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General

Nanoscale Science and Engineering for Agriculture and Food Systems. National Planning Workshop. Held in Washington, DC. on November 18-19, 2002
Cornell Univ., Ithaca, NY. Sep 2003, 72p. Sponsored by Department of Agriculture, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
PB2005-110134WAF Price code: PC A05/MF A01

Nanotechnology has become a new and significant focus for federal investment in research. The National Nanotechnology Initiative (NNI), formed in 2000, is a crosscutting initiative now involving seventeen federal departments and agencies with ten of these having a research and development budget for nanotechnology. The USDA as a partner agency in the Federal NNI needs to identify opportunities and the potential to revolutionize agriculture and food systems through nanotechnology.

Agricultural Chemistry

Biomass as Feedstock for A Bioenergy and Bioproducts Industry: The Technical Feasibility of a Billion-Ton Annual Supply
R. D. Perlack, L. L. Wright, A. F. Turhollow, R. L. Graham, and B. J. Stokes.
Oak Ridge National Lab., TN. Apr 2005, 78p. The original document contains color images. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
ADA436753WAF Price code: PC A06/MF A01

The U.S. Department of Energy (DOE) and the U.S. Department of Agriculture (USDA) are both strongly committed to expanding the role of biomass as an energy source. In particular, they support biomass fuels and products as a way to reduce the need for oil and gas imports; to support the growth of agriculture, forestry, and rural economies; and to foster major new domestic industries-- biorefineries--making a variety of fuels, chemicals, and other products. As part of this effort, the Biomass R AND D Technical Advisory Committee, a panel established by the Congress to guide the future direction of federally funded biomass R AND D, envisioned a 30 percent replacement of the current U.S. petroleum consumption with biofuels by 2030. Biomass--all plant and plant-derived materials including animal manure, not just starch, sugar, oil crops already used for food and energy--has great potential to provide renewable energy for America s future. Biomass recently surpassed hydropower as the largest domestic source of renewable energy and currently provides over 3 percent of the total energy consumption in the United States. In addition to the many benefits common to renewable energy, biomass is particularly attractive because it is the only current renewable source of liquid transportation fuel. This, of course, makes it invaluable in reducing oil imports--one of our most pressing energy needs. A key question, however, is how large a role could biomass play in responding to the nation's energy demands. Assuming that economic and financial policies and advances in conversion technologies make biomass fuels and products more economically viable, could the biorefinery industry be large enough to have a significant impact on energy supply and oil imports. Any and all contributions are certainly needed, but would the biomass potential be sufficiently large to justify the necessary capital replacements in the fuels and automobile sectors.

Roadmap for Agriculture Biomass Feedstock Supply in the United States
Department of Energy, Washington, DC. Nov 2003, 105p. The original document contains color images. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
ADA436552WAF Price code: PC A07/MF A02

Prepared by the National Technical Information Service
U.S. Department of Commerce, Technology Administration, Springfield, VA 22161 (703) 605-6000

The Biomass Research and Development Technical Advisory Committee set forth a goal that biomass will supply 5% of the nation's power, 20% of transportation fuels and 25% of chemicals by 2030. These combined goals are approximately equivalent to 30% of the current petroleum consumption. The benefits of a robust biorefinery industry supplying this amount of domestically produced power fuels and products is considerable including decreased demand for imported oil revenue to the depressed agriculture industry and revitalized rural economies. A consistent supply of high quality low cost feedstock is vital in achieving this goal. This biomass roadmap defines the research and development path towards supplying the feedstock needs of the biorefinery and achieving the important national goals set for biomass.

Agricultural Economics

Agricultural Trade Preferences and the Developing Countries
J. Wainio, S. Shapouri, M. Trueblood, and P. Gibson.
Economic Research Service, Washington, DC. 2005, 52p.
Also available on CD-ROM. Microfiche reproduction is in black and white. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
ERS-ERR-6WAF Price code: PC A05/MF A01

Nonreciprocal trade preference programs originated in the 1970s under the Generalized System of Preferences (GSP) as an effort by high-income developed countries to provide tariff concessions for low-income countries. The goal of the programs was to increase export earnings, promote industrialization, and stimulate economic growth in the lower income countries. This study analyzes detailed trade and tariff data for the United States and the European Union (the two largest nonreciprocal preference donors) to determine the extent to which the programs have increased exports from beneficiary countries. For those products where the margins of preference are large and where beneficiaries have a comparative advantage and the capacity to expand prodution, these programs can create adequate incentives leading to a growing export market. The analysis finds that the programs offer significant benefits for some countries, mostly the higher income developing countries. Economic benefits in the least developed countries have been modest. An unanswered question is whether these gains will continue after the incentives are reduced.

