

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
PROCUREMENT

525 W. ALLEGAN STREET
 LANSING, MI 48933

CHANGE NOTICE NO. 02
 to
 CONTRACT NO. 751B4300067
 between
 THE STATE OF MICHIGAN
 and

NAME & ADDRESS OF CONTRACTOR	PRIMARY CONTACT	EMAIL
Michigan State University Office of Sponsored Programs; 426 Auditorium Road, Room 2; 301 Administration Building East Lansing, MI 48824-2601	Diane Cox	coxc@osp.msu.edu
	PHONE	CONTRACTOR'S TAX ID NO. (LAST FOUR DIGITS ONLY)
	517-884-4243	*****5984/283

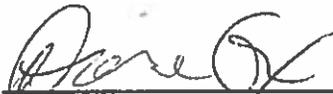
STATE CONTACTS	AGENCY	NAME	PHONE	EMAIL
CONTRACT MANAGER	Fisheries	Marisa Lay	517-284-5837	laym@michigan.gov
CONTRACT ADMINISTRATOR/BUYER	Finance and Operations	Lisa VanOstran	517-284-5975	vanostranl@michigan.gov

CONTRACT SUMMARY			
DESCRIPTION: Tributary Use and Large-Scale Movements of Grass Carps in Lake Erie			
INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
08/01/2014	12/31/2016	2 1-year	12/31/2016
PAYMENT TERMS		DELIVERY TIMEFRAME	
		N/A	
ALTERNATE PAYMENT OPTIONS			EXTENDED PURCHASING
<input type="checkbox"/> P-card <input type="checkbox"/> Direct Voucher (DV) <input type="checkbox"/> Other			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
MINIMUM DELIVERY REQUIREMENTS			
N/A			

DESCRIPTION OF CHANGE NOTICE				
EXERCISE OPTION?	LENGTH OF OPTION	EXERCISE EXTENSION?	LENGTH OF EXTENSION	REVISED EXP. DATE
<input type="checkbox"/>		<input type="checkbox"/>		
CURRENT VALUE		VALUE OF CHANGE NOTICE	ESTIMATED AGGREGATE CONTRACT VALUE	
\$112,905.60		\$3,860.48	\$116,766.08	
DESCRIPTION: Adding \$3,860.48 to the contract value.				

FOR THE CONTRACTOR:

Michigan State University
Company Name


Authorized Agent Signature *no*

Diane L. Cox, Sponsored Programs Manager
Authorized Agent (Print or Type)

29 Feb 2016
Date

FOR THE STATE:


Signature

Sharon M. Schaefer, Chief, Finance + Operations Division
Name & Title

DNR
Agency

3/2/2016
Date

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
PROCUREMENT

525 W. ALLEGAN STREET
 LANSING, MI 48933

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	PHONE	CONTRACTOR'S TAX ID NO. (LAST FOUR DIGITS ONLY)
	517-884-4243	*****5984/283

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		N/A	
ALTERNATE PAYMENT OPTIONS			EXTENDED PURCHASING
<input type="checkbox"/> P-card <input type="checkbox"/> Direct Voucher (DV) <input type="checkbox"/> Other			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
MINIMUM DELIVERY REQUIREMENTS			
N/A			

DESCRIPTION OF CHANGE NOTICE				
EXERCISE OPTION?	LENGTH OF OPTION	EXERCISE EXTENSION?	LENGTH OF EXTENSION	REVISED EXP. DATE
<input type="checkbox"/>		<input type="checkbox"/>		
CURRENT VALUE		VALUE OF CHANGE NOTICE	ESTIMATED AGGREGATE CONTRACT VALUE	
\$116,766.08		\$-3,860.48	\$112,905.60	
DESCRIPTION: Removing remaining balance on contract as grant funding ended on 9/30/2015. Contractor is still responsible for preparing and submitting required reports. Updated Contract Manager and Contract Administrator contact information.				

FOR THE CONTRACTOR:

Michigan State University
Company Name

Diane Cox
Authorized Agent Signature *no*

Diane L. Cox, Sponsored Programs Manager
Authorized Agent (Print or Type)

22 Jan 2016
Date

FOR THE STATE:

Laura L. Gyorkos
Signature

Laura L. Gyorkos, manager, Procurement
Name & Title

DNR
Agency

1/22/16
Date



Michigan Department of Natural Resources – Procurement Services
 P.O. Box 30028, Lansing, MI 48909
 OR
 525 W. Allegan, Lansing, MI 48933

NOTICE OF CONTRACT NO. 751B4300067
Between
STATE OF MICHIGAN
and

Required by authority of 1984 PA 431, as amended.

Name and Address of Contractor Michigan State University Office of Sponsored Programs 426 Auditorium Rd., Rm 2 301 Administration Building East Lansing, MI 48824-2601	Primary Contact Diane Cox	
	Email Coxd@osp.msu.edu	
	Telephone (517) 884-4243	Contractor #, Mail Code *****5984/283

State Contact	Division	Name	Telephone	Email
Contract Compliance Inspector	Fisheries	Marlene Sublet-Smith	(517) 284-5837	subletsmithm@michigan.gov
Buyer	Finance and Operations	Jana Harding-Bishop	(517) 284-5938	HardingJ3@michigan.gov

Contract Summary			
Description (Provide a basic but comprehensive description of services) “Tributary Use and Large-Scale Movements of Grass Carps in Lake Erie”			
Initial Term 3 years, approx. 4 months	Effective Date 8/1/2014	Initial Expiration Date 12/31/2016	Available Options 2, 1-year periods
Payment Terms	F.O.B. N/A	Shipped N/A	Shipped From N/A
Minimum Delivery Requirements N/A	Alternate Payment Options <input type="checkbox"/> P-Card <input type="checkbox"/> Direct Voucher (DV)		Available to MiDeal Participants <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
ESTIMATED CONTRACT VALUE AT TIME OF EXECUTION: \$116,766.08			



CONTRACT NO. 751B4300067

**Between
STATE OF MICHIGAN
and**

Required by authority of 1984 PA 431, as amended.

