

**Environment and Natural Resources Trust Fund
2015 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 063-C

Inspiring Citizen Action to Control Aquatic Invasive Species

Category: C. Environmental Education

Total Project Budget: \$ 239,215

Proposed Project Time Period for the Funding Requested: 2 years, July 2015 - June 2017

Summary:

Create a statewide touring exhibit and activities using interactive media, real objects and personal stories from volunteers, resource managers and scientists to inspire citizen action to control Aquatic Invasive Species.

Name: Don Luce

Sponsoring Organization: U of MN - Bell Museum of Natural History

Address: 10 Church St SE
Minneapolis MN 55455

Telephone Number: (612) 624-1342

Email lucex001@umn.edu

Web Address bellmuseum.org

Location

Region: Statewide

County Name: Statewide

City / Township:

Alternate Text for Visual:

A map of Minnesota showing clean fresh water versus milfoil-choked water with inset photos and drawings of aquatic invasive species and citizens and scientists working to control aquatic invasive species. The key message is – "Inspiring stories of people working to stop the spread of invasive species."

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity Readiness	_____ Leverage	_____ TOTAL	



I. PROJECT STATEMENT: The Bell Museum will inspire citizen action to control the spread of and damage caused by Aquatic Invasive Species (AIS) by creating a traveling exhibition that combines interactive media, personal narratives, and hands-on objects in an emotionally compelling experience, and communicates cutting-edge research and real stories of people in the field making a difference.

Minnesota is known for its mighty rivers and fresh, clear lakes; indeed, the name of the state itself is derived from a Dakota word meaning “waters the color of the sky”. But Minnesota’s heritage faces a growing threat from aquatic invasive species – nonnative plants, animals, and other organisms that can disrupt ecosystems, wreak economic havoc, and even harm human health. Carp, for example, easily outcompete native fish for resources, while Eurasian milfoil reduces the recreational value of many lakes, and zebra mussel colonies cause millions of dollars of infrastructure damage each year.

AIS are inadvertently spread by ordinary people engaging in activities such as fishing and boating - activities in which they are enjoying the very environments that are at risk of degradation from the introduction of nonnative organisms. AIS cannot be effectively controlled without the active participation of MN citizens, but existing efforts to communicate to the public have focused on three subjects: the invasive species themselves, the threats they pose, and the often inconvenient steps needed to prevent their spread. Though this information is needed, it presents an overwhelmingly negative message.

We propose to embed this information in compelling stories of real people who are devoting themselves to solving problems posed by invasive species. Research confirms that behavior changes when people are moved by the personal stories of others, when they identify emotionally with people making a difference. The Museum will design a multi-media traveling exhibition that tells stories of 1) volunteers engaged in education programs, control efforts, or citizen-science projects; 2) resource managers at local, state, federal, or tribal levels who are tasked with the challenge of both informing the public and enforcing regulations; and 3) research scientists who are using their expert knowledge of species biology to find and test innovative ways to control damage caused by AIS. These stories will contain vital information on species such as zebra mussels, milfoil, spiny waterfleas, round goby, and silver and bighead carp. Visitors will come away from the exhibition not only with the knowledge of how to stop the spread of AIS, but with the motivation to act. The projects long-term goals are to deepen people’s ecological knowledge and inspire them to take action to stop the spread of AIS.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: Design AIS education experience that is personal, compelling, & interactive. Budget: \$47,340

Plan a portable AIS traveling exhibition of 250-350 sq ft., and conduct formative evaluation on exhibit components. Design team includes members from MN Aquatic Invasive Species Research Center (MAISRC), tribal fisheries staff, statewide environmental learning centers, MN Sea Grant, & MN DNR.

Outcome	Completion Date
1. Incorporate input from Bell Museum and 5 diverse MN partners in AIS research & control.	Dec. 31, 2015
2. Design engaging exhibit that effectively calls MN fishing & boating citizens to action.	Dec. 31, 2015
2. Evaluate exhibition components for effectiveness and appeal during prototype phase.	April 1, 2016
4. Develop learning kit w/ “real objects” to enhance outreach at events (e.g. MN State Fair).	June 30, 2016

Activity 2: Fabricate two copies of aquatic invasive species exhibit for statewide tour. Budget: \$152,000

Build traveling exhibition using MN contractors that combines interactive media such as real-data population ecology games; personal narratives from engaged citizens, resource managers, and research scientists; and biological specimens and hands-on scientific experiments; to communicate cutting-edge research and compelling stories of people making a difference in the field of AIS.