Commercialization of Food Consumption in Rural China
F. Gale, P. Tang, X. Bai, and H. Xu.
Economic Research Service, Washington, DC. Jul 2005, 44p.
This document is color dependent. It is currently available on CD-ROM and paper only. CD-ROM contains a 44 page document. Available on CD-ROM and in paper copy only. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
ERS-ERR-8WAF Price code: PC A04

Rural households in China have traditionally consumed food mostly grown on their own farms. While they continue to rely on self-produced grains, vegetables, meats, and eggs for a large portion of their diet, rural households are now purchasing more of their food as they enter the mainstream of the Chinese economy. Cash purchases of food by rural Chinese households increased 7.4 percent per year from 1994 to 2003. Consumption has shifted from self-produced to purchased food at a rate faster than can be explained by income growth or changes in other household characteristics. The move away from self-produced food is associated with lower consumption of staple grains, the most important selfproduced food in rural Chinese diets. Food consumed away from home is one of the fastest growing categories of rural household expenditures, doubling in budget share from 1995 to 2001. Commercialization of food consumption is diversifying Chinese diets, broadening food markets, and creating new opportunities for retailers and product distributors.

Farm Credit Administration Strategic Plan, Fiscal Years 2004-2009
Farm Credit Administration, McLean, VA. 2005, 24p. See also rept. for FY 2000-2005, PB2001-102452. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
PB2005-110480WAF Price code: PC A03/MF A01

The Farm Credit Administration (FCA or agency) is an independent Federal agency responsible for regulating and examining the agricultural government-sponsored enterprises (GSEs) serving rural America. These are the Farm Credit System (FCS or System) and the Federal Agricultural Mortgage Corporation (Farmer Mac). The FCS is a network of borrower-owned cooperative financial institutions and affiliated service organizations that serves all 50 States and the Commonwealth of Puerto Rico. The oldest of the financial GSEs, Congress provided for cooperative organization of the FCS in 1916 as a means to achieve affordable and available farm credit. The FCS currently provides approximately $91 billion in loans to farmers, ranchers, producers and harvesters of aquatic products, rural homeowners, agricultural cooperatives, rural utility systems, and agribusinesses. Overall, the FCS holds about 30 percent of the market share of agricultural credit. Farmer Mac is a stockholder-owned, federally chartered instrumentality of the United States. Through authorities granted in the Agricultural Credit Act of 1987, Farmer Mac was established in 1988 to create a secondary market arrangement for agricultural real estate and rural housing mortgage loans. Farmer Mac provides secondary market services through a network of agricultural lenders, originators and sellers, among them commercial banks, FCS banks and associations, life insurance companies, and mortgage companies. As of yearend 2002, the volume of loans, either purchased or guaranteed, totaled over $5.5 billion and represented an estimated 12 percent2 of Farmer Macs eligible agricultural mortgage market.

Farm Credit Administration 2004 Annual Report
Farm Credit Administration, McLean, VA. 2004, 72p. See also PB2005-100467 and PB2005-110480. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
PB2005-110557WAF Price code: PC A05

The Farm Credit Administration is an independent agency

within the executive branch of the U.S. Government responsible for regulating and supervising the banks, associations, and related entities in the Farm Credit System, including the Federal Agricultural Mortgage Corporation (Farmer Mac). The FCS is a nationwide network of borrower owned financial institutions that provide credit to farmers, ranchers, and producers or harvesters of aquatic products, farm-related service businesses, rural homeowners, agricultural and aquatic cooperatives, and rural utilities. Farmer Mac is the government sponsored enterprise that provides a secondary market for agricultural real estate and rural housing mortgage loans. Originally created by a 1933 executive order of President Franklin D. Roosevelt, todays FCA derives its powers and authorities from the Farm Credit Act of 1971, as amended (Farm Credit Act or Act). The U.S. Senate Committee on Agriculture, Nutrition, and Forestry and the U.S. House of Representatives Committee on Agriculture oversee FCA and the FCS. FCAs mission is to ensure a safe, sound, and dependable source of credit and related services for agriculture and rural America. We do this in two specific ways. First, we conduct examinations of Farm Credit System institutions to monitor and oversee the safety and soundness of their ongoing activities. These examinations also focus on whether System institutions are meeting their public mandate to serve all eligible borrowers. Second, we approve corporate charter changes and research, develop, and adopt rules, regulations, and other guidelines that govern how System institutions conduct their business and interact with their customers. If a System institution violates a law or regulation, or its operations are unsafe or unsound, FCA may use its enforcement authority to ensure that the problem is corrected. FCA also protects the rights of borrowers, issues and changes the charters of FCS institutions, reports to Congress on the financial condition and performance of the FCS, and approves the issuance of System debt obligations. The Agency maintains its headquarters and a field office in McLean, Virginia. It also has field offices in Bloomington, Minnesota; Dallas, Texas; Denver, Colorado; and Sacramento, California.

