

Federal government actions necessary for aquaculture development

The following is a list of federal statutes, regulations, and policies that restrain aquaculture development in the U.S. that must be changed in order for the U.S. to become a net exporter of seafood. Appropriate changes are suggested.

Executive Summary

The United States seeks to make seafood an export industry. Since wild fishery resources are fully developed, aquaculture production must be substantially increased by over 5 billion pounds per year of edible meat worth \$11 billion. A rough estimate is that this will require \$50 billion in new capital investment for facilities, working capital, and infrastructure.¹

Developing new production faces formidable restraints to entry as does the expansion of existing facilities. Aquaculture production in the U.S. is constrained by (1) extraordinary regulatory hurdles; (2) a negative image in the minds of the public, government officials, customers and investors; with (3) a lack of private sector capital available to finance such a significant expansion of production. To fulfill this objective each of these three constraints must be overcome.

Executive leadership. In order to foster aquaculture development in the U.S., the President, in consultation with leaders in the aquaculture industry, must reaffirm that “it is the national policy to encourage the development of aquaculture in the United States”² and direct all Departments and federal agencies to reflect this policy in their activities and to the public; the Corps of Engineers must be directed to establish a national office of aquaculture development to adopt national policies that are supportive of aquaculture and to expedite individual permits; the USDA and OMB be directed to immediately conclude the rule-making process for certification of aquaculture products under the Organic Food Production Act of 1990; and a Domestic Policy Review on Aquaculture must be conducted by a large group of private sector aquaculturists to develop an action list of other needed policy changes. By executive order all agencies that require environmental impact studies for aquaculture undertakings must act to substantially minimize the costs, time requirements, and risks for permit applicants.

Actions specific for aquaculture. With regulatory reform, Congress must amend the Lacey Act to remove restraints in interstate commerce of aquaculture products; amend the National Aquaculture Act of 1980 to make capital requirements for aquaculture a high and necessary priority under the Act, and to restore to the Act the requirement for an industry advisory committee to advise the federal government on all aquaculture matters; amend the Coastal Zone Management Act of 1972 to assure that aquaculture ventures have full access for good

¹ For additional information see “AQUACULTURE: Will it rise to its potential to feed the world?” by George S. Lockwood, 2017.

² National Aquaculture Act of 1980.

land and water sites in coastal zones; establish a new federal office for Aquaculture Development that is well staffed to work directly under either the Secretary of Commerce or the Secretary of Agriculture; and act to adopt a Federal Permitting Improvement Office within the Office of Management and Budget for one-stop permit processing and approvals for all required federal permits.

Concerning capital availability, Congress must act to assure that the flow of household savings and earnings be opened to investments in aquaculture and other small innovative businesses through substantially reduced percentage and/or absolute amounts of tax deferred savings that can be placed into tax favored Individual Retirement Accounts; to amend the tax code to provide for direct expensing of aquaculture investments in the year an investment is made; and establish tax rates for aquaculture entities that are equal to or lower than for other alternative investments, including Individual Retirement Accounts.

Actions for innovative small businesses. Most aquaculture ventures are small innovative businesses. Congress must act to provide favorable security regulations so that the official and unwritten charter of the Security Exchange Commission be changed to facilitate and accommodate, not just to regulate, flows of capital into all forms of innovative small businesses, including aquaculture; to amend the Soberanes-Oxley Act to eliminate or exempt onerous accounting and reporting requirement that negatively impact small and medium sized businesses such as aquaculture; and amend the Dodd-Frank Act to encourage banks to lend to small innovative businesses including aquaculture.

Without these critical changes to reduce the heavy negative impact in these federal policy areas, aquaculture development in the U.S. will remain constrained and domestic produced seafood will remain an insignificant factor in export earnings or in world markets.

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There are many federal policies, statutes and rules that constrain aquaculture development in the United States. These policies must be corrected so that aquaculture development can happen. Some of these policies are discussed below.

National Aquaculture Act of 1980 (As Amended in 1985)

Purpose. This Act states “It is, therefore, in the national interest, and it is the national policy, to encourage the development of aquaculture in the United States.” Also, “The principal responsibility for the development of aquaculture in the United States must rest with the private sector.” It declares that “aquaculture has the potential for reducing the United States trade deficit in fisheries products...”

