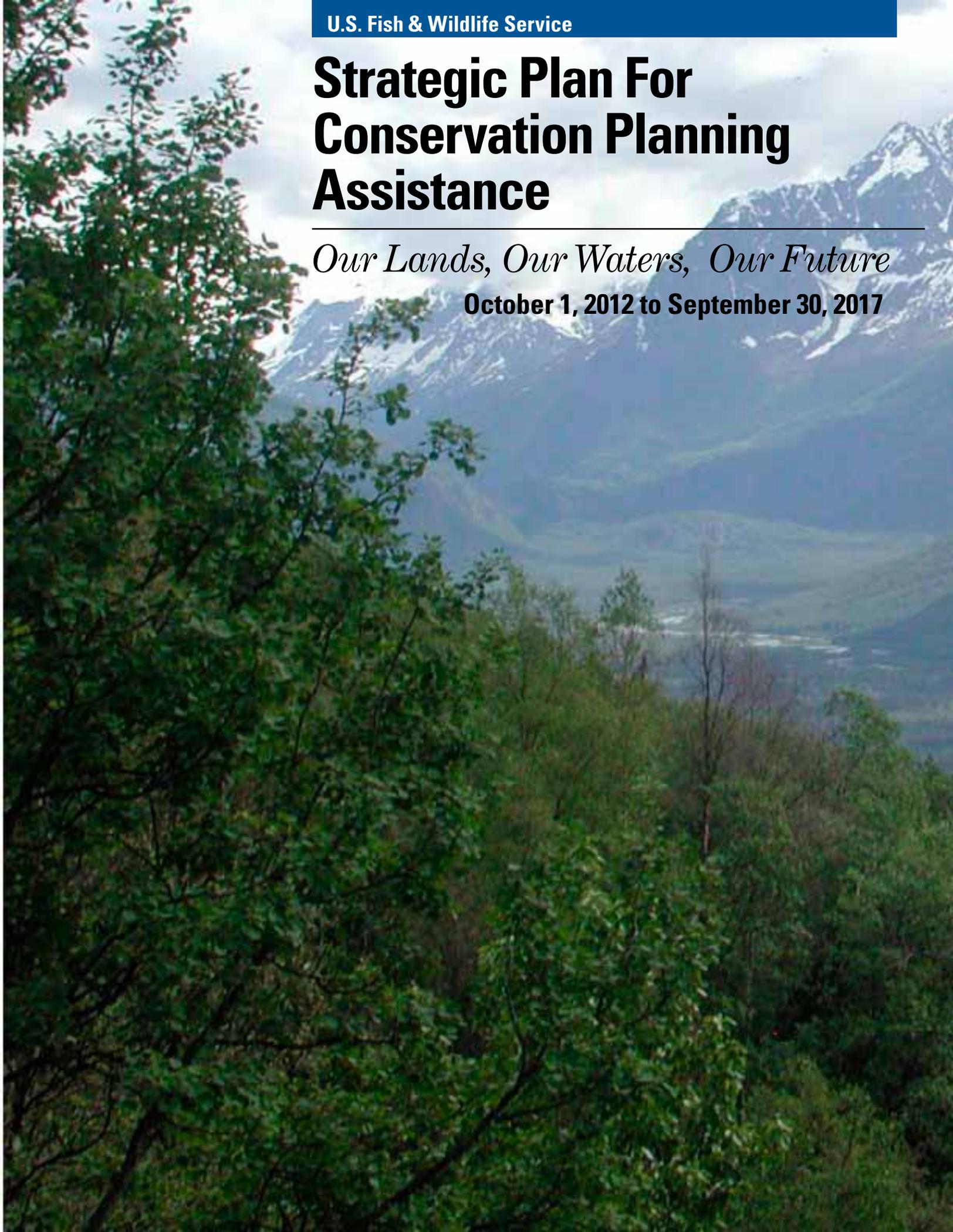


Strategic Plan For Conservation Planning Assistance

Our Lands, Our Waters, Our Future

October 1, 2012 to September 30, 2017



Cover Photo:

Provided by Frances Mann, Anchorage Regional Office

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Program Mission

The mission of Conservation Planning Assistance (CPA) is to work collaboratively with industries, agencies and other stakeholders to achieve development goals in ways that are sustainable and compatible with the conservation of fish, wildlife and habitat.

Our Vision

The CPA Program envisions an ecologically functional landscape that accommodates infrastructure needs, such as energy and transportation, and sustainable populations of fish, wildlife and plants.

EXECUTIVE SUMMARY

In today's world, we face major environmental, social, and political challenges, including global climate change, increases in population growth and development, and changes in biological resources and ecosystems. Emerging environmental issues such as sea-level rise, habitat loss, changing precipitation patterns and shrinking water supplies are now prominent conservation challenges.

The Fish and Wildlife Service's Conservation Planning Assistance (CPA) program has played a vital role in conserving America's fish and wildlife resources since its inception in 1946 as River Basin Studies. However, global environmental changes are occurring in ways that are fundamentally different than at any other time in our history (Markham 2006), and rapid changes are expected to continue into the foreseeable future (United Nations 2005).

Today, with 80 field offices and 250 dedicated biologists across the country, CPA is modifying its approach to strategically confront the most pressing of these issues affecting fish and wildlife resources. Our Lands, Our Waters, Our Future, is a 5-year Strategic Plan (Plan) that describes how CPA will address these challenges.

The Plan articulates an increased emphasis on resource planning and conservation delivery at larger scales, or what is referred to throughout the Plan as landscape conservation. A meaningful application of landscape conservation is both efficient in costs and effective in maintaining ecosystem function. By applying conservation measures across larger areas, relatively fewer staff hours produce greater benefits. The process also uses a more strategic approach to conserving habitats and species by assessing the effects of numerous projects and designing mitigation to address those effects across the range of targeted species. The desired future condition is sustainable ecosystems for fish, wildlife, and people.

