Guide to Federal Aquaculture Programs and Services

Product of the Interagency Working Group on Aquaculture

Objective

The National Aquaculture Act of 1980 (16 U.S.C. 2801, *et seq.*), section 4(e)(5) requires that a catalog be developed and made available describing all Federal programs and activities that directly or indirectly encourage, support, or assist U.S. aquaculture. This *Guide* was prepared by the Interagency Working Group on Aquaculture (formerly the Joint Subcommittee on Aquaculture) under the National Science and Technology Council's Life Sciences Subcommittee with the goal of fulfilling this requirement.

Coordination of Federal Aquaculture-related Programs

The National Aquaculture Act of 1980 provided for an interagency coordinating body to provide leadership and to facilitate the coordination of federal programs associated with aquaculture in the Federal government. This is done through the Interagency Working Group on Aquaculture (IWG-A), which reports to the National Science and Technology Council (NSTC) and the Office of Science and Technology Policy (OSTP) in the Executive Office of the President.

This *Guide* is intended to be a dynamic document subject to periodic updates. Suggestions for updates are welcome and can be sent to mmayeaux@nifa.usda.gov.

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Federal Aquaculture Assistance and Services

Grant and Loan Portals and Information

Catalog of Federal Domestic Assistance (CFDA)

The Catalog of Federal Domestic Assistance (CFDA) provides a full listing of all federal programs available to state and local governments (including the District of Columbia); federally recognized Indian tribal governments; territories (and possessions) of the United States; domestic public, quasi- public, private for-profit and non-profit organizations and institutions; specialized groups; and individuals. Using the search term "aquaculture" might not return all of the programs that may fund aquaculture-related applications, so success may rely upon "reading-between-the-lines" of some program descriptions.

Grants.gov

All applications for grants and loans from the federal government must be submitted through Grants.gov. Grants.gov is also a resource to search for grants, loans, and other federal application procedures including research, education, and extension proposals. The U.S. Department of Health and Human Services is the managing partner for Grants.gov, an initiative that is having an unparalleled impact on the grant community. To learn more about Grants.gov and to determine if you are eligible for grant opportunities, go to the Grants.gov website for information offered on this site.

Grants.gov does not provide personal financial assistance; it is only the portal for which to apply for federal assistance. To learn where to find personal help, check the Government Benefits, Student Loans and Small Business Start-up Loans websites

Small Business Innovation Research (SBIR) programs

The Small Business Innovation Research (SBIR) programs are highly competitive programs that encourage domestic small businesses to engage in Federal Research/Research and Development (R/R&D) that has the potential for commercialization. Through a competitive awards-based program, SBIR enables small businesses to explore their technological potential and provides the incentive to profit from its commercialization. By including qualified small businesses in the nation's R&D arena, high-tech innovation is stimulated and the United States gains entrepreneurial spirit as it meets its specific research and development needs. SBIR programs in NOAA, NIST, NSF, and USDA are most likely to accept and possibly fund aquaculture-related proposals from eligible small businesses.

SBIR-Participating Agencies

Each year, Federal agencies with extramural research and development (R&D) budgets that exceed $100 million are required to allocate 2.5 percent of their R&D budget to these programs. Currently, eleven Federal agencies participate in the program:

- Department of Agriculture
- Department of Commerce - National Institute of Standards and Technology
- Department of Commerce - National Oceanic and Atmospheric Administration
- Department of Defense
- Department of Education
- Department of Energy
- Department of Health and Human Services – National Institutes of Health
- Department of Homeland Security
- Department of Transportation
- Environmental Protection Agency
- National Aeronautics and Space Administration
- National Science Foundation

Each agency administers its own individual SBIR program within guidelines established by Congress. These agencies designate R&D topics in their solicitations and accept proposals from small businesses. Awards are made on a competitive basis after proposal evaluation.

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Business and Farm Grant and Loan Programs

U.S. Department of Agriculture

Farm Service Agency (FSA)

FSA assists agricultural producers, which includes aquaculture, and landowners in achieving a high level of stewardship of soil, water, air, and wildlife resources on America's farmland and ranches and provides a safety net to the American farmer through the following programs:

The Emergency Conservation Program (ECP) shares with agricultural producers the cost of rehabilitating eligible farmlands damaged by natural disaster. During severe drought, ECP also provides emergency water assistance — both for livestock (fish) and for existing irrigation systems for orchards and vineyards.

Emergency Loan Assistance to eligible farmers to help cover production and physical losses in counties declared as disaster areas by the President or designated by the Secretary of Agriculture. The FSA Administrator may also authorize Emergency Loan assistance to cover physical losses only.

Farm Loan Programs

The FSA administers Farm Loan Programs which offer direct and guaranteed farm ownership and operating loan programs to farmers, including farmers of aquatic animals, who are temporarily unable to obtain private,

commercial credit. Often, these are beginning farmers who can't qualify for conventional loans because they have insufficient financial resources. The Agency also helps established farmers who have suffered financial setbacks from natural disasters, or whose resources are too limited to maintain profitable farming operations. Under the guaranteed loan program, the Agency guarantees loans made by conventional agricultural lenders for up to 95 percent of principal. Farmers interested in guaranteed loans must apply to a conventional lender who then arranges for the FSA guarantee.

The FSA makes and guarantees farm ownership and operating loans and provides technical management assistance to family farmers and ranchers. Farm ownership loans may be used to buy, improve, or enlarge farms, including buildings, ponds, wells, and water systems. Farm operating loans may be used to pay for items needed for a successful operation such as farm and home equipment, feed, fuel, chemicals, and hired labor.

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Rural Development

Loans:

- Business and Industry (B&I) Guaranteed Loans
- Intermediary Relending Program (IRP)
- Rural Energy for America Program Guaranteed Loan Program (REAP Loans)(Section 9007)
- Rural Economic Development Loan And Grant (REDLG)

Grants:

- Repowering Assistance Program (Section 9004)
- Rural Business Enterprise Grant Program (RBEG)
- Rural Energy for America Program Grants (REAP)

U.S. Department of Commerce

Economic Development Administration (EDA)

The U.S. Economic Development Administration's investment policy is designed to establish a foundation for sustainable job growth and the building of durable regional economies throughout the United States. This foundation builds upon two key economic drivers - *innovation and regional collaboration.* Innovation is key to global competitiveness, new and better jobs, a resilient economy, and the attainment of national economic goals. Regional collaboration is essential for economic recovery because regions are the centers of competition in the new global economy and those that work together to leverage resources and use their strengths to overcome weaknesses, will fare better than those that do not. EDA encourages its partners around the country to develop initiatives that advance new ideas and creative approaches to address rapidly evolving economic conditions including aquaculture.

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Farm Credit Administration (FCA)

The Farm Credit Administration (FCA) is an independent Federal agency that regulates and examines the banks, associations, and related entities of the Farm Credit System (FCS), including the Federal Agricultural Mortgage Corporation (Farmer Mac). The FCS is the largest agricultural lender in the United States. It is a nationwide network of lending institutions that are owned by their borrowers. It serves all 50 States and Puerto Rico.

The Farm Credit Administration's mission is to ensure a safe, sound, and dependable source of credit and related services for agriculture and rural America. The FCA administers a Young, Beginning, and Small Farmer/Rancher Lending program to serve the credit needs of young, beginning, and small farmers and ranchers.

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National Oceanographic and Atmospheric Administration (NOAA)

Fisheries Finance Program

The NMFS Fisheries Finance Program provides long-term financing in the form of direct loans for the cost of construction, reconstruction, expansion, and purchase of fishing and aquaculture facilities.

NOAA Small Business Innovation Research (SBIR)

Investment in aquaculture research and development is supported by NOAA's SBIR program, which encourages small businesses to leverage federal funds to invest in innovative technologies and next-generation products and processes that may lead to commercialization.

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U.S. Department of Energy

The DOE has Funding Opportunities for research and small businesses including aquaculture. The Office of Economic Impact and Diversity has information on doing business with the DOE, including viewing current business opportunities, registering to submit proposals, and obtaining information and guidance on the acquisition and financial assistance award process.

Loan Programs

The mission of Loan Program Office (LPO) is to accelerate the domestic commercial deployment of innovative and advanced clean energy technologies at a scale sufficient to contribute meaningfully to the achievement of our national clean energy objectives. The LPO provides guaranteeing loans to eligible clean energy projects (i.e., agreeing to repay the borrower's debt obligation in the event of a default), and by providing direct loans to eligible manufacturers of advanced technology vehicles and components including those used in aquaculture production.

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency has several programs involved in aquaculture. The proper management of effluents and residual wastes should be a major consideration of aquaculture systems in assuring the protection of the environment.

EPA's Water Quality Programs are concerned with setting Water Quality Criteria, Monitoring Shellfish Waters and Effluent Discharge Standards for assuring the protection of the nation's waterways and water supplies. The National Pollutant Discharge Elimination System (NPDES) issues permits for the discharge of wastewaters to surface waters, including discharges from aquaculture systems in many cases. Permits are also available from this program to use wastes as nutrients in public waters for aquaculture purposes.

Wastewater Treatment in publicly owned treatment works is amenable to the use of aquaculture systems funded, in part, by EPA's State Revolving Fund (SRF) Program. In conjunction with the U.S. Army Corps of Engineers, EPA also implements the Clean Water Act Section 404 Wetlands Protection Program aimed at protecting natural wetlands from the impacts of dredging and filling.

Chemicals and other materials to be used in aquaculture are subject to Pesticide Registration by EPA prior to marketing to the user.

Grant funding through EPA can be found here.

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U.S. National Science Foundation

The NSF Small Business Innovation Research (SBIR) program can be accessed at the following link: NSF SBIR

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U.S. Small Business Administration

The Small Business Administration (SBA) provides small businesses with an array of financing. SBA provides free, individual, face-to-face, and internet counseling for small businesses, and low-cost training to nascent entrepreneurs and established small businesses in over 1,800 locations throughout the United States and US territories.

Through its Office of Disaster Assistance, the U.S. Small Business Administration provides low-interest, long-term loans that are direct from the federal government. These loans are only available where there is a disaster declaration and cover uninsured disaster related losses. Small aquaculture enterprises are eligible for SBA's Economic Injury Disaster Loans.

