



California Native Plant Society

CNPS POLICY

COLLECTING GUIDELINES AND DOCUMENTATION TECHNIQUES (PS-95)

Adopted 4 March 1995
Updated 5 December 2020

Problem Statement

Little or no botanical data are being gathered or supported by voucher collections on California's flora while more and more of California's botanical heritage is being lost to urban and agricultural development.

Policy

The California Native Plant Society recommends that voucher specimens be collected and stored appropriately to document floristic data included in environmental review projects and scientific studies, and that scientific documentation methods and needs should be included in academic curricula, as outlined in the following 14 recommendations.

Intent

The goal of this policy is to improve the documentation of California's flora with accessible data and quality voucher specimens placed in curated herbaria. This policy, which is a reiteration of a June 1994 workshop held to address documentation issues, is a companion policy to the CNPS "Policy on Ethics and Best Practices for Collecting Native Plants" [PS-20], adopted December 5, 2020, and "Plant Collecting for Educational Purposes" [CBAI-93b], adopted June 1993.

Implementation

Topic I: Documentation of Environmental Analyses

Recommendation 1: Environmental review projects (e.g., environmental impact reports [EIRs] and statements [EISs], environmental assessments [EAs], initial studies and negative declarations, natural environmental studies) that are conducted in the State of California and that include botanical field observations should also include voucher specimens, and/or photographic documentation consistent with existing standards, deposited in one or more herbaria listed in *Index Herbariorum*, Ed. 8 (Holmgren et al. 1990) or subsequent editions.

Recommendation 2: The thoroughness of documentation for a particular project should be commensurate to the importance of the study, but in any case should include collection of voucher specimens for target species studies and noteworthy botanical observations (e.g., range extensions; state and county records; rediscoveries).

Recommendation 3: Clients (e.g., private or public permit applicants) for whom environmental studies are conducted should be held financially responsible for the collection, identification, and curation of botanical vouchers; otherwise, there is little chance that documentation will improve.

Recommendation 4: Collection of botanical vouchers and the deposition of them in formal herbaria should be a requirement of the CEQA and NEPA processes. CNPS recommends that the responsible agencies and legislative bodies undertake a review of state and federal legislation and make appropriate amendments that will result in the collection and preparation of botanical vouchers becoming a formal part of the environmental review process.

Topic II: Documentation of Experimental Research

Recommendation 5: Preparation of botanical voucher specimens should be encouraged as an important part of the scientific process. Institutions and departments that support herbaria should develop policies regarding the deposition of vouchers by students, staff, and faculty. Support for herbaria should come not only from the host institution or department, but also from the users who deposit specimens. Agencies or corporations that fund research should be made aware of the importance of voucher specimens and should request that the preparation and curation of vouchers be included as a regular part of proposals and budgets.

Recommendation 6: Academic institutions should include in their curricula opportunities to expose students to the importance of scientific documentation and the need to prepare and preserve botanical and other biological voucher specimens. There is an urgent need to educate students in the importance and functions of systematics collections, whether these students anticipate a future in academic or applied science or want to be well-rounded citizens with understanding of experimental processes or California's natural resources.

Topic III: Presentation of Hierarchical Data on Specimen Labels

Recommendation 7: Herbarium specimen collectors and label preparers should take every opportunity to include a wide range of hierarchical geographic and habitat data on specimen labels, consistent with existing standards, that will increase the usefulness of specimens and will make access to the information possible through computerization of label data.

Recommendation 8: One category of hierarchical data associated with herbarium specimens should be that which (1) identifies the project for which the specimen serves as a voucher, (2) lists the client, agency, and/or institution associated with the project, and (3) names the report in which the specimen is cited.

Recommendation 9: Investigate the feasibility of integrating voucher specimen label data with computerization efforts such as the Consortium of California Herbaria¹ (CCH) to provide mechanisms for biogeographical and floristic studies.

Topic IV: What Will the Future Hold for Documentation?

Recommendation 10: CNPS recommends that the Consortium of California Herbaria should take an active role in organizing support for and preservation of California's herbaria.

Recommendation 11: The Consortium of California Herbaria, CNPS, and CBS should coordinate their activities toward (1) preservation of California's botanical heritage; (2) long-term support for California's botanical education and documentation centers; and (3) improved documentation of California's botanical resources through implementation of statewide policies regarding the collection, preparation, and curation of voucher specimens for academic and applied environmental and experimental botanical studies.

Recommendation 12: Local, state, and federal agencies should strengthen and expand (1) their requirements for documentation of environmental reports, particularly the requirement for voucher specimens; and (2) their relationship with academic institutions and organizations (e.g., CCH, CNPS, CBS) to assist with the professional documentation of environmental work and with the education of future agency staff and consultants; and (3) their support for herbaria that house voucher specimens, which document the botanical resources of public lands and which document the disclosures in reports required by the CEQA and NEPA processes.

Recommendation 13: Regulatory agencies and other responsible parties should consider developing a formal inter-relationship between (1) agencies or their consultants and (2) academic institutions or museums, whereby the institutions would provide for fee the botanical documentation portion of environmental reviews. Such an arrangement would reduce or eliminate any burden public agencies or private corporations might anticipate collecting and curating botanical voucher specimens, while insuring the collection and preservation of important specimens.

Recommendation 14: The academic institutions of California with botany programs and herbaria should continue and expand support for those programs and herbaria. The documentation and preservation of California's botanical heritage and the future of botanical research depend upon the education of scientists, resource managers, planners, and consultants who have strong backgrounds in professional botanical training.

Background

At the workshop entitled "The Future of California Floristics and Systematics: Collecting Guidelines and Documentation Techniques" at the Jepson Symposium convened on 4 June 1994, 14 findings and recommendations were approved by the workshop participants (51 in attendance) covering four major areas of concern: (1) documentation of environmental analyses with herbarium voucher specimens, (2) documentation of experimental research with herbarium voucher specimens; (3) presentation of hierarchical data on specimen labels; and (4) what will the future hold for documentation of California's botanical heritage?

To remedy this lack of data collection and providing substantive supporting evidence, the California Native Plant Society (CNPS) Board of Directors adopts the recommendations of the workshop. CNPS actively encourages that data collection methods be improved as recommended in order to protect California's botanical heritage. The full text of the workshop proceedings is published by the California Botanical Society (CBS) in *Madrono* 42(2).

¹ This recommendation has been realized. See: <https://ucjeps.berkeley.edu/consortium/about.html>