This Plan defines a new approach for the program and applies that approach to four principle Goals:

1. Conserve, restore and enhance fish and wildlife habitat – To achieve this goal we will use landscape-level approaches to maintain habitat and species diversity.
2. Deliver conservation through effective partnerships – We will assist Landscape Conservation Cooperatives and other large-scale collaboratives engage new partners and revitalize existing partnerships in transportation, energy, and civil works planning.
3. Develop targeted communication – We will engage internal and external audiences to foster conservation stewardship and support for CPA activities.
4. Foster employee excellence – We are a field-based program and our dedicated workforce is our greatest strength. We will ensure their ability to address emerging conservation issues by fostering training in large-scale impact assessment, mitigation planning, and structured decision-making.

With a history of crafting solutions to complex conservation problems, CPA is uniquely equipped to address today's challenges. Implementing this Plan will further integrate CPA with other Service programs and focus our efforts on the most critical fish and wildlife priorities. The Plan also identifies specific measures that will be used to evaluate its implementation.



Savannah Restoration Project Credit: USFWS

INTRODUCTION

“The most cost-effective route to saving estuaries is to prevent habitat alteration in the first place.”

– Restore America’s Estuaries

“In the environment, every victory is temporary, every defeat permanent.”

– Thomas Jefferson

The mission of the U.S. Fish and Wildlife Service (Service) is to work with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people. For over 60 years, Conservation Planning Assistance (CPA) and its precursor programs have played a vital role in supporting that mission by working in partnership with government agencies, industry, land developers, landowners and others to conserve and restore native habitat and species.

Created on the heels of President Franklin Delano Roosevelt’s New Deal and the era of large-scale water projects, the CPA program focused on integrating fish and wildlife conservation with large-scale public works projects. CPA’s responsibilities have expanded as the public’s demands for conservation have grown and environmental mandates have broadened. With this expansion, CPA has become the Service’s unified voice for fish and wildlife in numerous processes addressing water, energy, transportation, and other types of development. The CPA heritage is a creative, can-do attitude that has crafted countless solutions to complex resource problems while upholding our mission to foster healthy fish and wildlife populations and habitats. Today, CPA has 80 field offices and 250 dedicated biologists across the country and is strategically confronting the most pressing issues affecting our fish and wildlife.

CPA plays a vital role in conserving America’s natural resources by engaging with public and private partners in large scale conservation planning and delivery and in the review of major development proposals. It simultaneously assists in meeting economic development needs while conserving fish and wildlife habitat. CPA biologists provide technical information, analyze fish and wildlife impacts, and recommend measures to minimize impacts and enhance fish and wildlife resources across the landscape. This work is conducted under multiple Federal statutes, and takes place at the local, regional and landscape levels. Meaningful assistance requires that CPA be an effective integrator of all Service programs and actively represent the conservation interests of these programs to agencies, planners and project

proponents. Because environmental changes are now occurring in ways fundamentally different than ever before, CPA must ensure implementation of relevant conservation measures that address the new challenges facing all Service trust resources. In a world affected by climate change and rapid development, CPA must now more than ever, engage partners at a landscape level. CPA’s network of local, state and national partners, and its experience in conservation planning and delivery, will be instrumental in building the Service’s network of Landscape Conservation Cooperatives.

In fiscal years 2012 – 2017 and beyond, CPA must respond to major environmental, social and political challenges, including global climate change, sea level rise, unprecedented increases in growth and development, and changes in biological resources and ecosystems. Our challenge in the 21st century is to promote ecosystem and community health in the face of global climate change. This work will require new thinking and new conservation tools, such as strategically located conservation banks, simultaneously planning for needed grey (e.g., transportation and energy) and green (e.g., floodplains and habitat) infrastructure and the collaborative efforts of numerous agencies, industries, organizations and the public across our nation.

Our Lands, Our Waters, Our Future is a 5-year Strategic Plan (Plan) that articulates CPA’s landscape-level emphasis. The Plan applies a landscape conservation approach to four major goals: 1) conserve, restore and enhance fish and wildlife habitat; 2) develop effective partnerships; 3) develop targeted communications; and 4) foster employee excellence. The Plan consists of two major sections – the Path to Success and Program Goals. The first section outlines CPA’s direction over the next 5 years. The second section describes the four CPA program goals and includes strategies to achieve those goals.

Authorities Central to the CPA Mission

- **National Environmental Policy Act (NEPA), 42 U.S.C. 4321 et seq.** NEPA requires federal agencies to integrate environmental values into their decision making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. CPA supports this Act by identifying trust resource conservation needs and helping to direct planning efforts.
- **Fish and Wildlife Coordination Act (FWCA), 16 U.S.C. 661-667e.** FWCA provides that whenever bodies of water are modified by an agency of the United States, the agency must first consult with the Service and with the appropriate state fish and game agency, with a view to the conservation of wildlife resources. FWCA allows CPA programs to proactively integrate the consideration of fish and wildlife conservation measures into major water resource projects.
- **Clean Water Act (CWA), 33 U.S.C 1251-1376.** The Service has statutory authority to provide the Corps of Engineers with comments on proposed CWA §404 permits for the discharge of dredged or fill material into waters of the United States. Service field staff routinely use these authorities to provide recommendations for the avoidance, minimization and compensation for impacts to wetlands, streams and other aquatic systems. Engaging nationwide, at all scales, provides the Service a critical means for influencing the conservation of all Service trust resources.
- **Federal Power Act (FPA), 16 U.S.C. 791a-825r.** The FPA directs the Federal Energy Regulatory Commission to give equal consideration to developmental and environmental values including fish and wildlife resources; and requires FERC to include license conditions to adequately protect, mitigate damages to, and enhance fish and wildlife (and their habitats). Pursuant to the FPA, CPA biologists provide technical assistance to hydropower licensing applicants and FERC in the form of recommendations and prescriptions to protect fish and wildlife resources from project construction and operation.
- **Endangered Species Act (ESA), 16 U.S.C. 1531-1544, 87 Stat. 884.** CPA programs provide support for the ESA by working with others to prevent decline of at-risk species and promoting recovery of threatened and endangered species.
- **Migratory Bird Treaty Act (MBTA), 16 U.S.C. §§ 703-712.** The MBTA implements various treaties and conventions between the U.S. and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Under the Act, taking, killing or possessing migratory birds is unlawful. CPA programs support the MBTA through multiple responsibilities, including Sikes Act, transportation, energy, and water resources development, each of which addresses migratory bird conservation and mitigation.