Economic Injury Disaster Loan Program

Federal economic injury disaster loans for small businesses, small agricultural cooperatives, small businesses engaged in aquaculture, and most private, non-profit organizations

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Disaster Assistance Programs

Federal Disaster Assistance

DisasterAssistance.gov provides information on how you might be able to get help from the U.S. Government before, during and after a disaster. If the President of the United States makes help available to individuals in your community after a disaster, you can visit this site to apply online.

U.S. Department of Agriculture

USDA Farm Services Agency Disaster Assistance Programs

The FSA provides assistance for natural disaster losses resulting from drought, flood, fire, freeze, tornadoes, pest infestation, and other calamities. Cultured aquatic animals are considered livestock by the USDA. Fish and other aquatic animals and plants are also considers "crops" by USDA.

The Emergency Assistance for Livestock, Honeybees, and Farm- Raised Fish Program (ELAP) provides assistance for grazing losses due to blizzards and wildfires which are not adequately addressed by other disaster programs. Assistance for feed losses is also available.

The Livestock Indemnity Program (LIP) provides cash payments to eligible producers for livestock, including aquaculture for death losses in excess of normal mortality due to adverse weather.

The Non-insured Crop Disaster Assistance Program is for crops, including aquaculture crops, for which crop insurance is not available. It provides assistance for farmers who grow such crops, limiting their losses from natural disaster and helping to manage their overall business risk. NOTE: To be eligible for assistance in the event of a disaster, you must provide certain information to FSA annually, before a disaster occurs.

The Disaster Debt Set-Aside Program provides agricultural producers, including fish farmers, who have existing direct loans with FSA who are unable to make the scheduled payments to move up to one full year's payment to the end of the loan. For disaster debt set-aside data by state and fiscal year, click here.

The Supplemental Revenue Assistance Payments (SURE) program is also available to producers who suffered crop losses in counties declared a disaster by the Secretary of Agriculture.

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Other resources:

- Department of Homeland Security (DHS) Compendium of Disaster Assistance Programs
- Benefits.gov - Disaster Relief
- Disaster Housing Assistance Program (DHAP) - HUD
- Seeking Disaster Assistance | Ready.gov

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Information Services

U.S. Department of Agriculture

National Agricultural Library (NAL)

The National Agricultural Library (NAL), part of the Agricultural Research Service of the U.S. Department of Agriculture, is one of four National Libraries in the United States. NAL is a major international source for agriculture and related information. This Web site provides access to NAL's many resources and a gateway to its associated institutions.

The Alternative Farming Systems Information Center (AFSIC) is one of several topic-oriented information centers at the National Agricultural Library (NAL). The Library, located in Beltsville, Maryland, is the foremost agricultural library in the world, and is one of four U.S. national libraries along with the Library of Congress, and the National Library of Medicine. AFSIC is supported, in part, by USDA's Sustainable Agriculture Research and Education (SARE) program. AFSIC specializes in locating and accessing information related to alternative cropping systems including sustainable, organic, low-input, biodynamic, and regenerative agriculture. AFSIC also focuses on alternative crops, such as aquaculture, new uses for traditional crops, and crops grown for industrial production.

The Water Quality Information Center at the National Agricultural Library (NAL) is part of USDA ARS. The center was established in 1990 to support USDA's coordinated plan to address water quality concerns. As the focal point of NAL's water quality efforts, the center collects, organizes, and communicates the scientific findings, educational methodologies, and public policy issues related to water quality and agriculture. The center's activities involve three areas: communications, library resources, and special projects.

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U.S. Department of Commerce

National Sea Grant Library (NSGL)

The National Sea Grant Library (NSGL) is the digital library and official archive for NOAA Sea Grant documents. It is the only comprehensive collection of Sea Grant–funded documents from over 30 programs and projects across the country. This collection encompasses a wide variety of subjects, including oceanography, marine education, aquaculture, fisheries, aquatic nuisance species, coastal hazards, seafood safety, limnology, coastal zone management, marine recreation, and law.

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U.S. Department of Interior

Department of Interior Library

The Department of Interior Library provides a full range of professional reference and research services, available to Interior employees in both the Washington, DC, area and nationwide. The collections include Departmental publications, as well as related books, journals, electronic databases and other resources that support the mission of the Department, its agencies, and bureaus.

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International Assistance and Services

U.S. Department of Agriculture

Foreign Agricultural Service

The Foreign Agricultural Service (FAS) serves U.S. agriculture's international interests by expanding export opportunities for U.S. agricultural, fish, and forest products and promoting world food security. The FAS administers several programs beneficial to the United States aquaculture industry including:

Market Access Program (MAP)
Helps finance activities to market and promote U.S. agricultural commodities and products worldwide.

Emerging Markets Program (EMP)
Provides funding for technical assistance activities to promote exports of U.S. agricultural commodities to emerging markets worldwide.

Foreign Market Development Program (FMD)
Provides cooperator organizations with cost-share funding for activities that build international demand for U.S. agricultural commodities.

Technical Assistance for Specialty Crops
Funds projects that address sanitary, phytosanitary and technical barriers that prohibit or threaten the export of U.S. specialty crops.

Scientific Exchange Programs

The Norman E. Borlaug International Agricultural Science and Technology Fellowship Program promotes food security and economic growth by providing research and training opportunities to early- and mid-career agricultural researchers and policymakers from developing and middle-income countries. USDA partners with U.S. land grant universities, international research centers, and other institutions to provide up to 12 weeks of U.S.-based training each year.

The Cochran Fellowship Program provides participants from middle-income countries, emerging markets, and emerging democracies with high-quality training to improve their local agricultural systems and strengthen and enhance trade links with the United States. Participants are mid- and senior-level professionals from both the public and private sectors who are concerned with agricultural trade, agribusiness development, management, policy, and marketing.

The Faculty Exchange Program enhances the teaching ability of agricultural educators from institutions of higher learning in developing countries. Participants come to the United States for one academic semester (4-5 months) to increase their knowledge of, and ability to teach, agricultural economics and marketing, agribusiness, and agrarian law in a market-based economy.

The Scientific Cooperation Exchange Program supports collaborative relationships between teams of scientific and technical experts from the U.S. and the People's Republic of China. The program helps to promote U.S. agricultural priorities, encourage long-term cooperation in agricultural science and technology, create a positive atmosphere for agricultural trade, and enhance overall relations between the United States and China.

The Scientific Cooperation Research Program supports joint research, extension, and education projects among domestic and international agricultural professionals. These projects address issues including agricultural trade and market access, animal and plant health, biotechnology, food safety and security, and sustainable natural resource management in the United States and internationally.

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U.S. Department of Commerce

NMFS Office of International Affairs

The NMFS Office of International Affairs works with a variety of domestic and international partners to strive to accomplish various goals and objectives in support of our mission and vision including: Promote ecosystem-based fisheries management; control fishing capacity; combat illegal, unreported, and unregulated (IUU) fishing; strengthen regional fisheries management organizations; secure equitable access for U.S. fishers to shared living marine resources; increase assistance to developing states; and ensure food security. This mission in accomplished by: participating in regional fisheries management organizations; participating in multilateral and bilateral environmental agreements/foras; participating in free trade negotiations; conducting workshops on living marine resource issues; and building partnerships to improve marine conservation and aquaculture. This office works closely with the NMFS Office of Aquaculture on international matters pertaining to research and management of international aquaculture matters.

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U.S. Agency for International Development (USAID)

The U.S. Agency for International Development (USAID) supports aquaculture research and development projects in developing countries where significant opportunities exist to utilize aquaculture to meet nutritional needs and to increase incomes and employment opportunities. It supports applied research, usually involving U.S. scientists, primarily through the Office of Agricultural and Food Security (AFS) in the Center for Economic Growth and Agricultural Development (EGAD) of the Bureau for Global programs, Field Support and Research. The research addresses critical constraints to the expansion of sustainable small-scale aquaculture in developing countries. The main mechanism through which AFS supports aquaculture research is the AQUAFISH CRSP which involves a dozen U.S. universities as well as research institutions in several developing countries. AFS also supports aquaculture research and development activities undertaken by the WorldFish Center.

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Marketing Services

U.S. Department of Agriculture

Agricultural Marketing Service

The Agricultural Marketing Service (AMS) of the USDA provides assistance to aquaculture through several programs including:

The Federal-State Marketing Improvement Program (FSMIP). This program seeks to improve the marketing of aquaculture commodities and to reduce marketing costs for the benefit of producers and consumers. Projects include work on innovative marketing techniques, testing study findings in the marketplace and developing State expertise to improve service to marketers of aquacultural products. FSMIP is a matching-funds program exclusively available on a competitive basis through State Departments of Agriculture or other State agencies, who must submit proposals directly to the program administrators.

Livestock and Seed Program (LSP) is responsible for purchasing meat and fish products in order to stabilize market conditions and furnish nutritious food to meet the needs of the Department's domestic feeding programs. Under certain excess food supply conditions, aquaculture products may qualify for this program.

The Transportation Services Division provides agricultural transportation information and analysis to help move agricultural products, including fish and fish products, to market. As part of the USDA, the Transportation Services Division informs, represents, and assists agricultural shippers and government policymakers through: reports, representation, analysis, assistance, and response to inquiries.

The Farmers Market Promotion Program (FMPP) is a competitive grant program that provides funds to assist in establishing, expanding, and promoting domestic farmers markets, roadside stands, community-supported agriculture programs, and other direct producer-to-consumer market opportunities.

The mission of the Rural Business-Cooperative Service is to enhance the quality of life for rural Americans by providing leadership in building competitive businesses including sustainable aquaculture. This program fulfills its mission by: investing financial resources and providing technical assistance to businesses and cooperatives located in rural communities; and establishing strategic alliances and partnerships that leverage public, private, and cooperative resources to create jobs and stimulate rural economic activity.

Value-Added Producer Grants (VAPG) The primary objective of the VAPG program is to help agricultural producers, including aquaculture producers, enter into value-added activities related to the processing and/or marketing of bio-based value-added products. Generating new products, creating and expanding marketing opportunities, and increasing producer income are the end goals of this program. The beginning farmer or rancher, socially-disadvantaged farmer or rancher, small- or medium-sized farm or ranch structured as a family farm, farmers or ranchers cooperative, or are proposing as a mid-tier value chain, as defined in the Program Regulation may receive priority. Grants are awarded on a competitive basis.

