, etc.)
- ☐ acrylic emulsions (Rhoplex, etc.)
- ☐ cellulose ethers (methyl cellulose, Klucel, etc.)
- ☐ cellulose esters (cellulose acetate, etc.)
- ☐ epoxies (Araldite, etc.)
- ☐ ethylene vinyl acetates (BEVA, Elvace, etc.)
- ☐ polyesters (Mylar, Melinex, netting, lining, etc.)
- ☐ polyethylene (Ethafoam, storage sleeves, etc.)
- ☐ polypropylene (sleeves, lining, etc.)
- ☐ polystyrene (Styrofoam, Fome-cor, etc.)
- ☐ polyurethane (coatings, foam, elastomers, etc.)
- ☐ polyvinyl acetates (AYAA, AYAF, etc.)
- ☐ silicate esters (consolidants, etc.)

General Classes

Treatment related materials

- ☐ biocides and fungicides
- ☐ corrosion inhibitors
- ☐ coatings
- ☐ in-painting materials
- ☐ commercial cleaners (Kodak film cleaner, etc.)
- ☐ enzymes
- ☐ surfactants (soaps, detergents, etc.)
- ☐ animal glues
- ☐ starch/seaweed
- ☐ dry mounting adhesives
- ☐ cold-set adhesives
- ☐ heat-set adhesives
- ☐ hot-melt adhesives
- ☐ pressure-sensitive adhesives

Storage and support materials

- ☐ cabinets (wood, metal, plastic, etc.)
- ☐ paper (glassine, Permalife, buffered, etc.)
- ☐ lining materials
- ☐ laminating plastics
- ☐ linen tapes
- ☐ mat boards
- ☐ netting (nylon, polyester, etc.)
- ☐ plastic sleeves/sheets/solid supports
- ☐ solander boxes

Textile Specialty Group Survey

Purpose of Survey

The National Center for Preservation Technology and Training (NCPTT) commissioned the AIC to perform a follow-up survey of each AIC subgroup in order to develop a list of top conservation research and training priorities. The NCPTT is federally mandated to undertake and direct research relevant to historic preservation and, to this end, must establish research priorities in various scientific disciplines.

End Use of Survey

The results of this survey will be discussed at the Textile Specialty Group business meeting at the AIC annual meeting in Norfolk, VA. After the discussion, a final report will be written and sent to NCPTT. This top priority list will be used to assist NCPTT in their conservation grant funding process as well as in the development of their in-house research program.

Return Date

This survey needs to be returned to the AIC office by May 3, 1996.

Contents

This survey contains three sections:

- **TECHNICAL UPDATES** - A technical update compiles information about a particular subject to bring the reader or participant up to date in that area. It can point out areas where research is needed.

- **RESEARCH** - A research project provides new information on a specific topic. Each check box line presents a general category of interest that can encompass several specific research projects.

- **MATERIALS** - Materials are listed by general groups rather than as specific commercial products to encourage comparative evaluations such as the comparison of aging characteristics or working properties.

NCPTT (The National Center for Preservation Technology and Training)

NCPTT is an interdisciplinary effort by the National Park Service to advance the practice of historic preservation in the fields of archeology, historic architecture, landscapes, materials conservation and history. The Center's mission is implemented through its components: research, training and information management The Center's activities include PTTGrants which are one-year grants awarded annually. Proposals for research and training projects are encouraged that develop and distribute preservation skills and technologies for the identification, evaluation, conservation and interpretation of cultural resources.