THE PATH TO SUCCESS

Defining a New Approach

Landscape Conservation

The cornerstone of our strategy is to forego the many smaller case-by-case project reviews and instead focus on landscape-level planning and project review. Conserving habitat at the landscape level is not new. CPA has been practicing landscape conservation for years in its role as the government's lead in crafting fish and wildlife mitigation for large federal projects. However, CPA has been taking on an ever increasing number of small projects and greater responsibilities over the years. Today's path to success requires that we refocus, using the principles of Strategic Habitat Conservation to clearly define our biological objectives and participate in designing landscape strategies that enable us to achieve those objectives. Working with all Service programs, our partners and project proponents, CPA will continue to be a consolidated voice for fish and wildlife, but will now prioritize our work to focus on landscape-level conservation efforts. To do this we must:



Credit: USFWS

- prioritize our work to more efficiently conserve priority ecosystems and meet the biological objectives for key species established by other Service programs (e.g., Migratory Birds, Endangered Species, Fisheries, and Refuges);
- identify vital ecosystem components and processes to be conserved;
- connect existing natural areas and maintain contiguous habitat to counter fragmentation;
- evaluate alternatives and mitigation measures for multiple projects on a large-scale basis;
- identify management plans developed by other agencies and partners and integrate them into a larger planning and management process;
- engage in partnerships with agencies and other entities to leverage our capabilities and more effectively carry out our responsibilities and authorities; and
- adapt and/or modify landscape-level plans using climate change projections and habitat modeling.

The foundation of landscape conservation is landscape ecology, i.e., the study of the land's structure, function, and change across ecosystems and watersheds, and the application of study results to the design and management of both natural and human-dominated areas (Forman and Godron 1986). As used in this Plan, "landscape conservation" describes a holistic landscape-level approach to conservation planning and project review that seeks to understand and predict changes not at just a single site, but also on the surrounding landscape.

CPA biologists use numerous tools to craft mitigation strategies and deliver conservation on the landscape. The Service's Strategic Habitat Conservation (SHC) approach is one such tool. SHC provides a framework for clearly articulating biological objectives for a given landscape or habitat. SHC is a four element process that leads to effective and efficient conservation through adaptive management. The four elements are: 1) Biological Planning;

2) Conservation Design; 3) Conservation Delivery; and 4) Monitoring and Research. The process also includes establishing priorities that will direct resources to the most important activities first. Another such tool is Green Infrastructure planning. Benedict and MacMahon (2006) define green infrastructure as “a scientific approach to determining the best use of the land to support both the natural processes that exist on the landscape and the infrastructure and recreational needs of the people who live there.” The green infrastructure process promotes a systematic and strategic approach to land conservation at national, regional, and local scales. CPA biologists support the Service’s mission by using these planning tools and others to connect habitats in a green space network that links landscapes and communities.

Existing federal planning processes, as directed by statutes such as the National Environmental Policy Act (NEPA) and the Fish and Wildlife Coordination Act (FWCA), can serve as platforms for landscape-level planning and permitting. The CPA program is guided by these statutes, and as such, is uniquely suited to provide the federal leadership necessary to shift direction towards landscape-level planning, and to establish the necessary partnerships with state, local, tribal, and other entities. By representing all Service programs, CPA supports the agency’s broadest conservation objectives and is able to comprehensively address listed species, migratory birds, interjurisdictional fishes, and refuge lands during planning. Our job is to include all Service trust resources early in project/landscape design, provide recommendations, and foster conservation at larger scales. Examples of projects using a variety of large-scale, landscape-level approaches are described in Appendix A.

Addressing our Nation’s Critical Development Needs

Landscape conservation allows CPA to better address some of our Nation’s most pressing needs. The following are priorities across large areas of our country, and in some cases, across the entire nation. Briefly, they include:

- Energy – collaborating with agency and industry partners to promote environmentally sound production and distribution of energy resources, including renewable resources such as hydropower, wind power, tidal, wave, geothermal, and solar power, as well as fossil fuels such as oil, gas, and coal.
- Transportation – linking transportation and conservation planning encourages decision-making that considers environmental, community, and economic goals early in the planning stage and through project development, design, and construction. This approach promotes environmental stewardship in the form of ecosystem conservation, to sustain or restore ecological systems and their functions and values.
- Water Supply/Delivery – facilitating a cooperative approach to water management that satisfies needs of growing populations and ensures clean water for fish and wildlife including Service refuges and hatcheries.
- Restoration – emphasizing ecosystem restoration, working to restore ecological function to landscapes, rather than individual, site-specific restoration projects.
- Climate Change – ameliorating adverse effects of global climate change using landscape-level planning efforts, including the use of spatially explicit models to address species adaptation and inform future land development and conservation decisions.

These needs present some of the most important current and future resource challenges. Although project developers generally plan and propose individual projects, these projects taken together frequently have impacts across areas on the scale of watersheds, landscapes, or regions. By working with our private sector and nonprofit partners and by encouraging landscape-level approaches, we can substantially improve the outcome of such developments for all parties.