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Foreign Agricultural Service

The Foreign Agricultural Service (FAS) serves U.S. agriculture's international interests by expanding export opportunities for U.S. agricultural, fish, and forest products and promoting world food security. The FAS administers several programs beneficial to the U.S. aquaculture industry including:

The Emerging Markets Program assists in developing, maintaining, or expanding markets for U.S. agricultural exports in emerging markets, to improve the effectiveness of food and rural business systems in emerging markets, including potential reductions in trade barriers, and to increase prospects for U.S. trade and investment in these countries. The Program encompasses all geographic regions and uses funds and facilities of the Commodity Credit Corporation (CCC).

The Foreign Market Development (FMD) Program aids in the creation, expansion, and maintenance of long-term export markets for U.S. agricultural products including aquaculture. Under the program, USDA partners with U.S. agricultural producers and processors, who are represented by nonprofit commodity or trade associations called "cooperators," to promote U.S. commodities overseas.

The Market Access Program (MAP) helps U.S. producers, exporters, private companies, and trade organizations finance overseas marketing and promotional activities such as trade shows, market research, consumer promotions, technical assistance, trade servicing, and educational seminars.

The Emerging Markets Program (EMP) provides funding for technical assistance activities to promote exports of U.S. agricultural commodities and products to emerging markets.

The Quality Samples Program (QSP) helps U.S. agricultural trade organizations provide small samples of their products, including aquaculture products, to potential importers in emerging markets overseas.

The Commodity Credit Corporation's (CCC) Facility Guarantee Program (FGP) provides payment guarantees to facilitate the financing of manufactured goods and services exported from the U.S. to improve or establish agriculture-related facilities in emerging markets. By supporting such facilities, the FGP is designed to enhance sales of U.S. agricultural commodities and products to emerging markets where the demand for such commodities and products may be constricted due to inadequate storage, processing, or handling capabilities for such products.

The Commodity Credit Corporation (CCC), USDA, administers Export Credit Guarantee Programs for commercial financing of U.S. agricultural and aquacultural exports. The programs encourage export to buyers in countries where credit is necessary to maintain or increase U.S. sales, but where financing may not be available without CCC guarantees. The CCC administers export credit guarantee programs for commercial financing of U.S. agricultural exports to encourage exports to buyers in countries where credit is necessary to maintain or increase U.S. sales.

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NMFS Seafood Marketing & Trade

Quantifying the benefits derived by consumers from both inland and offshore fisheries is essential for assessing the cost-effectiveness of measures taken to prevent degradation of marine resources from human activities (such as fishing, pollution, and hypoxia), as well as for quantifying future benefits that may be obtained under stock rebuilding plans.. Information available on this web site: http://www.nmfs.noaa.gov/sfa/PartnershipsCommunications/tradecommercial/

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U.S. Department of Health and Human Services

Food and Drug Administration

The U.S. currently imports 80% of its seafood. FDA recognizes that the volume and variety of food products, including aquaculture products, imported into the United States is rapidly increasing, making international issues regarding safety, quality, and labeling of FDA-regulated foods a priority. The FDA Center for Veterinary Medicine (CVM) and the FDA Center for Food Safety and Applied Nutrition (CFSAN) have increased their involvement in the global public-health community and their ability to ensure that imported aquaculture-raised food is safe for U.S. consumers.

CVM, CFSAN, and the FDA Office of Regulatory Affairs (ORA) receive many inquiries from foreign entities and producers regarding the FDA's stance on aquaculture drug use. To address such inquiries, CVM, in cooperation with CFSAN, ORA, and the Joint Institute for Food Safety and Applied Nutrition (JIFSAN), is developing an interactive, web-based aquaculture educational module that will be translated and used for international outreach.

CFSAN is also developing and strengthening partnerships with international organizations, donor organizations, industry, and academia to develop a model of effective and sustainable training and capacity building that includes public health metrics. The Good Aquaculture Practices (GAqP) "train-the-trainer" course, developed in cooperation with JIFSAN, is offered to aquaculture industry, academia, and government in developing countries.

For more information about FDA international activities, please visit the following page:

CVM--http://www.fda.gov/AboutFDA/CentersOffices/OfficeofFoods/CVM/WhatWeDo/ucm282083.htm

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Import/Export Services

Export.gov

Export.gov brings together resources from across the U.S. government to assist American businesses in planning their international sales strategies and succeed in today's global marketplace.

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U.S. Department of Agriculture

Animal and Plant Health Inspection Service

The Animal and Plant Health Inspection Service (APHIS) serves to facilitate safe trade, monitor the movement of risk material, including aquaculture products, protect against the introduction of pests, regulate the import and export of animals and plants, and help exporters meet the entry requirements of other countries. Click here to view animal and plant import/export information.

Biotechnology Import and Export Information
APHIS' Biotechnology Regulatory Services (BRS) requires a permit or notification for the import of certain genetically engineered organisms.

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U.S. Department of Commerce

International Trade Administration

The Department's International Trade Administration (ITA) strengthens the competitiveness of U.S. industry, promotes trade and investment, and ensures fair trade through the rigorous enforcement of our trade laws and agreements. ITA works to improve the global business environment and helps U.S. organizations compete at home and abroad. ITA supports the National Export Initiative to sustain economic growth and support American jobs.

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U.S. Department of Interior

US Fish and Wildlife Service

The U.S. Fish & Wildlife Service issues permits under various wildlife laws and treaties at different offices at the national, regional, and/or wildlife port levels.

Permits enable the public to engage in legitimate wildlife-related activities that would otherwise be prohibited by law. Service permit programs ensure that such activities are carried out in a manner that safeguards wildlife and natural fisheries. Some permits promote conservation efforts by authorizing scientific research, generating data, or allowing wildlife management and rehabilitation activities to go forward.

Permits are handled by permitting programs in International Affairs (Management Authority), Endangered Species, Law Enforcement, and Migratory Birds. (Visit the National Wildlife Refuge web site for Special Use Permits.) For more detailed information, go to How to Obtain a Permit, FAQs/Facts, or Application Forms.

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Aquaculture Statistics

U.S. Department of Agriculture

Economic Research Service

The Economic Research Service (ERS) provides economic and other social science information and analysis for improving the performance of agriculture, aquaculture, and rural America. ERS produces this information as a service to the general public and to help Congress and the administration develop, administer, and evaluate agricultural and rural policies and programs.

The ERS Aquaculture Briefing Room provides statistics on domestically grown catfish and trout and U.S. imports and exports of fish and shellfish that may be products of aquaculture, such as salmon, shrimp, and oysters

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National Agricultural Statistics Service

The National Agricultural Statistics Service prepares and reports monthly surveys of catfish processors' round weight processed, end-of-the-month inventories, prices paid to catfish producers, and prices received by processors by methods of sales. The 15 major catfish-producing states collect producer inventory and sales data. The four largest catfish-producing States (Alabama, Arkansas, Louisiana, and Mississippi) collect data quarterly while the other 11 States collect data twice annually. Trout producer sales and losses data are collected and published for the 18 major producing states. Survey results are published each year in September. Current information can be accessed via a search engine on this web page.

Census of Aquaculture

The 1998 Census of Aquaculture was the first census of aquaculture report prepared under the direction of the U.S. Department of Agriculture (USDA), National Agricultural Statistics Service (NASS).

The 2005 Census of Aquaculture expanded the aquaculture data collected from the 2002 Census of Agriculture and provides a comprehensive picture of the aquaculture sector at the state and national level. The aquaculture census collected detailed information relating to production methods, surface water acres and sources, production, sales, point of first sale outlets, aquaculture distributed for restoration, conservation, or recreational purposes, and farm labor. Another Census of Aquaculture is planned for the 2013 crop year and should be available to the public in the fall of 2014.

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U.S. Department of Commerce

National Oceanographic and Atmospheric Administration (NOAA)

The NMFS Fisheries Statistics Division collects data and coordinates information and research programs to support the science-based stewardship of the nation's living marine resources. In addition to integrating and disseminating state and federal statistics about marine fisheries, they administer the surveys used to estimate recreational landings. Much of the statistical, economic, and demographic information collected by the federal government is made available to the public through the bureaus and offices of the Department of Commerce that are known collectively as the Economics and Statistics Administration (ESA).

The NOAA Fisheries, Fisheries Statistics Division has automated data summary programs that anyone can use to rapidly and easily summarize U.S. commercial fisheries landings. These publications also contain information on aquaculture import statistics.

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Research Assistance and Services

U.S. Department of Agriculture

Agricultural Research Service

The Agricultural Research Service (ARS) conducts research on aquaculture at 13 locations in the U.S. The research is performed by ARS scientists and a number of collaborating scientists through extramural partnerships. The mission of the ARS Aquaculture National Program 106 is to conduct high quality, relevant,

fundamental and applied aquaculture research, to improve the systems for raising domesticated aquaculture species, and to transfer technology to enhance the productivity and efficiency of U.S. producers and the quality of seafood and other aquatic animal products.

The ARS' Aquaculture Program, as described in the National Program 106 Action Plan, is to help develop and ensure an abundant, safe, and affordable supply of seafood products within a healthy, competitive, and sustainable aquaculture sector.

Go to Federal Assistance and Services Index

National Institute of Food and Agriculture

The National Institute of Food and Agriculture (NIFA) is the agency within USDA which administers federal funds for extramural research, extension, and education. NIFA provides national leadership and support for major research and extension educational programs in support of private-sector aquaculture in cooperation with its partners.

NIFA Grants

Regional Aquaculture Centers:

- Northeastern Regional Aquaculture Center
- North Central Regional Aquaculture Center
- Western Regional Aquaculture Center
- Southern Regional Aquaculture Center
- Center for Tropical and Subtropical Aquaculture

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U.S. Department of Commerce

National Centers for Coastal Ocean Science (NCCOS)

National Ocean Service' **NCCOS** provides research, scientific information and tools to help balance the nation's ecological, social and economic goals. NCCOS researchers are developing advanced simulation models and environmental monitoring protocols to help coastal managers identify appropriate sites and effectively manage commercial aquaculture operations. NCCOS also conducts research on how minimize potential environmental impacts of cage aquaculture and is developing systems to reduce and recycle waste from tank-based recirculating aquaculture systems.

