



# Environment and Natural Resources Trust Fund (ENRTF)

## M.L. 2014 Work Plan

**Date of Report:** January 15, 2014  
**Date of Next Status Update Report:** January 2, 2015  
**Date of Work Plan Approval:**  
**Project Completion Date:** June 30, 2017  
**Does this submission include an amendment request?** NO

---

**PROJECT TITLE: Minnesota Breeding Bird Atlas – Final Phase**

**Project Manager:** Mark Martell  
**Organization:** Audubon Minnesota  
**Mailing Address:** One West Water St., Suite 200  
**City/State/Zip Code:** St. Paul, MN 55107  
**Telephone Number:** (651) 739-9332  
**Email Address:** mmartell@audubon.org  
**Web Address:** <http://mn.audubon.org/>

---

**Location:** Statewide

---

<b>Total ENRTF Project Budget:</b>	<b>ENRTF Appropriation:</b>	<b>\$300,000</b>
	<b>Amount Spent:</b>	<b>\$0</b>
	<b>Balance:</b>	<b>\$300,000</b>

---

**Legal Citation:** M.L. 2014, Chp. 226, Sec. 2, Subd. 05f

**Appropriation Language:**

\$300,000 the second year is from the trust fund to the commissioner of natural resources for an agreement with Audubon Minnesota to complete a statewide survey of Minnesota's breeding bird distributions through final analysis, preparation, and dissemination of information collected on an ongoing basis since 2008 on breeding birds in the state. The completed atlas must be available for download from the Internet free of charge. This appropriation is available until June 30, 2017, by which time the project must be completed and final products delivered.

**I. PROJECT TITLE:** Minnesota Breeding Bird Atlas – Final Phase

**II. PROJECT STATEMENT:** The Minnesota Breeding Bird Atlas (BBA) is a comprehensive, statewide survey of the breeding distribution of all bird species found in Minnesota. Initiated in July 2008, it has encompassed 5 field seasons and involved over 800 volunteers in data collection and other tasks. This monumental effort has cataloged the distribution and relative abundance of nearly 250 species statewide down to the 1/4 township level in MN. These data will be invaluable to improve our statewide understanding of natural resources, for conservation planning, and will serve as a guide for the growing eco-tourism industry, especially in rural areas of the state. The 175 partners that make up Bird Conservation Minnesota were involved in the planning process, and funding to date has come from the State of Minnesota through the Environment and Natural Resources Trust Fund and the Department of Natural Resources, the U.S. Fish and Wildlife Service, the Minnesota Ornithologists’ Union, the University of Minnesota’s Bell Museum and Natural Resources and Research Institute, and Audubon Minnesota.

With five years of data collection having been completed in the summer of 2013 we will now do the final analysis and dissemination of our information by: 1) synthesizing and analyzing these data, 2) preparing written analysis, maps and other graphics, and 3) upgrade our website to fully explain and make available, the information collected in the past five years. Presenting the information in electronic platforms ensures widespread access to the information in the years ahead for citizens, resource managers, and decision makers. The BBA will be an essential tool as a statewide guide for habitat protection, restoration, and management. Up to date information on breeding species will help guide efforts by local, state, and federal agencies as well as non-governmental organizations as they plan and implement efforts that affect natural resources. To the 1.8 million Minnesotans having an interest in birds the BBA will be able to provide information to guide the choice of birding destinations and expand citizen appreciation understanding of the natural history of Minnesota. As a historical record the BBA will serve as baseline data to help monitor future changes in avian distribution due to climate change, habitat changes and other factors. Because the BBA provides information at local, eco-region, and statewide scales it provides opportunities for data analysis not made available by most other sources.

**III. PROJECT STATUS UPDATES:**

**Project Status as of January 2, 2015:**

**Project Status as of June 30, 2015:**

**Project Status as of January 2, 2016:**

**Project Status as of June 30, 2016:**

**Project Status as of January 2, 2017:**

**Project Status as of June 30, 2017:**

**Overall Project Outcomes and Results: Project Revision 5/15/14 –** Moved \$9,000 from Text Writer/Editor to Audubon Office Manager to cover direct expenses in budgeting and billing for project. Moved \$4,707 from Text Writer/Editor to Project Coordinator to cover unexpected need for transition from Data Collection phase of project to Analysis and Product Development which will occur in first month of funding cycle.