Global climate change and attendant societal responses to it will likely be the Service’s and the CPA’s most significant environmental challenge of the 21st Century. Climate change will bring with it associated changes on the landscape, including changes in rainfall (flooding and drought), frequency and severity of wildfires, outbreaks of insects, occurrence of invasive species, and exacerbation of contamination, to name but a few. Climate change, in and of itself, and many of its associated disturbances will trigger a range of responses. These will include expanded and accelerated development of renewable sources of energy; redistribution of human population centers from coastal to inland areas; changes to transportation planning, design, construction, and maintenance; and development of new water supply and distribution systems. All of these responses will bring with them the potential to adversely affect fish and wildlife.

“The Nation behaves well if it treats the natural resources as assets which it must turn over to the next generation increased, and not impaired, in value.”

- Theodore Roosevelt

Helping communities cope with potential adverse effects of climate change are important CPA program priorities.

While climate change will elicit a variety of new pressures on fish and wildlife and their habitats, existing stressors, such as urban expansion and other development will likely continue in the background. In addition, efforts to address a variety of critical needs, such as strengthening the nation's economy, creating jobs, and rebuilding aging infrastructure will be initiated in the coming years.

CPA has the ability to assist in the identification, minimization and abatement of environmental impacts associated with these pressures. Through traditional authorities such as FWCA, CPA will continue to lead the Service's participation in landscape-level efforts to restore coastal wetlands, to construct protective structures, and other projects that address the impacts of climate change. Though we will need to make adjustments to and refine our workforce capabilities, we are experienced in applying existing and emerging impact assessment and landscape conservation tools, such as Green Infrastructure, to the unprecedented pressures facing our fish and wildlife.

While it is impossible to precisely predict the changes to come, our new emphasis on landscape-level planning will position us to deal with whatever changes do come. Given the potential environmental changes in our future, project proponents, planners, action agencies, and others will continue to need and to rely on the expertise and coordination skills of CPA biologists well into the future. We are poised to address the threats to habitat and species through an emphasis on integrated, landscape-level approaches. Tremendous challenges beget tremendous opportunity, and now more than ever we need to work with multiple stakeholders to strategically plan for healthy communities and healthy fish and wildlife populations.

A Focus on Science and Service

The Department of the Interior (DOI) Strategic Plan outlines the importance of current science, and this emphasis supports the underlying tenets of the CPA program. The Service has developed "Strategic Habitat Conservation" as the model for delivering scientifically based conservation actions. The CPA program will integrate this approach and ensure our input and recommendations for projects and planning efforts are well-grounded in the best available scientific information. As discussed in the Program Goals section of this strategic plan, implementation of CPA's Strategic Goal 4: Foster Employee Excellence, will help ensure that our employees stay as current as possible. Training and attendance at relevant scientific meetings will be encouraged, subject to budgetary constraints. Employees will also be encouraged to develop their knowledge and skills to their full potential and to enhance their scientific credentials.



Credit: USFWS

Measuring Conservation Results

The CPA program recognizes the need to ensure we can demonstrate linkage of budgets to clear performance measures and subsequent outputs. Utilizing SHC to target our engagement in proposed activities will help ensure we contribute to Service goals for species of concern, and further developing our project tracking system will help quantify the results of these efforts.

PROGRAM GOALS

Goal 1: Conserve, Restore and Enhance Fish and Wildlife Habitat

The Service mission is to work with others to conserve, protect and enhance fish, wildlife, plants, and their habitat for the continuing benefit of the American people. To support healthy fish and wildlife populations, we must conserve and protect habitats essential to functioning ecosystems. To achieve this goal we must focus on: preventing the further loss and degradation of natural landscapes and watersheds; minimizing unavoidable habitat impacts and effectively compensating for such; restoring degraded habitat to a healthy condition; and enhancing degraded habitats.

Strategies:

Promote and participate in landscape-level planning and project review: A holistic approach to integrating development and conservation is necessary to achieve sustainable economic growth and development and natural resource conservation. Although many agencies and partners may be involved in planning efforts, the CPA program's multiple trust responsibilities and authorities provide a catalyst for fostering landscape-level planning. This strategy is most effective when it emphasizes **partnerships at the local and regional levels**. This is one of the most important aspects of landscape conservation because critical decisions that affect growth patterns, open space, and riparian buffer zones are frequently made and implemented at the local level by



Aerial View of Hanalei National Wildlife Refuge Credit: USFWS

county governments, city planners, and drainage districts, among others. The focus on landscape conservation and involvement in regional and local planning will bring additional technical expertise, a broader perspective and trust resource authority to these endeavors.

Support the use of programmatic approaches to conservation planning and project review: A large-scale approach is important in regulatory processes (e.g., regional permits, general permits). A programmatic approach batches projects or programs reviews based upon a common denominator such as a watershed or habitat type, or based on a program such as a timber or transportation program, and examines them as a group rather than individually. A programmatic approach provides benefits to project proponents, the public, and fish and wildlife resources by streamlining the review and permitting process, and improving effectiveness of conservation measures.

Focus efforts on priority projects and emerging environmental issues: Projects that involve energy, transportation, water supply/delivery, and large-scale restoration are important development needs for the country and will continue to be a priority for the CPA program. Recently, opportunities have increased for the CPA program to assist renewable energy developers and address potential impacts of development to fish and wildlife. By working with entrepreneurs across the country to design energy projects that are environmentally friendly, we can assist in providing clean, sustainable energy sources that work to protect and conserve fish and wildlife and their habitats. In addition, the CPA program will use our traditional authorities (e.g. FWCA, NEPA, Clean Water Act, Federal Power Act) to assist communities to cope with the potential adverse effects of climate change. Rendering effective assistance to communities addressing such complex problems requires understanding of the interconnectedness of conservation issues and information. Because of CPA's role as an integrator and representative of all Service programs, it is uniquely suited to provide this assistance when engaging the largest emerging environmental issues.