Name and Address of Contractor Michigan State University Office of Sponsored Programs 426 Auditorium Rd., Rm 2 301 Administration Building East Lansing, MI 48824-2601	Primary Contact Diane Cox	
	Email Coxd@osp.msu.edu	
	Telephone (517) 884-4243	Contractor #, Mail Code *****5984/283

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Contract Compliance Inspector	Fisheries	Marlene Sublet-Smith	(517) 284-5837	subletsmithm@michigan.gov
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Payment Terms	F.O.B. N/A	Shipped N/A	Shipped From N/A
Minimum Delivery Requirements N/A	Alternate Payment Options <input type="checkbox"/> P-Card <input type="checkbox"/> Direct Voucher (DV)		Available to MiDeal Participants <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
ESTIMATED CONTRACT VALUE AT TIME OF EXECUTION: \$116,766.08			

THIS IS NOT AN ORDER: This Contract Agreement is awarded based on our Call for Project RFP. Orders for delivery will be issued directly by the Michigan Department of Natural Resources through the issuance of a Purchase Order Form.

FOR THE CONTRACTOR:

Michigan State University

Firm Name
On-file in DNR Procurement

Authorized Agent Signature
Diane Cox, Senior Contract and Grant Administrator

Authorized Agent (Print or Type)
9/10/14

Date

FOR THE STATE:

On-file in DNR Procurement

Signature
Sharon Schafer, Chief

Name/Title
DNR Finance and Operations/Procurement

Division/Section
9/12/14

Date

STATE OF MICHIGAN TERMS AND CONDITIONS

I-A PURPOSE

This contract consists of the State of Michigan's (State) terms and conditions and the work statement (Appendix A). This contract constitutes the complete and exclusive agreement and understanding of the parties as it relates to this transaction. This contract supersedes all proposals, or other prior agreements, and all other communications between the parties relating to this transaction. If there is a conflict between the State's terms and conditions and the Contractor's Proposal, the State's terms and conditions shall take precedence.

The purpose of this contract is to obtain the services of the Department of Fisheries and Wildlife at Michigan State University to conduct research titled: "**Tributary Use and Large-Scale Movements of Grass Carp in Lake Erie**" in collaboration with Fisheries Division of the Michigan Department of Natural Resources (DNR). **MSU Ref# 138240**. Project completion date is **December 31, 2016**.

I-B ISSUING OFFICE/CONTRACT ADMINISTRATOR

This contract is issued by the State of Michigan, Department of Natural Resources, Finance and Operation Division (FOD) for Fisheries Division (FD). FOD is the only office authorized to change, modify, amend, alter, clarify, etc., the prices, specifications, terms, and conditions of this contract. All requests for changes, modifications, amendments, etc. must be addressed to:

Jana Harding-Bishop
DNR, FOD
3rd Floor, Constitution Hall
P.O. Box 30028
Lansing, MI 48909
(517) 284-5938

I-C CONTRACT STAFFING

Upon receipt of the properly executed contract agreement, it is anticipated that the person named below or any other person so designated be authorized to oversee the contract on a day-to-day basis during the term of the contract. However, oversight of this contract implies no authority to change, modify, clarify, amend, or otherwise alter the prices, terms, conditions, and specifications of this contract.

The DNR Project Manager is: Nicolas Popoff
Department of Natural Resources
Fisheries Division
P.O. Box 30446
Lansing, MI 48909
Telephone: (517) 284-58462350
Fax: (517) 373-0381
Email: popoffn@michigan.gov

The MSU Principal Investigator (MSU-PI) for this project is listed below. This person is responsible for the administration and research of the project. The MSU-PI does not have the authority to change, modify, clarify, amend, or otherwise alter the prices, terms, conditions, and specifications of the contract as that authority is retained by MSU - Office of Sponsored Programs.

Dr. Travis Brenden
Assoc. Director, Quantitative Fisheries Center
Michigan State University
293 Farm Lane, Room 153
East Lansing, MI 48824-1101
Telephone: (517) 355-0003
Email: brenden@msu.edu

DNR Compliance Inspector (CI) named below serves as the DNR day-to-day manager of the awarded contract. Requests to change, modify, amend, alter, or clarify the prices, specifications, terms, or changes modifications, amendments, and conditions of this contract implies no authority to change, modify, clarify, amend or otherwise alter the prices, terms, conditions and specifications of the contract as that authority is retained by DNR-Finance and Operations Division

Marlene Sublet-Smith
DNR, Fisheries Division
P. O. Box 30446
Lansing, MI 48909-7946
Telephone: (517) 284-5837
Email: subletsmithm@michigan.gov

I-D PROGRAM OF WORK

The State has an interest in obtaining information regarding grass carp population dynamics and habitat use in western Lake Erie and connecting tributaries. In particular, the goal of the project is to gain an understanding of the abundance, distribution/habitat use, and areas of spawning for grass carp in that region.

Specific program objectives and deliverables are detailed in the attached statement of work (ATTACHMENT A).

I-E DELIVERABLES

Produce a report to identify tributary use by grass carp in Lake Erie and movements within tributaries,

Produce a report indicating how far upstream fish migrate and locate areas of spawning aggregation,

Identify inter-basin movements of grass carp in Lake Erie and help identify immediate risks of grass carp expansion into the central and eastern basins of Lake Erie into Lake St. Clair/Lake Huron.

Up to two manuscripts describing grass carp tributary use and potentially large-scale movements in Lake Erie; scientific presentations at regional, national, biologist and angler group meetings (dates TBD).

I-F PROJECT CONTROL AND REPORTS

The Contractor will carry out this project under the direction and control of the DNR, Fisheries Division.

The DNR contract manager will meet as needed with the PI for the purpose of reviewing progress and providing necessary guidance in solving problems that arise.

The PI will submit deliverables as listed in Section I-E and Attachment A and identify any problems, real or anticipated, which should be brought to the attention of the DNR contract manager to insure that the contract remains on schedule and will be completed as scheduled.

The MSU PI is responsible for providing annual progress reports and a final report to the DNR contract manager in written and electronic format by the specified dates(s). A template for these reports will be provided by the DNR contract manager and submitted reports must use the template or contain all information requested on the template. The reports shall be mailed and transmitted electronically to the DNR contract manager listed in I-C. Manuscripts, scientific presentations at regional, national fisheries meetings, and angler group meetings will also be expected.