Roadmap for Biomass Technologies in the United States
Department of Energy, Washington, DC. Dec 2002, 48p. The original document contains color images. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
ADA436527WAF Price code: PC A04/MF A01

The purpose of this document is to outline a research and development roadmap and identify public policy measures for promoting and developing environmentally desirable biobased fuels power and products. It represents the collective assessment and expertise of the Biomass Research and Development Technical Advisory Committee. The research strategies outlined in this road map will help achieve the goals established by the Committee in the Vision for Bioenergy and Biobased Products in the United States. The Committee represents experts from wide-ranging backgrounds relevant to biomass resources technologies and markets, A list of Committee members is provided in Appendix I. The Committee was established by the Biomass R AND D Act of 2000 (RL. 106- 224) Its responsibilities include advising the Secretaries of Energy and Agriculture on the technical focus and direction of requests for proposals issued under the Biomass R AND D Initiative and evaluating and performing strategic planning on program activities relating to the Biomass Research and Development Initiative (P.L. 106-224, Sec 206). The Committee developed this roadmap at the request of the U.S. Department of Energy and the U.S. Department of Agriculture as a tool to assist in biomass-related research planning and program evaluation. Through the Roadmap for Biomass Technologies in the United States the Committee has provided direction to the Department of Energy the Department of Agriculture the Department of the Interior the Environmental Protection Agency the National Science Foundation and the Office of the Science and Technology Policy. The Roadmap was developed through a series of public meetings of the Biomass Research and Development Technical Advisory Committee.

Agricultural Equipment, Facilities, & Operations

Soluciones Simples: Ergonomia para Trabajadores Agricolas. (Simple Solutions: Ergonomics for Farm Workers.)
S. Baron, C. F. Estill, A. Steege, and N. Lalich. National Inst. for Occupational Safety and Health, Cincinnati, OH. Div. of Surveillance, Hazard Evaluations and Field Studies. Feb 2001, 58p, DHHS/PUB/NIOSH-2001-111-SPA. Text in Spanish. For english version, see PB2001-103911. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
PB2005-109916WAF Price code: PC A05/MF A01

Farm work is hard work, and farm workers feel the results. Farm workers get backaches and pains in the shoulders, arms, and hands more than any other health problem. A third of the injuries that cause them to miss work are sprains and strains, and a quarter are back injuries. These are also the most common causes of disability. This pamphlet is about early intervention to prevent such injuries. It is directed toward growers, safety specialists, human resources managers--anyone with an interest in having safe farms.

Technology Roadmap for Plant/Crop-Based Renewable Resources 2020
Department of Energy, Washington, DC. 2005, 45p. The original document contains color images. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
ADA436517WAF Price code: PC A04/MF A01

The technological success of the petrochemical industry is a tough act to follow. Industry and consumers have come to expect an unending stream of new and improved plastics and other materials to be provided in unlimited quantities. The fossil fuels from which the industry works however are finite and often imported-so we need an additional source of durable high-performance materials. Renewable materials from home-grown crops trees and agricultural wastes can provide many of the same chemical building blocks-plus others that petrochemicals cannot Despite the expertise and ingenuity of U.S. industry and tremendous productivity of U.S. agriculture and forestry plant-based sources cannot automatically shoulder a major share of our chemical feedstock demand. Today U.S. industry only makes minor portions of some classes

of chemical products from plant-derived materials. Important scientific and commercial development breakthroughs are needed. Petrochemicals, agriculture, forestry and other industries-as well as government-must make major coordinated efforts to most effectively increase the use of plant-derived chemicals. This document evaluates research development and other priorities for surmounting these technological challenges and sets out a technology roadmap for increasing the use of plant-derived materials for chemical building blocks.

Agriculture Resource Surveys

Commercial Morel Harvesters and Buyers in Western Montana: An Exploratory Study of the 2001 Harvesting Season
R. J. McLain, E. M. McFarlane, and S. J. Alexander.
Forest Service, Portland, OR. Pacific Northwest Research Station. Jul 2005, 48p, FSGTR-PNW-643. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
PB2005-109728WAF Price code: PC A04/MF A01

This exploratory study examined aspects of the social organization of the commercial wild morel industry in western Montana during 2001. We talked with 18 key informants (7 buyers and 11 pickers) and observed social interactions at one buying station near the Kootenai National Forest and three buying stations near the Bitterroot National Forest. The key informant and observational data permitted us to construct a picture of social interactions at field buying stations, buyer strategies for attracting pickers, changes in prices over the course of a season, and the ways in which various participants in the wild morel harvest construct their livelihoods. In the discussion, we contrast our findings with the results of a recently published study on nontimber forest product harvesters in the Eastern United States. We end the report with a discussion of management implications for managers and scientists.

——*Proceedings, Symposia, Etc.*——

Productivity of Western Forests: A Forest Products Focus
C. A. Harrington, and S. H. Schoenholtz.
Forest Service, Portland, OR. Pacific Northwest Research Station. Aug 2005, 190p, FSGTR-PNW-642. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
PB2005-109744WAF Price code: PC A10

In August 20-23, 2004, a conference was held in Kamilche, WA, with the title 'Productivity of Western Forests: A Forest Products Focus.' The meeting brought together researchers and practitioners interested in discussing the economic and biological factors influencing wood production and value. One of the underlying assumptions of the meeting organizers was that management activities would be practiced within a framework of sustaining or improving site productivity; thus, several papers deal with methods to protect or improve productivity or discuss new studies designed to test the effects of various practices. This proceedings includes 11 papers based on oral presentations at the conference, 3 papers based on posters and 2 papers describing the Fall River and Matlock Long-Term Site Productivity study areas visited on the field tours. The papers cover subjects on forest harvesting activities, stand establishment, silviculture, site productivity, remote sensing, and wood product technologies.