Integrate the principles of Strategic Habitat Conservation (SHC) into our landscape conservation efforts: Current conservation approaches may rely more on opportunity and less on scientific strategies. The Service's SHC framework emphasizes the strategic pursuit of sustainable populations and landscapes by using a science-based approach to setting biological objectives, designing on-the-ground strategies to achieve those stated objectives, and following-up with monitoring and research. The CPA program will achieve a more strategic approach to landscape conservation by utilizing SHC and land-use planning methodologies such as Green Infrastructure that engage CPA's long-standing focus on integrating information and conservation goals from all Service programs into coordinated conservation recommendations.

Coordinate and collaborate with partners early in the planning process: Through early involvement, the CPA program can be more influential in directing where and how growth and conservation occur, reducing impacts and adding enhancement measures to projects. Development partners benefit from early coordination with CPA biologists. This up-front, collaborative approach provides more certainty about areas they can develop, and safeguards against regulatory surprises and court-ordered setbacks that can be caused by outside interests late in the planning process.

Prioritize our involvement: Undeveloped land is being affected by resource development, subdivisions, shopping malls, and highways faster than ever before (Funders' Network 2001). Consequently, the workload associated with this growth is placing increased demands on all Service programs, especially CPA because of its role in representing the Service and conserving all trust resources and habitats. Even with a renewed focus on large-scale conservation, CPA biologists have more requests for assistance than they can effectively address, thus mandating a prioritizing process in each of the program's field offices. Ecosystems and threats to these systems vary across the Nation. Consequently, a flexible and adaptive priority-setting process is needed. The prioritization process involves an assessment of the following:

- a). **Ecological significance/ relative value of affected resources** – Maintenance of ecosystem health and conservation of high-value habitats is a priority. Functioning ecosystems are comprised of multiple habitats, and high-value habitats within those ecosystems are those essential to the life histories of trust species.
- b). **Vulnerability** – Evaluate the magnitude of threats or potential impacts to resources affected by a plan or project.
- c). **Can we make a difference/potential conservation results** – Evaluate our statutory authority and/or ability to influence the final plan or project design. Consider the location of the plan, project, or compensation site within the landscape; potential for successful avoidance, minimization, or compensation; and numerous other factors that are weighed when deciding whether to expend resources on a development project or planning effort.

Goal 2: Deliver Conservation through Effective Partnerships.

Meaningful conservation of our trust resources requires that we re-orient our focus on landscape-level activities that alter ecosystem functions and negatively impact fish and wildlife. We must also acknowledge that Service lands and programs alone are insufficient to broadly address these historic and ongoing changes. For example, ever-increasing habitat losses from multiple development categories as well as systemic alterations from climate change are left unaddressed by individual statutes such as the Clean Water Act or the Endangered Species Act. Similarly, the Service's participation in voluntary restoration projects only minimally offsets the routine loss of habitat to urban expansion. New mechanisms are needed for bringing the Service's priorities into the conservation planning efforts of other entities that can implement fish and wildlife conservation on our behalf. The CPA program can create these mechanisms by working with new partners involved in landscape-level conservation and land-use planning and by revitalizing our existing partnerships in transportation, energy, and civil works planning. We can actively encourage participation by these partners in the Service's new Landscape Conservation Cooperatives (LCC), capitalizing on opportunities to address landscape threats of climate change.

Strategies:

Engage groups that have land-use decision-making authority and encourage incorporation of Service priorities into their planning processes:

These groups include county governments, municipal councils of government, watershed associations, multi-agency task forces, land trusts, tribes, industry associations, consortia and others. Entities acting alone may lack expertise, financial resources, regulatory authority or the broad public support that collaborative efforts involving numerous stakeholders enjoy.

Emphasize partnerships with local entities: The CPA program encourages staff to engage in local planning efforts as an initial step that can create a foundation for broader agreements and plans. By providing staff expertise, the CPA program encourages proactive integration of fish and wildlife needs into landscape plans that can ultimately deliver our desired landscape changes through their local land-use regulatory authorities.

Strengthen and broaden our 'traditional' partnerships to enhance conservation delivery through the CPA program's existing Authorities:

Addressing landscape-level conservation will in many cases involve fresh application of our traditional partnerships. Partnerships with the CPA program's traditional colleagues such as the Army Corps of Engineers, Federal Energy Regulatory Commission and Federal Highway Administration have become more important as climate change and continued population growth lead to more proposals addressing water supplies, renewable and non-renewable energy development, coastal protection, transportation and large-scale restoration. The Service should actively encourage participation by these partners in LCCs, addressing their proposed actions in a larger landscape context. The CPA program encourages these traditional partners to work with us on planning at large scales to discuss the early identification of priority conservation lands, development realities and restoration possibilities. Our program will continue providing these partners with technical assistance on individual requests when possible and when a single or few, large-scale projects impact or benefit resources at a programmatic or landscape level. Overall, the CPA program encourages staff to seek more effective and strategic application of existing authorities when engaging traditional partners on complex projects with significant implications for fish and wildlife.



Project Planning Credit: USFWS

Goal 3: Develop Targeted Communication

Effective communication among various individuals, groups and agencies is vital to achieving CPA's mission and goals. Research conducted within the last few years has provided insight into an alarming trend - adults, and more importantly, their children - are becoming increasingly removed from the natural environment (Louv 2005). Targeted communication should strive to connect people with nature, educating them of the need for ecosystem services to ensure the future of conservation. We need to effectively communicate to external and internal audiences CPA's role in partnering with others to achieve sustainable ecosystems for fish, wildlife and people.