Annual Report
Final Report

September 30, 2015
December 31, 2016

I-G PRICE PROPOSAL

This is a **fixed price contract**, and Contractor may invoice at the end of each fiscal quarter (December 31, March 31, June 30, and September 30) for 25% of the annual DNR contribution to the study (the contract cost). Contractor's fiscal contribution to this study (34%) is the waiver of normal overhead charges per the Agreement between MSU and DNR, executed September 5, 2013.

Determination on whether submitted invoices will be processed is at the discretion of the DNR Project Manager. Upon receipt of the invoice the Project Manager will review the project, determine if work is being accomplished to contract standards and whether the tasks and deliverables are on schedule.

Final payment will be withheld until final report is submitted.

I-H MODIFICATIONS OF CONTRACT

This contract may be modified if any changes proposed by either party are requested in writing and mutually agreed to by the official representative of the Contractor shown in this contract and the DNR contract administrator. This request is not valid until it is signed by all parties, a Contract Change Notice is issued by the Issuing Office, and a Purchase Order is issued by the DNR.

I-I NO WAIVER OF DEFAULT

The failure of a party to insist upon strict adherence to any term of this contract shall not be considered a waiver or deprive the party of the right thereafter to insist upon strict adherence to that term, or any other term, of this contract.

I-J SEVERABILITY

Each provision of this contract shall be deemed severable from all other provisions, and if one or more of the provisions shall be declared invalid, the remaining provisions of this contract shall remain in full force and effect.

I-K HEADINGS

Captions and headings used in this contract are for information and organization purposes. Captions and headings, including inaccurate references, do not, in any way, define or limit the requirements or terms and conditions of this contract.

I-L RELATIONSHIP OF THE PARTIES

The relationship between the State and the Contractor is that of client and independent contractor. No agent, employee, or servant of the Contractor or any of its subcontractors shall be or shall be deemed an employee, agent, or servant of the State for any reason.

I-M COST LIABILITY

The State of Michigan assumes no responsibility or liability for costs incurred by the Contractor prior to the signing this contract. Total liability of the State is limited to the terms and conditions of this contract.

I-N CONTRACTOR RESPONSIBILITIES

The Contractor is responsible for the performance of all of its obligations under this contract, whether the obligations are performed by the Contractor or a subcontractor. The State reserves the right to approve any subcontractor hired to perform the Contractor's obligations under this contract, and the right to require the Contractor to replace any subcontractor deemed unacceptable by the State. The Contractor is exclusively responsible for adherence by subcontractors to all provisions of this contract. Further, the State will consider the Contractor to be the sole point of contact with regard to contractual matters, including but not limited to payment of any and all costs resulting from the contract.

I-O INFORMATION RELEASE / OWNERSHIP

News Releases

News releases pertaining to this Contract or the services, study, data, or project to which it relates will not be made without prior written State approval, which will not be unduly withheld. MSU may publish information concerning the award of this in the MSU Board of Trustees report only, without prior written consent.

Publication

The Contractor will not use, release, publish or present any analyses, findings, results, or techniques developed under this agreement, or any information derived therefrom until such analyses, findings, or techniques have been reported to the State in the manner prescribed by this agreement. No material may be published that is exempt from disclosure under Public Act No. 442 of 1976, known as the "Freedom of Information Act," without express permission from the State. The Contractor will provide the State, for its review, copies of all presentations or articles being submitted for publication at least forty-five (45) days in advance. The State will review the proposed publication and provide comments. A response shall be provided to the Contractor within forty-five (45) days; otherwise, the Contractor may assume that the State has no comments. The Contractor agrees to address any concerns or issues identified by the State with respect to the State-supplied information prior to submission for publication or presentation. Co-authorship on any presentations at professional meetings and publications resulting from this project will be agreed upon by the Co-PIs.

Acknowledgement of State Participation/Support

All publications or oral presentations concerning the analyses, findings, results, or techniques developed under this contract will contain an acknowledgement, of the State's participation and support unless the State requests in writing that their participation and support not be acknowledged. Furthermore, Contractor may not receive fees for any article in excess of the cost of preparation of published article and excluding the cost of the research and compilation that was compensated under the contract.

Ownership of Samples\Equipment

Any samples provided by the DNR for use under this contract will remain the sole property of the DNR and must be returned upon the request of the DNR Project Manager

At the end of the project period, the DNR will retain ownership of any supplies/equipment purchased with funding under this contract and for the purposes of the project which are not consumed while completing the project. The supplies/equipment must be returned to the State upon the request of the DNR Project Manager.

I-P DISCLOSURE

All information in this contract is subject to the provisions of the Freedom of Information Act, 1976 Public Act No. 442, as amended, MCL 15.231, et seq.

I-Q ACCOUNTING RECORDS

The Contractor will be required to maintain project records pertaining to Appendix A 'Work Statement' for three (3) years from the expiration date of this contract, which access shall be made available to the State upon reasonable notice to Contractor.

I-R AUDIT OF CONTRACT COMPLIANCE

The Contractor agrees that the State may, upon 24-hour notice, perform an audit at Contractor's location(s) to determine if the Contractor is complying with the requirements of this contract. The Contractor agrees to cooperate with the State during the audit and produce all records and documentation that verifies compliance with the requirements of this contract.

I-S SAFETY AND ACCIDENT PREVENTION

In performing work under this contract on State premises, the Contractor shall conform to any specific safety requirements contained in this contract or as required by law or regulation. The Contractor shall take any additional precautions as the State may reasonably require for safety and accident prevention purposes. Any violation of such safety requirements, rules, laws, or regulations shall be a material breach of this contract and shall be grounds for cancellation of this contract in accordance with the Cancellation provisions contained herein.

I-T TAXES

Employment Taxes

Contractors are expected to collect and pay all applicable federal, state, and local employment taxes.

Sales and Use Taxes Contractors are required to be registered to remit sales and use taxes on taxable sales of tangible personal property or services delivered into the State.

I-U GENERAL INDEMNIFICATION

Each party to this contract must seek its own legal representative and bear its own costs; including judgments, in any litigation that may arise from performance specific to each party's responsibilities. It is specifically understood and agreed that neither party will indemnify the other party in such litigation.

