November 21, 2008

Sidney;

Per King and my discussion, I asked our staff to examine those things they believed presented obstacles, conflicts or delays in getting restoration projects completed. They have done so and it follows this note. However, I must legally say that, except for quotes on our comments to the Corps on their proposed Standards and Guides, we have not vetted any of this to determine policy of the Service. I am comfortable that it represents the views of our seasoned staff in this area and believe each of these deserves discussion. Hopefully this meets what you had wanted.

Dale Hall
Director, U.S. Fish and Wildlife Service

Review of Policy Conflicts and Obstacles to Large-Scale Restoration of Wetlands and Other Habitats

Prepared by

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Executive Summary

The following review responds to the Director's request that the Division of Habitat and Resource Conservation prepare a compilation of examples and issue discussions of policy conflicts and obstacles that hinder large-scale wetland restoration nationwide.

Considered broadly, many policy conflicts and obstacles that may hinder large-scale restoration efforts fall into three general categories: 1.) conflicting or competing missions and interests between or within action agencies and stakeholder groups; 2.) delays, complications, restrictions and inadequacies in various restoration funding programs; and 3.) a Federal policy and procedural basis for evaluating the public interest merits of water resource projects that inherently favors projects with traditional economic benefits over restoration-focused projects.

An example of competing missions is the Army Corps of Engineers' (Corps) conflicting responsibilities relative to maintenance dredging to support navigation while participating in freshwater and sediment diversion projects for wetland restoration. Although the Corps is responsible for both maintenance dredging and Federal sponsorship of the restoration projects, they have in some cases asked local sponsors to bear the additional dredging costs necessitated by the construction of diversion structures.

Large-scale restoration can also be complicated by programs failing to deliver significant results due to cumbersome and protracted funding processes. One example is the Coastal Impact Assistance Program, established by the Energy Policy Act of 2005 to mitigate impacts of off-shore oil and gas activities on the coastal resources of producing States. Producing States are eligible to receive a portion of Federal revenue from outer continental shelf leases and royalties, but as currently implemented, significant delays in plan approval, fund allocation and restrictions on approved uses have impeded conservation delivery.

Federal civil works planning is conducted according to the 1983 Principles and Guidelines that establish national economic development as the single planning objective. Decades of project analysis using this framework have hindered implementation of large-scale restoration-focused projects. For example, purely economic cost-benefit analyses may not favor beneficial-use projects such as those proposing to use dredged material for ecological restoration.

Planning policies, funding difficulties, and mission incompatibilities like these have prevented some environmentally beneficial projects from being implemented. These constraints on large-scale restoration should be investigated and addressed through appropriate funding, policy or regulatory changes, or legislative action.

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1.0 Policy Obstacles to Large-Scale Restoration

This section presents examples that highlight how competing or incompatible missions or policies have prevented or delayed the successful implementation of restoration efforts. These challenges have included incompatible State and Federal (e.g. Corps of Engineers) policies that prevented the efficient establishment of funding agreements for construction and long-term maintenance of restoration projects. Other challenges have involved sponsors of Federal projects avoiding consideration of the most ecologically beneficial options because of the perceived analytical burdens. Still other challenges stem from statutory and regulatory requirements to manage large river systems with flood control and navigation as primary goals to the detriment of ecosystem restoration goals.

1.1 Freshwater/sediment diversion restoration projects in Louisiana – competing missions

Issue: Corps requests sponsors pay increased maintenance dredging costs from "induced shoaling" associated with freshwater/sediment diversion restoration

The New Orleans District of the Corps is asking the sponsors of major freshwater/sediment diversion projects to pay the increased navigation channel maintenance dredging costs associated with induced shoaling attributed to those diversion projects. As diversion structures are constructed and operated, diverting water from the Mississippi River main channel to coastal wetlands for restoration, the reduced flows below the diversion result in increased sedimentation in the main channel. The Corps is supposed to maintain the navigation channel, but is placing the responsibility for increased maintenance costs on diversion project sponsors because the Corps does not have enough maintenance funds for all of their maintenance projects. This issue is both a funding and a policy issue. If the Corps is to support coastal wetland restoration and coastal ecosystem sustainability, taking responsibility for increased maintenance from induced shoaling should become part of their mission. A change in Corps policy and funding that accepts that responsibility and incorporates increased funding to support their total maintenance needs, would allow large scale restoration projects to move forward more expeditiously.

This issue has stopped Louisiana freshwater and sediment diversion restoration projects in the Mississippi and Atchafalaya Rivers. The Benny's Bay project, a 20,000 cfs diversion to benefit the Delta National Wildlife Refuge, has been fully designed but stopped because the Corps' estimated "induced shoaling" cost is $300 million for the 20-year project life. The Corps, State and other restoration programs do not have the funding to solve this problem without additional federally authorized funding.

Action: Increased funding for Corps projects to support total maintenance needs.

1.2 Beneficial-use of dredged material and Corps funding issues

Issue: Cost-benefit analyses do not favor beneficial-use projects in Texas

The standard used by the Corps in doing their cost benefit analysis has been problematic and has de-emphasized the consideration of beneficial use projects or placed an undue burden on the state or participating party wanting to pursue such projects. The standard is to use the least expensive alternative for a dredging project which most often does not include a beneficial use application. The difference in cost between the cheapest alternative and one that includes beneficial use must be borne by the participating party. The participating party may be actively pursuing other Federal funds (even from the Corps) to perform the same beneficial use project.