The Act established an “Interagency Aquaculture Working Group” (IAWG) initially named the “Joint Subcommittee on Aquaculture” (JSA). This coordinating group is composed of Secretaries, Administrators or heads of 12 specified Departments or Agencies, including the Secretaries of Commerce, Agriculture and Interior. Agriculture and Commerce have leadership roles. In all cases, designees can be appointed to act on behalf of Secretaries, Administrators, and other agency heads.

The aquaculture coordinating group has a broad charter relative to identifying and recommending “actions on issues, problems, plans, and programs in aquaculture.”

The initial Act of 1980 included an advisory committee from the aquaculture industry. This function was eliminated in the 1985 amendment to the Act.

Sec. 8. “Capital Requirements for Aquaculture” deals with “capital constraints that affect the development of aquaculture in the United States.”

History. Over the past thirty-seven years the interagency group has been effective in dealing with issues such as EPA rule-making, Corps of Engineers policies and approvals for aquaculture, the FDA with medications for fish and shellfish, and in coordinating research and other activities among many agencies within the federal government. IWGA leaders have provided active support for the proposed pending USDA rule for organic aquaculture that has been, so far, an 18 year effort that has yet to produce a necessary rule.

The IAWG that is located in the Executive Branch is limited in its ability to interact with Congress. It also lacks an executive leader to provide focus on the matters included in the Act.

While the IAWG has been active and effective on most other issues, it appears to have had limited, or no interactions with the IRS, SEC and Federal Reserve concerning capital available for aquaculture as specified in Sec. 8 of the Act. This may be because Secretary designated members are and have been mostly biological scientists with limited, if any, knowledge or experience in Capital Requirement matters required in Sec. 8. of the Act.

While most new entries to aquaculture, and many existing firms, are small businesses that are in need of both capital and regulatory relief, the Small Business Administration appears to have had only minor participation in the IAWG over the past 37 years. If aquaculture is to become a net exporter of seafood, the SBA must be fully involved in the processes of constructively removing the many federal policy constraints in the development of small innovative businesses in general, and in developing aquaculture in particular.

Aquaculture has been defined in the eyes of the public by its adversaries. This adverse public image affects government regulators, prospective investors, and customers. It appears that in the past IWGA has not participated in any assertive way in using the scientific expertise of its member agencies and their research grantees in publically defending aquaculture against unfounded claims by those who oppose aquaculture. IAWG as a group, or its member agencies, has not publicly refuted the erroneous claims that have been made regarding toxic food qualities of farmed fish and environmental harm supposedly brought by aquaculture. This is unlike in other countries such as the Department of Fisheries and Oceans in Canada.

Now and the future. The National Aquaculture Act, with its IAWG, has an essential role to play if we are to achieve the goal of exporting more seafood products than we import. Responsibility for action under this Act is necessary to:

- create a good and correct public image.
- assure that the Lacy Act is suitably amended.
- support new legislation such as the Federal Permitting Improvement Act of 2016.

- assure amendments to tax laws, Dodd-Frank and Soberanes-Oxley to encourage flows of capital into aquaculture and to not prevent them
- assure amendments or enactment of other laws, rules and policies that must be changed pertaining to the IRS, SEC, and the Federal Reserve for the provision of capital.

This list must become priorities for IWAG and with the several departments and agencies that are members of the IAWG.

In summary, the National Aquaculture Act of 1980 has been supportive and valuable since its inception in many ways. Moving forward, however, it is necessary that it more broadly focus on such matters as capital availability, public relations, and repressive laws, regulation, and policies in our federal government.

Most department representatives to JSA and IWGA have life-science backgrounds. At present there is an urgent need for greater action by appointing delegates to IAWG who understand obstacles to business formation who can guide IWGA to put our good aquaculture technologies to work to develop this important industry.

A major factor in the lack of aquaculture development has been inadequate entrepreneurship and the restraints causing it. *These restraints must be eliminated.* This is an extremely important role for the expertise of the SBA.

The original Act of 1980 provided for an advisory committee of aquaculture practitioners. Unfortunately, Sec. 4(a)(3) that provided for this committee was eliminated in 1985. This was a serious mistake. *The private sector advisory committee must be restored and the role of this committee expanded.* Legislative action may be necessary.

Financing Aquaculture

My rough estimate is that capital in the range of \$50 billion will be necessary to build domestic aquaculture to be a net export industry. The amount may be smaller or it may be greater. However, it is likely in the billions of dollars, not millions and not trillions. Unfortunately, this level of investment will not be available with the present financial structure in the U.S. economy.