Outcome	Completion Date
1. Two copies of new museum-quality traveling exhibition on AIS	June 30, 2016



Activity 3: Tour 2 copies of aquatic invasive species traveling exhibit to venues statewide. Budget: \$39,875
 Coordinate a free statewide tour of AIS exhibition that is designed to reach citizens where they live and recreate. The fabrication of two copies for travel will allow the exhibit to reach twice as many venues, for double the impact. Each venue – libraries, nature centers, environmental learning centers, museums, schools, and visitor centers – will host the exhibit for 4-6 week time period or for shorter periods of time at fairs and festivals.

Outcome	Completion Date
1. Travel AIS exhibits free to 15-20 venues across Minnesota.	June 30, 2016
2. Reach MN citizens where they live and recreate, using firsthand stories and sense of place to create personal connections to the AIS issue.	June 30, 2017
3. Transition program to self-support after 12 mos. with rental and shipping paid by venues.	June 30, 2017

III. PROJECT STRATEGY

A. Project Team/Partners:

The project will hire an Exhibit Developer (Year 1 – 100% FTE) and a Tour Coordinator (Year 2 – 25% FTE) to work as a team with Bell Museum staff (Don Luce, Curator of Exhibits; Jennifer Menken, Exhibits and Collections Associate; Shoghig Berbarian, Director of Education, and Tom Amble, Exhibits Fabricator. Project team members will work closely with an external advisory group from partner organizations include: Peter Sorensen, MAISRC; Seth Moore, Tribal Wildlife Biologist for Grand Portage Band of the Lake Superior Chippewa; Mike Link, founding director of Audubon Center of the North Woods and Marte Kitson, AIS education specialist with MN Sea Grant. MN DNR aquatic invasive species communications specialist Marjorie Casey will serve as DNR point person and coordinate input from other DNR staff. As project lead, the Bell Museum will be sole recipient of ENRTF funding, and is not seeking financial support from partnering organizations. In addition to staff time to attend advisory team meetings and connect with prospective venues, partners will contribute expertise, community perspectives, and access to scientific research, data and specimens. Once the exhibition is complete, the tour coordinator will promote the exhibition to venues around the state, arrange shipping, advise venue staff on installation and coordinate maintenance and repairs.

B. Project Impact and Long-Term Strategy: This proposal builds upon an LCMR award made in 1991 and enables the Bell Museum to replace its highly popular *Exotic Aquatics* exhibit. In early 1990s BMNH joined with the Science Museum and Minnesota ELCs to form the Environmental Exhibits Collaborative. With LCMR funding, BMNH developed the exhibition *Exotic Aquatics* and circulated it to over 25 libraries, nature centers, environmental learning centers, state parks, & county fairs across MN, as well as 6 museums and other venues in the Great Lakes region. Now 25 years old, *Exotic Aquatics* needs to be redone to include new information and modern exhibition technology. Expert partners from diverse constituencies will allow the Bell Museum to present cutting edge research to contemporary audiences in the rich and relevant context of ecosystem services, environmental and economic sustainability, scientific literacy, and community action. Outcomes from this LCCMR-funded work will leverage the submission of proposals to the federal Institute of Museum and Library Sciences program to produce future exhibits on aquatic research and stewardship. In the near term, the proposed AIS traveling exhibition will transition from its 12-month LCCMR-funded MN tour to a self-sustaining component of the Bell Museum’s successful touring exhibits program, in which traveling exhibitions are supported by host venues paying rental fees & covering shipping costs.

C. Timeline Requirements: The Bell Museum’s new aquatic invasive species traveling exhibition is a two-year project. Activity 1, exhibit design, will be completed during the first 6 months. Activity 2 and 3, fabrication of exhibition, commences at the completion of Activity 1 and will be completed by the end of Project Year 1. Activity 4, statewide tour of AIS exhibition, occurs during Project Year 2.

2015 Detailed Project Budget

Project Title: Inspiring Citizen Action to Control Aquatic Invasive Species - Bell Museum of Natural History

