

APPENDIX A: Research and Development

FWS Fisheries Program Research and Development Funding (\$000)			
	FY 2007 Enacted	FY 2008 Enacted	FY 2009 Request
National Fish Hatchery System Subactivity			
Fish Technology Centers (FTC)	6,321	6,321	6,321
FTC's provide leadership in science-based management of trust aquatic resources through the development of new concepts, strategies, and techniques to solve problems in hatchery operations and aquatic resource conservation.			
Fish Health Centers (FHC)	4,061	3,588	3,588
FHC's provides the information needed to insure the health of aquatic species within the ecosystems managed by the Service; Provides fish health biologists with access to training, experience, and a network of highly trained specialists and researchers; Evaluates all aspects of the ecosystem that can alter the health of aquatic animals; Integrates many disciplines to provide comprehensive recommendations to managers; Promotes the health of wild stocks and addresses the effects of hatchery operations on natural fish populations.			
Fish & Wildlife Management Assistance Subactivity			
Conservation Genetics Lab (CGL)	731	731	731
The CGL provides genetic analysis support and expertise to fishery managers for the purpose of conserving genetic resources.			

The FWS Fisheries Program’s applied research activities support on-the-ground needs of the Fisheries Program and its partners. New research and technology needs are prioritized in accordance with goals and objectives of the Fisheries Strategic Plan. New initiatives are developed based on an analysis of needs in the Fisheries Operational Needs (FONS) on-line database which provides access to current applied research needs in “real time.” Within the Fisheries Information System, applied research needs are linked with the corresponding Strategic Plan Objective, to the broader management plan that calls for the work (such as a Recovery Plan), and to a list of partners in support of the work, collectively establishing relevance for science support activities. Relevance is the first of the three OMB R&D criteria.

While applied research is conducted throughout the Fisheries Program, the seven Fish Technology Centers, nine Fish Health Centers, Conservation Genetics Laboratory, and the Aquatic Animal Drug Approval Partnership (AADAP) program’s laboratory, all focus on providing science support to the Fisheries Program. Performance is the second of the three OMB R&D criteria. These facilities contribute directly to the Fisheries Program's outcome measure (" % of aquatic T&E populations that are self-sustaining in the wild"), to several applied research performance measures (e.g., “# of techniques/culture technology tools developed”), and indirectly to the balance of Fisheries Program performance measures, by providing fisheries biologists and managers with the necessary science support to successfully manage fishery resources. For example, a collaborative study was completed at Mora Fish Technology Center (NM) that compared the performance of the critically endangered bonytail (fish) when fed various types of commercially available feeds. The goal of the study was to identify a feed that would enhance growth and survival of the bonytail reared for recovery in an intensive culture facility. The study concluded that commercially available diets are largely inadequate for intensive bonytail culture, and provided information for formulating a diet that meets the specific nutritional requirements of the bonytail, thereby potentially improving the success of bonytail propagation programs and the recovery of this endangered species. The study was published in the North American Journal of Aquaculture, Volume 68.

High quality science, supported by peer review (third OMB R&D criteria) is integral to the Fisheries Program's science support programs. Fisheries personnel on the Service's Science Committee have been involved in efforts to develop publication and peer review standards. Fish Technology Center quality assurance/quality control standards guide all applied research activities. Regular assessment of program quality and relevance is conducted via the Fish Technology Center Evaluation Program. The evaluations not only improve the accountability and quality of programs, but also identify program deficits and areas for improvement. The evaluation process now includes external partners and compares Service protocols to those of outside entities, to provide an objective review that demonstrates relevance to the broader fisheries management community. Fish Health Centers also use a standardized set of procedures and protocols for conducting fish health inspections at Service and partner facilities. These procedures and protocols undergo internal and external reviews to ensure the methods are both current and scientifically valid. This is particularly important as global climate change and other challenges influence the discovery of many new organisms and the adaptation of other organisms to new and novel conditions.

Fish Technology Centers provide leadership in the scientifically based management of national fishery resources through development of new concepts and techniques to solve specific problems in aquatic restoration and recovery activities. Activities include:

- Development of maintenance and/or propagation techniques and systems for imperiled species;
- Evaluation of hatchery techniques and products;
- Testing alternative cultural practices and assessment techniques to improve the quality and cost effectiveness of hatchery-produced fish;
- Evaluation of effects of pathogens and parasites on wild fish populations.
- Monitoring hatchery effluents and pollution reduction;
- Dissemination of technical information to federal and state agencies and the private sector through scientific journals, professional meetings, and workshops;
- Development of cryopreservation and gene banking technology for native threatened and endangered fish species;
- Development of culture techniques to minimize captive propagation influence on post stocking behavior of native threatened and endangered species; and,
- Development and evaluation of techniques for "streamside" production of native threatened and endangered fishes.

Fish Health Centers provide service, expertise and information that assist in the development of management strategies through assessment and applied research to support the protection of wild stocks and restoration of threatened and endangered species. Comprehensive aquatic animal health requires:

- Monitoring, diagnostics, and inspections of aquatic animals including their physiological and biological characteristics;
- Understanding of the condition, individual requirements, and interactions of wild and cultured fish related to disease and aquatic health;
- Application of diverse scientific fields such as microbiology, fish biology, epidemiology, toxicology, pathology, physiology, histology, and genetics;
- Active representation in management through providing information, risk analysis and management alternatives for decision making; and,
- Education of priority publics about the value of comprehensive fish health in preventing catastrophic losses and improving survivability of aquatic species.