I-V INSURANCE REQUIREMENTS

The Contractor shall purchase and maintain such insurance as will protect them from claims set forth below which may arise out of, or result from, the Contractor's operations under the Contract (Purchase Order),

whether such operations be by themselves or by any Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

NOTE: CONTRACTOR MAY SUBMIT EVIDENCE OF SELF-INSURANCE AND/OR AMENDMENT OF EXISTING LIABILITY COVERAGE IN FULFILLMENT OF ABOVE PROVISIONS, IF THE STATE ACCEPTS THE EVIDENCE OR AMENDED LIABILITY COVERAGE AS PROVIDING COMPARABLE PROTECTION OF THE STATE'S INTEREST.

The Contractor is required to provide proof of the minimum levels of insurance coverage as indicated below. The purpose of this coverage shall be to protect the State from claims which may arise out of, or result from, the Contractor's performance of services under the terms of this Contract, whether such services are performed by the Contractor, or by any subcontractor, or by anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable.

The Contractor waives all rights against the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees, and agents for recovery of damages to the extent these damages are covered by the insurance policies the Contractor is required to maintain pursuant to this contract, unless such damages are the result of the negligence or omission of the State of Michigan.

The insurance shall be written for not less than any minimum coverage herein specified or required by law, whichever is greater.

BEFORE THE CONTRACT IS SIGNED BY BOTH PARTIES OR BEFORE THE PURCHASE ORDER IS ISSUED BY THE STATE, THE CONTRACTOR MUST FURNISH TO THE DNR, FS, CERTIFICATE(S) OF INSURANCE VERIFYING INSURANCE COVERAGE. THE CERTIFICATE MUST BE ON THE STANDARD "ACCORD" FORM. THE CONTRACT OR PURCHASE ORDER NUMBER MUST BE SHOWN ON THE CERTIFICATE OF INSURANCE TO ASSURE CORRECT FILING. All such Certificate(s) shall contain a provision indicating that coverage afforded under the policies WILL NOT BE CANCELLED OR MATERIALLY CHANGED without prior written notice having been given to the DNR, FS. Such NOTICE must include the CONTRACT NUMBER affected.

The Contractor is required to provide the type and amount of insurance checked () below:

- 1. Commercial General Liability with the following minimum coverage:
 - \$2,000,000 General Aggregate Limit other than Products/Completed Operations
 - \$2,000,000 Products/Completed Operations Aggregate Limit
 - \$1,000,000 Personal & Advertising Injury Limit
 - \$1,000,000 Each Occurrence Limit
 - \$500,000 Fire Damage Limit (any one fire)

- 2. If a motor vehicle is used to provide services or products under this Contract, the Contractor must have vehicle liability insurance for bodily injury and property damage as required by law.

- 3. Worker's disability compensation, disability benefit or other similar employee benefit act with minimum statutory limits. NOTE: (1) If coverage is provided by a State fund or if Contractor has qualified as a self-insurer, separate certification must be furnished that coverage is in the state fund or that Contractor has approval to be a self-insurer; (2) Any citing of a policy of insurance must include a listing of the States where that policy's coverage is applicable; and (3) Any policy of insurance must contain a provision or endorsement providing that the insurers' rights of subrogation are waived. This provision shall not be applicable where prohibited or limited by the laws of the jurisdiction in which the work is to be performed.

- ☑ 4. Employers liability insurance with the following minimum limits:
\$100,000 each accident
\$100,000 each employee by disease
\$500,000 aggregate disease

I-W NOTICE AND RIGHT TO CURE

In the event of a curable breach by the Contractor, the State shall provide the Contractor written notice of the breach and a time period to cure said breach described in the notice. This section requiring notice and an opportunity to cure shall not be applicable in the event of successive or repeated breaches of the same nature or if the State determines in its sole discretion that the breach poses a serious and imminent threat to the health or safety of any person or the imminent loss, damage or destruction of any real or tangible personal property.

I-X CANCELLATION

The State may cancel this contract without further liability or penalty to the State, its departments, divisions, agencies, offices, commissions, officers, agents, and employees for any of the following reasons:

1. **Material Breach by the Contractor.** In the event that the Contractor breaches any of its material duties or obligations under this contract, which are either not capable of or subject to being cured, or are not cured within the time period specified in the written notice of breach provided by the State, or pose a serious and imminent threat to the health and safety of any person, or the imminent loss, damage or destruction of any real or tangible personal property, the State may, having provided written notice of cancellation to the Contractor, cancel this contract in whole or in part, for cause, as of the date specified in the notice of cancellation.

In the event the State chooses to partially cancel this contract for cause charges payable under this contract will be equitably adjusted to reflect those services that are cancelled. In the event this contract is cancelled for cause pursuant to this section, and it is therefore determined, for any reason, that the Contractor was not in breach of contract pursuant to the provisions of this section, that cancellation for cause shall be deemed to have been a cancellation for convenience, effective as of the same date, and the rights and obligations of the parties shall be limited to that otherwise provided in this contract for a cancellation for convenience.

2. **Cancellation for Convenience by the State.** The State may cancel this contract for its convenience, in whole or part, if the State determines that such a cancellation is in the State's best interest. Reasons for such cancellation shall be left to the sole discretion of the State and may include, but not necessarily be limited to (a) the State no longer needs the services or products specified in this contract, (b) relocation of office, program changes, changes in laws, rules, or regulations make performance of the services under this contract no longer practical or feasible, and (c) unacceptable prices for additional services requested by the State. The State may cancel this contract for its convenience, in whole or in part, by giving the Contractor written notice 30 days prior to the date of cancellation. If the State chooses to cancel this contract in part, the charges payable under this contract shall be equitably adjusted to reflect those services that are cancelled.
3. **Non-Appropriation.** The State may cancel this contract in the event that funds to enable the State to effect continued payment under this contract are not appropriated or otherwise made available. The Contractor acknowledges that, if this contract extends for several fiscal years, continuation of this contract is subject to annual appropriation or availability of funds for this contract. If funds are not appropriated or otherwise made available, the State shall have the right to cancel this contract at the end of the last period for which funds have been appropriated or otherwise made available by giving written notice of cancellation to the Contractor. The State shall give the Contractor written

notice of such non-appropriation or unavailability within 30 days after it receives notice of such non-appropriation or unavailability.