Users Guide for Noble Fir Bough Cruiser
R. D. Fight, K. A. Blatner, R. C. Chapman, and W. E. Schlosser.
Forest Service, Portland, OR. Pacific Northwest Research Station. Jul 2005, 20p, FSGTR-PNW-644. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
PB2005-109718WAF Price code: PC A03/MF A01

The bough cruiser spreadsheet was developed to provide a method for cruising noble fir (Abies procera Rehd.) stands to estimate the weight of boughs that might be harvested. No boughs are cut as part of the cruise process. The approach is based on a two-stage sample. The first stage consists of fixed-radius plots that are used to estimate the number of merchantable noble fir trees per acre. The second stage consists of sample trees that are used to estimate the weight of boughs per tree. The software produces a report with the estimated weight of boughs per tree and per acre.

Agronomy, Horticulture, & Plant Pathology

Black Walnut in a New Century: Proceedings of the Walnut Council Research Symposium (6th). Held in Lafayette, Indiana on July 25-28, 2004
North Central Research Station, St. Paul, MN. 2004, 204p, FSGTR/NC-243. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
PB2005-110121WAF Price code: PC A11

Eastern black walnut (Juglans nigra L.) is an economically and ecologically important hardwood species that has been used throughout the history of settlement in North America. It was a resource that helped Native Americans in their everyday life, it helped European settlers carve a living out of the wilderness, and it has helped rural farmers and private landowners subsist and invest in the future. Described here is a brief history of black walnut breeding and molecular genetics research. Current genetic research may ultimately lead to the domestication of black walnut, an event that would be a hallmark for forest tree species.

Bunchgrass Plant Communities of the Blue and Ochoco Mountains: A Guide for Managers
C. G. Johnson, and D. K. Swanson.
Forest Service, Portland, OR. Pacific Northwest Research Station. Aug 2005, 132p, FSGTR-PNW-641. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

PB2005-109729WAF Price code: PC A08/MF A02

A classification of bunchgrass vegetation is presented for the Malheur, Ochoco, Umatilla, and part of the Wallowa-Whitman National Forests. It includes grassland vegetation as well as shrubland and forest land where the herbaceous layer is dominated by bunchgrasses. It is based on potential vegetation, with the plant association as the basic unit. Diagnostic keys and descriptions are presented for each type. Descriptions include information about plant species occurrence, environment and soils, states and transitions, forage productivity, management considerations, and relationships to other classifications.

Innovative Methods for Corn Stover Collecting, Handling, Storing and Transporting
J. E. Atchison, and J. R. Hettenhaus.
National Renewable Energy Lab., Golden, CO. Apr 2004, 62p. The original document contains color images. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
ADA436531WAF Price code: PC A05/MF A01

Corn Stover, the material remaining on the surface after the grain is collected, is the largest underutilized crop in the U.S. About 250 million dry tons, dt, is grown annually, triple the amount 50 years ago. Removing the excess after soil erosion needs are met can reduce the need to till, increase farmer income and provide 100 million dt or more for the production of fuels, chemicals and materials.

Animal Husbandry & Veterinary Medicine

——*Foreign Technology*——

Workshop Nazionale di Epidemiologia Veterinaria. Programma di Formazione in Epidemiologia Applicata (PROFEA): Strumenti per la Pianificazione in Sania Pubblica Veterinaria. Istituto Superiore di Sanita. Roma, 9-10 Guigno 2005. Relazioni e Riassunti (Training Programme in Applied Epidemiology (PROFEA): Planning in Veterinary Public Health. Istituto Superiore di Sanita. Rome, Jun 9-10, 2005. Papers and Abstracts)
Istituto Superiore di Sanita, Roma (Italy). c2005, 100p, ISTISAN-C-05/C4. Text in Italian; summary in English. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
PB2005-109539WAF Price code: PC A06/MF A02

PROFEA (Training Programme in Applied Epidemiology) is the result of a collaboration between the Istituto Superiore di Sanita (National Institute of Health) and the University 'Tor Vergata' of Rome, with the purpose of developing competences in applied epidemiology, statistics and public health. The workshop presents methodological tools and veterinary public health activities developed within PROFEA and an updating of emerging topics in veterinary epidemiology: surveillance of zoonoses and diseases of domestic and wild animals, risk assessment and its application in veterinary public health, use of epidemiological tools for surveillance and evaluation in veterinary public health interventions. The Workshop will provide an updating of the research project 'Foodborne zoonoses: harmonization and application of innovative methods in the medical and veterinary fields'. The project is funded by the Italian Ministry of Health.