Strategies:

Improve communication with others outside the Service: The mission of the Service is to work with others to conserve fish, wildlife, plants, and their habitats for the public benefit. First and foremost, we must strive to educate the public about their surrounding environment - connect them with nature. Cooperative approaches with external partners that enhance our collective abilities to conserve, restore, and enhance fish and wildlife habitat are only possible through mutual understanding of missions, goals and needs. Consequently, mutual communication about the CPA program's priorities, strategies, accomplishments, and available staff skills, as well as education about the habitat needs of fish, wildlife, and plant species, is the key to educating our partners. Other federal, state, and tribal partners, some of whom are actively involved in managing their lands to benefit fish and wildlife, are a source of effective partnerships. Additional efforts need to be made to communicate with conservation groups, who have been a motivating factor in many conservation initiatives in recent years. These groups provide valuable contributions to conservation and can assist or implement significant habitat conservation projects as well as public outreach and education. The public and elected officials, including members of Congress, need to know who we are and what we accomplish.

Improve communication within the Service: As the CPA program moves toward a greater focus on landscape conservation, effective cross-program coordination within the Service will become critical to our success. The Service has expertise in numerous programs, such as Refuges, Law Enforcement, Budget and Finance, Fisheries, Migratory Birds, Endangered Species, International Affairs, and External Affairs that can assist the CPA program to achieve landscape-level conservation. Assistance can take the form of biological expertise, land-use planning, or budget formulation. Furthermore, Service programs need to be made more aware the CPA program routinely acts on their behalf as their "boots-on-the-ground," applying their data, conservation needs, and expertise to avoid and minimize the potential adverse effects of development projects and other activities. Closer coordination between Service programs will strengthen CPA's voice when it speaks for fish and wildlife in the planning process.



Blackfoot Challenge Tour; Credit: USFWS

Goal 4: Foster Employee Excellence

The Service's dedicated workforce is its most valuable asset. The extensive conservation successes of the CPA program are directly attributable to the skill and dedication of these individuals. As the CPA program evolves in response to changes in the country's demographics, needs, and priorities, each individual must adapt as well. To be successful, we must have a diversified workforce that is technically qualified, technically trained, and able to communicate effectively with others. As the program shifts focus away from permit-by-permit reviews to landscape conservation, staff need to maintain or enhance their knowledge of such areas as landscape ecology, conservation biology, the principles of the Service's SHC, as well as decision-support tools and risk-assessment models. While CPA staff have tremendous biological knowledge and experience, the science and concepts associated with landscape conservation continue to evolve, especially in light of the uncertain threats associated with climate change. Staying abreast of the growing body of knowledge in these disciplines and well as enhancing expertise in tools and strategies such as GIS, Green Infrastructure Planning, and structured decision-making are imperative to sustaining a creative and innovative workforce.

Strategies:

Maintain and enhance employee skills through employee development and training programs: Identify training courses and develop new courses that will enhance skills in communication, partnering, and landscape-level planning, as well as other necessary areas of expertise and competencies.

Communicate effectively the goals of the CPA program: The success of the CPA program, as embodied in this Plan, relies upon individual staff members integrating and communicating Program/Plan goals in carrying out their day-to-day work.

Provide staff networking and training opportunities at national meetings: Convene a National Conservation Planning Assistance meeting periodically (e.g., every 5 years) which will serve to: improve program implementation and consistency; provide a forum to share and learn techniques, strategies, and experiences from colleagues and

peers; and revitalize and align our unity of purpose. Encourage participation in professional societies and meetings: Promote the use of current scientific, innovative, and technical advances to deliver the CPA program's accomplishments. Recognizing that heavy workload and travel budgets constrain opportunities, we need to ensure CPA program managers and staff are provided the encouragement to participate in professional societies and meetings.



Volunteers help replant a butterfly garden after hurricane Ike. Credit: USFWS

LITERATURE CITED

- Beach, Dana. 2002. *Coastal Sprawl: The Effects of Urban Design on Aquatic Ecosystems in the United States*. Pew Oceans Commission, Arlington, Virginia. 40 pp.
- Benedict, M.A. and E. T. McMahon. 2006. *Green Infrastructure: Linking Landscapes and Communities*. Island Press, 299 pp.
- Dahl, T.E. 2006. *Status and Trends of Wetlands in the Conterminous United States 1998 to 2004*. U.S. Dept. of the Interior; U.S. Fish and Wildlife Service, Washington D.C. 112 pp.
- EPA. 2000. *Our Built and Natural Environment: A Technical Review of the Interaction Between Land Use, Transportation, and Environmental Quality*. U.S. Environmental Protection Agency, Publication # EPA 231-R-01-0002. 2000.
- Forman, R. T. T. and M. Godron. 1986. *Landscape Ecology*. John Wiley and Sons, Inc. New York 619 pp.
- Funders' Network. 2002. Translation paper #10: Biodiversity and Smart Growth, October 2002. Translation papers can be downloaded from www.fundersnetwork.org
- Louv, R. 2005. *Last Child in the Wilderness: Saving our Children from Nature Deficit Disorder*. Algonquin Books of Chapel Hill, North Carolina. 323 pp.
- Mac, M.J., P.A. Opler, C.E. Puckett Haecker, and P.D. Doran. 1998. *Status and Trends of the Nation's Biological Resources*. Vol. 2. U.S. Department of the Interior, U.S. Geological Survey, Reston, VA 436 pp.
- Markham, V. 2006. *U.S. National Report on Population and the Environment*. Center for Environment and Population Library of Congress Number 20069602653. 67 pp.
- NAS. National Academy of Sciences. 2002. *Riparian Areas: Functions and Strategies for Management*. National Academy Press, Washington, D.C. 428pp.
- United Nations. 2005. *Millennium Ecosystem Assessment*. <http://www.millenniumassessment.org>.
- USDA. 2001. *Natural Resources Inventory*. Natural Resources Conservation Service, U. S. Department of Agriculture. See www.nrcs.usda.gov/technical/NRI.
- USFWS. 2005. *Status and Trends Report, 1998-2005*. U.S. Fish and Wildlife Service.
- Vitousek, P. and J. Lubchenco. 1997. *Human Domination of the Earth's Ecosystem*, *Science*, Vol 227.
- Watershed Technical Report. 1994. *The importance of imperviousness*. *Watershed Protection Techniques*, Vol 1 (3): 100-110.