The Conservation Genetics Lab works with biologists and managers to design and conduct genetic research and provide expertise to address conservation and management issues on 16 National Wildlife Refuges in Alaska, and in other Fish and Wildlife Service Regions. Activities include:

- Providing information on the genetic characteristics of fish and other populations required for conserving biodiversity. This includes identifying individual populations, determining how they are related, and grouping them into appropriate management units; and,
- Applying the results of genetics research to the management of important subsistence, commercial and recreational fisheries to determine patterns of migration and run-timing, and the origin of fish harvested in mixed-stock fisheries to protect depleted populations while allowing the harvest of healthy ones.

APPENDIX B: User-Pay Cost Share from Non Resource Management Accounts^{a/}

The U.S. Fish and Wildlife Service recovers funding from accounts other than Resource Management for the costs of service-wide and regional office operational support. This table summarizes estimated recoveries for FY 2008 and 2009.

Activity	FY 2008 Estimate (\$000)	FY 2009 Estimate (\$000)
Discretionary Appropriations		
Construction	2,419	2,456
Land Acquisition	1,477	1,494
Cooperative Endangered Species Conservation Fund	320	313
National Wildlife Refuge Fund	221	216
North American Wetlands Conservation Fund	207	203
Landowner Incentive Grants	62	61
State and Tribal Wildlife Grants Fund	243	238
Appropriation Accounts, subtotal	4,949	4,981
Permanent and Allocation Accounts		
Migratory Bird Conservation Account	844	827
Recreation Fee Program	330	323
Federal Aid in Wildlife Restoration	607	595
Sport Fish Restoration	761	746
Wildland Fire Management (BLM)	3,230	3,167
Federal Roads (DOT/FHWA)	180	177
Natural Resource Damage Assessment/Restoration	182	179
Central Hazmat Fund (DOI)	87	85
Permit Improvement Fund	121	119
Permanent and Allocation Accounts, subtotal	6,342	6,218
TOTAL^{b/}	11,291	11,199

a/ In FY 2004, a cost allocation methodology was implemented to ensure distribution of these costs to all fund sources in an equitable manner. A detailed description of the Administrative User-Pay Cost Share can be found in the General Operations section of Resource Management.

b/ Excludes indirect costs derived from reimbursable work performed for other Federal, State, and local agencies. Amount of reimbursable income fluctuates based on the amount of work performed.

APPENDIX C: Mandatory Budget and Offsetting Collections Proposal

Reference	2009 Legislative Proposal
Migratory Bird Conservation Account – See Migratory Bird Conservation Account section	Increase the sales price for Duck Stamps from \$15 to \$25 beginning in 2009. The anticipated increase in sales receipts for FY 2009 would be approximately \$14 million.

Legislative Proposal

Concurrent with this budget request the Service is proposing to amend the *Migratory Bird Hunting and Conservation Stamp Act*, to increase the sales price for Duck Stamps from \$15 to \$25 beginning in 2009. After evaluating the impact of raising the cost of the duck stamp, the proposal would set out a process for further modification of the cost of the stamp.

APPENDIX D

DEPARTMENT OF THE INTERIOR FISH AND WILDLIFE SERVICE EMPLOYEE COUNT BY GRADE			
	2007 Actual	2008 Estimate	2009 Estimate
Executive Level V.....	1	1	1
Subtotal.....	1	1	1
SES.....	20	20	20
Subtotal.....	20	20	20
GS/GM-15	115	115	114
GS/GM-14	479	479	478
GS/GM-13	1,264	1,265	1,263
GS-12	1,843	1,848	1,843
GS-11	1,409	1,425	1,409
GS-10	11	11	11
GS-9	912	935	911
GS-8	125	126	125
GS-7	679	692	677
GS-6	348	352	348
GS-5	539	545	539
GS-4	257	260	257
GS-3	132	133	132
GS-2	42	42	42
GS-1	12	12	12
Subtotal (GS/GM).....	8,167	8,240	8,161
Other Pay Schedule Systems*.....	828	851	828
Total employment (actual/projected) at end of fiscal year	9,016	9,112	9,010

*Other pay schedule systems includes wage system employees (WG/WL/WS/WB).

APPENDIX E: Allocations Received from Other Accounts

DEPARTMENT OF THE INTERIOR U.S. FISH AND WILDLIFE SERVICE Allocations Received from Other Accounts						
Department Program	FY 2007 Actuals		FY 2008 Estimate		FY 2009 Estimate	
	Budget Authority	Outlays	Budget Authority	Outlays	Budget Authority	Outlays
Department of Agriculture:						
Forest Pest Management	43,000	85,785	95,000	79,400	95,000	95,000
Department of the Interior:						
Office of Natural Resource Damage Assessment and Restoration						
Damage Assessment	2,364,250	2,591,171	2,500,000	2,459,275	2,500,000	2,500,000
Restoration	14,149,344	10,420,004	14,000,000	14,044,803	14,000,000	14,000,000
Bureau of Land Management:						
Wildland Fire Management	95,610,735	95,034,502	TBD	TBD	TBD	TBD
Central Hazardous Materials Fund	2,037,500	2,779,516	3,046,000	2,340,050	3,000,000	3,032,200
Department of Transportation:						
Federal Highway Administration	10,135,132	7,619,149	9,706,133	10,006,432	9,700,000	9,704,293
TOTAL	124,339,961	118,530,127	29,347,133	28,929,960	29,295,000	29,331,493

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