National Marine Fisheries Service

NMFS supports aquaculture research at several of its labs and science centers.

- Research in the Northeast Science Center's Milford, Connecticut Lab focuses on shellfish, algal culture, and environmental issues associated with shellfish culture such as: ocean acidification, effects of shellfish aquaculture on water quality, and effects of shellfish harvesting on the benthic environment.
- Shellfish aquaculture research at the Northwest Fisheries Science Center focuses on the effects of ocean acidification on shellfish, shellfish safety (harmful algal blooms and pathogens), and native Olympia oyster restoration. Finfish research emphasizes sablefish culture, lingcod and Atlantic salmon enhancement, alternative feeds for aquaculture, genetics, and life cycle analysis.
- Research in the Southwest Fisheries Science Center focuses on recovery of the endangered white abalone and restoration of Olympia oyster.
- The Southeast Fisheries Science Center (SEFSC) conducts multi-disciplinary research programs to provide management information to support national and regional programs of NOAA's National Marine Fisheries Service (NMFS). The SEFSC, headquartered in Miami, FL, is organized with divisions and labs across the southeast region of the U.S.:
- Research in the Pacific Islands Research Science Center primarily focuses on marine spatial planning as it pertains to offshore aquaculture.

National Sea Grant College Program

NOAA Research's National Sea Grant College Program integrates research, extension, and education through 33 state Sea Grant Programs across the U.S. coasts and Great Lakes. Aquaculture is one of the primary focuses of Sea Grant. Sea Grant leads NOAA's competitive, extramural research portfolio for aquaculture, relying on a partnership between NOAA and universities to fund aquaculture research that responds to local and state priorities (via the state Sea Grant Programs), as well as national priorities. Sea Grant Extension is a key leader for NOAA's engagement in aquaculture, with Sea Grant extension agents living and working in coastal communities, providing science-based information for local governments, industry, and citizen groups. They do this through public education, technology transfer, technical expertise, and demonstration projects to nurture sustainable marine aquaculture

U.S. Department of Interior

U.S. Fish and Wildlife Service

The U.S. Fish & Wildlife Service has responsibilities for restoring depleted fish populations, preserving endangered species, mitigating the impacts of federal water developments on fish populations, and providing scientific leadership in fishery resource management. A nationwide system of fish hatcheries, fisheries assistance offices, fish health centers, fish technology centers, fisheries research centers, and a training facility are operated to carry out these responsibilities. The Service's fisheries activities involve research, management, and culture of freshwater, andromous, estuarine, and exotic fishes of recreational, ecological, and commercial importance. The Service has established an aquaculture mission consisting of two broad functions: 1) encourage the development of private aquaculture in a manner that is compatible with responsible natural resource stewardship; and 2) make Service expertise, knowledge, and technical/scientific capabilities in fish culture and related disciplines available to the private aquaculture community.

USFWS Fisheries Science Centers:

- Leetown, WV Science Center
- Western Fisheries Research Center
- Upper Midwest Environmental Sciences Center

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U.S. Geological Survey

The U.S. Geological Survey collects a large amount of information related to availability and quality of ground-water and surface-water supplies as part of its mission to inventory the Nation's water resources. Information such as pollutant levels, aquifer locations, lake levels, stream flows, and other data useful to aquaculture is available from the USGS in a variety of forms including maps, reports, and computer output.

The Fisheries Program focuses on the study of aquatic organisms and aquatic habitats. Aquatic invertebrates, mussels, fishes, and their unique aquatic communities are investigated to provide scientific information to natural resource managers and decision makers. USGS works closely with its partners in Department of Interior Bureau's and other resource management agencies to provide scientific information to meet management needs. For instance, USGS provides fisheries research information for Fish and Wildlife Service to restore and enhance fish habitat and understand fish diseases.

Endangered species and those that are imperiled receive special research interest. Research on species diversity, life history, health and diseases, aquatic community ecology, and habitat requirements of fish and other aquatic organisms supports the management, conservation, and restoration of our Nation's aquatic resources.

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U.S. National Science Foundation

The National Science Foundation (NSF) is an independent federal agency created by Congress in 1950 "to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense…" NSF is the funding source for approximately 20 percent of all federally supported basic research conducted by America's colleges and universities. In many fields such as mathematics, computer science and the social sciences, NSF is the major source of federal backing for research. NSF also funds basic research important to the aquaculture industry. NSF has a Small Business Innovation Research program (SBIR)

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Regulatory Agencies and Information

Regulations.gov

Regulations.gov is the online source for all documents concerning regulatory development (rulemaking). These include documents published in the Federal Register, such as a proposed rule followed by a final rule, or an interim rule followed by an affirmation, and public comments received on these documents. During the period such documents are open for public comment, *Regulations.gov* accepts electronic comment submissions. *Regulations.gov* also includes documents such as notices, supporting materials, and significant guidance documents.

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U.S. Department of Agriculture

Animal and Plant Health Inspection Service

The Animal and Plant Health Inspection Service is a multi-faceted Agency with a broad mission area that includes protecting and promoting U.S. agricultural health, regulating genetically engineered organisms, administering the Animal Welfare Act and carrying out wildlife damage management activities. These efforts support the overall mission of USDA, which is to protect and promote food, agriculture, natural resources, and related issues.

- Regulations
- Significant Guidance Documents
- Environmental Compliance
- Environmental Documents
- Export regulations
- Import regulations

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U.S. Department of Commerce

National Marine Fisheries Service

NOAA's National Marine Fisheries Service (NMFS) is responsible for the stewardship of the nation's living marine resources and their habitat. NMFS manages, conserves, and protects living marine resources within the United States' Exclusive Economic Zone (aka federal waters; 3-200 miles from shore), and also has relevant authorities that extend into coastal waters.

NMFS' mission includes enabling sustainable marine aquaculture to produce more domestic seafood and provide economic opportunities to coastal communities. NMFS has regulatory responsibilities under the Endangered Species Act (ESA) and Essential Fish Habitat provisions of the Magnuson Stevens Fishery Management Act (MSA) to consult on federal activities, including permit applications for commercial aquaculture operations.

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U.S. Department of Health and Human Services

Food and Drug Administration

Safe and effective animal drugs and feed additives play an important role in protecting animal health and the safety of America's food supply. The FDA realizes that aquaculture is an increasingly important source of fish for human food and that it is growing. By ensuring the safety of the drugs and feed used for these fish, the FDA ensures the safety of fish used for human food.

Two Centers within the FDA work with the aquaculture industry, the Center for Veterinary Medicine (CVM) and the Center for Food Safety and Applied Nutrition (CFSAN). CVM regulates food and feed ingredients used for aquaculture-raised fish by:

- monitoring and establishing standards for feed contaminants,
- approving safe food additives, and
- managing the FDA's medicated feeds and pet food programs.

CVM also works with various government agencies and aquaculture associations to increase the number of safe and effective drugs for use by the aquaculture industry. Two tools CVM uses in this endeavor are The Minor Use and Minor Species Animal Health (MUMS) Act of 2004 and the Office of Research Aquaculture Facility.

- The Minor Use and Minor Species Animal Health (MUMS) Act of 2004 plays a critical role in making medications legally available for veterinarians and animal owners to treat minor animal species, including fish. The MUMS Act provides incentives, such as conditional approval and designation, to drug manufacturers to encourage drug development for these species.
- The state-of-the-art aquaculture facility at the CVM Office of Research enables CVM to conduct important aquaculture research, including development of chemical detection methods and animal and microbiological studies.

The Center for Food Safety and Applied Nutrition (CFSAN) ensures that domestically-produced and imported foods, including seafood, are safe, sanitary, wholesome and properly labeled. CFSAN operates several programs dedicated to the safety of wild-caught and aquaculture-raised seafood. The Fish and Fisheries Products Hazards and Controls Guidance *(the Guide) is a* cornerstone of the seafood safety program. It contains the most current science and policy on hazards affecting fish and fishery products, including aquaculture, and effective preventive and mitigation methods to prevent hazard occurrence. The Guide is the foundation of world-wide fish and fishery product regulatory programs.

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U.S. Department of Interior

US Fish and Wildlife Service

The Fisheries Program of the USFWS has played a vital role in conserving America's fisheries since 1871, and today is a key partner with States, Tribes, Federal agencies, other Service programs, and private interests in a larger effort to conserve fish and other aquatic resources.

The Program consists of almost 800 employees nationwide, located in 65 Fish and Wildlife Conservation Offices, 70 National Fish Hatcheries, 9 Fish Health Centers, 7 Fish Technology Centers and a Historic National Fish Hatchery. These employees and facilities provide a network that is unique in its broad on-the-ground geographic coverage, its array of technical and managerial capabilities, and its ability to work across political boundaries and embrace a national perspective. The Program supports the only Federal hatchery system, with extensive experience culturing more than 100 different aquatic species.

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U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers is working to strengthen the Nation's security by building and maintaining America's infrastructure and providing military facilities where service members train, work, and live.

The Clean Water Act of 1977 requires the Corps to reissue nationwide permits (NWP) every five years. The primary goal of the NWPs is to authorize, with limited delay and paperwork, certain activities that have minimal adverse effects on the environment. The Corps re-issued NWP 48 with some changes. NWP 48 has been modified to authorize expansion of existing commercial shellfish growing operations and new activities, with a 0.5 acre limit of disturbance to submerged aquatic vegetation beds. They have also removed the reporting requirement for certain on-going commercial shellfish aquaculture activities.

US Army Corps of Engineers Regions

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U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency has several programs involved in aquaculture. The proper management of effluents and residual wastes should be a major consideration of aquaculture systems in assuring the protection of the environment.

EPA's Water Quality Programs are concerned with setting Water Quality Criteria, Monitoring Shellfish Waters and Effluent Discharge Standards for assuring the protection of the nation's waterways and water supplies. The

National Pollutant Discharge Elimination System (NPDES) issues Permits for the discharge of wastewaters to surface waters, including discharges from aquaculture systems in many cases. Permits are also available from this program to use wastes as nutrients in public waters for aquaculture purposes.

Wastewater Treatment in publicly owned treatment works is amenable to the use of aquaculture systems funded, in part, by EPA's State Revolving Fund (SRF) Program. In conjunction with the U.S. Army Corps of Engineers, EPA also implements the Clean Water Act Section 404 Wetlands Protection Program aimed at protecting natural wetlands from the impacts of dredging and filling.

