

First Quarterly Update – Voucher Specimen Project

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GOALS

Locate specimens in natural history collections that were collected within park boundaries in 9 parks in the Northeast Temperate Network (WEFA, MIMA, SAIR, ACAD, SAGA, SARA, ROVA, MORR, and MABI) and 5 parks in the Coastal and Barrier Island Network (CACO, ASIS, FIIS, GATE, SAHI). Link these specimen records with data in NPSpecies as baseline inventory data for the National Park Service Inventory and Monitoring (I&M) Program.

METHODS

Collection information

We obtained information about vertebrate and vascular plant natural history collections having specimens from the eastern United States. We first searched 2 web-accessible databases of natural history collections: the Index Herbariorum (IH) (<http://www.nybg.org/bsci/ih/ih.html>) and the Directory of Research Systematics Collections (DRSC) (<http://www.nbii.gov/datainfo/syscollect/drsc/>). We also sent out requests for information to several e-mail list-serves for collection and obtained a list of museum contacts from John Karrish (NPS, Philadelphia) from a similar project.

Information about natural history collections was recorded in a Microsoft Access 2000 database. Collections were listed by taxa in this database (e.g. Cornell University Museum of Vertebrates ornithology collection) where taxa-specific data were not available. Information such as size of collection, percentage computerized, contact person and address, web address, and notes about the collections were recorded. Information for many contacts was out of date and therefore was checked against information available from institutional websites or by contacting institutions directly.

Data requests

We mailed data requests to 271 collection managers and curators representing 306 collections. We requested searches be conducted for specimens originating within park boundaries. A list of parks and their localities by state and county(s) was provided with a list of requested data:

Park name
Latin name
Common name
Catalog number
Accession number
Condition of specimen
Collector name
Date of collection
Locality information
Latitude-longitude
Comments

Data were requested in Microsoft Excel format. We did not request ichthyology data because scientists at Penn State University are gathering this information for a broad set of parks in the eastern United States. Ichthyology collection information was sent to these scientists to assist in their search. Additional letters will go out if other potential sources of specimens are found. A second request for data will be made within 6 weeks of initial contact to those collection managers and curators who have not responded to initial data requests. Follow up phone calls will be made if no response is received from the second request for data. Responses were logged as they were received into the collection database.

Some collections have records that are searchable via WWW servers. Where records could be downloaded or easily copied to MS Excel files we searched collections ourselves.

Visiting museums

Records from many collections are not computerized and must be searched manually. Therefore, we randomly selected 24 collections that were not believed to be searchable by computer for manual searching. We first categorized collections of known size into small ($\leq 30,000$), medium ($\leq 195,000$), and large ($> 195,000$) by dividing this list into thirds. Four herbarium and 4 vertebrate (excluding ichthyology) collections were then selected for each size category using stratified random sampling techniques. Collections will be searched using species checklists for the northeast if organized taxonomically or searched by locality if organized in any other way.

Data manipulation

All data files were checked for errors and converted to Excel format if not done so already. Data must also be checked for relevance to study parks. We will determine if specimens were definitely collected within park boundaries, may have been collected within park boundaries, or not collected within park boundaries. Final data will then be linked with the appropriate park in NPSpecies databases.

Alan O'C

experience in curatorial functions related to natural history collections. The Research Assistant will be hired through the Patuxent WRC and operate out of Center offices in Laurel, MD.

Budget

Research Assistant, Biological Technician \$13,500
(Hire through Patuxent WRC) 1 year
@GS-5

Computer and software (this will be the property of the NPS) \$4,000

Travel \$3,000

<u>2001</u>	<u>2002.</u>
8,500 ⁰⁰	12,250,00 ⁰⁰

Report Preparation \$250

TOTAL: \$20,750

I.E., These funds, due to operational and budget constraints, will be spent over two years. Initially, the NPS will transfer \$8,500.00 to Patuxent in FY01. The remainder, \$12,250.00 will be transferred in FY02.

Literature Cited

Huber, J. T. 1998. The importance of voucher specimens, with practical guidelines for preserving specimens of the major invertebrate phyla for identification. *J. Natural History* 32:367-385.

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Winker, K., M. J. Braun, and G. R. Graves. 1996. Voucher specimens and quality control in avian molecular studies. *Ibis* 138:345-346.