An example from Texas is the Brazos Harbor dredging project near Brownsville. Over the last few years the Corps has performed emergency dredging of the harbor and disposed the material (mostly sand) in the open Gulf. The County and City have actively pursued both Federal and State funds to renourish the beach with sand. This example represents an increased cost to Federal or State funding sources when sand from the dredging project could be used to renourish the beach at an incremental cost as opposed to performing two entirely separate projects both requiring mobilization/demobilization of equipment, etc. There have been several past instances where opportunities to use dredged material have been missed in favor of using hopper dredges and placing the material in offshore disposal sites. This year some of the material was placed in the nearshore so that S. Padre Island could use the material. In general, substantial material is placed in hopper dredges and placed offshore when it could have been used beneficially to help rebuild a popular public beach.

Action: Ensure that revisions to the Principles and Guidelines will result in a greater emphasis on restoration-focused projects.

1.3 Coastal Impact Assistance Program (CIAP)

CIAP Summary

Outer Continental Shelf (OCS) oil and gas activity can have direct and indirect negative impacts to coastal natural resources in States and communities with leased tracts off their coasts. Each year, the Federal government receives billions of dollars from leases and royalties from OCS oil and gas development. CIAP was established by the Energy Policy Act of 2005. The purpose of the Program is to mitigate the impacts of off-shore oil and gas activities on the coastal natural resources of the producing States using a portion of the Federal revenue from OCS development. Under CIAP, producing States and coastal political subdivisions are eligible to receive a share of $250 million for each of the fiscal years 2007-2010. Eligible States (Alabama, Alaska, California, Louisiana, Mississippi, and Texas) can use these funds for: (1) conservation, protection, restoration of coastal areas, including coastal wetlands, (2) mitigation of impacts to fish and wildlife, (3) implementation of Federally approved marine, coastal or comprehensive

management plans, and (4) supporting onshore infrastructure projects. Each eligible State will be allocated its share based on the amount of Federal oil and gas revenue generated off its coast during the previous fiscal year. Revenues from a leased tract located in an area subject to a leasing moratorium on January 1, 2005 will be excluded unless the lease was already in production. Of each eligible State's share, 35 percent will be allocated to coastal political subdivisions within 200 miles of a leased tract. This allocation will be based on coastal population, miles of coastline, and the distance from the leased tracts. To be eligible to receive funding, States must submit for approval by the Minerals Management Service (MMS) a coastal impact assistance plan. The MMS will annually award grants for projects that are found to be consistent with the State's approved plan.

CIAP Funds as Cost-Share

Issue: Unclear if Department of Interior disallows use of CIAP funds for cost-share despite apparent intent of original legislation

The Energy Policy Act of 2005 (Act) does not restrict producing States from using their share of CIAP funds as match for other Federal grant programs that are consistent with the authorized uses in Section 384(d). It remains unclear, however, whether Department of Interior policy allows these funds to be used by eligible States as match for Service grant programs that support coastal wetlands protection and restoration such as the National Coastal Wetlands Conservation Grant Program (CWPPRA) and the North American Wetlands Conservation Grant Programs (NAWCA).

Historically, legislation that proposed providing a share of Federal revenue from OCS oil and gas development to the producing states considered the funds as a pass through to States. In other words, these funds were never considered Federal grant funds for which States would be required to apply. In fact, the Act only provides the Secretary the authority to approve coastal impact plans submitted by the States. The Minerals Management Service, however, requires eligible States to take the additional step of submitting grant applications for projects contained in the State plan, although the Act does not explicitly authorize them to do so.

CIAP Fund Allocation

Issue: Delays in plan approval, fund allocations, restrictions on approved uses

Funding is one of the biggest obstacles to large scale restoration. CIAP provides one of the best sources to address the cost of large scale conservation, but the process to administer and deliver the CIAP funds has been slow and difficult. The MMS is responsible for administering the CIAP established by the Energy Policy Act of 2005. Funds from this program were to be made available to eligible states and counties beginning in FY 2007. Project funding plans were to be submitted by the States (including county projects) to MMS, and pending approval, would receive the CIAP funds.

The process to approve and deliver funding from this program has been cumbersome and represents a significant conflict to larger scale project implementation. This significant delay in plan approval, fund allocation and restrictive interpretation by MMS in approved uses has significantly impeded the State and local community's ability to plan and deliver conservation actions in coastal areas. The States have been working with MMS to overcome obstacles but little progress has been made. For example, no FY2007 project funds have yet been released to Texas for planned and Governor-approved projects.

One specific issue is the MMS' interpretation of acquisition rules when the applicant proposes to acquire property and then transfer it to the perpetual lease or title holder. Currently MMS does not favor a project in which an NGO may acquire tracts of land with the intent of a future transfer to a local, state or federal agency for perpetual conservation. This policy question is currently under discussion. Provided the property transferred is maintained for its intended conservation use, there should be no legal issue to prevent that transfer. The receiving organization must be willing and able to accept the property and the responsibility to manage it for the intended purpose.

Action: Clarification / modification of MMS policy, procedures.