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THE AMERICAN INSTITUTE FOR CONSERVATION OF HISTORIC AND ARTISTIC WORKS
1717 K STREET N.W. SUITE 301 WASHINGTON D.C. 20006 (202)452-9545 FAX (202)452-9328

Survey to Determine Conservation Funding Priorities for NCPTT

RETURN BY MAY 3, 1996

SECTION I: TECHNICAL UPDATES - TEXTILE GROUP

Please choose a maximum of 10 reviews and updates most critical to your work.
On your selection, mark the best presentation format, I.e. books/articles, workshops, symposia

1. General

Book/article	Workshop	Symposia	
☐B	☐W	☐S	Chemistry for conservators
☐B	☐W	☐S	Conservation equipment
☐B	☐W	☐S	Research: funding, methodology and writing
☐B	☐W	☐S	Environmental monitoring and control
☐B	☐W	☐S	Pest control
☐B	☐W	☐S	UV light protection

2. Analysis and Examination

Book/article	Workshop	Symposia	
☐B	☐W	☐S	Analytical techniques
☐B	☐W	☐S	Identification of dyes
☐B	☐W	☐S	Identification of adhesives
☐B	☐W	☐S	pH testing methods
☐B	☐W	☐S	Pretesting and evaluation for cleaning
☐B	☐W	☐S	Optimum use of deionized water
☐B	☐W	☐S	Volatiles from display cases (e.g., from dyed fabrics)
☐B	☐W	☐S	Moisture regain and retention
☐B	☐W	☐S	Soil redeposition

3. Deterioration

Book/article	Workshop	Symposia	
☐B	☐W	☐S	Fiber breakdown (e.g. the chemistry and deterioration of cellulose or protein)
☐B	☐W	☐S	Manufacturing and processing methods
☐B	☐W	☐S	Tide line staining and foxing
☐B	☐W	☐S	Acidic or alkaline conditions

4. Material Properties

Top Text?	Book/article	Workshop	Symposia	
☐Y	☐B	☐W	☐S	Archaeological textiles
☐Y	☐B	☐W	☐S	Display, packing and storage materials
☐Y	☐B	☐W	☐S	Leather
☐Y	☐B	☐W	☐S	Synthetics and man-made materials (e.g., rayons, nylons, spun-polyester felt/batting)

5. Conservation Treatment and Stabilization

Top Text	Book/article	Workshop	Symposia	
☐Y	☐B	☐W	☐S	Mounting and lining techniques
☐Y	☐B	☐W	☐S	Cleaning deteriorated silk
☐Y	☐B	☐W	☐S	Treating losses as a result of mordant degradation
☐Y	☐B	☐W	☐S	Non-submergent cleaning methods
☐Y	☐B	☐W	☐S	Wet cleaning
☐Y	☐B	☐W	☐S	Consolidation of powdered silk

Comments/additions:

Survey to Determine Conservation Funding Priorities for NCPTT

RETURN BY MAY 3, 1996

SECTION II: RESEARCH PRIORITIES of the TEXTILE GROUP

Please assign a HIGHEST priority rating only to topics most critical to your work.

highest ——— lowest **1. Deterioration Studies**

A study of textile deterioration as it is affected by:

□1 □2 □3 □4 □5	Stains
□1 □2 □3 □4 □5	Residues
□1 □2 □3 □4 □5	Cleaning
□1 □2 □3 □4 □5	pH
□1 □2 □3 □4 □5	Mordants, dyes or inks
□1 □2 □3 □4 □5	Weighting of silk
□1 □2 □3 □4 □5	Creasing
□1 □2 □3 □4 □5	Bleaching
□1 □2 □3 □4 □5	Storage
□1 □2 □3 □4 □5	Environmental conditions
□1 □2 □3 □4 □5	Finishes (new and old)
□1 □2 □3 □4 □5	Starch
□1 □2 □3 □4 □5	Pigments (e.g., on Tibetan Thankas)

highest ——— lowest **2. Analysis and Examination**

Projects that develop analysis methods for or evaluate the use of :

□1 □2 □3 □4 □5	Identification of sizes and finishes
□1 □2 □3 □4 □5	Identification of weighted silk
□1 □2 □3 □4 □5	Identification and provenance of metallic additions
□1 □2 □3 □4 □5	Style and composition of upholstery webbing
□1 □2 □3 □4 □5	New types of low-tech methodologies
□1 □2 □3 □4 □5	New advances in high-tech resources

highest ——— lowest **3. Treatment**

Projects that develop new treatment methods or evaluate procedures currently in use :