History has shown that large corporations have not been successful in aquaculture in the past, although many have tried. With few exceptions, aquaculture development will require the entry of many small, independent entrepreneurs. All forms of small business innovation require improved access to good capital. This clearly is the case with aquaculture.

The availability of capital for small business innovative enterprises began a long term decline during the 1970s. Over the past ten years the flow of funds for financing small business innovation has essentially vanished. This observation excludes venture capital firms which do not invest in aquaculture. This situation is not expected to change on its own.

Success in committing the large amount of capital required for aquaculture development will depend upon reducing the amount of household savings that flow into financial institutions for tax-favored retirement plans, while increasing the amount of funds that remain at the

discretion of household savers across America to allocate more of their savings into local innovative investments. Over the past 40 years, very little attention has been given by economists and federal policy-makers to understand how tax-favored IRAs have brought on a major decline in funds for innovation and small business formation, including for aquaculture development.

Also needed are tax reforms that favor investments in small business innovators in general, and in aquaculture specifically. Direct expensing of capital investments is one example. Private equity, venture capital, hedge funds, mutual funds, and other existing retirement investment pools cannot be expected to participate in the growth aquaculture. Investments in aquaculture must come from individuals across America who can retain significant amounts of their savings to invest locally. This will require adjusting tax-favored IRA allowances that now successfully compete for these savings.

Other areas of finance that need attention are opening access for aquaculture firms to public equity markets through securities regulations, and returning to local banks the ability to lend to creditworthy local businesses around the U.S., such as aquaculture, that may need debt capital for expansion and working capital.

Tax reform Tax rates and exemptions play a disproportionate role in attracting capital to investments and in private sector investment decisions. Present US tax policies discriminate against investing in aquaculture and favor investing in the financial industry.

Much new seafood production that is required must come from new entities. If and when they become profitable these young companies will be required to pay 40% or greater income taxes. Such high tax rates reduce financial returns and increase risks. Well established companies (*e.g.*, General Electric) in some years pay at much lower rates (*i.e.*, 12%).

Tax favored IRAs attract most of the household savings in the US at the expense using such household saving to invest in small innovative businesses. Large amounts of tax favored retirement savings now flow to money market centers and not to local aquaculture businesses across America.

Suggestions for attracting private individual investment to aquaculture include:

1. Allowing individual investors to directly expense their investments for tax calculations in the year the investment is made in qualified aquaculture firms.
2. Establishing the lowest tax rates, or eliminating taxes, for qualified aquaculture firms for a specified term, such as the first ten years.
3. Lowering the maximum percent of annual individual incomes for tax-payers who participate in IRAs. A reduced maximum would require the tax payer to retain a higher percentage of his or her income for investment at his or her discretion, including retaining savings for investing in local innovative enterprises such as aquaculture.
4. Another alternative would allow IRA tax-favored investors to invest part of their tax-sheltered IRA savings directly into local qualified aquaculture businesses.
5. Other tax incentives for retaining higher levels of savings at home for local investing, and for allowing individual investing in innovative small enterprises like in aquaculture.

As used above a “qualified aquaculture company” must have a legitimate business purpose with activities entirely directed towards profitably raising fish and shellfish.

Dodd-Frank Act. This hastily written Act was adopted in response to the 2008 financial collapse. As a result of merging large deposit-taking banks into a few very large banks, coupled with many new requirements of this act and new rules of the Federal Reserve System, the largest banks do not lend to small businesses, including aquaculture. Nor do smaller “community” banks due to the heavy compliance burdens that disproportionately weigh on them.

Suggestions to encourage bank lending to credit-worthy aquaculture companies include:

1. Working with the Federal Reserve System to amend the Dodd-Frank Act, their rules, policies and enforcement activities, to return to local lending by community banks.
2. Taking actions so that small banks can return compliance officers back to being lending officers.
3. Other actions to encourage banks to lend to small innovative businesses in the towns and cities around America.

Soberanes-Oxley Act This Act (“SarBox” or “Sox”) was meant to eliminate accounting fraud after the collapse of Enron and other large, high profile, public companies. It imposes many accounting rules and very costly compliance activities that disproportionately impact upon small public corporations resulting in compliance difficulties and overbearing costs.