1.4 Corps project indemnity clause violates Texas' State Constitution

Issue: State is prevented from entering into cost-share agreements

The State of Texas cannot sign a project cooperative agreement with the Army Corps of Engineers to perform large wetlands restoration projects. The Corps requires cooperators to sign an indemnity clause which violates the State's Constitution. This prevents the State from entering into agreements with the Corps to share costs and conduct beneficial use projects to restore wetlands or other habitats.

A specific example occurred in the eastern Texas coast near Beaumont, Texas. The Corps was conducting maintenance dredging of the Sabine –Neches Waterway sponsored by the Jefferson County Navigation District. The Texas Parks and Wildlife Department, a NRDA trustee, wished to apply damage assessment funds to restore nearly 100 acres of intertidal marsh in their Wildlife Management Area adjacent to the navigation channel. State funding was available to cover additional costs for site preparation and dredged material delivery from the maintenance project to rebuild a subsided and eroded marsh. However, the Corps' indemnity clause prevented the State from executing an agreement to provide the necessary funding to implement the beneficial use project. The Jefferson County Navigation District agreed to act as an intermediary. A complex agreement was entered between the Corps, State of Texas and Jefferson County to make the NRDA funds available through Jefferson County for project implementation. Had the County not agreed to accept additional project responsibilities and sign the Corps agreement, the project would not have happened.

This limits how the State of Texas can participate on projects with the Corps. Although the Texas General Land Office manages a State-funded erosion account that could be used to implement multiple large scale restoration projects with the Corps, the indemnity obstacle limits the State's ability to enter cost share agreements with the Corps to deliver projects. To overcome this issue, complex partnerships have been used to transfer funds and initiate projects. Such complex arrangements would be unnecessary if this obstacle could be removed. This issue has been brought up at Gulf of Mexico Alliance meetings with an offer by the Corps to try to address the issue. Little progress has been made.

Action: Modify Corps' processes and requirements for establishing/signing cost-share agreements.

1.5 Louisiana Coastal Protection & Restoration (LACPR)

Issue: Comprehensive planning not realized when sponsors avoid complex evaluations

The Corps has stated that as part of their plan for moving forward with LACPR implementation, they plan to incorporate LACPR ecosystem restoration principles and measures into existing authorities to expedite implementation (allowing them to move forward without requiring new separate authority). The concept of incorporating ecosystem restoration as envisioned under LACPR in existing authorizations is a good idea in theory, but is problematic in practice. The Donaldsonville-to-the-Gulf existing authorization is an example. In Donaldsonville-to-the-Gulf, some restoration may be planned, but the added time and expense associated with developing sustainable restoration measures (i.e., diversions) has deterred project sponsors who want to avoid the complex evaluations and EIS work involved with diversions. As a result, it appears that the Corps has decided that Donaldsonville will proceed with some restoration, but without a comprehensive plan for achieving ecosystem sustainability.

The principle concern is that while this approach may result in some restoration, it lacks a comprehensive view and plan for achieving sustainability. As a result, it may actually preclude future opportunities to achieve ecosystem sustainability (based on ultimate project design or other constraints).

Action: If the Corps continues to use existing authorities to expedite implementation of LACPR principles/measures, they should be incorporated early in the planning process.

1.6 Tidal Restoration Projects and Permitting obstacles

Issue: Permitting obstacles impede restoration efforts

The Nisqually National Wildlife Refuge tidal restoration project, the largest estuary restoration project ongoing in the Pacific Northwest, has been identified as the top priority to recover Chinook salmon in the Nisqually watershed and is an important step in the restoration of the greater Puget Sound area. Several years of planning and design

effort have been completed to bring this project to construction. The project is supported by extensive scientific analyses, hydrologic modeling, NEPA (EIS was completed) review, public participation, support and funding from national partners and the Nisqually Indian Tribe. The permit process was difficult and appeared to risk delaying construction entirely. The greatest delays involved wetland/regulatory permits required by the U.S. Army Corps of Engineers, compounded by the inefficiency of confusing and redundant State permits, including Washington State Dept of Ecology (water quality certification and coastal zone management act concurrence) and Washington Department of Fish and Wildlife (hydraulics permit).

Permit regulations were confusing or had limited flexibility for a project of this type, making issuance of the permit time consuming and labor intensive. A different approach is needed to obtain permits for projects that are purely restoration focused. The Service supports the permit process to provide needed protection to wetlands, but struggles with the daunting process and contradiction of the intent of the regulations to protect wetlands. Permitting process delays affect the timeframe of achieving landscape level restoration projects with commensurate resource benefits.

It is critical to consider a more streamlined process for restoration projects of this magnitude, particularly when all other required environmental compliance is complete. Delays have resulted from obtaining additional permits to address adaptive management design modifications. Adaptive management of project design is an essential part of comprehensively planned restoration, but delays have also resulted from submitting changes through the permit process and present an obstacle to implementing restoration projects.

On a positive note, NOAA recently developed a programmatic Section 7 approach for restoration projects funded by certain restoration grant sources in Washington State (e.g. Salmon Recovery Funding Board funds), greatly streamlining the Section 7 process for our project. Because the Service was funded from those sources, we were able to take advantage of the programmatic process. That greatly assisted the restoration and provides an excellent example of the creative approaches that can be implemented to encourage restoration.