**IV. PROJECT ACTIVITIES AND OUTCOMES:**

**ACTIVITY 1:** Analysis

**Description:** Over 350,000 bird observations on 250 species have been entered in the BBA database. These data will be analyzed on a species specific basis by geographic region. Data analysis will include linking habitat,

landscape, and climate data with the distribution and abundance for each species, estimation of MN breeding population with appropriate confidence intervals, summarizing available population trend information , and summarization of habitat use and landscape associations (e.g., ecological subsections). The level of analyses will vary depending on the number of observations for each species. We will have the most up to date distribution and range analysis, habitat use, and population density information available.

**Summary Budget Information for Activity 1:**

**ENRTF Budget: \$ 90,000**  
**Amount Spent: \$ 0**  
**Balance: \$ 90,000**

**Activity Completion Date:** June 30, 2015

<b>Outcome</b>	<b>Completion Date</b>	<b>Budget</b>
1. Analysis of species range	December 30, 2014	\$15,000
2. Linkage of habitat, landscape and climate data with species distribution and abundance	June 30, 2015	\$30,000
3. Analysis of habitat use and landscape associations	June 30, 2015	\$45,000

**Activity Status as of January 2, 2015:**

**Activity Status as of June 30, 2015:**

**Activity Status as of January 2, 2016:**

**Activity Status as of June 30, 2016:**

**Activity Status as of January 2, 2017:**

**Final Report Summary: June 30, 2017**

**ACTIVITY 2:** Production of text and figures

**Description:** For the website we will produce a combination of text, photos, maps, and figures to convey the analysis and information from the Breeding Bird Atlas to professionals and the general public. To do this we will bring together individuals with knowledge and expertise in data analysis, graphic display methods and other skills as necessary.

1. Text – Textual components will include an introduction, acknowledgements, methods and summary and analysis of atlas results. We will also include an acknowledgement of volunteers and funders. For each species we will include an individual species account summarizing the information from the BBA, including such things as habitat, landscape and population data.
2. Photos –A minimum of one photo will be included for each species. More may be used depending on space and availability. We anticipate getting most photos free of charge from the archives of Audubon Minnesota, the Minnesota Ornithologist’s Union and local photographers. However pictures of some rare or hard to photograph species may require purchase. All photos will have to be reviewed, cataloged, and permission for their use obtained requiring some staff time and effort.
3. Maps – A distribution map for each species with symbols for highest evidence code likely shown at the township level and another showing relative abundance as a density probability. Other maps may be produced depending on what analysis can be done with the data.
4. Figures – Additional tables and graphs with data which may be included are: statistics for evidence codes by number of blocks, population trend from Breeding Bird Survey or other relevant trends and breeding season phenology

**Summary Budget Information for Activity 2:**

**ENRTF Budget: \$ 135,000**

**Amount Spent: \$ 0**  
**Balance: \$ 135,000**

**Activity Completion Date:** June 30, 2016

<b>Outcome</b>	<b>Completion Date</b>	<b>Budget</b>
1. Writing and editing of text.	June 2016	\$ 90,000
2. Acquisition of photographs	June 30, 2015	\$ 10,000
3. Production of maps and figures	January 2, 2016	\$ 35,000

**Activity Status as of January 2, 2015:**

**Activity Status as of June 30, 2015:**

**Activity Status as of January 2, 2016:**

**Activity Status as of June 30, 2016:**

**Activity Status as of January 2, 2017:**

**Final Report Summary: June 30, 2017**

**ACTIVITY 3:** Development and creation of website

**Description:** Results from the MNBBA have been updated daily since early in the project and are already available on our website (mnbba.org). We will update this website to include species narratives, online maps, photos, and other graphic information. Website design will make results easily accessible to maximize the effective use of observational information as well as our analysis and summaries.