Fisheries & Aquaculture

Dangers of Entanglement during Lobstering
National Inst. for Occupational Safety and Health, Washington, DC. Aug 2005, 8p, NIOSH-2005-137. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
PB2005-109963WAF Price code: PC A02/MF A01

Lobster fishing is a hazardous occupation that has resulted in drownings from entanglement in trap line and being pulled overboard. A survey of 103 lobstermen developed recommended work practices and controls to (1) reduce entanglement; (2) escape entanglement; and (3) provide opportunities to reboard the vessel.

Economic Analysis of Protection of Essential Fish Habitat in Alaskan Fisheries: An Analysis of Research Needs
D. S. Holland.
National Marine Fisheries Service, Seattle, WA. Alaska Fisheries Science Center. Aug 2005, 54p, NOAA-TM-NMFS-AFSC-154. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
PB2005-110129WAF Price code: PC A05/MF A01

This report identifies the types of information necessary to evaluate the economic impacts of Essential Fish Habitat (EFH) protection and the gaps in the existing knowledge and research methodologies necessary for this evaluation. A discussion of the basic elements of a benefit-cost analysis or a cost-effectiveness analysis for essential fish habitat protective measures is used to identify the types of benefits which must be quantified and monetized if they are to be used in a formal benefit-cost analysis. This discussion identified large gaps in knowledge and in valuation methodologies. On the basis of the relative importance of these knowledge gaps and the feasibility of filling them with new research, a number of potentially productive areas of research are identified. This research would improve our ability to more optimally balance habitat protection against costly constraints on fishing.

——*Proceedings, Symposia, Etc.*——

Exploring Alternatives for Fisheries Management in the Chesapeake Bay: A Workshop. Held in Linthicum, Maryland on April 10-11, 2001
Chesapeake Research Consortium, Inc., Annapolis, MD. Feb 2002, 34p, STAC/PUB-01-002. Sponsored by Chesapeake Bay Program Scientific and Technical Advisory Committee, Gloucester Point, VA. and Environmental Protection Agency, Annapolis, MD. Chesapeake Bay Program. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at

orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
PB2005-109274WAF Price code: PC A04/MF A01

This workshop was structured to learn about alternative approaches to fisheries management that are being applied throughout the United States to determine what applicability, if any, they might have to Chesapeake Bay fisheries management.Theseapproachesrangefromsomeformofassigned property rights to fisheries (e.g., Individual Transferable Quotas (ITQs), Territorial Use Rights For Fisheries (TURFs),CommunityDevelopmentQuotas(CDQs)tomanagement processes that share authority (Comanagement). Each alternative approach to management has unique characteristics that may contribute to success or failure when applied in a specific situation. Complexities of management in the Chesapeake Bay are magnified because the Bay has three jurisdictions, Maryland, Virginia and the Potomac, sharing management responsibilities for a variety of resources. In addition to single species management alternatives, there is great interest in the Chesapeake Bay to adopt ecosystem management approaches for Bay fisheries.

——*Proceedings, Symposia, Etc.*——

Fish Physiology, Toxicology, and Water Quality. Proceedings of the Seventh International Symposium, Tallinn, Estonia, May 12-15, 2003
Environmental Protection Agency, Research Triangle Park, NC. National Exposure Research Lab. May 2003, 368p, EPA/600/R-04/049. See also PB2005-102515. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
PB2005-110800WAF Price code: PC A17/MF A03

Scientists from five countries presented papers at the International Symposium on Fish Physiology, Toxicology, and Water Quality Management, which was held in Sacramento, California, on May 12-15, 2003. The proceedings includes 21 papers presented in sessions on the physiological effects of pollutants on fish, the uptake and depuration of toxicants by fish, and water quality management. Papers address the reproduction and growth of fishes, respiratory physiology, bioaccumulation of toxicants, microcosms, ecotoxicology, surface water quality including mine drainage, metal complexation and xenobiotics, and water quality models and management strategies.

Fishes of Buffalo National River, Arkansas, 2001-2003
J. C. Peterson, and B. G. Justus.
Geological Survey, Denver, CO. Water Resources Div. 2005, 46p, USGS-SIR-2005-5130. Prepared in cooperation with National Park Service, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
PB2005-110829WAF Price code: PC A04

fish community sampling was conducted at 29 sites within the boundaries of Buffalo National River. Samples were collected using backpack, tote barge, and boat electrofishing equipment. Kick seining also was used at all sites. To supplement these results, samples were collected in 2003 from less typical habitats and during other seasons of the year. Ten supplemental samples were collected from the Buffalo River and five samples were collected from tributaries of the Buffalo River. During the 3 years of sampling, 66 species of fish were collected or observed from the 42 sampling sites. Stonerollers, duskystripe shiners, longear sunfish, and rainbow darters were among the more abundant fish species at most sites. Each of these species is common and abundant throughout much of the Ozark Plateaus in creeks and small rivers. Other species (for example, banded sculpin, southern redbelly dace, orangethroat darter, and Ozark minnow) were among the more abundant species at other sites. These species prefer small- to medium-sized, springfed streams or small creeks. A preliminary list of species expected to occur at Buffalo National River provided by the National Park Service incorrectly listed 47 species because of incorrect species range or habitat requirements. Upon revising this list, the inventory yielded 66 of the 78 species (85 percent). Twelve additional species not collected in 2001-2003 may occur at Buffalo National River for two primary reasons--because the species had been collected previously at the park, or because the park occurs within the known species range and habitats found at the park are suitable for the species.