□1 □2 □3 □4 □5	Dry cleaning methods for textiles
□1 □2 □3 □4 □5	Wet cleaning methods for textiles
□1 □2 □3 □4 □5	....with enzymes
□1 □2 □3 □4 □5	....with surfactants and other additives
□1 □2 □3 □4 □5	....with other solvents
□1 □2 □3 □4 □5	....for the purpose of neutralizing acidic fibers
□1 □2 □3 □4 □5	....for archaeological materials
□1 □2 □3 □4 □5	....for composite materials
□1 □2 □3 □4 □5	....to remove stains and residues
□1 □2 □3 □4 □5	Pest control
□1 □2 □3 □4 □5	Preparation and application of adhesives
□1 □2 □3 □4 □5	Adhesive removal methods
□1 □2 □3 □4 □5	Choice of materials for lining and mounting
□1 □2 □3 □4 □5	Stress associated with lining and mounting fabrics
□1 □2 □3 □4 □5	Storage, display and shipping methods and materials
□1 □2 □3 □4 □5	Leather
□1 □2 □3 □4 □5	Elasticized fiber garment parts
□1 □2 □3 □4 □5	Marine textiles

Comments or additions

Survey to Determine Conservation Funding Priorities for NCPTT

RETURN BY MAY 3, 1996

SECTION III: Materials Evaluation - Textile Group

Please choose a maximum of 10 items on this page for comprehensive evaluation.

Polymer groups

- ☐ acrylic resin paints (Magna, etc.)
- ☐ acrylic emulsion paints (Liquitex, Golden, etc.)
- ☐ acrylic resins (Acryloid, etc.)
- ☐ acrylic emulsions (Rhoplex, etc.)
- ☐ cellulose ethers (methyl cellulose, Klucel, etc.)
- ☐ cellulose esters (cellulose acetate, etc.)
- ☐ epoxies (Araldite, etc.)
- ☐ ethylene vinyl acetate (BEVA, Elvace, etc.)
- ☐ polyesters (Mylar, Melinex, netting, lining, etc.)
- ☐ polyethylene (Ethafoam, storage sleeves, etc.)
- ☐ polypropylene (sleeves, lining, etc.)
- ☐ polystyrene (styrofoam, Fome-cor, etc.)
- ☐ polyurethane (coatings, foam, elastomers, etc.)

General Classes

Treatment related materials

- ☐ biocides and fungicides
- ☐ sizes and finishes
- ☐ dyes
- ☐ coatings/consolidants
- ☐ enzymes
- ☐ surfactants (detergents, soaps, etc.)
- ☐ animal glues
- ☐ starch paste/seaweed
- ☐ dry mounting adhesives
- ☐ heat-seal adhesives (BEVA, PVA, etc)
- ☐ cold-set adhesives (Elmer's glue, etc.)
- ☐ hot-set adhesives (epoxy resins, etc.)
- ☐ hot-melt adhesives (wax resins)
- ☐ pressure-sensitive adhesives
- ☐ physical adhesives (Velcro)

Storage and support materials

- ☐ batting materials
- ☐ paper (glassine, Permalife, buffered, etc.)
- ☐ cotton fabric
- ☐ synthetic fabrics (Stabilites, etc.)
- ☐ linen tapes
- ☐ mat boards
- ☐ netting (nylon, polyester, etc.)
- ☐ plastic sleeves/sheets/solid supports
- ☐ solander boxes
- ☐ thread

Additional Materials

Wooden Artifacts Specialty Group Survey

Purpose of Survey

The National Center for Preservation Technology and Training (NCPTT) commissioned the AIC to perform a follow-up survey of each AIC subgroup in order to develop a list of top conservation research and training priorities. The NCPTT is federally mandated to undertake and direct research relevant to historic preservation and, to this end, must establish research priorities in various scientific disciplines.