Chemicals and other materials to be used in aquaculture are subject to Pesticide Registration by EPA prior to marketing to the user.

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Aquaculture Extension

Cooperative Extension System

The Cooperative Extension System is a nationwide, science-based educational and outreach network. Each U.S. state and territory has a state office at its land-grant university and a network of local and/or regional offices. These offices are staffed by one or more subject-matter experts who provide useful, practical, and research-based information to agricultural producers, small business owners, youth, consumers, and others in rural areas and communities of all sizes.

The five Regional Aquaculture Centers have lists of state aquaculture extension contacts. The five Centers are listed below:

Regional Aquaculture Centers:

- Northeastern Regional Aquaculture Center (NRAC)
- North Central Regional Aquaculture Center (NCRAC)
- Western Regional Aquaculture Center (WRAC)
- Southern Regional Aquaculture Center (SRAC)
- Center for Tropical and Subtropical Aquaculture (CTSA)

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Sea Grant Marine Advisory Program

In the Sea Grant Marine Advisory Program A network of extension professionals takes Sea Grant scientific information out of the laboratory and into the field, working to enhance a coastal business, a fishery, or residents' safety and quality of life. A dedicated corps of communications and subject specialists builds public understanding of these issues for informed decision-making. Sea Grant educators bring new discoveries into the nation's schools, using them to pioneer better ways of teaching and helping to foster a new generation of scientifically literate Americans.

The National Sea Grant College Program sponsors a variety of marine research, outreach and education projects, primarily through the 30 state Sea Grant Programs.

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Aquatic Animal and Plant Health Assistance and Services

Interagency National Aquatic Animal Health Plan

Several federal agencies work together to address aquatic animal health issues, including developing a National Aquatic Animal Health Plan (NAAHP) in 2009. The NAAHP is the summation of ideas on how the federal government, in collaboration with stakeholders, should develop policies, programs, and potential regulations to address aquatic animal diseases in order to benefit aquaculture and aquatic animal resources in the United States. The federal agencies with primary responsibility for aquatic animal health are the U.S. Department of Agriculture (USDA) through its Animal and Plant Health Inspections Service, the U.S. Department of Commerce (DOC) National Marine Fisheries Service (NMFS), and the U.S. Department of the Interior (DOI) through the U.S. Fish and Wildlife Service (FWS).

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U.S. Department of Agriculture

Animal and Plant Health Inspection Service

The Animal and Plant Health Inspection Service (APHIS) provides a broad range of cooperative animal and plant health protection services to livestock and crop producers through a field force located in all 50 States and in foreign countries. APHIS provides several services to both plant and animal aquaculture and is currently considering expansion of services to animal aquaculture.

Current services include import requirements for aquatic plants to prevent the importation and dissemination of plant pests and diseases and noxious aquatic weeds into and within the United States via the Plant Protection and Quarantine Program. APHIS also participates in joint State-Federal programs to control noxious aquatic weeds in the United States and helps develop control methodology, including use of biocontrol organisms.

Aquaculture producers experiencing problems with facility damage and depredation by migratory birds and other animals receive on-site assistance from APHIS' Animal Damage Control Division.

APHIS is working with the Fish and Wildlife Service and other members of the IWG-A to delineate agency roles to best meet the aquaculture industry's aquatic animal health needs.

APHIS Services for the Aquaculture Industry:

- USDA - APHIS - Wildlife Damage Management
- US State and Territory Import Regulations for Aquaculture
- National Animal Health Monitoring System (NAHMS)
- Aquaculture Disease Information
- National Aquatic Animal Health Plan

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Agricultural Research Service

The Aquatic Animal Health Research Laboratory conducts research in the areas of bacteriology, parasitology, pathology, nutrition and immunology to solve problems in aquaculture that diminish productivity and quality of warm-water fish, primarily catfish, tilapia and hybrid striped bass.

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U.S. Department of Commerce

National Oceanographic and Atmospheric Administration (NOAA)

National Marine Fisheries Services:

- Fish Watch
- Alaska Fisheries Science Center
- Northeast Fisheries Science Center
- Southeast and Caribbean Fisheries Science Center
- Northwest Fisheries Science Center
- Southwest Fisheries Science Center
- Pacific Islands Fisheries Science Center

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U.S. Department of Interior

Aquatic Animal Drug Approval Partnership (AADAP)

The Aquatic Animal Drug Approval Partnership (AADAP) program was officially established within the US Fish and Wildlife Service's National Fish Hatchery System in January 2003 with the strong support of then

Service Director Steve Williams. The stated goal of AADAP is to ensure continued progress towards obtaining FDA-approved and EPA-compliant new animal drugs and pesticides for use in Federal, State, Tribal, and private aquaculture programs throughout the United States. As its name implies, the AADAP is a broad, partner-based program of national scope. Utilizing increased program funding and staff, the AADAP incorporates ongoing Service compassionate Investigational New Animal Drug (INAD) exemption and New Animal Drug Application (NADA) activities that were previously coordinated by the Service's National INAD Office (NIO). Ongoing and expanded activities include: INAD administration; the National INAD Program that allows for participation by non-Service facilities on Service-held INADs; and a drug research program that is focused on the generation of efficacy and target animal safety data to NADAs. Added responsibilities of AADAP include a defined role in NADA management and information transfer and dissemination. Although the NIO remains in existence, it is now a part of the AADAP Program, both of which are located in Bozeman, Montana. In somewhat generic terms, the AADAP will help to lead a coordinated national effort to generate data, analyze results, compile final study reports, disseminate information and data, and manage all other aspects of requisite data submissions to FDA in support of new animal drug approvals for aquatic species. The AADAP builds on long-standing partnerships between the Service's NIO and over 50 Federal, State, Tribal, and/or private agencies or organizations. The AADAP, in its role of obtaining new approved drugs and chemicals for aquatic species, is integral to the Service's successful stewardship of our natural resources for the enjoyment of all Americans.

US Fish and Wildlife Service

U.S. Fish & Wildlife Service Fish Health Centers (FHC) are resource centers that provide service, expertise and information supporting the Service's mission to promote and protect aquatic animal health. Their work contributes to health, survival, restoration, and enhancement of fish and other aquatic species.

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National Research Support Programs

NRSP-7: Minor Use Animal Drug Program

The National Research Support Project No. 7 (NRSP-7), administered by the USDA National Institute of Food and Agriculture, is designed to address the shortage of minor use animal drugs by funding and overseeing the efficacy, animal safety, and human food safety research, and environmental assessments required for drug approval. The scope of the program includes animals of agricultural importance and generally excludes companion animals.

The program coordinates with animal producers, drug manufacturers, FDA's Center for Veterinary Medicine (CVM), the U.S. Department of Agriculture's National Institute of Food and Agriculture (NIFA), other government agencies, universities, state Agricultural Experiment Stations, and veterinary schools to get the job done.

In addition to funding research, NRSP-7 periodically holds special workshops to provide a forum for exchange of ideas among minor species producers, drug manufacturers, researchers, and government agencies on approaches to disease problems and drug priorities.

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NRSP-8: National Animal Genome Research Program

The National Research Support Project (NRSP)-8 supports the USDA-NIFA National Animal Genome Research Program (NAGRP) which has played a major role in facilitating genomic discoveries in farm animals and aquaculture species. The recent "Blueprint for USDA Efforts in Agricultural Animal Genomics 2008-2017" portrays a pyramid in which Science to Practice is supported by Discovery Science which in turn is supported by Infrastructure. It is the mission of NRSP-8, since inception, to provide and enhance Infrastructure. This mission is accomplished providing shared genomic resources (tools, reagents, DNA, data) to its members and by leveraging its own limited resources with those from federal (NIH, USDA-NRI), international, industry and state sources. NRSP-8 stimulates and coordinates new initiatives by providing national leadership recognized by our stakeholders. Communication is critical to the shared resource model and NRSP-8 fosters communication among members and stakeholders through newsletters, email discussion groups, our bioinformatics program and contributions to meetings such as the annual International Plant and Animal Genome (PAG) conference.

The NRSP's are specifically focused on "the development of enabling technologies, support activities . . . , or the sharing of facilities needed to accomplish high priority research". As demonstrated by past activities NRSP-8 has enabled substantive progress in agricultural animal genomics research, on a multi-species basis in a variety of ways, thereby meeting the ideals and vision of the unique NRSP model to create a mechanism which provides magnified benefits, promoting collaborative partnerships and novel opportunities for high priority research. There are three key and interrelated reasons for why animal genomics is a great fit for the NRSP mechanism:

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If you notice any problems or issues with this document such as bad links, etc., please contact Max Mayeaux at: mmayeaux@nifa.usda.gov .

Federal Departments and Agencies with Aquaculture-related Programs and Services

U.S. Department of Agriculture

Agricultural Marketing Service (AMS)

The Agricultural Marketing Service (AMS) commodity programs oversee marketing agreements and orders, administer research and promotion programs, and purchase commodities, including farmed aquatic species, for Federal food programs. The AMS also administers Country of Origin Labeling (COOL) regulations that include imported wild and farmed finfish and shellfish.

National Organic Program

The AMS National Organic Program (NOP) develops, implements, and administers national production, handling, and labeling standards for organic agricultural products. The NOP also accredits certifying agents (foreign and domestic) who inspect organic production and handling operations to certify that they meet USDA standards. National Organic Standards for U.S.-produced aquaculture products are currently in development. AMS is currently working on promulgating regulations for a USDA NOP certification program for cultured aquatic animals. These new standards have to undergo federal government clearance and a public rulemaking process before they are promulgated into law.

Animal and Plant Health Inspection Service

The Animal and Plant Health Inspection Service (APHIS) mission is protecting and promoting U.S. agricultural (including aquaculture) health, regulating genetically engineered microorganisms and vaccine development, administering the Animal Welfare Act, and carrying out wildlife damage management activities. These efforts support the overall mission of USDA, which is to protect and promote food, agriculture, natural resources, and related issues.