Fishes of George Washington Carver National Monument, Missouri, 2003
J. C. Peterson, and B. G. Justus.
Geological Survey, Denver, CO. Water Resources Div. 2005, 20p, USGS-SIR-2005-5128. Prepared in cooperation with National Park Service, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
PB2005-110827WAF Price code: PC A03

Fish were collected at six sites at George Washington Carver National Monument by seining and electrofishing during a base-flow period on July 17-18, 2003. Approximately 700 fish were collected and identified at the six sampling sites. Those individuals represented 17 species (and 1 hybrid) and 13 genera. The number of species collected at the five stream sites ranged from 9 to 12; a hybrid sunfish and 4 species were collected from a pond. Fish collected at stream sites were typical of small headwater streams and no species collected in this study are federally-listed threatened or endangered species. The three most common species were the southern redbelly dace, central stoneroller, and green sunfish. Some differences existed between the assemblages (groups of species) collected in 2003 and in the previous inventories. Four of the 17 fish species collected in this inventory previously had not been collected at the monument. However, 11 species collected in one or more of the previous inventories were not collected in this effort. There is no indication that a change in environmental conditions is responsible for the absence of these species; more likely reasons are seasonal variability, extirpation, low population density, and misidentification. Four species collected at George Washington Carver National Monument may be of special interest to National Park Service managers and others. The cardinal shiner and stippled darter are endemic to the Ozark Plateaus. The Arkansas darter is considered a species of conservation concern by the State of Missouri. The grass carp is an introduced species.

Fishes of Hot Springs National Park, Arkansas, 2003
J. C. Peterson, and B. G. Justus.
Geological Survey, Denver, CO. Water Resources Div. 2005, 22p, USGS-SIR-2005-5126. Prepared in cooperation with National Park Service, Washington, DC. Product reproduced

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PB2005-110851WAF Price code: PC A03/MF A01

Fish communities were sampled from eight sites within Hot Springs National Park. Fish were collected by seining and electrofishing during base-flow periods in July and October 2003. All individuals were identified to species. More than 1,020 individuals were collected, representing 24 species. The number of species collected at the sites ranged from 5 to 19. Central stoneroller, orangebelly darter, and longear sunfish were among the more abundant fish species at most sites. These species are typical of small streams in this area. An expected species list incorrectly listed 35 species because of incorrect species range or habitat requirements. Upon revising this list, the inventory yielded 24 of the 51 expected species (47 percent). No species collected in 2003 were federally-listed threatened or endangered species. However, two species collected at Hot Springs National Park may be of special interest to National Park Service managers and others. The Ouachita madtom is endemic to the Ouachita Mountains and is listed as a species of special concern by the Arkansas Natural Heritage Commission. The grass carp, which is a native of eastern Asia, is present in Ricks Pond; one individual was collected and no other grass carp were observed. The introduction of grass carp into the United States is a controversial issue because of possible (but undocumented) harmful effects on native species and habitats.

Fishes of Pea Ridge National Military Park, Arkansas, 2003
J. C. Peterson, and B. G. Justus.
Geological Survey, Denver, CO. Water Resources Div. 2005, 18p, USGS-SIR-2005-5129. Prepared in cooperation with National Park Service, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
PB2005-110828WAF Price code: PC A03

A fish inventory was conducted at Pea Ridge National Military Park, Arkansas, during base-flow conditions in September 2003. Six sites including four streams and two ponds were sampled using conventional electrofishing equipment (a seine also was used at one site). There were 653 individuals collected comprising 18 species (plus 1 hybrid) and 15 genera. The number of species collected at the four stream sites ranged from 1 to 16. Most fish species collected generally are associated with small streams in the Ozark Plateaus. The two most common species were the banded sculpin and the southern redbelly dace. Three species and a sunfish hybrid were collected from the quarry pond. No fish were collected from the unnamed pond. A preliminary expected species list incorrectly listed 42 species because of incorrect species range or habitat requirements. One species not on the original list was added to the revised list. Upon revising this list, the inventory yielded 18 of the 40 species (45 percent) and 1 hybrid. No previous fish inventories have been completed for the park but some observations can be made relative to species distributions. There were only five fish species collected in three headwater streams, and it is unlikely that many other species would occur in these three streams because of constraints imposed on the fish community by stream size. Little Sugar Creek, a medium-sized stream, had the most species collected, and it is likely that additional species would be collected from this stream if additional sampling were to occur. Distribution records indicate that all 18 species occur in the general area. Although no species collected in this study are federallylisted threatened or endangered species, three species collected at Pea Ridge National Military Park may be of some special interest to National Park Service managers and others. Two of the species collected (cardinal shiner and stippled darter) are endemic to the Ozark Plateaus; both are rather common in certain parts of the Ozark Plateaus. The white sucker has a restricted range in Arkansas because northern Arkansas is at the southern edge of the white suckers distributional range.