**Summary Budget Information for Activity 3:**

**ENRTF Budget: \$ 75,000**  
**Amount Spent: \$ 0**  
**Balance: \$ 75,000**

**Activity Completion Date:** June 30, 2017

<b>Outcome</b>	<b>Completion Date</b>	<b>Budget</b>
1. Website design and construction	June 30, 2017	\$ 50,000
2. Preparation of data and materials for website	January 2, 2017	\$ 25,000

**Activity Status as of January 2, 2015:**

**Activity Status as of June 30, 2015:**

**Activity Status as of January 2, 2016:**

**Activity Status as of June 30, 2016:**

**Activity Status as of January 2, 2017:**

**Final Report Summary: June 30, 2017**

**V. DISSEMINATION:**

**Description:** Breeding Bird Atlas data will be of interest to many people both in and outside of Minnesota. Because these individual will vary from professional ornithologists and natural resource managers, government officials and staff, birders and other outdoor enthusiasts and just curious citizens we will disseminate our analysis and BBA data through a variety of mediums. Our most focused effort will be to make our information, analysis, and products available through our website (likely to be mnbba.org) which will contain a combination of text, photos, maps, and figures to convey the analysis and information from the Breeding Bird Atlas. We will also be working through the USFWS to put raw data on the Avian Knowledge Network (AKN). The AKN is intended to draw bird survey data from around the country together in one place allowing access and use by researchers and others. The BBA is also in discussions with the University of Minnesota Press about publishing a book. We have an outline of an agreement with them and are seeking funds to publish a book.

**Status as of January 2, 2015:**

**Status as of June 30, 2015:**

**Status as of January 2, 2016:**

**Status as of June 30, 2016:**

**Status as of January 2, 2017:**

**Final Report Summary: June 30, 2017**

**VI. PROJECT BUDGET SUMMARY:**

**A. ENRTF Budget Overview:**

<b>Budget Category</b>	<b>\$ Amount</b>	<b>Explanation</b>
Personnel:	\$ 73,707	1 project manager at 20% FTE for 3 years, 1 photo manager at 17% FTE for 1 year, 1 Office Manager at 7% FTE for 3 years, 1 Project Coordinator at 8% FTE for 1 year.
Professional/Technical/Service Contracts:	\$ 221,293	NRRI for data analysis and graphics production. Text writer/editor, graphics coordinator, and website development.
Travel Expenses in MN:	\$ 3,000	Coordinating work in Twin Cities and Duluth
Other: Purchase of Copyright Photos	\$ 2,000	Photos of some rarer or hard to find birds may need to be purchased
<b>TOTAL ENRTF BUDGET:</b>	<b>\$ 300,000</b>	

**Explanation of Use of Classified Staff:** N/A

**Explanation of Capital Expenditures Greater Than \$5,000:** N/A

**Number of Full-time Equivalents (FTE) Directly Funded with this ENRTF Appropriation:** 1.25

**Number of Full-time Equivalents (FTE) Estimated to Be Funded through Contracts with this ENRTF Appropriation:** 1.5

**B. Other Funds:**

Source of Funds	\$ Amount Proposed	\$ Amount Spent	Use of Other Funds
<b>Non-state</b>			
Audubon	\$ 50,000	\$	In kind providing oversight, administration and overhead to the project.
<b>State</b>			
NRRRI	\$ 35,000	\$	In kind to oversee data analysis and produce products.
<b>TOTAL OTHER FUNDS:</b>	<b>\$85,000</b>	<b>\$</b>	

**VII. PROJECT STRATEGY:**

**A. Project Partners:** An editorial board of 3 – 5 people will be established to oversee the content of the website, and ensure accuracy, and coordinate content.

**Audubon Minnesota** – Mark Martell, Project Manager, oversee project, data synthesis, writing  
**Natural Resources Research Institute at the Univ. of MN Duluth** – Dr. Gerald J. Niemi, Professor, data analysis, synthesis, writing and general contributions

**Other primary partners not receiving funds** – Minnesota Ornithologists’ Union, U. S. Fish and Wildlife Service, Minnesota Department of Natural Resources.

**B. Project Impact and Long-term Strategy:** With information being available to land and resource managers, the public, and policy makers through a variety of medium (website, database, book) the BBA will be widely available and accessed. As baseline data for a specific period of time the BBA will prove an invaluable resource as we monitor and respond to events such as global warming in the coming years. BBA data will also prove beneficial to studies on Minnesota birds and natural resources. Birders and others will be able to use BBA data to plan trips and outings to the benefit of local communities and the travel industry. Our long-term strategy includes further data collection utilizing the volunteers and we have organized over the past years. We anticipate that information will continue to be collected by partners and others providing a unique and robust view of Minnesota’s birds.

