

Memorandum to Cabinet

Mémoire au Cabinet

PARTNERSHIP FUND
TO PILOT CLOSED CONTAINMENT
AQUACULTURE TECHNOLOGY

TITRE DU MÉMOIRE
AU CABINET

Date

Gail Shea, Minister
of Fisheries and Oceans Canada

Date

Ministre des XXXXX

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MINISTERIAL RECOMMENDATIONS

ISSUE

Whether to support an aquaculture technology Partnership Fund to stimulate economic development in Vancouver Island and British Columbia's coastal communities, as a means to test the feasibility and sustainability of using closed containment as an alternative to traditional salmon aquaculture technologies.

RECOMMENDATIONS

It is recommended that:

1. In partnership with industry (Marine Harvest - \$5M), the Province of BC (\$10M), and a charitable donor (Gordon and Betty Moore Foundation - \$10M), Cabinet support the investment of \$5M to contribute to a fund which will support initiatives piloting new, commercial-scale aquaculture systems. The Partnership Fund will provide the ability to test technical capabilities vis a vis finfish production and sustainability aspects. Results from the projects are expected to clarify a path for sustainable growth necessary to generate the investor confidence currently lacking in the aquaculture industry. By shedding light on implications of alternate technologies, the fund will help improve the business climate and public perception of aquaculture, which is necessary for Canada to benefit from the growing global aquaculture market.
2. The Parliamentary Plan, as set out in Annex B [to be completed] be approved, and that it be implemented in consultation with the Office of the Leader of the Government in the House of Commons, the Office of the Leader of the Government in the Senate and the Prime Minister's Office. Should the effective implementation of the Plan require further policy, legislative or program design change, the Minister of Fisheries and Oceans will return to Cabinet for approval.
3. The Communications Plan, as set out in Annex C [to be completed] be approved, and all communications activities, including the timing of any announcement, be approved in consultation with the Privy Council Office and the Prime Minister's Office.

RATIONALE

4. The issue of how salmon is farmed is highly controversial, particularly in BC, the most productive and economically important salmon producing region in Canada. Arguments for a completely new way of farming salmon are gaining momentum as a result of public concerns and attention brought about by environmental groups regarding current aquaculture methods and threats to the natural environment. The growing political pressures are presenting a significant obstacle for successful industrial growth.
5. The Canadian aquaculture industry has expanded much more slowly than its international competitors and has failed to meet its potential. In late 2007, the Government took initial steps to address this issue by providing policy approval for

the development of a new federal Sustainable Aquaculture Program. The policy approval was followed up with a the Budget 2008 announcement of \$70M in funding over five years in order to implement this program initiative. As a result of these investments, the program structure and delivery mechanisms needed to provide funding and oversight to the proposed Partnership Fund are fully in place.

6. In an effort to address the environmental controversy surrounding salmon aquaculture in BC, and in keeping with the Sustainable Aquaculture Program thrusts, the proposed Partnership Fund is a one-time investment in the potential expansion of closed-containment technologies which would test, at a commercial scale, technology systems which grow salmon in closed structures rather than in the open sea cages commonly used today. Critics of salmon aquaculture typically argue that the environmental impacts of salmon farming are externalized in traditional aquaculture systems and that they must be they must be internalized for long-term sustainability. Closed-containment technology systems are seen as the key means for doing so. However, such systems have never been developed and tested for salmon farming at commercial scales and their technological, environmental and financial desirability and feasibility have yet to be proven.

7. There are several different types of closed-containment systems, but the main idea is that they employ an impermeable tank wall which isolates the culture environment from surrounding ecosystems. Theoretically, culturing fish in closed environments allows for greater control over conditions, which could lead to improved quality of fish while also reducing, or eliminating environmental impacts. Different closed containment systems include marine floating bag systems, land-based saltwater flow-through systems, land-based freshwater recirculating systems, a proposed marine floating concrete tank system, among others.

8. Closed containment is arguably the most complex technical issue facing the aquaculture industry today. Pilot projects are necessary because the true environmental and financial consequences of operating closed containment technological systems have yet to be formally addressed. Prolonged, commercial-scale demonstration of the feasibility and sustainability of closed containment is essential before policies recommending a switch from open-net pen aquaculture to such alternative methods of farming can be justified.