4. **Criminal Conviction.** In the event the Contractor, an officer of the Contractor, or an owner of a 25% or greater share of the Contractor, is convicted of a criminal offense incident to the application for or performance of a State, public or private contract or subcontract; or convicted of a criminal offense including but not limited to any of the following: embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, attempting to influence a public employee to breach the ethical conduct standards for State of Michigan employees; convicted under State or federal antitrust statutes; or convicted of any other criminal offense which in the sole discretion of the State, reflects upon the contractor's business integrity, the State may cancel this contract.
5. **Approvals Rescinded.** In the event any final administrative or judicial decision or adjudication disapproves a previously approved request for purchase of personal services pursuant to Article 11, Section 5 of the Michigan Constitution of 1963, and Chapter 7 of the Civil Service Rules, the State may cancel this contract. Notwithstanding any other provision of this contract to the contrary, the State Personnel Director is authorized to disapprove contractual disbursements for personal services if the Director determines that disbursements under this contract violate Article 11, Section 5 of the Michigan Constitution or violate applicable Civil Service rules or regulations. Cancellation may be in whole or in part and may be immediate as of the date of the written notice to the Contractor or may be effective as of the date stated in such written notice.

I-Y ASSIGNMENT

The Contractor shall not have the right to assign this contract or to assign or delegate any of its duties or obligations under this contract to any other party (whether by operation of law or otherwise), without the prior written consent of the State. Any purported assignment in violation of this section shall be null and void. Further, the Contractor may not assign the right to receive money due under this contract without the prior written consent of DNR Financial Services.

I-Z DELEGATION

The Contractor shall not delegate any duties or obligations under this contract to a subcontractor other than a subcontractor named in the bid unless DNR Financial Services has given written consent to the delegation.

I-AA NON-DISCRIMINATION CLAUSE

In the performance of any contract or purchase order resulting here from, the Contractor agrees not to discriminate against any employee or applicant for employment, with respect to their hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of race, color, religion, national origin, ancestry, age, sex, height, weight, marital status, physical or mental disability unrelated to the individual's ability to perform the duties of the particular job or position. The Contractor further agrees that every subcontract entered into for the performance of any contract or purchase order resulting here from will contain a provision requiring non-discrimination in employment, as herein specified, binding upon each subcontractor. This covenant is required pursuant to the Elliot Larsen Civil Rights Act, 1976 Public Act 453, as amended, MCL 37.2101, et seq, and the Persons with Disabilities Civil Rights Act, 1976 Public Act 220, as amended, MCL 37.1101, et seq, and any breach thereof may be regarded as a material breach of the contract or purchase order.

I-BB UNFAIR LABOR PRACTICES

Pursuant to 1980 Public Act 278, as amended, MCL 423.231, et seq, the State shall not award a contract or subcontract to an employer whose name appears in the current register of employers failing to correct an unfair labor practice compiled pursuant to Section 2 of the Act. This information is compiled by the United States National Labor Relations Board.

A Contractor of the State, in relation to the contract, shall not enter into a contract with a subcontractor, manufacturer, or supplier whose name appears in this register. Pursuant to Section 4 of 1980 Public Act 278, MCL 423.324, the State may void any contract if, subsequent to award of the contract, the name of the Contractor as an employer, or the name of the subcontractor, manufacturer or supplier of the Contractor appears in the register.

I-CC SURVIVOR

Any provisions of this contract that impose continuing obligations on the parties shall survive the expiration or cancellation of this contract for any reason.

I-DD PERFORMANCE REVIEWS

DNR may review with the contractor their performance under the contract. Performance reviews shall be conducted quarterly, semi-annually or annually depending on contractor's past performance with the State. Performance reviews shall include, but are not limited to, quality of service being delivered and provided, timeliness, percentage of completion, accuracy of billings, customer service, completion, and submission of required paperwork, and other requirements of the contract.

Upon a finding of poor performance, which has been documented by DNR Financial Services, the Contractor shall be given an opportunity to respond and take corrective action. If corrective action is not taken in a reasonable amount of time as determined by DNR Financial Services, the contract may be canceled for default.

I-EE ELECTRONIC PAYMENT AVAILABILITY

Electronic transfer of funds is available to State contractors. Contractor is required to register with the State electronically at <http://www.cpexpress.state.mi.us>. Public Act 533 of 2004 requires all payments made by the State of Michigan be transitioned to Electronic Funds Transfers (EFT).

I-FF RENEWALS

This contract may be renewed by a written and mutually executed agreement of the parties, in accordance with Section I-I above, not less than 30 days before its expiration. The contract may be renewed for up to two (1) one (1) year periods.

I-GG COMPLIANCE WITH LAWS

The Contractor represents to the best of its knowledge and belief that, in performing the services called for by this Contract, it will not violate any applicable law, rule, or regulation, or any intellectual rights of any third party; including but not limited to, any United States patent, trademark, copyright, or trade secret.

I-HH Legal Effect

Contractor must show acceptance of the Contract by signing the Contract and returning it to the Contract Administrator. The Contractor must not proceed with the performance of the work to be done under the Contract, including the purchase of necessary materials, until both parties have signed the Contract to show acceptance of its terms, and the Contractor receives a Contract release/purchase order that authorizes and defines specific performance requirements.