**C. Spending History:**

Funding Source	M.L. 2008 or FY09	FY10	M.L. 2010 or FY11	M.L. 2011 or FY12-13	FY14
ENTRF	\$ 270,000		\$ 372,000	\$ 250,000	
USFWS	\$ 2,347	\$ 3,007	\$ 7,187	\$ 117,180	\$ 16,151
MN DNR	\$ 10,749	\$ 9,250			
MN Ornithologists’ Union	\$ 10,000	\$ 10,000	\$ 10,000	\$ 20,000	\$ 10,000
Audubon	\$ 11,477	\$ 5,296	\$ 15,840	\$ 46,253	\$ 26,044

**VIII. ACQUISITION/RESTORATION LIST:** N/A

**IX. VISUAL ELEMENT or MAP(S):** See attached examples of possible species write-ups and graphics

**X. ACQUISITION/RESTORATION REQUIREMENTS WORKSHEET:** N/A

**XI. RESEARCH ADDENDUM:** N/A

**XII. REPORTING REQUIREMENTS:**

Periodic work plan status update reports will be submitted no later than January 2, 2015, June 30, 2015, January 2, 2016, June 30, 2016, and January 2, 2017. A final report and associated products will be submitted between June 30 and August 15, 2017.

# Osprey



## Introduction

A fish eating bird, Ospreys are found nesting across North America, Europe, and parts of Asia and Australia on large lakes, rivers, and coasts. In North America, the densest populations occur along the Atlantic and Gulf Coasts through from Maine through Florida and in the Great Lakes region. Wintering populations are found from Florida through the Caribbean and throughout Central and South America. In Minnesota the birds build large nests at the top of both live and dead trees and increasingly use human-made structures particularly power poles, light structures and cellphone towers.

## Distribution

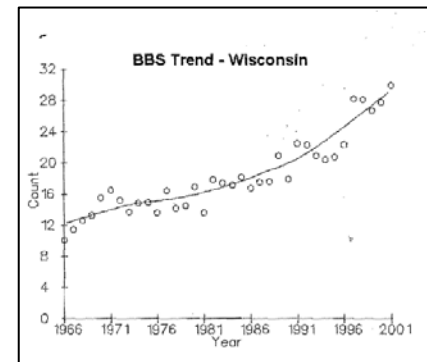
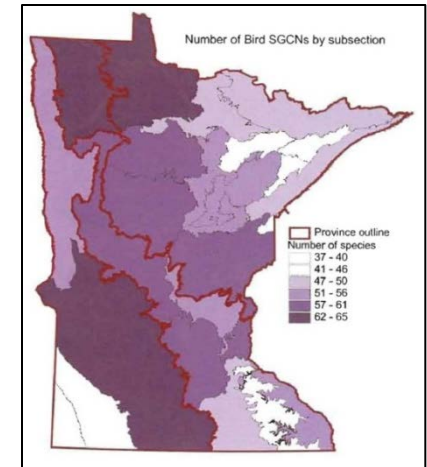
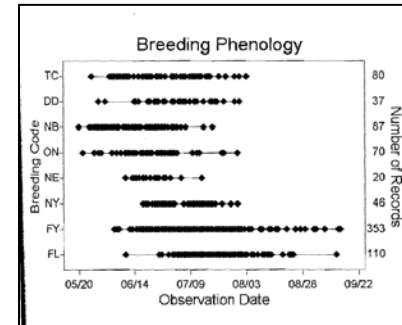
Ospreys have been recorded nesting in the state since the first descriptions of birds were recorded, with T.S. Roberts noting that they occurred on “every sizable lake” as far south as Hennepin County. Cutting of trees, shooting, and pesticides were all factors that reduced their population levels and in the 1980’s they were listed as a Species of Concern by the State of Minnesota. Since that time their population has increased both in number and range. Atlas data shows they are concentrated in the lake regions of the central and northeastern parts of the state and also in the Metro area, this last the result of a reintroduction project conducted in the 1980s and 90s. Atlas results show a slight expansion of the species range since the time of the last statewide survey in 2004.

## Breeding Biology

Minnesota Ospreys winter in Central and South America and return to their nesting territories in early April. Fiercely loyal to their territories, individuals will use the same nests for many years resulting in strong pair bonds and a predictability of nest use. Dates of egg laying vary slightly in a given part of the state, often affected by weather and the age and experience of the pair. Typically around two, and rarely up to four chicks will hatch in June. Young fledge from the nest in late July and August. Adults and young migrate separately to their own wintering areas beginning in late August. By the middle of October few Ospreys are left in the state.