Fishes of Wilson's Creek National Battlefield, Missouri, 2003
J. C. Peterson, and B. G. Justus.
Geological Survey, Denver, CO. Water Resources Div. 2005, 20p, USGS-SIR-2005-5127. Prepared in cooperation with National Park Service, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
PB2005-110826WAF Price code: PC A03

Battlefield was conducted at eight sites on three streams, two springs, a pond, and within a cave. Fish were sampled using conventional electrofishing equipment during July 2003. Approximately 325 fish were collected and identified from five of the eight sampling sites. A total of 30 species of fish was collected from the eight sampling sites. The number of species collected at the sampling sites ranged from 0 to 23. Many of the most commonly collected fish species are typical of Ozark streams.A preliminary expected species list incorrectly listed 12 species because of incorrect species range or habitat requirements. A thirteenth species (the Ozark cavefish, Amblyopsis rosae) is listed as unexpected. However, this designation is uncertain because Ozark cavefish have been reported from several caves and springs in Greene County. Upon revising the list of expected species, the inventory yielded 30 of the 53 species (57 percent). Ten of the 30 fish species collected in this inventory previously had not been collected at Wilsons Creek National Battlefield. However, eight species collected in one or more of the two previous inventories were not collected in this effort. It is unknown if any change in environmental conditions has occurred that is responsible for the absence of these species.Although none of the species collected in this study are federally-listed threatened or endangered species, five species collected at Wilsons Creek National Battlefield may be of special interest to National Park Service managers and others because they are endemic to the Ozark Plateaus. The duskystripe shiner (Luxilus pilsbryi), Ozark bass (Ambloplites constellatus), Ozark chub (Erimystax harryi), and stippled darter (Etheostoma punctulatum) are common and found throughout much of the Ozark Plateaus. However, the Ozark sculpin (Cottus hypselurus) has a more limited range and more specific habitat requirements.

Predicting the Potential for Historical Coho, Chinook and Steelhead Habitat in Northern California
A. Agrawal, R. S. Schick, E. P. Bjorkstedt, R. G. Szerlong, and M. N. Goslin.
National Marine Fisheries Service, Santa Cruz, CA. Santa Cruz Laboratory. Jun 2005, 38p, NOAA-TM-NMFS-SWFSC-379. Order this product from NTIS by: phone at 1-800-

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PB2005-110106WAF Price code: PC A04

Numerous Evolutionarily Significant Units (ESUs) of salmon and steelhead in California and the Pacific Northwest have been listed under the U.S. Endangered Species Act (ESA). In response, NOAA Fisheries convened Technical Recovery Teams (TRTs) to develop biological viability criteria for the listed ESUs. An understanding of biological structure is a critical first step to assessing population viability and potential persistence of ESUs. TRTs evaluate population structure within each ESU under historical conditions, because this structure resulted from ecological and evolutionary dynamics that played out across the landscape before recent anthropogenic disruption. The historical population structure therefore represents a state for which we are most certain that the ESU persisted over long periods and is a baseline for evaluating the status of an ESU under current or projected conditions. Because populations that were important to ESU persistence in the past are likely to be important to ESU persistence in the future, understanding the historical template is critical to reducing uncertainty in assessments of current or future viability scenarios.

——*Proceedings, Symposia, Etc.*——

Proceedings of a Workshop on the Variability of Arctic Cisco (Qaaktaq) in the Colville River. Held in Nuiqsut, Alaska on November 18-20, 2003
MBC Applied Environmental Sciences, Inc., Costa Mesa, CA. 2003, 102p, OCS/MMS-2004-033. See also PB93-136232. Sponsored by Minerals Management Service, Anchorage, AK. Alaska Outer Continental Shelf Office. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
PB2005-110107WAF Price code: PC A07

Falling catches of Arctic cisco in recent years and the possible correlations with offshore development are of great concern to residents of the North Slope Borough. MMS convened this workshop to bring together local experts from Nuiqsut, Kaktovik, and Barrow Alaska and Tuktoyaktuk, Canada, as well as scientists from the United States and Canada. Collectively they represent a wealth of expertise and experience. The primary goals were to share their knowledge of the Arctic cisco, to identify important questions and consider how those questions might be answered in the future. The present scientific theory is that the Arctic cisco found in the Colville River are carried west as young-of-the year by wind-driven currents from the Mackenzie River in Canada. They feed in brackish waters along the coast in the summer and in August enter the Colville Delta to overwinter. They remain in the Colville Delta region reaching maturity at 7 to 8 years of age, and then migrate one or more times to the Mackenzie River to spawn.