Action: Consider streamlined processes for Federal Clean Water Act permits and applicable State permits for restoration projects of this magnitude

1.7 Estuary Restoration Act – unrealized potential

Issue: Legislation with potential to deliver estuarine restoration has not yet produced significant conservation benefits

The Estuary Restoration Act of 2000 promotes the restoration of estuary habitat through enhanced coordination of federal and non-federal restoration activities and more efficient project financing. Specifically, the Act:

- Directed the Secretary of the Army to establish a national program to restore 1 million acres of estuary habitat by 2010,
- Established a federal Council to assist the Secretary in developing this program (Council members are the Corps, FWS, NOAA, EPA, and NRCS),
- Directed the Council to establish a National Estuary Restoration Strategy,
- Authorized $275 million over 5 years (subject to annual appropriations) in federal assistance for restoration projects sponsored by non-Federal partners,
- Encourages partnerships between the public and private sectors by setting a 65 percent limit on the Federal share of projects costs, or 85 percent for project aspects that promote innovative technology.
- Directs NOAA to create and maintain a national database for monitoring estuarine restoration projects, including techniques, completion, and habitat assessment data.

The Act was amended in 2007 authorizing $25 million for the Corps and $2.5 million to the other four agencies for each fiscal year through 2012. Historically, project funding under this Act has gone to the Corps, but the amendments allow small projects to be delegated to the other agencies and would be funded by these agencies.

NOAA has also received funding under the Act for various activities including development of the National Estuaries Restoration Inventory (NERI), which tracks the progress toward the 1-million acre goal. NERI contains information on restoration techniques, monitoring parameters, and acres restored by habitat type. NOAA and FWS (Coastal Program) data have been imported into the database.

Only fourteen projects have been funded through the Act. Two projects have been completed, one is under construction, seven are in the planning and design phases, and four have been terminated for a variety of reasons. Limited funding for the Act has limited the number of projects selected. The Corps is working to streamline the project implementation process. The Act still requires the Secretary to select or delegate restoration projects (recommended by the Council) even if the other four agencies receive funding through the Act.

Action: Work with Corps and other agencies to streamline project implementation processes and advocate funding for the Act

1.8 Food Safety Policy and Coastal Wetland Restoration

Issue: Unintended consequences of new food safety policies harm restoration efforts in California

In response to the E. coli outbreak in packaged spinach in August, 2006, the Western Growers, a produce industry trade association, partnered with the State of California and

the Food and Drug Administration to develop the Leafy Greens Marketing Agreement. This Agreement addresses numerous elements blamed for crop contamination with E. coli, including measures from equipment sanitization to wildlife visitation ("encroachments") to producers' fields. The Agreement, coupled with even more stringent safety requirements instituted by certain large buyers, have caused growers concerned over the marketability of their products to destroy critical riparian vegetation and construct wildlife deterrent fencing near their operations. In some cases, this riparian vegetation had been established to comply with other environmental regulations. Numerous coastal wetland restoration programs along the central coast of California have since limited their projects to designs that may provide water quality benefits only, and do not encourage natural vegetation and attendant wildlife benefits. Many landowners adjacent to coastal wetlands are now resistant to restoration actions that are perceived to as increase the likelihood of large buyers considering their products unsafe for purchase. Many agricultural lands abut coastal wetlands especially in California's Oxnard Plain and Salinas River Valley. Without changes in these policies, farmers have no incentive to implement restoration projects on their lands that may abut vital coastal wetlands or watersheds.

Action: Adjustments in post-2006 food safety policies should account for habitat, restoration, and ecosystem health, while maintaining food safety

1.9 Grant Program Funding Caps

Issue: Some grant programs have maximum request ceiling but costs are increasing

Conservation project costs are increasing and have been for several years. The cost is due to rising real estate prices, fuel costs, contractor availability etc. Most complex and large-scale restoration projects cost several millions of dollars. For example, in Region 2 funding at this level is difficult to organize due in part to limited availability of State funds. National grant programs like CWPPRA (National Coastal Wetland Grant Program) and NAWCA provide some of the best opportunities to leverage limited local resources to implement large-scale and multi-million dollar projects. However, both grant programs have a $1 million maximum request. Increasing the individual grant request limits while maintaining match requirements for these grant programs should help facilitate additional large-scale conservation projects in states with limited availability of non-federal funds.

Action: Increase individual grant request limits.

1.10 Measuring Restoration Project Benefits

Issue: Lack of appropriate metrics for evaluating benefits of restoration

Large watershed restoration projects, such as the Indian River Lagoon – South and the Lake Okeechobee Watershed, in Florida, often have a number of objectives and performance measures. The Service finds that it has been difficult to compare "habitat

units" among various project objectives, particularly when components of the project are purely wetland restoration features. Conversely, for constructed treatment wetlands or reservoirs, the Corps can more readily apply established performance measures and economic analyses. Except perhaps for Louisiana coastal wetlands where direct monetary value of storm surge protection has been calculated, the wetland restoration components of plans are generally at a disadvantage relative to other features. We believe that it would be extremely useful to develop tools for calculating the economic value of ecosystem services, particularly with respect to recreation and ecotourism, including both the on-site benefits and the added benefits of restored wetlands to downstream water bodies.

Action: Develop tools for calculating economic value of ecosystem services, in restoration context.