APPENDIX A

Examples of large-scale approaches to habitat conservation

Regional and Landscape Level Approaches

- **Arizona** – Regional Planning in the Sonoran Desert –In 1998, Pima County, in partnership with 5 cities, Federal agencies including the Service, the Bureau of Land Management, National Park Service, U.S. Forest Service, a citizen advisory committee (over 80 members and over 400 public meetings) and a science technical advisory team of 150 scientists developed a Sonoran Desert Multi-species Conservation plan. This plan addresses the conservation of 55 priority species within two eco-regions composed of 24 different vegetation types across 5.9 million acres. The effort is best described by Pima County:



Sonoran Desert toad

“Great communities are no accident. They are born out of natural strength and beauty and have a deep respect for ecology, history, culture and diversity. They are inspired by the vision of residents drawn to them. They are brought to maturity through hard work and investment. And they survive because of compromise and consensus. In a sense they achieve balance. Such balance is at the heart of the Sonoran Desert Conservation Plan.”

Pima County has now achieved the integration of all natural resource protection and land use planning activities into one plan. Pima County citizens are proud of their accomplishments and passed a local bond measure raising 174.3 million dollars to acquire and permanently protect open space, including \$112 million which is designated specifically to protect key habitat identified in the plan.

- **Texas** – Regional Transportation Planning in Texas - Interstate I-69 is a 1,600-mile long highway intended to facilitate the shipment of goods from Mexico to the Great Lakes area. Trans-Texas Corridor (TCC) is a multi-modal project that includes highway, rail, and utility components. The Texas portion of I-69/TTC covers 1,000 miles. The Service, through Conservation Planning Assistance, participated in the Policy Steering Committee and the Technical Advisory Committee since February, 2001 to develop a consensus-based, collaborative NEPA procedure called the ‘Process Manual’. The collaborators defined a 2-tier level of assessment with the first being at the corridor level and the second at the specific highway location level. For Tier 1 corridor assessments, the Service assisted in identifying high priority landscapes by providing data on listed Species, suggestions for habitat restoration projects on private lands, and identification of wetlands and National Wildlife Refuge boundaries. The Service also provided comments related to advanced mitigation/compensation of East Texas riparian habitats crossed by the proposed corridors. The resulting natural resource benefits from the Tier 1 study include identification of the least damaging environmental alternatives for the entire length of the project. A Record of Decision was completed in the Fall of 2006, and Tier 2 assessments will begin in 2007.
- **Illinois** - Upper Mississippi River System Navigation and Ecosystem Sustainability Program - The Service’s Rock Island Field Office and 12 other offices of the Service’s Midwest Region worked in FY 2006 with the U.S. Army Corps of Engineers, Minnesota, Wisconsin, Iowa, Illinois, Missouri, the Nature Conservancy and the National Audubon Society on the next phase of cooperative conservation on the Upper Mississippi River System (UMRS). The key component is the Corps’ Upper Mississippi River System Navigation and Environmental Sustainability Program, or NESP, which was recently authorized by Congress. The significant

input and leadership of the Service over a 12-year period was instrumental in completion of the Integrated Feasibility Report and Programmatic EIS for NESP. The program consists of a dual-purpose, 50-year project authority commercial navigation and ecosystem restoration at a total cost of \$8B. The Service has led the development of the program because the current navigation project affects trust resources including 11 National Wildlife Refuges, an international flyway for migratory birds, listed species, and interjurisdictional fish. The Service and partners worked together in FY 2006 on the planning, design, and engineering of a large variety of ecosystem restoration projects for 1300 miles of the river system. Construction of projects began in FY 2008. The Rock Island Field Office is the point of contact for the Service for this vast landscape-scale project.

- **Alaska** - Regional Tool Development for Migratory Bird Assistance - Conservation Planning Assistance biologists developed a tool to assist with Migratory Bird Treaty Act (MBTA) compliance during project development called the “Alaska-wide Timing Window Recommendations and Timing Matrix.” Matrix development resulted from a request for assistance from the Alaska Department of Transportation (ADOT), and with numerous other resource agencies, businesses, and non-governmental organizations assisting. The matrix provides recommended dates for avoiding land clearing activities. The timing recommendations incorporate the best available scientific data on the nesting season. Partners included Boreal Partners in Flight (including Canadian Wildlife Service), Alaska Bird Observatory, State of Alaska, USGS, U.S. Forest Service, British Petroleum (BP) Exploration, Oasis Environmental, Inc., and multiple Service programs. The following was received in a letter from BP: “This matrix and accompanying fact sheet will help answer many of the questions that the BP Studies Group receives several times a year. BP appreciates the Fish and Wildlife’s efforts to provide the public with this valuable information.” Developers will be able to do advance planning so they can meet their construction deadlines while avoiding vegetation clearing during breeding season. This will greatly diminish adverse impacts on migratory bird productivity.