Strobe Light Deterrent Efficacy Test and Fish Behavior Determination at Grand Coulee Dam Third Powerplant Forebay
M. A. Simmons, R. L. Johnson, C. A. McKinstry, C. S. Simmons, and S. M. Angela.
Pacific Northwest National Lab., Richland, WA. Jan 2002, 86p, PNNL-13777. Prepared in cooperation with Colville Confederated Tribes, Nespelem, WA. Sponsored by Department of Energy, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
DE2005-15010135WAF Price code: PC A06

This report describes the work conducted during the first year of a long-term study to assess the efficacy of a prototype strobe light system in eliciting a negative phototactic response in kokanee and rainbow trout. The strobe light system is being evaluated as a means to prevent entrainment (and subsequent loss) of fish at the entrance to the forebay adjacent to the third powerplant at Grand Coulee Dam. Pacific Northwest National Laboratory and the Colville Confederated Tribes are collaborating on the three-year study being conducted for the Bonneville Power Administration and the Northwest Power Planning Council.

Food Technology

Commercialization of Food Consumption in Rural China
Economic Research Service, Washington, DC. Jul 2005, 44p.
ERS-ERR-8WAF Price code: PC A04

For complete citation see Agricultural Economics

Effects of Omega-3 Fatty Acids on Mental Health. Evidence Report/Technology Assessment Number 116
Univ. of Ottawa Evidence-based Practice Center, Canada. Jul 2005, 422p, AHRQ/PUB-05-E022-2. See also PB2005-104600. Sponsored by Agency for Healthcare Research and Quality, Rockville, MD. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
PB2005-110130WAF Price code: PC A19/MF A04

The purpose of this study was to conduct a systematic review of the scientific-medical literature to identify, appraise and synthesize the evidence for the effects of omega-3 fatty acids in mental health. Evidence was sought to permit the investigation of three basic questions: the efficacy and safety of omega-3 fatty acids as (primary or supplemental) treatment of psychiatric disorders or conditions (e.g., symptoms alone); the association between intake of omega-3 fatty acids and the onset, continuation or recurrence of psychiatric disorders or conditions; and, the association between the fatty acid content of biomarkers and the onset, continuation or recurrence of psychiatric disorders or conditions. The latter two questions examined the protective value of omega-3 fatty acid content in the diet and/or blood lipid biomarkers. The impact of effect modifiers was examined as well. The results will be used largely to inform a research agenda.

Evaluation of the USDA Elderly Nutrition Demonstrations. Volume I: Evaluation and Findings
S. Cody, and J. Ohls.
Mathematica Policy Research, Inc., Washington, DC. Jul 2005, 220p, ERS-CCR-9-1. See also PB2005-110768. Sponsored by Economic Research Service, Washington, DC. Food Assistance and Nutrition Research Program. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at

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PB2005-110767WAF Price code: PC A11

Reducing the burden of applying for food stamps or enhancing benefits appears to increase participation of the elderly in the Food Stamp Program (FSP). Historically, low-income seniors ages 60 and older who qualify for FSP benefits participate at low rates because they feel it is not worth the effort to apply. To identify effective strategies for raising participation among this population, USDA designed three models, each using different techniques to reduce the barriers that seniors face in FSP participation. The techniques involve reducing the time and effort of applying for benefits, aiding seniors in navigating the application process, and giving seniors the option of receiving commodity packages instead of getting benefits through electronic benefits transfer cards. The models were tested as county demonstrations in six States between 2002 and 2004. This report presents the findings from an evaluation of the demonstrations. Successful demonstrations increased the number of participating seniors by 20-35 percent after 21 months of operation.

Evaluation of the USDA Elderly Nutrition Demonstrations. Volume II, Demonstration Summaries
R. Nogalestz, S. Cody, and J. Ohls.
Mathematica Policy Research, Inc., Washington, DC. Jul 2005, 124p, ERS-CRR-9-2. See also PB2005-110767.
Sponsored by Economic Research Service, Washington, DC. Food Assistance and Nutrition Research Program. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
PB2005-110768WAF Price code: PC A07/MF A02

Historically, low-income seniors ages 60 and older who qualify for Food Stamp Program (FSP) benefits participate at low rates because they feel it is not worth the effort to apply. To identify effective strategies for raising participation among this population, USDA designed three models, each using different techniques to reduce the barriers that seniors face in FSP participation. The techniques involve reducing the time and effort of applying for benefits, aiding seniors in navigating the application process, and giving seniors the option of receiving commodity packages instead of getting benefits through electronic benefits transfer cards. The models were tested as county demonstrations in six States between 2002 and 2004. This report presents the findings of the in-depth process analysis component of an evaluation of the demonstrations. Each of the demonstrations was examined individually for overall design and implementation.

Innovative Methods for Corn Stover Collecting, Handling, Storing and Transporting
National Renewable Energy Lab., Golden, CO. Apr 2004, 62p.
ADA436531WAF Price code: PC A05/MF A01

For complete citation see Agronomy, Horticulture, & Plant Pathology

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A07	$ 76.00	$ 95.00	E07	$ 83.00
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