Economic Development Incentive Grant
2014-15 Annual Report – Aquaculture Technologies

Directions
Please submit the annual report as a Word document via email to ttalukdar@uwsa.edu (no hard copies please). The annual report is due by Friday, July 3, 2015 at noon. The following information must be provided:

Institution Name(s): UW Milwaukee School of Freshwater Sciences
Project Title: Research and Training Center for the Commercialization of Intensive Aquaculture
Principal Investigator: David EJ Garman
Email: garmand@uwm.edu
Grant Award Amount: $2.3m
Grant Funding Spent (to date):

I. Status Report
The project has made steady progress despite a major delay with the construction of the workforce training lab and a possible cost overrun on the construction. An extension to June 30 2016 was sought and granted. Industry interest remains high and a possible full scale recirculating aquaculture system is under negotiation with investors.

II. Updated Goals/Performance Metrics and Assessment Plans
See attached spreadsheets

III. Project/Program Budget and Expenditures
Project Scope:
- 5000 sq ft workforce training in new biosecure laboratory with 3 lines of aquaculture recirculation tanks for raising fish from fingerlings to market size
- Enhanced hatchery and fingerling production tanks with associated green-tanks
- Aquaponics teaching and research laboratory
- Research on recirculation aquaculture and nutrient removal
- Improvements in fish nutrition for improved aquaculture profitability

<table>
<thead>
<tr>
<th>Budget</th>
<th>Revised Estimate</th>
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<tbody>
<tr>
<td>Training Lab &amp; Equipment</td>
<td>$800,000</td>
</tr>
<tr>
<td>Technical support for lab</td>
<td>$305,000</td>
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<tr>
<td>Nutrient removal</td>
<td>$300,000</td>
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See detailed report sheets.

**Nutrient removal**

Three projects were funded under this program:

- Enhanced nitrogen removal using sand filters – successfully completed showing that a novel association of *Archea sp* are responsible for this process in the labs. A possible commercialization and transfer to industry is being explored.

- Phosphorus removal – using similar macroporous material has been developed for P removal using both rare earths and low cost transition metals. An invention disclosure has been lodged with interest from industry. The project is 85% complete. A license is expected to be issued before the end of 2015.

**Nutrition Improvement**

This work was to take place in the new aquaculture research lab that is still under construction. The experimental work has been delayed due to this lack of space. A senior research scientist has been hired and has commenced new food preparation processes include sourcing of alternative food base materials such as yeast, soy and human food processed wastes. Another dedicated lab has been allocated and equipment have been purchased for pelletizing and for food analysis. The project is about 50% complete.

**IV. Changes**

An aquaculture certificate course has commenced and with a very restricted class size will be offered with training in existing fisheries/aquaculture research labs.

On the basis that the workforce training will commence in the near future, discussions to establish a commercial aquaculture facility in Racine have been initiated. This will be an $8 to $14 million investment with initially 20 jobs. The new lab will be used to supply fingerlings to service the facility under a research contract.

Aquaponics - The proposed external matching funding for the aquaponics laboratory did not materialize. Funds are largely reallocated to the aquaculture lab with small amounts to other projects.

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If you have any questions, please do not hesitate to contact me at ttalukdar@uwsa.edu.