Bridge from Astoria, OR over the Columbia River to Washington

Program-level Approaches:

- **Oregon** – Oregon Bridges Programmatic Review - The 10-year, \$1.3 billion Oregon Transportation Investment Act State Bridge Delivery Program will repair or replace several hundred bridges throughout Oregon that are nearing the end of their design life. This effort is anticipated to save taxpayers 15 percent of the initial design costs and shave a year or two off the program schedule. In partnership with the Service’s Oregon State Office and other stakeholders, the Oregon Department of Transportation developed an important approach to repairing or replacing bridges which stresses environmental stewardship, active stakeholder involvement, and the participation of local communities in the planning, design, and construction of bridges. A single set of performance standards for the entire State’s bridge program is the first Statewide streamlined permitting effort of its kind in the Nation. Site-specific environmental data and performance standards are provided to bridge designers before they begin designing. By designing the bridge into the ecological context of the planning area, environmental impacts will not only be avoided or minimized, but hydrologic function and other ecological processes are expected to be restored. This batched programmatic effort provides the framework for addressing all future bridge projects in Oregon.
- **Montana** - Coal Bed Methane Program Review - Early involvement by Conservation Planning Assistance and a programmatic approach that allowed simultaneous review of projects in 16 counties in Montana reduced negative resource impacts from coal bed methane development. Service biologists in the Montana Field Office’s Billings Sub Office collaborated with partners from the Bureau of Land Management, State agencies

and industry to develop the Coal Bed Methane Programmatic Wildlife Monitoring and Protection Plan. Streamlined consultation and a programmatic approach increased the efficiency and shortened the time of the consultation process. Both the Wildlife Monitoring and Protection Plan and the conservation commitments in the Programmatic Coal Bed Methane Biological Opinion were incorporated into the Record of Decision for the Montana Statewide Oil and Gas Environmental Impact Statement (EIS) and Amendment of the Powder River and Billings Resource Management Plans (RMPs).

- **Missouri** – Cell Tower Program Review - The Columbia office annually receives an average of 300-500 cellular communication tower projects for review. To effectively process the large volume of requests, the office developed a form called “Design Specifications Questionnaire for Proposed Communications Towers in Missouri.” The form addresses project impacts to both federally listed species and migratory birds. The consulting firm is required to fill out the form providing information on the project site, tower height, proposed number of guy wires, type of safety lighting used on the towers, and site impacts (access roads, site of work area). Once the form is submitted, a biologist evaluates project impacts and returns an evaluation. The form also has information on the type of tower design that avoids or minimizes impacts to migratory birds. Besides significantly reducing our workload in reviewing these actions, the form and “concurrence” process has provided an effective outreach and education tool resulting in fewer cell towers posing threats to migratory birds. Consulting firms indicated that their clients are building more migratory bird friendly cell towers in Missouri as a direct result of our office’s streamlined review and concurrence process.

Watershed-Level Approaches

- **Alabama Clean Water Partnership** – Conservation Planning Assistance and other Service programs have been active throughout the State of Alabama in an organization called the Alabama Clean Water Partnership (ACWP). The ACWP consists of State and Federal agencies, non-profit organizations, private industries, as well as interested individuals working towards the common goal of protecting the water resources and aquatic ecosystems of Alabama. The ACWP is divided into sub-basins, of which the Service has been an active participant in several - offering technical advice and participating on steering committees. In particular, the Service has been working with the Middle Coosa, Wolf Bay, Conecuh-Sepulga, and Tallapoosa sub-basins on a variety of projects from coastal clean-ups, to water quality and bio-monitoring projects, to stream channel restoration projects.
- **Georgia** - A Vision for the Savannah River Basin - Conservation Planning Assistance is actively involved in the Savannah River Basin Project, along with multiple States, Federal and non-profit organizations, including The Nature Conservancy, Georgia and South Carolina Departments of Natural Resources, the Corps of Engineers, Ducks Unlimited, and the Coastal Georgia Land Trust among others. The vision for this project is a protected corridor of habitat from Augusta, Georgia to the coast. Highlights have included: 1) participation in the Earth Resources Monitoring Initiative, a group of public and private entities producing a sustainable water policy decision-support tool integrating all existing data into a user-friendly software model; 2) partnership with private landowners on the Savannah River with miles of riverfront old growth bottomland hardwood; and 3) initiated development of a flow regime study for the Savannah River.

Individual Projects Involving Landscape Approaches

Working with the sponsors and regulators of the Nation’s hydropower projects is a core function of the Conservation Planning Assistance program. These projects are large in scope with myriad landscape-level effects on fish and wildlife, watersheds, and communities. The Program’s biologists negotiate the settlement agreements that authorize the projects and contain measures to protect and restore fish and wildlife habitat. The settlement agreements also provide opportunities for other Service programs to engage.

- **Maine Penobscot River** - Conservation Planning Assistance staff worked with others to successfully complete a comprehensive settlement agreement involving relicensing of a multi-dam hydropower storage project in the headwaters of the Penobscot River in Maine. The Penobscot River, New England’s second largest river system, drains over 8500 square miles. The project involved examination of several dams on the Penobscot which had drastically reduced sea-run fisheries, and resulted in review of power generation capacity and needs, and natural resource needs. The result was that 2 dams will be removed; 1 will be decommissioned with construction of a fish bypass, power generation will be increased at 6 existing dams, and fish passage will be improved at 4 dams. Multiple conservation benefits will accrue across several tributaries and habitat types.
- **Washington** - Baker River Hydroelectric Project Relicensing - A comprehensive settlement agreement for the relicensing of the two Baker River Hydroelectric Projects was reached in November 2005. The license issued in 2007 has a term of 45 years. Puget Sound Energy and representatives from 4 Federal agencies,

4 State agencies, 3 Tribes, 3 local governments and 6 non-governmental organizations, representing more than 15 other groups, collaborated on the settlement negotiations. The Western Washington Field Office worked with all parties to ensure that protection, mitigation, and enhancement of fish and wildlife was considered. Expected benefits to natural resources include: habitat protection for birds, elk, grizzly bear, mountain goats and amphibians; habitat enhancement for spotted owls and marbled murrelets; noxious weed control; opening 90 miles of stream habitat for native fish; ensuring minimum instream flows and protective ramping rates; acquisition of 5,400 acres for wildlife; and a wildlife management plan for lands within project boundaries.



Penobscot river in Maine

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