APHIS National Center for Import-Export

Many agricultural pests and diseases exist worldwide that could be introduced into the United States through commodities such as meats, animals (including aquatic animals and their products), animal products, fruits, vegetables, plants, soil, seeds, and plant-based handicrafts, among others. Learning regulatory requirements for the import or export of aquatic animals and plants and their products can help minimize confusion, prevent costly delays, and avoid penalties and merchandise loss.

Animal Health Report

The APHIS Animal Health Report is an overview of domestic animal health in the United States. It contains information on the state of U.S. livestock, poultry, and aquaculture commodities, as well as the programs and strategies used to ensure their continued health.

National Veterinary Services Laboratories

APHIS laboratory services are provided by the National Veterinary Services Laboratories (NVSL). The NVSL provides a wide variety of information and services associated with diagnosis of domestic and foreign aquatic animal diseases, support of disease control and eradication programs, reagents for diagnostic testing, training, and laboratory certification. Veterinary Biologics

APHIS regulates veterinary biologics (vaccines, bacterins, antisera, diagnostic kits, and other products of biological origin) to ensure that the veterinary biologics available for the diagnosis, prevention, and treatment of animal diseases are pure, safe, potent, and effective. This work is done by APHIS' Center for Veterinary Biologics (CVB) and is centered around enforcement of the Virus Serum Toxin Act .

Veterinary biologics include vaccines, antibodies, diagnostic kits, and certain immune modulators. This site provides information on how to license/import a veterinary biologic, report adverse events occurring from biologic use, or find lists of licensed products for aquaculture species.

Veterinarian Accreditation

Veterinarians can go to the National Veterinary Accreditation Program (NVAP) to learn how to apply for accreditation as well as search for a variety of training materials including aquatic animal health training.

Monitoring and Surveillance

The National Animal Health Surveillance System provides links to key animal health monitoring and surveillance information issues, programs, and information sources related to aquaculture.

Veterinary Services Professional Development Training

The Professional Development Staff (PDS) is a small group of training specialists dedicated to meeting the current and future scientific and technical education and training needs of APHIS Veterinary Services personnel. In addition to staff members housed at APHIS Headquarters in Riverdale, Maryland, the PDS has staff Veterinarians and Education Technology Specialists in both the Western Region and Eastern Region to ensure that local, as well as national, needs are addressed. A veterinary aquaculture training module can be found here.

Wildlife Damage Management

The mission of USDA APHIS Wildlife Services (WS) is to provide Federal leadership and expertise to resolve wildlife conflicts, such as the double-crested cormorant issue in U.S. aquaculture industry facilities, to allow people and wildlife to coexist. WS conducts program delivery, research, and other activities through its Regional and State Offices, the National Wildlife Research Center (NWRC) and its Field Stations, as well as through its National Programs.

The APHIS WS program administers aquaculture-related programs such as the Bird Depredation program aimed at reducing losses due to avian predation in fish ponds. WS conducts its activities pursuant to Memoranda of Understanding, other agreements and legal authorities, and conducts environmental review processes to comply with the National Environmental Policy Act (NEPA). WS develops Annual Program Data Reports to provide the public with information about its wildlife damage management activities.

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Agricultural Research Service (ARS)

The Agricultural Research Service (ARS) conducts research on aquaculture at 13 locations in the United States. The research is performed by ARS scientists and a number of collaborating scientists through extramural partnerships with universities or other entities. The mission of the ARS Aquaculture National Program 106 is to conduct high-quality, relevant, fundamental and applied aquaculture research to improve the systems for raising domesticated aquaculture species and to transfer technology to enhance the productivity and efficiency of U.S. producers and the quality of seafood and other aquatic animal products.

National Agricultural Library (NAL)

The National Agricultural Library (NAL) houses one of the world's largest and most-accessible agricultural information collections and serves as the nexus for a national network of state land-grant libraries. The Alternative Farming Systems Information Center at the NAL provides information related to aquaculture.

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Economic Research Service

The Economic Research Service (ERS) is a primary source of economic information and research in the USDA. ERS statistics on domestically grown catfish and trout, and U.S. imports and exports of fish and shellfish that may be products of aquaculture, such as salmon, shrimp, and oysters are available here.

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Foreign Agricultural Service (FAS)

The Foreign Agricultural Service (FAS) links U.S. agriculture to the world to enhance export opportunities and global food security including export opportunities for U.S. produced aquaculture products. The FAS has released some reports on the status of aquaculture and fisheries and market implications in select countries.

FAS also partners with the U.S. Agency for International Development (USAID) to administer U.S. food aid programs that help people in need around the world. FAS non-emergency food aid programs help meet recipients' nutritional needs and also support agricultural, including aquaculture development and education. These food-assistance programs, combined with trade capacity-building efforts, support long-term economic development and help countries make the transition from aid recipient to commercial buyers and producers.

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Farm Service Agency (FSA)

As one of USDA's larger agencies, the Farm Service Agency (FSA) supports the Department's rural development and farming strategic goals. The Farm Security and Rural Investment Act of 2002 required FSA to implement a diverse range of programs that provide an equitable financial "safety net" for the Nation's farmers and ranchers, including aquaculture producers. FSA also helps to ensure that American agriculture remains competitive in global markets, strong and viable domestically, and responsive to conservation and

environmental issues. FSA has offices throughout the United States. Follow the FSA State Offices link to access the nearest FSA state office. These offices can provide details on available assistance and services and requirements for eligibility.

Farm Loan Programs

FSA loans can be used to purchase land, livestock (fish), equipment, feed, seed, and supplies The FSA makes direct and guaranteed farm ownership and operating loans to family-size farmers and ranchers, including aquaculture producers, who cannot obtain commercial credit from a bank, Farm Credit System institutions, or other lenders.. Loans can also be used to construct buildings or make farm improvements.

FSA loans can be provided to beginning fish farmers who cannot qualify for conventional loans because they have insufficient financial resources. FSA also helps established fish farmers who have suffered financial setbacks from natural disasters, or whose resources are too limited to maintain profitable farming operations. In many locations, aquaculture is a new enterprise or unfamiliar to FSA offices that can require more effort to understand the fish farming business.

FSA Conservation Loan Program

. The goal of FSA's Conservation Loan program is to provide access to credit for farmers, including fish farmers, who need and want to implement conservation measures on their property but do not have the "up front" funds available to implement these practices. The FSA makes and guarantees loans to promote conservation practices on fish farms that help protect natural resources throughout the United States

Disaster Assistance Programs

The FSA provides assistance for natural disaster losses resulting from drought, flood, fire, freeze, tornadoes, pest infestation, and other calamities. Many of the program services are available to aquaculture producers and operations. Some require prior signup to be eligible for program assistance. For more information, consult the nearest FSA office in your county or area.

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Federal-State Marketing Improvement Program (FSMIP)

The Federal-State Marketing Improvement Program (FSMIP) provides matching funds to state departments of agriculture, state agricultural experiment stations, and other state agencies to assist in exploring new market opportunities for U.S. food and agricultural products and to encourage research and innovation aimed at improving the efficiency and performance of the marketing system. FSMIP has a long history of funding market-related projects involving a diversity of aquaculture products and locations in the United States

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National Agricultural Statistics Service (NASS)

The USDA's National Agricultural Statistics Service (NASS) conducts hundreds of surveys every year and prepares reports covering many aspects of U.S. agriculture. The NASS provides timely, accurate, and useful statistics on U.S. agriculture production, including aquaculture. NASS conducts a Census of Agriculture every five years, providing the only source of consistent, comparable, and detailed agricultural data for major crops for every county in America. The Census of Agriculture also includes limited data on U.S. aquaculture production. As a supplement to the Census of Agriculture, NASS periodically collects detailed information on the U.S. aquaculture industry and publishes the NASS Census of Aquaculture.

These reports provide current and comprehensive data about the aquaculture sector by species, states, value, production methods, surface-water acreage and sources, production, sales, point of first sale outlets, aquaculture species distributed for restoration and conservation purposes, and for recreational use. Aquaculture farm labor statistics are also included. The first national Census of Aquaculture was for the 1998 crop year followed by the 2005 Census of Aquaculture that expanded the aquaculture data collected from the 2002 Census of Agriculture. Another national census of aquaculture is underway for the 2013 crop year and is expected to be published in the fall of 2014.

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National Institute of Food and Agriculture (NIFA)

The National Institute of Food and Agriculture (NIFA) is the agency within USDA that administers Federal funds for extramural research, extension, and education programs. NIFA provides national leadership and support for major research and extension educational programs in support of private-sector aquaculture in cooperation with its diverse partners, including the land-grant-university community, private-sector organizations, non-governmental groups, professional organizations, and other Federal and state governmental agencies. The current NIFA aquaculture research and extension base is highly diverse in terms of funding mechanisms, areas of research, and educational activities (K-12 and postsecondary). NIFA provides capacity funds to land-grant institutions to support research at Agricultural Experiment Stations and educational programs through Cooperative Extension offices at those institutions that provide matching funds to leverage the Federal investment. A complete listing of land grant institutions is available here.

NIFA, in partnership with the Cooperative Extension System, provides national leadership for extension education, information dissemination, and technology transfer programs that have been critical to the development of commercial aquaculture in the Nation. Regional program planning and cooperation have expanded and state extension specialists and educators are involved with regional and national aquaculture programs directed at producers, processors, regulatory agencies, lenders, and local and state governments. These extension educational programs have resulted in improved production-system efficiency and farm management practices as well as expanded market opportunities and have helped the private sector respond to new Federal regulations and policies.

NIFA's funding for science and technology transfer supports the development of a globally competitive U.S. aquaculture industry by: 1) improving the efficiency of aquaculture production; 2) improving aquaculture production systems; 3) improving the sustainability and environmental compatibility of aquaculture production; 4) ensuring and improving the quality, safety, and variety of aquaculture products for consumers; 5) improving the marketing of U.S. aquaculture products; and 6) improving information dissemination, technology transfer, and access to global information and technology in aquaculture.

NIFA supports a continuum of fundamental research and technology development linked to strong extension education and technology transfer programs. In addition, NIFA, at times, participates in joint solicitations for proposals with DOE, NSF, and NIH to leverage NIFA priorities and funds with those of other agencies. NIFA also funds and supports national research support programs including the: National Research Support Program (NRSP)-7, which is focused on the development of new animal drugs for minor species and minor uses; and National Animal Genome Research in the National Research Support Project 8 (NRSP-8). Both of these programs support research on aquatic species.