## Conservation Needs

Ospreys are not listed in the State of Minnesota. They depend on suitable water bodies for fishing and large trees or human made structures on which to build their nests. They will build nests on power poles which can pose a threat to both the birds (from electrocution) and the power delivery system (from shorting out wires). Management of these situations includes constructing alternate nest sites and this strategy is expected to be needed into the foreseeable future.

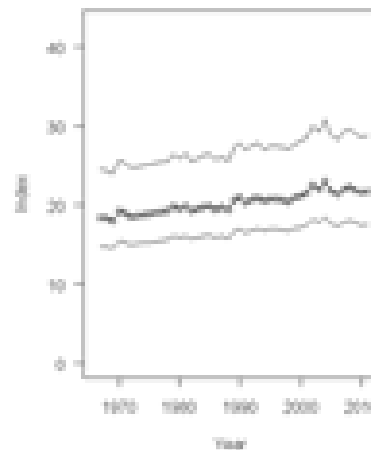
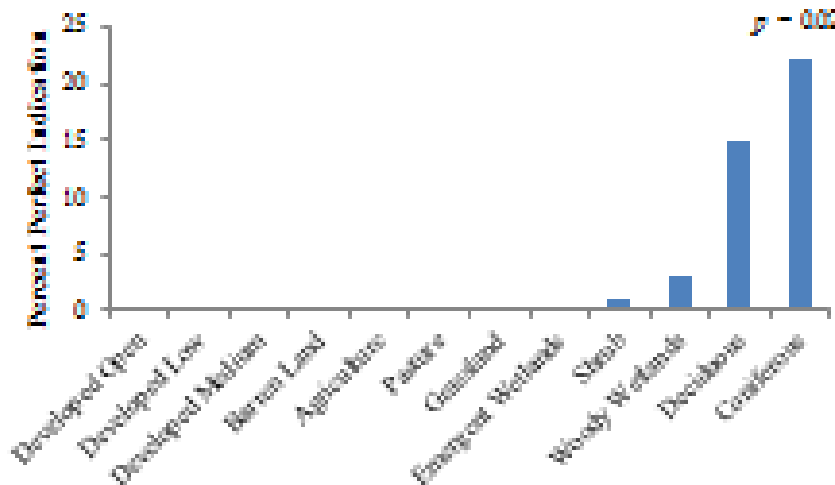
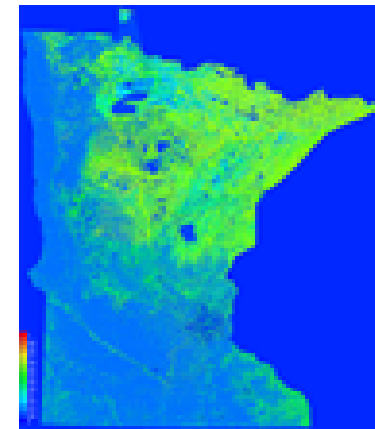
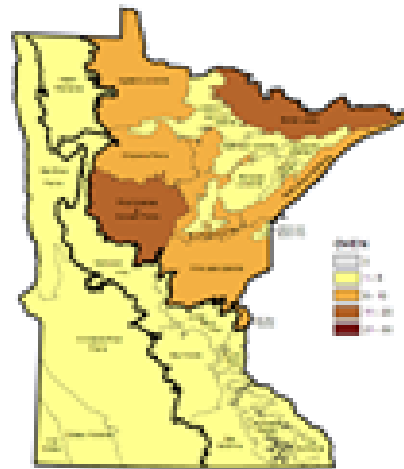
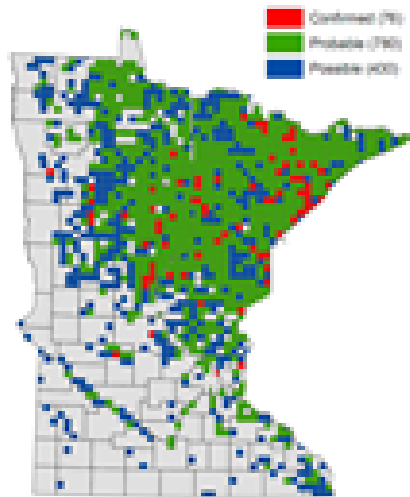