In order for aquaculture entrepreneurs to once again have effective access to capital supplied from public markets, Congress must eliminate or exempt those onerous features that require excessive reporting and compliance for small and medium sized businesses. Bank compliance officers must return to being loan officers. It is important to assure that small innovative businesses are not overloaded with restrictions and reporting as well.

Security Exchange Commission The SEC is a heavy regulator of public financial markets and how entrepreneurs can access them. Aquaculture companies no longer have access to public markets for offerings of their stock and other public securities to finance their companies unless they grow to a very large size before seeking to go public.

In order for this to change, it will be necessary for Congress to change the official and unwritten charter of the SEC to facilitate and accommodate, not just to regulate, flows of capital into innovative small businesses, including aquaculture.

Regulatory Reform

Those entrepreneurs seeking to build an aquaculture business face daunting challenges in dealing with a multitude of regulatory agencies at all levels of government. The Environmental Impact Studies required to traverse this regulatory gauntlet take too much time, cost too much money, and involve too much uncertainty over whether the new company will ever be permitted to even exist. Therefore, no new aquaculture ventures enter the field.

The present regulatory environment involving federal, state, regional, county and municipal governments requires major reformation. What is now an incoherent cluster of uncoordinated rules and laws needs to be greatly simplified and placed into a coherent set of applicable policies. This unwieldy regulatory environment is a major barrier to entry barring new innovative firms that are necessary to meet the challenges for the US to become a net exporter of seafood.

Lacy Act amendment The Lacy Act is a major constraint in the interstate commerce of live fish, and is a threat to the transport of slaughtered seafood and products as well. Critical amendments around 1981 were incorporated by congress without any input or consideration from the aquaculture community. If aquaculture is to grow to the level of production sought, this Act must be substantially amended to remove its constraints to interstate commerce.

The first step is to recover a letter written to me as president of the World Mariculture Society by Ms. Carol Dinkins, US Deputy Attorney General, around 1983 or 1984 that provided assurances that the newly amended Lacy Act would not be enforced against producers of legitimately farm grown fish. A copy of this important letter must be in the US Archives that can be recovered and photocopied.

The next step would be to seek the support of the Sec. of Interior to request Congress to amend the Lacy Act to include this policy and perhaps other amendments to allow aquaculture producers freedom to transport live fish in interstate commerce without threat of criminal liability. Many jobs and many export sales depend upon removal of the harmful portions of this bad act.

National Coastal Zone Management Program In fiscal year 2016, the Department of Commerce through its Office for Coastal Management invested nearly \$70 million through the Coastal Zone Management Act to implement coastal management programs in 34 participating states and territories. Federal funding was matched by more than \$50 million from state and local governments and others. These funds are being used to achieve coastal management goals that do not advance coastal aquaculture. For example, in one state, California, its Coastal Zoning Administration has essentially prevented any new aquaculture activities in its coastal zone for many years. Over a thousand miles of coastline and hundreds of species of fish and shellfish have been excluded from aquaculture development.

For the successful growth of aquaculture to expand seafood production to become a net export industry, all states with coastal plans that are financed by the US government must be required to facilitate and accommodate aquaculture development in meaningful ways. This includes some state plans that must be retrofitted and changed. If states refuse, then funding for coastal zone planning through the Department of Commerce should cease.

Coastal zone planning in coastal and Great Lakes states is a job killer and causes the importation of much seafood produced abroad.

US Army Corps of Engineers. The Corps of Engineers is involved in most aquaculture permitting. It must approve most aquaculture activities located in federal and state navigable waters, including lakes and streams throughout the country. The policies and responsiveness of

this agency vary considerably around the U.S. and territories. Long delays are often experienced.

One solution to this problem would be to establish a national office of aquaculture development within the Corps to develop supportive national policies and to expedite individual permits.

Federal Permitting Improvement Act of 2015 This proposed statute was introduced in the 114th Congress but was not adopted. It would have applied to all public works projects with a value of \$25 million or larger. An office for this new agency would have been located in the Office of Management and Budget in the White House.

Such a proposal, amended to be suitable for aquaculture, would establish a one-stop office for all aquaculture permitting required at the federal level for starting or maintaining an aquaculture facility in the US. It would work directly with all agencies to establish clear policies with clearly written regulations.

Norway, the locus for the global salmon industry has a similar process. Not only would such a national office centralize and simplify permitting at the federal level, it would work with aquaculture development offices in each state and territory. Perhaps one of its missions would be to assist states in establishing such state programs that are modeled after very successful programs in Maine, Hawaii and Mississippi.