End Use of Survey

The results of this survey will be discussed at the Wooden Artifacts Specialty Group business meeting at the AIC annual meeting in Norfolk, VA. After the discussion, a final report will be written and sent to NCPTT. This top priority list will be used to assist NCPTT in their conservation grant funding process as well as in the development of their in-house research program.

Return Date

This survey needs to be returned to the AIC office by May 3, 1996.

Contents

This survey contains three sections:

- **TECHNICAL UPDATES** - A technical update compiles information about a particular subject to bring the reader or participant up to date in that area. It can point out areas where research is needed.
- **RESEARCH**- A research project provides new information on a specific topic. Each check box line presents a general category of interest that can encompass several specific research projects.
- **MATERIALS** - Materials are listed by general groups rather than as specific commercial products to encourage comparative evaluations such as the comparison of aging characteristics or working properties.

NCPTT (The National Center for Preservation Technology and Training)

NCPTT is an interdisciplinary effort by the National Park Service to advance the practice of historic preservation in the fields of archeology, historic architecture, landscapes, materials conservation and history. The Center's mission is implemented through its components: research, training and information management The Center's activities include PTTGrants which are one-year grants awarded annually. Proposals for research and training projects are encouraged that develop and distribute preservation skills and technologies for the identification, evaluation, conservation and interpretation of cultural resources.

For a copy of the **1997 PTTGrants Request for Proposals** contact NCPTT, NSU Box 5682, Natchitoches, LA 71497 or visit the Center's gopher or web sites at the following addresses:

gopher://gopher.ncptt.nps.gov
http://www.cr.nps.gov/ncptt/

THE AMERICAN INSTITUTE FOR CONSERVATION OF HISTORIC AND ARTISTIC WORKS
1717 K STREET N.W. SUITE 301 WASHINGTON D.C. 20006 (202)452-9545 FAX (202)452-9328

Survey to Determine Conservation Funding Priorities for NCPTT

RETURN BY MAY 3, 1996

SECTION 1: TECHNICAL UPDATES - WOODEN ARTIFACTS GROUP

Please choose a maximum of 10 reviews and updates most critical to your work.
On your selection, mark the best presentation format, i.e. books/articles, workshops. symposia

Top Ten?	Book/ article	Work shop	Sym- posia	1. General
☐ Y	☐ B	☐ W	☐ S	Chemistry for conservators
☐ Y	☐ B	☐ W	☐ S	Conservation equipment
☐ Y	☐ B	☐ W	☐ S	List of analytical service labs
☐ Y	☐ B	☐ W	☐ S	Research: funding, methodology and writing
☐ Y	☐ B	☐ W	☐ S	Environmental monitoring and control
☐ Y	☐ B	☐ W	☐ S	Pollutant measurement and control
☐ Y	☐ B	☐ W	☐ S	Pest control
☐ Y	☐ B	☐ W	☐ S	Micro-organism identification and control
☐ Y	☐ B	☐ W	☐ S	UV light protection

Top Ten?	Book/ article	Work shop	Sym- posia	2. Analysis and Examination
☐ Y	☐ B	☐ W	☐ S	Analytical techniques
☐ Y	☐ B	☐ W	☐ S	Physical property testing methods
☐ Y	☐ B	☐ W	☐ S	Surface examination techniques
☐ Y	☐ B	☐ W	☐ S	Examination of layered structures
☐ Y	☐ B	☐ W	☐ S	Identification of wood
☐ Y	☐ B	☐ W	☐ S	Identification of adhesives
☐ Y	☐ B	☐ W	☐ S	Identification of coatings
☐ Y	☐ B	☐ W	☐ S	Photographic and digital imaging techniques
☐ Y	☐ B	☐ W	☐ S	Pretesting and evaluation techniques for cleaning