NIFA supports eXtension including the Freshwater Aquaculture and Marine Aquaculture Communities of Practice (CoP)

NIFA also encourages multi-state research activities such as the National Information Management and Support System including several associated with aquaculture.

Regional Aquaculture Centers

Five Regional Aquaculture Centers (RAC), administered by NIFA, were established by Congress in Title XIV of the Agriculture & Food Act of 1980 and the Food Security Act of 1985 (Subtitle L, Section 1475[d]). The Centers encourage cooperative and collaborative research and extension education programs in aquaculture with regional or national relevance. Center programs complement and strengthen existing aquaculture research and extension education programs supported by USDA through the ARS and land grant universitys' Agricultural Experiment Station System and Cooperative Extension System, by the NOAA Sea Grant College Programs, and other public research and educational institutions. The RACs fund competitively awarded and peer-reviewed research and extension projects that are based upon priority industry needs.

Regional Aquaculture Centers:

- Northeastern Regional Aquaculture Center (NRAC)
- North Central Regional Aquaculture Center (NCRAC)
- Western Regional Aquaculture Center (WRAC)
- Southern Regional Aquaculture Center (SRAC)
- Center for Tropical and Subtropical Aquaculture (CTSA)

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Natural Resources Conservation Service (NRCS)

Originally established by Congress in 1935 as the Soil Conservation Service, the Natural Resources Conservation Service (NRCS) has expanded to become a conservation leader for all natural resources, ensuring private lands are conserved, restored, and more resilient to environmental challenges like climate change. Seventy percent of the land in the United States is privately owned, making stewardship by private landowners absolutely critical to the health of our Nation's environment. NRCS works with landowners through conservation planning and assistance designed to benefit the soil, water, air, plants, and animals that result in productive lands and healthy ecosystems.

NRCS also provides information on sustainable aquaculture conservation practices. NRCS also provide financial assistance to help landowners make the right decisions for managing natural resources. NRCS provides funding opportunities for aquaculture producers through various programs. Conservation Innovation Grants (CIG) is a voluntary program intended to stimulate the development and adoption of innovative conservation approaches and technologies while leveraging federal investment in environmental enhancement and protection, in conjunction with agricultural production. Under CIG, Environmental Quality Incentives Program (EQIP) funds can be used to award competitive grants to non-federal governmental or non-governmental organizations, tribes, or individuals involved in aquaculture.

Environmental Quality Incentives Program (EQIP)

The Environmental Quality Incentives Program (EQIP) is a voluntary program that provides financial and technical assistance to agricultural producers, including fish farmers, through contracts up to a maximum term of ten years in length. These contracts provide financial assistance to help plan and implement conservation practices that address natural resource concerns and for opportunities to improve soil, water, plant, animal, air and related resources on agricultural land and non-industrial private forestland. In addition, a purpose of EQIP is to help producers meet Federal, State, Tribal and local environmental regulations.

National Conservation Practice Standards Handbook including aquaculture The NRCS conservation practice standard contains information on why and where these practice are applied, and it sets forth the minimum quality criteria that must be met during the application of that practice in order for it to achieve its intended purpose(s). State conservation practice standards are available through the Field Office Technical Guide (FOTG). If no state conservation practice standard is available in the FOTG, contact the appropriate state office or local USDA Service Center.

To contact the nearest NRCS office, go to: http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/contact

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Risk Management Agency (RMA)

The role of USDA's Risk Management Agency (RMA) is to help producers manage their business risks through effective, market-based risk management solutions. RMA's mission is to promote, support, and regulate sound risk-management solutions to preserve and strengthen the economic stability of America's agricultural producers including aquaculture producers. As part of this mission, RMA operates and manages the Federal Crop Insurance Corporation (FCIC).

RMA administers pilot crop insurance for selected aquaculture commodities:

Clams: RMA has developed specific federal programs to insure specific aquaculture crops including clams in certain states. The states eligible for the pilot federal crop insurance programs for clams include: Massachusetts; Virginia; Florida; South Carolina .

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Rural Development (RD)

The USDA Rural Development (RD) program is committed to helping improve the economy and quality of life in rural America. RD's financial programs help support essential public facilities and services such as water and sewer systems, housing, health clinics, emergency service facilities and electric and telephone service. They promote economic development by supporting loans to businesses, including aquaculture-related businesses, through banks, credit unions, and community-managed lending pools. They offer technical assistance and information to help agricultural producers and cooperatives get started and improve the effectiveness of their operations. They also provide technical assistance to help communities undertake community empowerment programs.

Aquaculture producer assistance is provided in many ways, including direct or guaranteed loans, grants, technical assistance, and research and educational materials to enhance farm profitability. Visit the sites on the Rural Development Grant Assistance page for information and/or assistance

The Farm Labor Housing Loan and Grant program provides capital financing for the development of housing for domestic farm laborers including farms producing aquatic animals. Loans are made to farmers, associations of farmers, family farm corporations, Indian tribes, nonprofit organizations, public agencies, and associations of farmworkers.

Rural Development Business and Cooperative Service

The mission of the Rural Development Business and Cooperative Service Programs is to enhance the quality of life for rural Americans by providing leadership in building competitive businesses, including sustainable aquaculture cooperatives that can prosper in the global marketplace. They meet these goals by: investing financial resources and providing technical assistance to businesses and cooperatives located in rural communities; and by establishing strategic alliances and partnerships that leverage public, private, and cooperative resources to create jobs and stimulate rural economic activity.

Rural Development Business Programs

Business Programs

Through its Business Programs, RD provides business credit needs in under-served rural areas, often in partnership with private-sector lenders. The following Business Programs may be of relevance to aquaculture producers, keeping in mind that eligibility can be determined by the population size of the local community:

Loans

- Business and Industry (B&I) Guaranteed Loans
- Intermediary Relending Program (IRP)
- Rural Energy for America Program Guaranteed Loan Program (REAP Loans)(Section 9007)
- Rural Economic Development Loan And Grant (REDLG)

Grants

- Repowering Assistance Program (Section 9004)
- Rural Business Enterprise Grant Program (RBEG)
- Rural Energy for America Program Grants (REAP)
- Rural Development Energy Programs

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U.S. Department of Commerce

National Oceanic and Atmospheric Administration (NOAA)

National Marine Fisheries Service

NOAA's National Marine Fisheries Service (NMFS) is responsible for the stewardship of the nation's living marine resources and their habitat. NMFS manages, conserves, and protects living marine resources within the United States' Exclusive Economic Zone (aka federal waters; 3-200 miles from shore), and also has relevant authorities that extend into coastal waters.

NMFS' mission includes enabling sustainable marine aquaculture to produce more domestic seafood and provide economic opportunities to coastal communities. NMFS has regulatory responsibilities under the Endangered Species Act (ESA) and Essential Fish Habitat provisions of the Magnuson-Stevens Fishery Management Act (MSA) to consult on federal activities, including permit applications for commercial aquaculture operations. NMFS supports research and technology development and transfer at its science centers and through competitive grants, and through collaborative research with international partners. In addition, NMFS disseminates aquaculture-related information gained from its research. To achieve its aquaculture objectives, NMFS cooperates with federal and state agencies, industry, environmental organizations, international bodies and foreign governments, and academic partners.

Office of Aquaculture

NMFS Office of Aquaculture leads and coordinates NOAA's aquaculture activities. The office develops and implements regulations in coordination with NMFS regional offices, and the Offices of Protected Resources, Habitat Conservation, and Sustainable Fisheries. The Office of Aquaculture also engages with NOAA Science Centers to prioritize and support aquaculture research on a suite of issues.

Since 2008, NOAA has been expanding its aquaculture efforts by establishing Regional Coordinators around the country. NMFS has Regional Aquaculture Coordinators in its Northeast, Northwest, Southeast, Southwest,, and Pacific Islands Regional Offices.

Office of Habitat Conservation

The NMFS Office of Habitat Conservation consults on aquaculture permit applications to minimize and mitigate any impacts to Essential Fish Habitat. In addition, the office's Restoration Center works to restore and protect the nation's coastal and marine habitats. The Restoration Center collaborates with the NMFS Office of Aquaculture on projects that involve elements of aquaculture such as oyster habitat restoration.

Office of Oceanic and Atmospheric Research (OAR)

National Sea Grant College Program

NOAA Research's National Sea Grant College Program integrates research and outreach (e.g., extension) through 33 state Sea Grant Programs across the U.S. coasts and Great Lakes. Sea Grant leads NOAA's competitive, extramural research for aquaculture, relying on a partnership between NOAA and universities to fund aquaculture research that responds to local and state priorities (via the state Sea Grant Programs), as well as national priorities (via the National Sea Grant Office). Sea Grant Extension is a leader for NOAA's engagement in aquaculture, with extension agents living and working in coastal communities, providing science-based information on fisheries and aquaculture for local governments, industry, and citizens.

Office of Protected Resources

NMFS' Office of Protected Resources works to conserve, protect, and recover species as mandated by the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA) in conjunction with NMFS Regional Offices, Science Centers, and various partners. The Office of Protected Resources is primarily responsible for ensuring that permitted aquaculture activities comply with these laws. This includes consulting with other NMFS offices and federal agencies to ensure that their actions do not jeopardize ESA listed species or adversely modify their critical habitat; or illegally kill, injure, or harass marine mammals.

Office of Science and Technology

The NMFS Office of Science and Technology advocates for and ensures the sound scientific basis for NMFS' science programs and resource conservation and management decisions. The office produces important statistical publications such as the annual Fisheries of the United States report, which includes data on commercial and recreational fisheries and aquaculture.

NMFS Fisheries Science Centers:

- Alaska Fisheries Science Center
- Northeast Fisheries Science Center
- Southeast and Caribbean Fisheries Science Center
- Northwest Fisheries Science Center
- Southwest Fisheries Science Center
- Pacific Islands Fisheries Science Center

Office of Sustainable Fisheries

Aquaculture is a form of fishing as defined by the MSA. Therefore, aquaculture activities may be regulated through development of Fishery Management Plans (FMP) in the Exclusive Economic Zone (federal waters). Fishery management plans are developed by regional Fishery Management Councils (Councils) and implemented by NMFS. The NMFS Regional Offices work with the Councils to develop FMPs and their associated implementing regulations; and the Office of Sustainable Fisheries develops and implements fishery management actions for highly migratory species.