Attachment A

Michigan Department of Natural Resources

Study Proposal

Proposed Timeframe: 8/1/2014 – 12/31/2016

Name of Study: Tributary Use and Large-Scale Movements of Grass Carps in Lake Erie

- A. Problem:** Grass carp (*Ctenopharyngodon idella*) is a large herbivorous cyprinid native to eastern Asia that was first imported to the United States in the early 1960s as a means for vegetation control in warmwater impoundments. Initial introductions were for research purposes in the states of Arkansas and Alabama (Mitchell and Kelly 2006), although in 1970, commercial fishers fishing in rivers near one of the Arkansas research stations caught free-ranging grass carps. Escapement had occurred, and was later confirmed through interviews of biologists working at the station (Mitchell and Kelly 2006). The stocking of grass carps in public and private impoundment for vegetation control first occurred in 1969 and became prevalent through the 1970s. Although initial stocking efforts were considered beneficial because vegetation was successfully controlled, concerns quickly arose regarding expansion and establishment of grass carp populations in other systems. This concern led to the development of methodologies for producing monosex grass carps and eventually to producing triploid grass carps that would functionally be sterile (Mitchell and Kelly 2006). In the early 1980s, a procedure for inducing triploidy in grass carps using temperature or pressure shocking was developed (Malone 1983). Subsequently, many U.S. states required that all grass carp stocking must involve triploid fish, although several other U.S. states permitted the stocking of diploid grass carps (Mitchell and Kelly 2006). The U.S. Fish and Wildlife Service operates an inspection service for natural resource agencies for testing the ploidy status of shipments of grass carps (<http://www.fws.gov/warmsprings/fishhealth/frgrscrp.html>). The inspection program entails randomly testing 120 fish for ploidy status. If a single diploid individual is found in the sample, the shipment fails inspection and no stocking can occur. The 120 sample size was established because with a 95% confidence interval the probability of not detecting a diploid in a shipment of 500 fish would be no greater than 2.1%. (Papoulias et al. 2010). Thus, even with the USFWS certification program, a probability remains that shipments of certified triploid grass carps may still contain reproductively fertile diploid fish.

As a consequence of widespread stocking and escapement, grass carp populations have become established throughout much of the Mississippi River basin and other areas of the United States. In some cases, ploidy evaluation of feral grass carps has shown populations to consist of mixtures of triploid and diploid individuals (Schulz et al. 2001). This issue is of concern to managers because of the potential for continued expansion and potential deleterious effects on aquatic vegetation in systems where populations have become established.

In the Great Lakes basin, triploid grass carps have been stocked in inland lakes and reservoirs. Presently, grass carps have been collected from each the Great Lakes with the exception of Lake Superior (Kocovsky et al. 2012). Grass carps were first collected from the Lake Erie basin in the early 1980s (prior to the production of triploid grass carps) (Mandrak 1989; Chapman et al. 2013). However, the establishment of wild naturally reproducing populations was unconfirmed. Recently, Chapman et al. (2013) assessed ploidy of four grass carps collected from the Sandusky River, close to its outlet into Lake Erie, and found that two of the fish were diploid (the ploidy status of the other two fish could not be determined although otolith microchemistry analysis indicated they were likely wild-produced fish). In addition, a commercial seine operator that fishes near the town of Monroe, Michigan has been regularly capturing grass carps comprising multiple age classes for several years (S. Herbst, Michigan DNR, personal communication) providing further evidence that grass carps have become naturalized in the waters of Lake Erie. Lake Erie fishery managers are immensely concerned that a reproducing grass carp population in Lake Erie could quickly increase in abundance and begin affecting aquatic

vegetation densities in the lake. Given the size of Lake Erie and the difficulties associated with sampling grass carps, the best options for controlling grass carp expansion would arguably be to target efforts on locations where grass carps might be spawning (S. Herbst, Michigan DNR, personal communication). Grass carps spawn in rivers with fertilized eggs drifting downstream as they develop. Uncertainty exists as to how much free-flowing river is needed for eggs to develop. Based on current knowledge of grass carps, grass carp tributary use likely would be concentrated in large Lake Erie tributaries and that potential spawning area congregations would be at least of 10 to 12 km upstream from tributary outlets.

In terms of large-scale movements, based on previous research conducted primarily in southern U.S. reservoirs, inter-basin movements of grass carps in Lake Erie would be expected to be limited. Although grass carps sometimes have home ranges in excess of 1,000 ha, generally once areas with appropriate vegetation are encountered fish become quiescent although this behavior may vary annually (Bain et al. 1990; Clapp et al. 1993; Chilton and Poarch 1997).

B. Objectives:

1. Identify tributary use of grass carps in Lake Erie

Hypothesis: The largest tributaries with more than 10 km of accessible reaches of river will be used by grass carps.

Prediction: The Detroit River and Maumee River will be used by grass carps. The Grand River (Ontario) will not be used by grass carps. The Sandusky River, though having less than 10 km, will be used by grass carps with this prediction based on their past capture in the system.

2. Determine how far upstream fish migrate and locate areas of spawning aggregation.

Hypothesis: Grass carps will travel upstream during spawning season to upstream barriers to migration or to a distance in excess of 10-12 km.

Prediction: Grass carps will migrate 48 km to the Providence Dam in the Maumee River and into Lake St. Clair from the Detroit River. Areas of aggregation will occur in fast current reaches over rock or gravel.

3. Determine the extent of inter-basin movements of grass carps in Lake Erie and potential for expansion into lakes St. Clair and Huron.

Hypothesis: Little inter-basin or inter-lake movement of grass carps will occur due to the abundance of vegetation in Lake Erie.

Prediction: Grass carps in the western basin of Lake Erie do not move past the Bass Islands region. Lake St. Clair has the highest risk for invasion by grass carps.

C. Expected Outcomes and Benefits: This study will identify tributary use by grass carps in Lake Erie and movements within tributaries, which will yield important information as to where grass carps may be spawning. This information will aid in designing possible control programs for grass carps. This study will also yield information on possible inter-basin movement of grass carps in Lake Erie and help identify immediate risks of grass carp expansion into the central and eastern basins of Lake Erie and into Lake St. Clair/Lake Huron.

D. Procedure/Methods:

Job 1. Up to 50 grass carps will be collected from Lake Erie and implanted with Vemco V16 acoustic telemetry transmitters. Grass carps will be collected through either commercial seine or trap net fisheries or by electrofishing or other sampling efforts by Michigan DNR biologists. Sampling will be concentrated primarily near Monroe, Michigan, where recent collections of grass carps have occurred. Once collected, grass carps will be sedated using either electrosedation (Bowzker et al. 2012) or some other zero-withdrawal anesthetic. Transmitters will be implanted into the intraperitoneal cavity and incisions will be closed through surgical sutures. Surgical procedures will follow closely those used when implanting Lake Erie walleyes (*Sander vitreus*) with acoustic telemetry transmitters although some modifications in methods may be necessary.