Top Ten?	Book/ article	Work shop	Sym- posia	3. Deterioration
☐ Y	☐ B	☐ W	☐ S	Artificial aging methods
☐ Y	☐ B	☐ W	☐ S	Cellulose: chemistry and deterioration
☐ Y	☐ B	☐ W	☐ S	Protein: chemistry and deterioration
☐ Y	☐ B	☐ W	☐ S	Metal corrosion
☐ Y	☐ B	☐ W	☐ S	Deterioration due to unconditioned environments

Top Ten?	Book/ article	Work shop	Sym- posia	4. Materials
☐ Y	☐ B	☐ W	☐ S	Adhesives and consolidants
☐ Y	☐ B	☐ W	☐ S	Coatings: comparison of properties
☐ Y	☐ B	☐ W	☐ S	Fill materials: comparison of properties
☐ Y	☐ B	☐ W	☐ S	Historical recipes for adhesives
☐ Y	☐ B	☐ W	☐ S	Historical recipes for coatings

Top Ten?	Book/ article	Work shop	Sym- posia	5. Structural Treatments
☐ Y	☐ B	☐ W	☐ S	Joining techniques
☐ Y	☐ B	☐ W	☐ S	Humidification treatments
☐ Y	☐ B	☐ W	☐ S	Consolidation techniques
☐ Y	☐ B	☐ W	☐ S	Use and preparation of fills

Top Ten?	Book/ article	Work shop	Sym- posia	6. Conservation
☐ Y	☐ B	☐ W	☐ S	Adhesive removal methods
☐ Y	☐ B	☐ W	☐ S	Stain removal methods
☐ Y	☐ B	☐ W	☐ S	Cleaning techniques
☐ Y	☐ B	☐ W	☐ S	Soaps, detergents and gels (comparison, use, etc.)
☐ Y	☐ B	☐ W	☐ S	Enzymes (comparison, use, availability, etc)
☐ Y	☐ B	☐ W	☐ S	Preparation and application of adhesives
☐ Y	☐ B	☐ W	☐ S	Conservation of leather and skin
☐ Y	☐ B	☐ W	☐ S	Conservation of Oriental lacquers

Comments:

Survey to Determine Conservation Funding Priorities for NCPTT

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SECTION II: RESEARCH PRIORITIES - WOODEN ARTIFACTS GROUP

Please assign a HIGHEST priority rating only to topics most critical to your work.

highest ---------- lowest **1. Analysis and Examination**

Projects that develop analysis methods for or evaluate the use of :

- ☐1 ☐2 ☐3 ☐4 ☐5 Low tech methods of analysis
- ☐1 ☐2 ☐3 ☐4 ☐5 Finishes, paints, sizes, adhesives, etc.
- ☐1 ☐2 ☐3 ☐4 ☐5 Cross sections
- ☐1 ☐2 ☐3 ☐4 ☐5 Metals
- ☐1 ☐2 ☐3 ☐4 ☐5 New techniques (microwave, ultrasound, etc)

highest ---------- lowest **2. Adhesives**

Projects that develop methods for or evaluate:

- ☐1 ☐2 ☐3 ☐4 ☐5 Effects of extreme temperatures on adhesives
- ☐1 ☐2 ☐3 ☐4 ☐5 Removal of adhesives and consolidants
- ☐1 ☐2 ☐3 ☐4 ☐5 Isolation of adhesives from wood surfaces
- ☐1 ☐2 ☐3 ☐4 ☐5 Comparison of adhesive strength and flexibility
- ☐1 ☐2 ☐3 ☐4 ☐5 Effects of additives on animal glue properties
- ☐1 ☐2 ☐3 ☐4 ☐5 Effects of solvents on adhesive properties

highest ---------- lowest **3. Finishes**

Projects that develop methods for or evaluate the use of :

- ☐1 ☐2 ☐3 ☐4 ☐5 Non-toxic solvents for coatings
- ☐1 ☐2 ☐3 ☐4 ☐5 Reformation and rejuvenation of finishes
- ☐1 ☐2 ☐3 ☐4 ☐5 Compatibility of multiple types of finishes
- ☐1 ☐2 ☐3 ☐4 ☐5 Modern coatings: application and removal
- ☐1 ☐2 ☐3 ☐4 ☐5 Discoloration of finishes
- ☐1 ☐2 ☐3 ☐4 ☐5 Deterioration of finishes

highest ---------- lowest **4. Cleaning methods**

Projects that develop methods for or evaluate the use of :