9. Through supporting the extensive, on-the-ground research and analyses necessary to reduce the high-risk involved in making decisions about implementing new aquaculture technology, the Partnership Fund will exhibit a focused Government dedicated to responsible spending. The fund will trigger significant growth in aquaculture leading to new job opportunities and choices for people in rural and coastal communities. It will enhance workers' skills with new technologies so that Canadians are equipped to succeed. Through assessing technological sustainability, the Partnership Fund will be an investment in ensuring a healthier environment and effective use of technology, while enhancing Canada's quality of life and commerce. Lastly, supporting the Partnership Fund will lead to clear results, encouraging conditions in which industry can invest and flourish.

CONSIDERATIONS

10. In Canada, open-net pen salmon farming accounts for nearly 70 percent of total aquaculture production. As such, the ecological impacts of salmon farming resulting from the open nature of the system have historically been a focus of concern, including for example:

- alteration of benthic environments beneath net-pens;
- potential amplification and spread of disease and parasites (such as sea lice) to wild fish populations;
- potential ecological and genetic impacts of escaped salmon;
- the release of chemotherapeutants and other chemicals into coastal waters;
- high levels of industrial energy inputs; and
- loss of marine-derived nutrients through relatively high fish meal and oil inclusion rates in feeds.

10. Closed-containment technology is currently supported by several stakeholders despite there being potentially significant environmental and financial impacts associated with it. For instance, increased material and energy demands may result in substantial contributions to several environmental impacts of global concern, including global warming, resource depletion, and acidification. In addition, closed containment systems are very expensive to build and the cost might not be justified because there is not enough evidence to suggest that fish performance in the systems will be better and that productivity will be higher.

11. There are also potential advantages of closed containment systems such as: minimized fish escapes; minimized predator interactions; reduced disease transmission; lower feed inputs; higher stocking densities; and, waste management capabilities.

12. Given that this high-profile controversy stemmed from British Columbia, the decision to support the Partnership Fund could have significant implications for the planned, upcoming General Election and Referendum on Electoral Reform on May 2009 to be held in the province.

IMPLEMENTATION PLAN

13. Under the Sustainable Aquaculture Program initiative, the Aquaculture Innovation and Market Access Program (AIMAP) was developed with the aim to improve the competitiveness of the sector and its environmental performance. This is a fund for industry, private individuals, non-profit groups, Aboriginal organizations, and educational and research institutions. Investment in the proposed Closed Containment Partnership Fund would position the Government as working with the province, a major charitable organization and the industry in a way that directly responds to major environmental group and broader societal concerns. An investment of this nature would be completely in keeping with the goals and objectives of the AIMAP and can be administered by this established funding program, as approved by Treasury Board.

14. Fully invested, the \$30 million Partnership Fund would underwrite and oversee implementation of 3-4 commercial scale, closed containment pilots, to test the feasibility and sustainability of the new technologies vis a vis other alternative systems. Criteria for selecting proposals will be established based on a balance of Federal Government responsibilities and priorities set out by Fisheries and Oceans

Canada. The Partnership Fund will provide for transparent environmental and economic monitoring and analysis of these projects, resulting in a strengthened climate for industry investment and marketing.

DUE DILIGENCE

20. [Financial, Asset and HR Implications]

21. [Reviews, Results and Accountability]

22. Expected results from the Partnership Fund will be monitored, evaluated, and reported on using an overall performance measurement strategy for the fund alongside which, specific expected results will be developed. Overarching, fundamental results expected from the pilot projects' outcomes include:

- Economic growth in rural and coastal communities (Job creation)
- Clarification of a sustainable path forward for the aquaculture industry
- Improved public perception of aquaculture technologies
- Increased availability of scientific information and advice to decision-makers and industry
- Improved investment climate, increased industry investment
- Increased aquaculture production capacity
- Enhanced Canadian competitiveness internationally
- Improved environmental performance
- A Canadian aquaculture sector that is well positioned to meet market demands for high value features such as certification for social, economic and environmental performance

24. An evaluation of the overall funding activity will be in tune with the Evaluation Policy requirements set out for all activities/sub-activities of the Fisheries and Oceans Canada Program Architecture Activity. The evaluation will feed into the New Aquaculture Program initiative reflected in the Departmental Evaluation Plan, updated annually.

25. An internal audit will be considered in the context of the Department's Risk-Based audit Work Plan that is updated annually which include any requirements of the Office of the Comptroller General pursuant to horizontal audits.

COMMUNICATIONS PLAN

The Communications Plan attached as Annex C [to be completed] proposes a proactive approach highlighting federal responsible spending; collaboration with industry; the province of BC and the charitable foundation; and, a commitment to sustainable growth.

Gail Shea Minister of Fisheries
and Oceans Canada

and Other Minister(s), if required
(in order of precedence)

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