1.11 Model Accreditation Process – challenge

Issue: Best available modeling tools not used because of accreditation restrictions

The Corps has a model accreditation/certification requirement for models formally used in evaluation of projects during the planning phase. The Service has interest in utilizing as many technically sound tools as possible in our contribution to the planning process. However, this Corps requirement results in some models being considered ancillary information rather than critical sources of information. An Everglades example is that the main planning model used in the restoration effort is the South Florida Water Management District's water management model, which has a +/- 6 inches error on a spatial resolution of 10 km2. One of our refuges, on the other hand, has a model with a two orders-of-magnitude finer spatial scale, but it is not formally being used for planning purposes because of this accreditation restriction.

Action: Work with Corps to provide for accreditation of other sound models

1.12 Project Monitoring for Adaptive Management – unmet need

Issue: Inadequate funding and limited duration of project monitoring

The Corps' project planning process includes a policy that limits monitoring to a small percentage of total project funding, which can limit monitoring for Adaptive Management purposes. This, coupled with the short duration of a project team's life (5 years after construction) hinders the ability to scientifically evaluate the success of a restoration action and adaptively manage that project. Further, the planning process does not foster the establishment of a long-term vision to capture monitoring needs once the project team disappears. Several components of this policy could use some attention, including: (1) the cap on funding for monitoring purposes (the cost of monitoring is too small relative to the cost of the total project); (2) the duration of funding (e.g., if the project is projecting benefit over a 20-year time horizon and that is how the project is

being modeled, then monitoring across this period will allow the benefits over the period to be addressed; and (3) how permit-driven biological monitoring shaped by the Service can be structured to simultaneously capture the traditional threatened and endangered species monitoring needs and the monitoring of those ecosystem elements that allows for Adaptive Management decisions to ensure the success of the project.

Action: Adjust cap on monitoring funding and increase monitoring duration

1.13 Water quality treatment features and Federal-Local cost sharing

Issue: Unclear cost-share relationships between Federal - Local sponsors

An issue that delayed implementation of the Lake Okeechobee Watershed Project (part of the Comprehensive Everglades Restoration Plan) was the lack of clear Corps guidance about how to justify a Federal cost share with the State of Florida for constructed treatment wetlands. The Corps recently (late 2007) issued a memo discussing water quality and cost-sharing options; however, the interpretation of the memo is still on-going. Region 4 is reviewing a preliminary draft of an issue paper on the justification of Federal cost share for constructed water treatment wetlands in the Lake Okeechobee Watershed Project, but cannot predict what the policy outcome will be. It would be valuable to consider adding flexibility in sharing costs with States and other local sponsors for construction of water quality treatment marshes, especially when they play a role in a larger restoration effort. Such features can often be essential elements in protecting downstream waters from continued ecological degradation. They also provide habitat for fish and wildlife, although typically of a lower habitat value than restoration of hydrology to drained wetlands.

Action: Add flexibility in cost-sharing with local sponsors for water treatment marshes

2.0 Economic Analyses of Federal Water Projects

2.1 Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies, 1983 (Principles and Guidelines)

The Principles and Guidelines of 1983 provide the policy foundation and procedures for conducting economic analyses of proposed Federal water resource projects. They were intended to ensure consistent planning by Federal water resource agencies in the formulation and evaluation of water resource implementation studies. This section summarizes the various provisions of the 1983 Principles and Guidelines.

2.1.1 Statutory Authorities for Economic Analyses

The requirement that the benefits of a Corps of Engineers' water resource project exceed the costs first appeared in the Flood Control Act of 1936. Further development of cost-benefit analysis practices were made in response to

legislation in 1958, 1962, 1965 and 1970, with the general current format in place with the 1973 Principles and Standards. In response to the Water Resources Development Act (WRDA) of 1974, significant revisions were made in 1980. The 1980 Principles and Standards were ultimately deemed too burdensome and further revisions resulted in the Principles and Guidelines being published in 1983. The 1983 iteration remains in effect.

2.1.2 Current Implementation

The 1983 Principles and Guidelines lays out a single over-arching planning objective for civil works projects; to maximize the economic return on the investment of Federal dollars. This is defined further as:

- The Federal objective of water and related land resources planning is to contribute to national economic development (NED) consistent with protecting the Nation's environment, pursuant to national environmental statutes, applicable executive orders, and other Federal planning requirements; and
- Contributions to NED are increases in the net value of the national output of goods and services, expressed in monetary units. Contributions to NED are the direct net benefits that accrue in the planning area and the rest of the nation. Contributions to NED include increases in the net value of those goods and services that are marketed, and also of those that may not be marketed.

2.1.3 Planning Steps

The Principles and Guidelines describe six major steps that identify or respond to problems and opportunities associated with the Federal objective and State or local concerns, and results in the selection of a recommended plan:

1. Identify problems and opportunities for protection and enhancement;
2. Inventory the quantity and quality of resources, establish the existing conditions and forecast the without-project conditions;
3. Formulation of alternative plans;
4. Evaluation of the effects of the alternative plans;
5. Comparison of alternative plans; and
6. Selection of a recommended plan.

2.1.4 Evaluation of alternative plans – Accounts

The Principles and Guidelines establish four accounts to facilitate evaluation and display of the effects of alternative plans:

1. NED. The NED account shows effects on the national economy;

2. Environmental Quality (EQ). The EQ account shows effects on ecological, cultural, and aesthetic attributes of significant natural and cultural resources that cannot be measured in monetary terms;
3. Regional Economic Development (RED). The RED account shows the regional incidence of NED effects, i.e. changes in the distribution of regional economic activity; and
4. Other Social Effects (OSE). The OSE account shows urban and community impacts and effects on life, health and safety.