Economic Development Administration (EDA)

The NOS Economic Development Administration (EDA) programs are designed to help alleviate conditions of sustainable and persistent unemployment and underemployment in economically distressed areas and regions of the Nation. Such assistance is designed to help communities by stabilizing and diversifying local economies, and improving local living conditions and economic development of the area. EDA has funded aquaculture-related projects under its Public Works and Development Facilities Program and Technical Assistance Program.

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Economics and Statistics Administration (ESA)

Much of the statistical, economic, and demographic information collected by the federal government is made available to the public through the bureaus and offices of the Department of Commerce that are known collectively as the Economics and Statistics Administration (ESA). The NMFS produces an annual publication entitled Fisheries of the United States.

Fisheries Finance Program

NMFS' Fisheries Finance Program provides long-term financing for the cost of construction or reconstruction of fishing vessels, fisheries facilities, and aquaculture facilities.

National Ocean Service (NOS)

National Centers for Coastal Ocean Science (NCCOS)

NOS' NCCOS provides research, scientific information, and tools to help balance the nation's ecological, social, and economic goals. NCCOS researchers are developing advanced simulation models and environmental monitoring protocols to help coastal managers identify appropriate sites and effectively manage commercial aquaculture operations. NCCOS also conducts research on how to minimize potential environmental impacts of cage aquaculture and is developing systems to reduce and recycle waste from tank-based recirculating aquaculture systems.

Seafood Inspection Service

The NMFS Seafood Inspection Program offers professional inspection services on a fee-for-service basis that assure compliance with all applicable food regulations. The Seafood Inspection Program provides inspection services for fish, shellfish, and fishery products to the industry including imported aquaculture products.

U.S. Department of Energy

The mission of the Energy Department (DOE) is to ensure America's security and prosperity by addressing its energy, environmental and nuclear challenges through transformative science and technology solutions.

The DOE has Funding Opportunities for research and small businesses including aquaculture. The Office of Economic Impact and Diversity has information on doing business with the DOE, including viewing current business opportunities, registering to submit proposals, and obtaining information and guidance on the acquisition and financial assistance award process.

Loan Programs Office (LPO)

The mission of Loan Program Office (LPO) is to accelerate the domestic commercial deployment of innovative and advanced clean energy technologies at a scale sufficient to contribute meaningfully to the achievement of our national clean energy objectives. The LPO provides guaranteeing loans to eligible clean energy projects (i.e., agreeing to repay the borrower's debt obligation in the event of a default), and by providing direct loans to eligible manufacturers of advanced technology vehicles and components including those used in aquaculture production.

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U.S. Department of Health and Human Services

Food and Drug Administration (FDA)

Safe and effective animal drugs and feed additives play an important role in protecting animal health and the safety of America's food supply. The FDA realizes that aquaculture is an increasingly important source of fish for human food. By ensuring the safety of the drugs and feeds used in aquaculture, FDA ensures the safety of cultured seafood. Two Centers within the FDA work with the aquaculture industry: the Center for Veterinary Medicine (CVM) and the Center for Food Safety and Applied Nutrition (CFSAN).

CFSAN ensures that domestic and imported foods, including seafood, are safe, sanitary, wholesome, and properly labeled. CFSAN operates several programs dedicated to the safety of wild-caught and cultured seafood. The Fish and Fisheries Products Hazards and Controls Guidance is a cornerstone of the seafood safety

program. It contains the most-current science and policy on hazards affecting fish and fishery products, including aquaculture, and effective preventive and mitigation methods to prevent hazard occurrence. This guidance is the foundation of world-wide fish and fishery product regulatory programs.

CVM regulates food and feed ingredients used for aquaculture-produced fish by:

- monitoring and establishing standards for feed contaminants,
- approving safe food additives, and
- managing the FDA's medicated feeds and pet food programs.

CVM also works with various government agencies and aquaculture associations to increase the number of safe and effective drugs for use by the aquaculture industry. Two tools CVM uses in this endeavor are: the Minor Use and Minor Species Animal Health (MUMS) Act of 2004, and the FDA CVM Office of Research's Aquaculture Facility.

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U.S. Department of Interior

U.S. Fish & Wildlife Service

The U.S. Fish & Wildlife Service has responsibilities for restoring depleted fish populations, preserving endangered species, mitigating the impacts of federal water development projects on fish populations, and providing scientific leadership in fishery resource management. A nationwide system of fish hatcheries, fisheries assistance offices, fish health centers, fish technology centers, fisheries research centers, and a training facility are operated to carry out these responsibilities. The Service's fisheries activities involve research, management, and culture of freshwater, anadromous, estuarine, and exotic fishes of recreational, ecological, and commercial importance. The Service has established an aquaculture mission consisting of two broad functions: 1) encourage the development of private aquaculture in a manner that is compatible with responsible natural resource stewardship; and 2) make Service expertise, knowledge, and technical/scientific capabilities in fish culture and related disciplines available to the private aquaculture community.

USFWS Fisheries Science Centers:

- Leetown, WV Science Center
- Western Fisheries Research Center
- Upper Midwest Environmental Sciences Center

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U.S. Geological Survey

The U.S. Geological Survey collects a large amount of information related to availability and quality of ground-water and surface-water supplies as part of its mission to inventory the Nation's resources. Information such as pollutant levels, aquifer locations, lake levels, stream flows, and other data useful to aquaculture is available from the USGS in a variety of forms including maps, reports, and computer output.

USGS Fisheries Program

The Fisheries Program focuses on the study of aquatic organisms and aquatic habitats. Aquatic invertebrates, mussels, fishes, and their unique aquatic communities are investigated to provide scientific information to natural resource managers and decision makers. USGS works closely with its partners in Department of Interior Bureau's and other resource management agencies to provide scientific information to meet management needs. For instance, USGS provides fisheries- and aquaculture-related research information for Fish and Wildlife Service to restore and enhance fish habitat and understand fish diseases.

Endangered species and those that are imperiled receive special research interest. Research on species diversity, life history, health and diseases, aquatic community ecology, and habitat requirements of fish and other aquatic organisms supports the management, conservation, and restoration of our Nation's aquatic resources.

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U.S. Department of State

Bureau of Oceans Environment and Sciences (OES)

The Department of State Bureau of Oceans, Environment, and Sciences (OES) is responsible for formulating and implementing U.S. policy on a broad range of international issues concerning living marine and aquatic resources, which includes promoting responsible and sustainable aquaculture in the international arena. The Office of Marine Conservation (OES/OMC) works within the framework of several international organizations that aim to address growing and important issues in the aquaculture sector, including the United Nations Committee on Fisheries (COFI) Sub-Committee on Aquaculture and the Asia-Pacific Economic Community (APEC) Oceans and Fisheries Working Group.

Additionally, the Department of State frequently receives inquiries about the U.S. aquaculture industry, policy, and investment opportunities from the international community. When an inquiry is received, the Department of State coordinates with federal partners to identify experts and potential partners to initiate discussions on these important issues.

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U.S. National Science Foundation

The National Science Foundation (NSF) is an independent federal agency created by Congress in 1950 "to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense…" NSF is the funding source for approximately 20 percent of all federally supported basic research conducted by America's colleges and universities. In many fields such as mathematics, computer science, biology, and the social sciences, NSF is the major source of federal backing for research. NFS funds basic research that has broad application for aquaculture. NSF also has a Small Business Innovation Research (SBIR) program.

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U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) has several programs involved in aquaculture. The proper management of effluents and residual wastes should be a major consideration of aquaculture systems in assuring the protection of the environment.

EPA's Water Quality Programs are concerned with setting Water Quality Criteria, Monitoring Shellfish Waters and Effluent Discharge Standards are for assuring the protection of the nation's waterways and water supplies.

The National Pollutant Discharge Elimination System (NPDES) issues permits for the discharge of wastewaters to surface waters, including discharges from aquaculture systems in many cases. Permits are available from this program to use wastes as nutrients in public waters for aquaculture purposes.

Wastewater treatment in publicly owned treatment works is amenable to the use of aquaculture systems funded, in part, by EPA's State Revolving Fund (SRF) Program. In conjunction with the U.S. Army Corps of Engineers, EPA also implements the Clean Water Act Section 404 Wetlands Protection Program aimed at protecting natural wetlands from the impacts of dredging and filling.

Chemicals and other materials to be used in aquaculture are subject to Pesticide Registration by EPA prior to marketing to the user.

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U.S. Army Corps of Engineers

The role of the U.S. Army Corps of Engineers (USACOE) is to strengthen our Nation's security by building and maintaining America's infrastructure and providing military facilities where service members train, work, and live. The USACOE maintains America's waterways to support the movement of critical commodities and providing recreational opportunities .Additionally, by devising hurricane and storm damage reduction infrastructure, they reduce the risks from disasters.

The Clean Water Act of 1977 requires the Corps to reissue nationwide permits (NWP) every five years. The primary goal of the NWPs is to authorize certain activities, including aquaculture, that have minimal adverse effects on the environment. The Corps reissued NWP 48 with some changes. NWP 48 has been modified to authorize expansion of existing commercial shellfish growing operations and new activities, with a 0.5 acre limit of disturbance to submerged aquatic vegetation beds. They have also removed the reporting requirement for certain on-going commercial shellfish aquaculture activities.

404 permitting: The USACOE Regulatory Program mission is the protection of the Nation's aquatic resources, while allowing reasonable development, including aquaculture, through fair, flexible, and balanced permit decisions. The Corps evaluates permit applications for essentially all construction activities that occur in the Nation's waters, including wetlands.

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U.S. Agency for International Development (USAID)

The U.S. Agency for International Development (USAID) supports aquaculture research and development projects in developing countries where significant opportunities exist to utilize this form of food production to meet nutritional needs and to increase incomes and employment opportunities. It supports applied research, usually involving U.S. scientists, primarily through the Bureau for Food Security (BFS).

The main mechanism through which USAID supports aquaculture research is through the AquaFish Innovation Lab which is managed by Oregon State University and involves more than a dozen other U.S. universities as well as research institutions in fifteen developing countries. BFS also supports aquaculture research and development activities undertaken by the WorldFish Center.

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