- ☐1 ☐2 ☐3 ☐4 ☐5 Solvent cleaning techniques
- ☐1 ☐2 ☐3 ☐4 ☐5 Enzyme systems
- ☐1 ☐2 ☐3 ☐4 ☐5 Surfactants (soaps and detergents)
- ☐1 ☐2 ☐3 ☐4 ☐5 Gel cleaning systems
- ☐1 ☐2 ☐3 ☐4 ☐5 Effects of residual finishes or cleaning products
- ☐1 ☐2 ☐3 ☐4 ☐5 Stain removal (on wood, on finishes, etc.)
- ☐1 ☐2 ☐3 ☐4 ☐5 Removal and treatment of microbiological growths
- ☐1 ☐2 ☐3 ☐4 ☐5 Controlled removal methods of layered finishes

highest ---------- lowest **5. Structural Treatments**

Projects that develop methods for or evaluate :

- ☐1 ☐2 ☐3 ☐4 ☐5 Wood/fill interactions
- ☐1 ☐2 ☐3 ☐4 ☐5 Properties of fills and consolidants
- ☐1 ☐2 ☐3 ☐4 ☐5 Effects of additives on fill properties
- ☐1 ☐2 ☐3 ☐4 ☐5 Reversibility of consolidants
- ☐1 ☐2 ☐3 ☐4 ☐5 Determination of key structural stress/strain points

highest ---------- lowest **6. Composite Materials**

Projects that develop methods for or evaluate :

- ☐1 ☐2 ☐3 ☐4 ☐5 Removal of oxidized metal pieces
- ☐1 ☐2 ☐3 ☐4 ☐5 Effects of added components (metals, glass, upholstery, inlays, etc.) on wood
- ☐1 ☐2 ☐3 ☐4 ☐5 Isolation of additional components from wood

Comments or additions:

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SECTION III: Materials Evaluation - Wooden Artifacts Group

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Polymer groups

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- ☐ acrylic resins (Acryloid, etc.)
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- ☐ cellulose ethers (methyl cellulose, Klucel, etc.)
- ☐ cellulose esters (cellulose acetate, etc.)
- ☐ epoxies (Araldite carvable epoxy, etc.)
- ☐ ethylene vinyl acetates (BEVA, Elvace, etc.)
- ☐ polyesters (Mylar, Melinex, netting, lining, etc.)
- ☐ polyethylene (Ethafoam, storage sleeves, etc.)
- ☐ polypropylene (sleeves, lining, etc.)
- ☐ polystyrene (Styrofoam, Fome-cor, etc.)
- ☐ polyurethane (coatings, foam, elastomers, etc.)
- ☐ polyvinyl acetates (AYAA, AYAF, etc.)
- ☐ polyvinyl butyral (Butvar, etc.)

General groups

- ☐ biocides and fungicides
- ☐ corrosion inhibitors
- ☐ detergents
- ☐ enzymes
- ☐ surfactants
- ☐ animal glues (Lee Valley Tool Liquid Fish Glues, etc.)
- ☐ starch/seaweed
- ☐ dry mounting adhesives
- ☐ cold-set adhesives
- ☐ heat-set adhesives
- ☐ hot-melt adhesives
- ☐ pressure-sensitive adhesives
- ☐ fill materials
- ☐ in-painting materials
- ☐ natural resin coatings
- ☐ synthetic coatings
- ☐ UV light absorbers (Tinuvin, etc.)
- ☐ batting materials
- ☐ cellulose fabrics
- ☐ synthetic fabrics (Stabilitex, non-wovens, etc.)
- ☐ webbing
- ☐ plastic sleeves/sheets/solid supports

Additional Materials