2.1.5 Plan selection

The 1983 Principles and Guidelines direct that the best plan among the evaluated alternatives is the one that reasonably maximizes NED benefits consistent with the Federal objective:

> The alternative plan with the greatest net economic benefit consistent with protecting the Nation's environment (the NED plan) is to be selected unless the Secretary of a department or head of an independent agency grants an exception based upon other Federal, State, local, and international concerns.

2.1.6 Existing practices for environmental restoration projects

Although selection of the NED is still the official objective of the 1983 Principles and Guidelines, in practice the Corps has adopted Ecosystem Restoration as an objective with a blanket exception granted for such projects by the Secretary of the Army. This de facto policy shift stems from several authorities allowing the Corps to participate in the study, design and implementation of ecosystem restoration and protection projects including:

1. Section 1135, Project Modifications for Improvement of the Environment (WRDA of 1986, as amended);
2. Section 206, Aquatic Ecosystem Restoration (WRDA 1996);
3. Section 204, Beneficial Uses of Dredged Material (WRDA 1992); and
4. Section 312 of WRDA 1990 - dredging of contaminated sediments.

Guidance for sections 1135 and 206 in 1997 stated, “The objective of section 1135 and 206 projects should be restoring degraded ecosystem structure, function, and dynamic processes to a less degraded, more natural condition, which will involve consideration of the ecosystem’s natural integrity, productivity, stability, and biological diversity.”

The Corps’ 2000 Planning Guidance Notebook established a concept of national ecosystem restoration (NER), through which outputs from ecosystem restoration projects contribute to the Federal objective of Corps civil works. It also established that the importance of NER in the Federal objective is on par with

NED and implied that the Federal planning objective is maximization of national welfare through optimum combination of NER and NED. Contributions to NER are to result in increased quantity and/or quality of desired ecosystem resources and the objective of ecosystem restoration is to restore degraded ecosystem structure, function, and dynamic processes.

2.1.7 Potential obstacles to large-scale restoration

Despite the Corps' authorities to plan and support ecosystem restoration-focused projects, the 1983 Principles and Guidelines themselves remain focused on maximizing NED as a first priority with the environmental quality often considered a constraint. The rigidity of the plan selection rule and the lack of an EQ objective, as in prior iterations (1973, 1980), leaves limited justification possibilities for developing ecosystem-focused plans.

2.2 Proposed 2008 Revisions to Principles and Guidelines

In May 2008, the Corps circulated an intra-governmental draft of proposed revisions to the 1983 Principles and Guidelines, including numerous significant changes highlighted below. The 1983 Principles and Guidelines will be revised in two phases. First, the general Principles will be revised. The Guidelines, in three chapters: Chapter 1, Standards (will now be titled "Planning Process"); Chapter 2, NED Benefit Evaluation Procedures; and Chapter 2, EQ Evaluation Procedures; will be revised at a later date. The Corps published a public draft of the revised Principles in the Federal Register on September 12, 2008.

2.2.1 Statutory requirement for revisions

Section 2031 of WRDA 2007 requires that the Secretary of the Army revise the 1983 Principles and Guidelines within two years. Revised Principles and Guidelines are to now better align with a National Water Resources Planning Policy that all water resources projects should reflect national priorities, encourage economic development, and protect the environment by:

- seeking to maximize sustainable economic development;
- seeking to avoid the unwise use of floodplains and flood-prone areas; and
- protecting and restoring the functions of natural systems and mitigating any unavoidable damage to natural systems.

Congress requires the Secretary of the Army to address the following in the revisions:

- Use of best available economic principles and analytical techniques, including risk and uncertainty analysis;
- Assessment and incorporation of public safety in the formulation of alternatives and recommended plans;

- Assessment methods that reflect the value of projects for low-income communities and projects that use nonstructural approaches to water resources development and management;
- Assessment and evaluation of the interaction of a project with other water resources projects and programs within a region or watershed;
- Use of contemporary water resources paradigms, including integrated water resources management and adaptive management; and
- Evaluation methods that ensure that water resources projects are justified by public benefits.

2.3 Service comments on proposed revisions

From a Service trust resource conservation perspective, several aspects of the proposed revisions represent apparent improvements over the 1983 Principles and Guidelines but significant questions remain. Copied below are the Service's comments as transmitted to the Department of Interior under signature of Paul Schmidt, acting Director, on October 10, 2008.

Fish and Wildlife Service Comments on Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies (FR Vol. 73, No. 178, September 12, 2008)

The Service has a long-standing interest in ensuring that Federal water resource planning results in sound projects. Through our authorities including the Fish and Wildlife Coordination Act (FWCA), Endangered Species Act, Clean Water Act, and Federal Power Act, the Service provides input on projects developed by the Corps and others. For example, as per the FWCA, the Service is the lead bureau in the Department of Interior for providing assessments of fish and wildlife impacts to the Corps when they extend mandatory consultation opportunities to the Service for each proposed water resource project.

The Service recognizes the need for the Principles and Guidelines to reflect contemporary water resource planning needs and is supportive of the Corps' efforts to take steps that represent improvements over the 1983 Principles and Guidelines. Several aspects of the proposed revisions are positive, such as incorporating a watershed-based project planning approach, (e.g. assessing interactions of other programs, projects, and plans within the watershed), that may increase the likelihood that environmentally beneficial alternatives are chosen. Although the Service supports the general trajectory of the revisions, we have several concerns regarding the interpretation of the revisions for evaluating ecological benefits of projects and whether or not the proposed revisions meet the requirements of section 2031 of WRDA 2007. The Service offers the following comments.