Our aim will be to tag as many fish as possible in summer and fall of 2014 with the remaining fish tagged in 2015. Expected battery life of V16 transmitters is upwards of 10 years so little concern exists about transmitters dying prior to the completion of the study. Our aim will be to tag grass carps from multiple age classes and equal proportions of males and females. Sex of grass carps can be distinguished by several secondary sexual characteristics, although it is not known how accurate these methods are for determining sex (Shireman and Smith 1983). During transmitter implantation, blood will be drawn from each fish for determination of ploidy status because diploid and triploid grass carps may show different behaviors. Blood will be drawn from the caudal artery of each individual. Ploidy status will be determined via the contract established between Michigan DNR and Central Michigan University.

- Job 2. In spring 2015 once ice-out of tributaries has occurred, 36 Vemco VR2 receivers will be deployed in select tributaries to Lake Erie's western basin. Tributaries will be selected after consultation with Michigan DNR, Ohio DNR, and Ontario MNR fishery managers and will encompass a range of sizes in Ohio, Michigan, and Ontario jurisdictional waters so as to allow for testing the hypothesis that tributary use will be greater in larger streams and concentrated in streams located close to the tagging site. Receiver placement will also depend to some extent on placement of receivers for other Great Lakes Acoustic Telemetry Observation System (GLATOS) studies. Receivers deployed for several ongoing GLATOS studies involving walleye movement in Lake Erie may suffice for determining grass carp tributary use. One receiver will be positioned near the mouth of each tributary, while at least one receiver will be positioned further upstream for verifying that movement into the tributary has occurred. Receivers will be anchored mid-channel via moorings with airline cables running from the moorings to river banks. Moorings will consist of 150 lb. concrete anchors with the receiver mounted directly to the mooring.
- Job 3. During fall/winter 2015/2016, acoustic detections from the receivers deployed in Job 2 will be analyzed to determine which tributaries were used by grass carps. Tributary use will be characterized with several metrics, such as numbers of grass carps entering the tributaries and length of stay within tributaries. Differences among tributary size classes will be tested using appropriate statistical tests (e.g., Poisson or negative binomial regression models for count data, ANOVA or linear models for length of stay data possibly after loge transformation of the response variable). If categorizing tributaries into size classes proves too difficult, then we alternatively will use modeling to determine how much variability in tributary use can be explained by tributary size, where size is measured by variables such as amount of free flowing stream or tributary discharge.
- Job 4. In spring 2016, once ice-out of tributaries has occurred, the Vemco VR2 receivers purchased for Job 2 will be deployed in tributaries that were highly used by grass carps as determined from Jobs 2 and 3. Receivers will be deployed throughout the tributaries to determine how far upstream grass carps are migrating, but will also be positioned to possibly identify spawning aggregation areas. Grass carps spawn over bedrock, gravel, or sand substrate in areas devoid of vegetation (Shireman and Smith 1983), and we will strive to position receivers such that we can detect aggregations in such areas.
- Job 5. During fall/winter 2016/2017, acoustic telemetry detections from receivers deployed in Job 4 will be analyzed to measure upstream movement of grass carps in monitored tributaries and areas where grass carps may be aggregating. Linear models will be used determine how much variability in distance moved upstream can be explained by tributary characteristics.
- Job 6. Large-scale movements of grass carps in Lake Erie will be assessed using receivers deployed through other GLATOS projects. Presently, receiver are deployed bisecting Lake Erie's western and central basins permitting detection of inter-basin movement. Receivers are also deployed throughout the Detroit and St. Clair Rivers. Detections from these receivers will be

used to determine the extent of grass carp movement in Lake Erie and risks of expansion into lakes St. Clair and Huron.

Job 7. Write annual performance reports.

Job 8. Write final report. A final report citing the publications produced under jobs 1-6 will be prepared.

G. Schedule:

Proposed Work Schedule		2014-15	2015-16	2016-17
Job 1	Implantation of transmitters	X	X	
Job 2	Deployment of receivers in mouths of connecting tributaries		X	
Job 3	Analysis of connecting tributary use		X	
Job 4	Deployment of receivers within selected tributaries			X
Job 5	Analysis of selected tributary use			X
Job 6	Large-scale movements of grass carps analysis			X
Job 7	Write annual performance report	X	X	X
Job 8	Write final report			X

¹ NA = not scheduled

H. Geographical locations: Western basin of Lake Erie and tributaries

I. Personnel: Travis Brenden and Charles Krueger (Michigan State University); Seth Herbst, Nick Popoff, Cleyo Harris, and Tammy Newcomb (Michigan Department of Natural Resources); Chris Vandergoot and Matt Faust (Ohio Department of Natural Resources); Andy Cook (Ontario Ministry of Natural Resources)

J. Products and deliverables: Up to 2 manuscripts describing grass carp tributary use and potentially large-scale movements in Lake Erie; scientific presentations at regional and national fisheries professional meetings; scientific/informational presentations at regional biologist and angler group meetings.

K. Detailed Budget: Please use the attached form.

Literature Cited:

Bain, M.B., D.H. Webb, M.D. Tangedal, and L.N. Mangum. 1990. Movements and habitat use by grass carp in a large mainstream reservoir. *Transactions of the American Fisheries Society* 119:553-561.

Bowzer, J.C., J.T. Trushenski, B.R. Gause, and J.D. Bowker. 2012. Efficacy and physiological responses of grass carp to different sedation techniques: II. Effect of pulsed DC electricity voltage and exposure time on sedation and blood chemistry. *North American Journal of Fisheries Management* 74:567-574.

Chapman, D.C., J.J. Davis, J.A. Jenkins, P.M. Kocovsky, J.G. Miner, J. Farver, and P.R. Jackson. 2013. First evidence of grass carp recruitment in the Great Lakes basin. *Journal of Great Lakes Research* 39:547-554.

Chilton, E.W. II., and S. M. Poarch. 1997. Distribution and movement behavior of radio-tagged grass carp in two Texas reservoirs. *Transactions of the American Fisheries Society* 126:467-476.

