

Best Aquaculture Practices Fish Welfare Proposal

[From email from the CEO]

Thank you for the opportunity to propose work on animal welfare. I've had a few discussions with members of the GAA team. As discussed earlier, we are thinking of an approach that would begin with a lab and field review, include lab tests of promising new approaches, and validate potential best practices with trials at commercial farms. The results would be presented to seafood industry leaders at the annual GOAL meeting, they would be drafted into online education modules, and they would be proposed to our BAP Standards Oversight Committee for updating our BAP certification standards.

The following is an outline of the process we're considering along with estimates of the costs of key elements.

- Species
 - Salmonids have been well studied and practices are already in place
 - § Review as a model for other species
 - Focus on other internationally traded finfish species
 - Tilapia
 - Pangasius
 - Marine fish
 - Consider shrimp, but less of a priority
- Collaborate with Universities and field representatives to review current animal welfare practices and identify best practice
 - Review published research
 - Survey practices currently in commercial use
 - Where appropriate, conduct trials in lab, e.g. to apply salmon methods to tilapia
 - Budget
 - \$50,000/species x 3 species = \$150,000
- Arrange for trials in field
 - Work with leading commercial producers/early adopters
 - Budget
 - \$25,000/species x 3 species = \$75,000
- Develop online education modules about animal welfare
 - Module 1: Principles of Animal Welfare
 - Modules: 2, 3, and 4: Best practices for each species
 - Budget: \$75,000
- Present results as a special panel discussion at annual GOAL meeting
 - Provide registration and travel costs for primary presenter and 4 panelists
 - Budget:
 - Registration fee: \$2,000/speaker x 5 = \$10,000
 - Travel and accommodations: \$4,000 x 5 = 20,000
- Incorporate most important elements into BAP standards

- Contract an animal welfare specialist and a standards specialist to draft proposed BAP standards and present to BAP Standards Oversight Committee
- Budget
 - Preparation: 10 days @ \$1,000/day = \$10,000
 - Travel and accommodations: \$5,000
- Project administration
 - Manager
 - Experienced project coordinator to devote 50% time
 - Budget: \$50,000
 - Bookkeeping and indirect costs
 - Budget: \$40,000

This amounts to a budget of \$435,000, which is a bit larger than anticipated.

1. What time period would this budget / project cover? I.e. do you view this as a 6 month, 1 year, etc. project? If this is an annual cost, do you anticipate wanting to renew funding at the end of the project?
 - a. I would anticipate a 2-3 year horizon for completion of this body of work. The budget would cover the full project.
2. Could you break down in a bit more detail the costings for the review of current and best practices, the field trials, and the online education modules? We just want to understand within each category what the funds go to, e.g. contractors, staff time, travel, etc. (The other categories already provide enough detail.)
 - a. Budget for review of current and best practices (\$50,000 each for 3 species)
 - i. Literature review and survey of commercial practices: \$ 15,000
 - ii. Visit leading labs and commercial farms studying or implementing best practices: \$15,000
 - iii. Fund extension of lab research to commercial trials: \$20,000
 - b. Budget for field trials (\$25,000 each for 3 species)
 - i. Travel and discussions with potential cooperators: \$10,000
 - ii. Arrange trials using best practices identified in lab research phase above: \$15,000
 - c. Budget for development of 4 online education modules
 - i. Create and review design plan, define audiences, develop storyboard with course descriptions, scripts, recommended images and interactions, and quizzes: \$40,000
 - ii. Acquire or develop video, audio, graphic design, animation, and interactions and produce course in Adobe Captivate with language translations: \$20,000
 - iii. Upload course to Moodle and test performance: \$10,000
 - iv. Customer service, review and update content: \$5,000

3. Could you provide a bit more detail on the projected outputs? E.g. welfare reviews, trials, and online education modules for 3 species; presentation at GOAL meeting; proposed BAP standards for X many species.
 - a. Welfare reviews
 - i. Contracted literature review and survey of commercial animal welfare practices for each selected species. These reviews could be summarized for publication in the GAA magazine or in peer-reviewed literature, or for presentation at the GOAL meeting.
 - b. Trials
 - i. Our expectation is that innovative techniques will be found in a lab setting. Our challenge will be to link the researchers and their technology with commercial producers to pilot their techniques in a commercial setting. We expect the commercial producer to cover much of this cost, but funds will be required to support travel by the research team and various meetings to arrange and coordinate the commercial trials.
 - c. Online education
 - i. We have an experienced team consisting on educational design professionals, editors, and producers who are engaged in development of online education lessons. We currently have developed lessons in disease management, seafood safety, water quality, and social accountability. We are now in the process of “re-imagining” these Moodle courses in a more interactive Adobe Captivate platform with much more engaging and interactive content. The proposed online lessons on animal welfare will be developed in this new format.
 - d. GOAL meeting
 - i. The 3-day annual Global Outlook for Aquaculture Leadership meeting attracts 400-500 seafood industry leaders including retailers, importers, processors, producers, feed companies, regulators, researchers, and NGOs. The purpose of the meeting is to identify issues facing aquaculture and develop consensus solutions. Animal welfare has been a topic that retailers have expressed concerns about in recent years. The results of the animal welfare literature review, survey, and field trials would make an excellent topic to present to this group.
 - e. BAP standards
 - i. BAP certifications are currently applied to 2 million metric tons of seafood. If this study results in recommendations about best practices, these can be offered to the BAP standards oversight committee for inclusion in BAP certification standards. If adopted, all certified farms would be required to implement the new technologies.