Climate Change

A major concern for the Principles and Guidelines revisions is that climate change considerations be explicitly incorporated. In the proposed Principles, the Corps mentions

climate change only once, stating that the impacts and potential effect of climate change should be included in the evaluation of the effects of alternative plans. The Service supports this, but recommends that the Corps expand the consideration of climate change throughout the Principles as an overall driver of water resource policy.

Climate change is causing shifts in the patterns and characteristics of water resources throughout the nation. In some regions, such as the upper Midwest, rainfall patterns will include more frequent episodes of intense storms punctuated by more severe droughts. Historically, water resource development focused on structural flood protection and navigation projects leaving river systems in the region less able to provide natural flood storage in response to the increasing intense precipitation events. The Service recommends that the Principles systemically incorporate consideration of the effect of existing civil works projects on the ability of aquatic systems to be resistant and resilient to climate change impacts. In other regions, such as the Gulf Coast, climate change-induced sea level rise should be a dominant consideration as planners address the utility of large-scale wetland restoration in protecting humans and infrastructure from storms.

Climate change represents persistent uncertainty that must be addressed in planning processes. Models representing different climate change scenarios should be used so that we are planning / building to address future conditions, not a past state. Alternative plans could be developed based on different climate change scenarios or adaptive management components of alternative plans could be structured to address the uncertainty in future conditions caused by climate change.

Throughout the Federal water resource planning process, from specification of existing problems and opportunities to the formulation, evaluation and selection of plans, the accelerating changes in aquatic systems caused by a warming climate must inform our understanding of what our true water resource needs are and how we can realistically respond to those needs. The revised Principles and Guidelines must reflect this recognition.

Revision Publication Process

Because the Corps has decided on a sequential rather than concurrent process for developing the Principles and Guidelines, the Service lacks assurance that the spirit of the Principles will be implemented by Guidelines when they are published. In addition, the Service is concerned that the proposed Principles, as crafted, would allow Federal water resource planning agencies independent discretion in implementing the Principles. The language appears to allow broad leeway in interpreting the Principles. Comments below will describe instances of discretionary language in the proposed Principles.

Principle 2. National Planning Objective

In the Principles, the National Planning Objective is the general statement of intent for all Federal water resource planning efforts. In the 1983 Principles and Guidelines, the Federal Objective was to contribute to national economic development (NED) consistent with protecting the environment. Contributions to NED were defined as increases in the net value of the national output of goods and services, in monetary units. In requiring the

Secretary of Army to revise the Principles and Guidelines, Congress in section 2031 of WRDA 2007, provided the following new direction:

Sec. 2031. WATER RESOURCES PRINCIPLES AND GUIDELINES
(a) NATIONAL WATER RESOURCES PLANNING POLICY.—It is the policy of the United States that all water resources projects should reflect national priorities, encourage economic development, and protect the environment by—

(1) seeking to maximize sustainable economic development;
(2) seeking to avoid the unwise use of floodplains and flood-prone areas and minimizing adverse impacts and vulnerabilities in any case in which a floodplain or flood-prone area must be used; and
(3) protecting and restoring the functions of natural systems and mitigating any unavoidable damage to natural systems.

(b) PRINCIPLES AND GUIDELINES.—

(3) CONSIDERATIONS.—In developing revisions to the principles and guidelines under paragraph (2), the Secretary shall evaluate the consistency of the principles and guidelines with, and ensure that the principles and guidelines address, the following:

(A) The use of best available economic principles and analytical techniques, including techniques in risk and uncertainty analysis.
(B) The assessment and incorporation of public safety in the formulation of alternatives and recommended plans.
(C) Assessment methods that reflect the value of projects for low-income communities and projects that use nonstructural approaches to water resources development and management.
(D) The assessment and evaluation of the interaction of a project with other water resources projects and programs within a region or watershed.
(E) The use of contemporary water resources paradigms, including integrated water resources management and adaptive management.
(F) Evaluation methods that ensure that water resources projects are justified by public benefits

In the proposed revisions, the Corps states the National Planning Objective as:

"The national objective of water and related land resources planning is to foster environmentally sound, efficient use of the Nation's resources consistent with public safety." This can be accomplished through watershed analyses that recognize the interdependency of water uses. This is strengthened by capitalizing on a collaborative planning and implementation process which incorporates fully informed participation from Federal agencies, non-Federal interests, non-governmental organizations, State and local and Tribal governments, and a full range of water users and stakeholders. Water and related land resources planning that is consistent with the national planning objective seeks to incorporate some or all of these elements: facilitate sustainable national economic development, encourage wise use of water and related land

resources—including floodplains and flood-prone coastal areas, support the protection and restoration of significant aquatic ecosystems, promote the integration and improvement of how the Nation's water resources are managed; and reduce vulnerabilities and losses due to natural disasters.