- Clapp, D.F., R.S. Hestand, III, B.Z. Thompson, and L.L. Connor. 1993. Movement of triploid grass carp in large Florida lakes. *North American Journal of Fisheries Management* 13:746-756.
- Kocovsky, P.M., D.C. Chapman, and J.E. McKenna. 2012. Thermal and hydrologic suitability of Lake Erie and its major tributaries for spawning of Asian carps. *Journal of Great Lakes Research* 38:159-166.
- Malone, J.M. 1983. Malone's sterile white amur. *Form Pond Harvest* 17(4):19-20.
- Mandrak, N.E. 1989. Potential invasion of the Great Lakes by fish species associated with climatic warming. *Journal of Great Lakes Research* 15:306-316.
- Mitchell, A.J., and A.M. Kelly. 2006. The public sector role in the establishment of grass carp in the United States. *Fisheries* 31:113-121.
- Papoulias, D.M., J. Candrl, J.A. Jenkins, and D.E. Tillitt. 2011. Verification of ploidy and reproductive potential in triploid black carp and grass carp. Pages 251-266 *in* *Invasive Asian carps in North America*, D.C. Chapman and M.H. Hoff, editors, American Fisheries Society, Bethesda, Maryland.
- Schulz, S.L.W., E.L. Steinkoenig, and B.L. Brown. 2001. Ploidy of feral grass carp in the Chesapeake Bay watershed. *North American Journal of Fisheries Management* 21:96-101.
- Shireman, J.V., and C.R. Smith. 1983. Synopsis of biological data on the grass carp, *Ctenopharyngodon idella* (Cuvier and Valenciennes, 1844). Food and Agriculture Organization of the United Nations, Rome.

Attachment B

Dates: 08/01/2014 - 09/30/2014

	Requested Funds
SALARY/WAGES (See note below)	
Principal Investigator-Travis Brenden (12% effort)	\$ 1441.00
CO-Principal Investigator	
Temp Hourly -	
Total Salary/Wages	\$ 1,441.00
FRINGE BENEFITS	
Principal Investigator	\$ 531.11
CO-Principal Investigator	
Temp Hourly -	
Total Fringe Benefits	\$ 531.11
Total Personnel Costs	\$ 1,972.11
OPERATING COSTS	
50 V16 Acoustic telemetry transmitters (\$300 each)	\$ 15,000.00
25 VR2w Acoustic telemetry receivers (\$1300 each)	\$ 32,500.00
11 VR2 x Acoustic telemetry receivers (\$2400 each)	\$ 26,400.00
VR100 8 Channel DSP Manual Tracking Acoust Receiver	\$ 6,050.00
BETA-VH069T-25m: Transponding hydrophone for VR100	\$ 1,600.75
Other - Surgical supplies	\$ 2,000.00
Other - Telemetry receiver anchors	\$ 400.00
Computer	\$ 1,500.00
Total Operating Costs	\$ 85,450.75
TRAVEL	
Domestic Travel - Lodging	\$ 200.00
Domestic Travel - Meals	\$ 100.00
Domestic Travel - Mileage	\$ 200.00
Total Travel	\$ 500.00
TOTAL DIRECT COSTS	\$ 87,922.86
Indirect cost base	\$ -
INDIRECT COSTS (may not exceed 5%) Waived IDC	\$ -
TOTAL COSTS by source	\$ 87,922.86

Dates: 10/01/2014 - 09/30/2015

	Requested Funds
SALARY/WAGES (See note below)	
Principal Investigator-Travis Brenden (12% effort)	\$ 17,167.74
CO-Principal Investigator	
Temp Hourly -	
Total Salary/Wages	\$ 17,167.74
FRINGE BENEFITS	
Principal Investigator	\$ 6,315.00
CO-Principal Investigator	
Temp Hourly -	
Total Fringe Benefits	\$ 6,315.00
Total Personnel Costs	\$ 23,482.74
OPERATING COSTS	
Total Operating Costs	\$ -
TRAVEL	
Domestic Travel - Lodging	\$ 600.00
Domestic Travel - Meals	\$ 300.00
Domestic Travel - Mileage	\$ 600.00
Total Travel	\$ 1,500.00
TOTAL DIRECT COSTS	\$ 24,982.74
Indirect cost base	\$ -
INDIRECT COSTS (may not exceed 5%) Waived IDC	\$ -
TOTAL COSTS by source	\$ 24,982.74

Dates: 10/01/2015 – 9/30/2016

	Requested Funds
SALARY/WAGES (See note below)	
Principal Investigator-Travis Brenden (12% effort)	\$ 2,238.38
CO-Principal Investigator	
Temp Hourly -	
Total Salary/Wages	\$ 2,238.38
FRINGE BENEFITS	
Principal Investigator	\$ 833.57
CO-Principal Investigator	
Temp Hourly -	
Total Fringe Benefits	\$ 833.57
Total Personnel Costs	\$ 3,071.95
OPERATING COSTS	
Total Operating Costs	\$ -
TRAVEL	
Domestic Travel - Lodging	
Domestic Travel - Meals	
Domestic Travel - Mileage	
Total Travel	
TOTAL DIRECT COSTS	\$ 3,071.95
Indirect cost base	\$ -
INDIRECT COSTS (may not exceed 5%) Waived IDC	\$ -
TOTAL COSTS by source	\$ 3,071.95

Dates: 10/01/2016 – 12/31/2016

	Requested Funds
SALARY/WAGES (See note below)	
Principal Investigator-Travis Brenden (12% effort)	\$ 573.51
CO-Principal Investigator	
Temp Hourly -	
Total Salary/Wages	\$ 573.51
FRINGE BENEFITS	
Principal Investigator	\$ 215.02
CO-Principal Investigator	
Temp Hourly -	
Total Fringe Benefits	\$ 215.02
Total Personnel Costs	\$ 788.53
OPERATING COSTS	
Total Operating Costs	\$ -
TRAVEL	
Domestic Travel - Lodging	
Domestic Travel - Meals	
Domestic Travel - Mileage	
Total Travel	
TOTAL DIRECT COSTS	\$ 788.53
Indirect cost base	\$ -
INDIRECT COSTS (may not exceed 5%) Waived IDC	\$ -
TOTAL COSTS by source	\$ 788.53