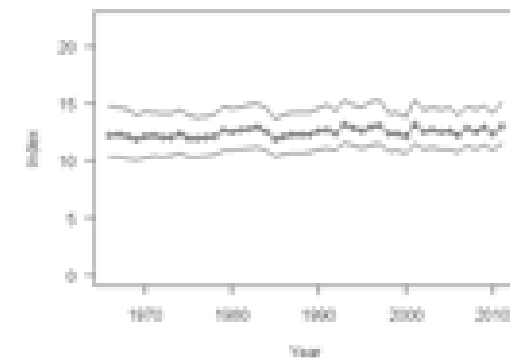
# Ovenbird (*Seiurus aurocapilla*)



Evidence	Number	% of all blocks
Observed	4	0.0%
Possible	751	7.7%
Probable	1008	10.3%
Confirmed	80	0.8%
<b>Total</b>	<b>1843</b>	<b>18.9%</b>



Annual trend MDI = 0.4%;  
95% CI ( 0.0, 0.7); n = 61



Annual trend NA = 0.1%;  
95% CI ( -0.2, 0.5); n = 1966



<b>Environment and Natural Resources Trust Fund</b>											
<b>M.L. 2014 Project Budget</b>											
<b>Project Title:</b> Minnesota Breeding Bird Atlas – Final Phase											
<b>Legal Citation:</b> M.L. 2014, Chp. 226, Sec. 2, Subd. 05f											
<b>Project Manager:</b> Mark Martell											
<b>Organization:</b> Audubon Minnesota											
<b>M.L. 2014 ENRTF Appropriation:</b> \$ 300,000											
<b>Project Length and Completion Date:</b> 3 Years, June 30, 2017											
<b>Date of Report:</b> January 5, 2014											

<b>ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET</b>	<b>Activity 1 Budget</b>	<b>Amount Spent</b>	<b>Activity 1 Balance</b>	<b>Activity 2 Budget</b>	<b>Amount Spent</b>	<b>Activity 2 Balance</b>	<b>Activity 3 Budget</b>	<b>Amount Spent</b>	<b>Activity 3 Balance</b>	<b>TOTAL BUDGET</b>	<b>TOTAL BALANCE</b>
<b>BUDGET ITEM</b>	<i>Fill in your activity title here.</i>			<i>Fill in your activity title here.</i>			<i>Fill in your activity title here.</i>				
<b>Personnel (Wages and Benefits)</b>	\$27,707	\$0	\$27,707	\$28,000	\$0	\$28,000	\$18,000		\$18,000	\$73,707	\$73,707
<i>Mark Martell, Project Manager: \$50,000 (75% salary, 25% benefits): 20% FTE for 3 years</i>											
<i>Bonita Jenne, Photo Manager: \$10,000 (75% salary, 25% benefits): .17 FTE for 1 year.</i>											
<i>Susan Swanson, Office Manager:\$9,000 (89% salary, 11% benefits): 7% FTE for 3 years</i>											
<i>Bonita Sample, Project Coordinantor: \$4,707 (75% salary, 25% benefits), 8% FTE for 1 year</i>											
<b>Professional/Technical/Service Contracts</b>											
Natural Resources Research Institute - U of MN - Duluth: Data analysis, assistance with graphics production, integration of graphics with website, and species text write-up.	\$70,000	\$0	\$70,000	\$20,000	\$0	\$20,000	\$10,000		\$10,000	\$100,000	\$100,000
TBD Text Writer/Editor: Write sections of website and species accounts and work with other experts to completes species accounts and be responsible for final editing of text and coordination of text and graphics before placement on werbsite. (\$50,00/yr for 1.8 year) Will be selected by a search conducted by Audubon MN.				\$71,293	\$0	\$71,293				\$71,293	\$71,293
TBD (competetive bid) Website Development							\$50,000		\$50,000	\$50,000	\$50,000
<b>Travel expenses in Minnesota:</b> staff travel locally and between Duluth and the Twin Cities as meeting and coordination needs demand				\$3,000		\$3,000				\$3,000	\$3,000
<b>Other: Purchase of copyright photos</b> - will be used only for photos of species that we cannot obtain at no charge, will be obtained through vendors such as VIREO				\$2,000		\$2,000				\$2,000	\$2,000
<b>COLUMN TOTAL</b>	<b>\$97,707</b>	<b>\$0</b>	<b>\$97,707</b>	<b>\$124,293</b>	<b>\$0</b>	<b>\$124,293</b>	<b>\$78,000</b>	<b>\$0</b>	<b>\$78,000</b>	<b>\$300,000</b>	<b>\$300,000</b>