IV. TOTAL ENRTF REQUEST BUDGET 2 years

<u>BUDGET ITEM</u>	<u>AMOUNT</u>
Personnel:	
TBD, Exhibit Designer (75% salary, 25% benefits); 100% FTE for 1 year	\$ 80,340
TBD Tour Coordinator (75% salary, 25% benefits); 25% FTE for 1 year	\$ 19,875
Contracts:	
Media Technology Consultant TBD: Consult on state-of-the-art media technology and equipment.	\$ 3,000
Graphic Design Consultant TBD: Design and execute graphic elements.	\$ 25,000
Evaluation Consultant TBD: Evaluate exhibit effectiveness.	\$ 5,000
Video Producer TBD: Produce 2 short video elements.	\$ 10,000
Interactives Producer TBD: Develop interactive elements; i.e. touch screen games.	\$ 10,000
Equipment/Tools/Supplies:	
Materials for fabrication of exhibits including: interactive modules, electronics (e.g. iPads), hands-on specimens, fabric graphics, and construction materials for countertops and stands	\$ 64,000
Travel:	
Advisory team travel expenses: Mileage TBD, lodging & meals for travel to & from meetings	\$ 2,000
Additional Budget Items:	
Shipping for 2 exhibits: 15-20 locations, 4-6 weeks each or shorter times at fairs and festivals, 1 week for transit.	\$ 15,000
General maintenance and repairs of touring exhibits during statewide tour in Year 2	\$ 5,000
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =	\$ 239,215

V. OTHER FUNDS *(This entire section must be filled out. Do not delete rows. Indicate "N/A" if row is not applicable.)*

<u>SOURCE OF FUNDS</u>	<u>AMOUNT</u>	<u>Status</u>
Other Non-State \$ To Be Applied To Project During Project Period: N/A	N/A	
Other State \$ To Be Applied To Project During Project Period: N/A	N/A	
In-kind Services To Be Applied To Project During Project Period:	\$56,498	secured
–Curator of Exhibits (Luce): Concept development and project oversight \$19,171 @ 10% FTE (Year 1 & 2)		
–Exhibition Associate (Menken): Secure specimens & develop educational trunk materials \$11,526 @ 10% FTE (Year 1)		
–Director of Education (Berbarian): Concept development for educational materials \$9,213 @ 5% FTE (Year 1)		
–Exhibition Fabricator (Amble): Fabrication, final assembly, crating, and maintenance \$12,836 @ 10% FTE (Year 1 & 2)		
Funding History:	\$ 400,000	
\$400,000 - LCMR (1991/1993) - Environmental Exhibits Collaborative: Statewide Traveling Exhibit on Aquatic Invasive Species		
Remaining \$ From Current ENRTF Appropriation: N/A	N/A	

PROJECT TITLE: Inspiring Citizen Action to Control Aquatic Invasive Species

Environment and Natural Resources Trust Fund
2015 LCCMR Proposal



Inspiring stories of people working to stop the spread of invasive species.

Picture credits: Minnesota DNR, Minnesota Aquatic Invasive Species Research Center, Bell Museum of Natural History

BELL MUSEUM
OF NATURAL HISTORY

UNIVERSITY OF MINNESOTA
04/22/2014
Driven to Discover™

Donald T. Luce
February 2014

EDUCATION:

1975-1977 M.S. in Medical and Biological Illustration, University of Michigan
1970-1975 B.S. (with high distinction) in Zoology, University of Michigan

WORK EXPERIENCE:

1995-present Curator of Exhibits, Bell Museum of Natural History
1991-1995 Acting Curator of Exhibits, Bell Museum of Natural History
1989-present Curator of Natural History Art, Bell Museum of Natural History
1987-1989 Associate Curator of Exhibits, Bell Museum of Natural History
1978-1987 Assistant Curator of Exhibits, Bell Museum of Natural History

RESEARCH AND PROFESSIONAL ACTIVITIES

Research Grants

“Conserving Audubon’s *Birds of America*,” Institute for Museums and Library Services, 2013, \$150,000.

“New Interpretive Plan for Diorama: Moose at Basswood Lake”, Minnesota Historical and Cultural Grants, 2013, \$7,000.

“Jaques Conservation Survey”, Minnesota Historical and Cultural Grants, 2010, \$6,500.

“The Lion’s Mane” Exhibition, (Co PI with Craig Packer), National Science Foundation-ESIE, 2003, \$75,000

“Nature in the City: Exploring the Diversity of Life Close to Home,” National Science Foundation – ESIE, planning grant, 2001-2003, \$50,000

“Public Education Programs Concerning Endangered Species, Biodiversity and Wildlife-Human Conflicts” (with Kendall Corbin) U.S. Fish and Wildlife Service, 1993-1994, \$100,000.

“Endangered Species Traveling Exhibition Development,”(with Kendall Corbin) U.S. Fish and Wildlife Service, 1994-1995, \$40,000.

“Endangered Species Exhibition - Audience Assessment Project”; Environment Protection Agency, 1994, \$5,000.

Museum Assessment Program II, Institute of Museum Services, 1990, \$1,400.

Conservation Assessment Program, Institute of Museum Services, 1991, \$4,498.