United States Department of Agriculture The Secretary of Agriculture is the permanent chair of the Interagency Working Group on Aquaculture and the USDA is one of the thirteen specified department that are members. It is a major sponsor of aquaculture research at various universities as well as in its own laboratories.

Unfortunately, the USDA National Organic Program does not support aquaculture. Since 1999, NOP has considered various proposals for organic standards for the organic certification of fish and shellfish and after all these years (18) it has yet to submit a proposed final rule for public comment in the rule-making process.

Farmed fish and shellfish in the US are the only food groups that do not have access to the USDA Organic label, yet more than 5% of all other food commodities qualify for this premium label. Since 2005 a professional Aquaculture Working Group that was appointed by the Secretary of Agriculture has worked diligently to develop an appropriate organic aquaculture rule. At this time, all organic labeled seafood sold in the U.S. is imported.

Many Americans could be put to work growing premium value seafood products if the USDA were to allow and encourage organic standards for aquaculture. Premium prices would provide strong incentives for entrepreneurs to grow salmon, tilapia, shrimp and other species in the U.S. rather than import them from overseas. Fish and shellfish bearing the “USDA Organic” label would enjoy considerable demand overseas.

Domestic Policy Review on Aquaculture

The above discussion concerns policies, laws, rules and activities of the federal government that one way or another impact the development of aquaculture in the United States. This is not an

all-inclusive list, and there are a number of other policy areas where attention should be focused. To obtain a more complete picture of the proper role of the U.S. government in aquaculture development, it is suggested that the Secretary of Agriculture and the Secretary of Commerce appoint 100 to 200 private sector aquaculturists, suppliers, financiers, etc. to develop an action list of needed policy changes. This should be done soon.

The task of this entirely private sector group would be to conduct a Domestic Policy Review on Aquaculture. This would be modeled after the Domestic Policy Review of Industrial Innovation that was conducted around 1978 to 1980. As a result, policies, laws, regulations and government activities were initiated that substantially changed economic activity in the U.S.

The DPR would report their conclusions and recommendations to the President and Congress.

While no federal employees would participate directly in this work, the government, through the IAWG, would provide staff and logistic support.

National Office for Aquaculture Development

Those states that have a full time office for aquaculture development, or a private sector equivalent, develop per capita aquaculture production that is on average 23 times the level of aquaculture activity in all the other states. Such a function at the federal level could deliver powerful results.

It is suggested that the DPR on aquaculture consider the establishment of a new National Office for Aquaculture Development. The purpose of this office would be to work with existing and interested new fish and shellfish farmers to identify permits that will be necessary for prospective and established aquaculture companies, work with agencies to help them understand the need for aquaculture development, and in their rule-making. This office would work with Congress for appropriate legislation when and where necessary, and would provide public support with good science based information where it would be helpful. It would act as the executive for the Interagency Working Group on Aquaculture.

Office of the President of The United States

President Trump has clearly stated the need to *create jobs* for Americans in the U.S., and the need to import less seafood and export more. Secretary of Agriculture, Sonny Perdue seeks to promote U.S. grown food around the world. Secretary Wilbur Ross of Commerce has stated the need to make seafood production a net export earner.

With these objectives in mind, it would be very helpful for the President to make an enthusiastic restatement of federal policy for aquaculture as expressed in the National Aquaculture Act of 1980. Many present government employees do not look favorable upon aquaculture development. Such attitudes need to be corrected with scientific facts about the impacts of aquaculture relative to the production of other foods and human needs. They also need policy guidance from the President. Federal employees need to be aware that aquaculture is the most environmentally sustainable form of meat production to feed the expanding population of the world.

Perhaps this can be done in an executive order re-focusing the 1980 Act to the present serious situation. This Executive Order would be an urgent call to all federal agencies to facilitate the rapid development of aquaculture in the U.S.

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Farmed fish and shellfish can be a net export industry only if there is a major expansion of aquaculture production in the U.S. This is a worthy and obtainable objective at this important time in the history of our country and the world.

In order to reach this objective, we must achieve major regulatory relief in many areas. We must have an attitude of facilitation and accommodation throughout government. We must change our way of allocating capital. The public, government employees, investors and consumers must become more supportive.

Our environment requires good aquaculture. Our health requires it. Our economy requires it. World peace requires it.

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