This objective appears to deviate from Congress' policy statement in section 2031(a). Congress states that maximizing sustainable economic development is a goal, but does not give it primacy over ecological or public safety objectives. In the proposed revisions, the Corps indicates that the main thrust of the objective is fostering the use of the Nation's resources. The Service questions whether focusing the first sentence of the National Planning Objective principle on "use" of the Nation's resources is consistent with Congress' intent. As written, it may allow the planning objective to focus on NED, as in the 1983 Principles and Guidelines. Other discretionary terms in the objective principle, such as stating that the objective "can" be accomplished through watershed analyses or that planning seeks to incorporate "some or all" of the elements required by congress could allow planners to avoid full implementation of congressional intent. The Principles should provide the broadly-stated, but compulsory foundation that commits planners to meeting the National Planning Objective as they plan and evaluate projects.

In May 2008, the Corps circulated an intra-governmental draft of proposed revisions to both the Principles and Guidelines. That version included a statement of the Corps' "Water Resources Management Strategy" that more closely reflected a commitment to the Congress' policy statements in section 2031. The National Planning Objective in the May 2008, iteration was tripartite. Water resource planning was to address problems and opportunities in ways that contribute to NED, Public Safety (PS), and Environmental Quality (EQ). The Corps stated that the three objectives would not be coequal but that there would be no bias toward any one of the objectives. This lack of clarity was problematic but having an EQ objective increased the possibility that restoration-focused projects would receive greater emphasis in the Federal planning process. Because the current, published version now lacks a clearly stated EQ objective, it is unclear how much emphasis ecological restoration projects would receive.

Unless discretionary phrases are addressed and a focus on environmental protection and restoration, commensurate with section 2031 of WRDA 2007, is explicitly incorporated, the current proposal may represent a retreat from the May 2008, intra-governmental iteration.

The Service recommends the Corps investigate establishing EQ as the central planning objective. Of the objectives discussed by both Congress and the Corps in the May, 2008 intra-governmental version, only EQ inherently incorporates consideration of both NED and PS. New types of analyses may reveal that plans that maximize EQ may also maximize long-term NED and PS. Project planning consistent with an EQ-centric planning objective would acknowledge that sustainable economic uses of our waters and the public's safety are both ultimately derived from the ecological health of the waters. It would also acknowledge the increased need, relative to 1983, to reverse the deterioration of our aquatic systems' ability to provide ecosystem services to people.

Principle 4. Watersheds
The Service supports the Corps' adoption of a watershed-level approach and believes it is a necessary step if Federal water resource planning is to result in ecologically and economically sustainable projects. The Service also supports the integration of planning efforts and programs conducted by other Federal, State, and local entities into Federal water resource planning. This principle can be strengthened and made more consistent with section 2031 of WRDA 2007 by replacing discretionary language. In the second paragraph, the Service recommends that "Water and related land resources planning should commence from the watershed level…" be modified to read "Water and related land resources planning shall commence from the watershed level…" Similarly, in the third paragraph, the Service recommends that "Water resources planning is collaborative and may consider alternatives and strategies by other Federal agencies, state and local agencies…" be modified to read "Water resources planning is collaborative and shall consider…"

Principle 5. Science Based Analysis
The Service recommends that the third paragraph be modified to make a more binding statement: "To ensure the highest quality project decisions, decision-makers must strive to incorporate the best available data and models with high degrees of accuracy in hydrology, engineering, geology, ecology, other physical and life sciences, economics and other relevant social sciences."

In the fifth paragraph, the Service recommends that the third sentence be modified by replacing the word "confirm" with the phrase "…review and ensure accuracy and reliability…" to ensure that independent expertise is not sought merely to sign off on an agency's analytical methods.

Principle 6.
The second paragraph concerning Inclusion of Other Parties, indicates that a variety of stakeholders will be afforded an opportunity to provide input to the Federal water resource planning process. The Service recommends this paragraph be modified to state that all planning steps will be transparent and that information must be shared with stakeholders at pre-established points in the planning process.

Principle 7. Plan Formulation
In 7.1, the first paragraph, on Structural Plans, should be modified to more clearly state that restoration through levee removal or breaching, for example, is considered a structural approach.

In 7.1, the fourth paragraph, on Environmental, should also be modified to make an affirmative statement that efforts to improve ecological functions can be the focus of water resource planning, rather than just the mitigation of environmental impacts caused by water resource development.

Principle 9. Plan Selection

The Corps states: "The selection of the recommended plan, as with the development of alternatives, must be cognizant of the national planning objective, national mission authorities and of the availability of Federal and non-Federal resources available for water and water related resources." The term "national mission authorities" should be clarified. It is unclear if this statement indicates that only plans that can be implemented through existing Corps authorities can be recommended and that some non-structural plans would be deemphasized (for example, those that involve land-use changes under the authority of other entities).

The Service recommends that the National Planning Objective Criterion described in 9.1 be deleted or further clarified. The Service is concerned that the currently proposed National Planning Objective focuses on fostering use of the Nation's resources, and basing a plan selection criterion on this objective may allow planners to favor selection of NED-focused projects. Also, 9.1 states that "The goal is to formulate and propose a series of projects over time across the Nation, which together will amount in effect to an implementable national water resources plan." This statement, if retained, must be linked to a description of what the Corps means by an "implementable national water resources plan." This description should be within Principles 1 or 2.

In the May 2008, draft of the proposed revisions, the Corps included the "Watershed Rule" in the Plan Selection principle, writing that "A plan consisting of a single project may only be recommended as the result of a collaborative, watershed planning effort or when the project is to be part of a watershed plan previously approved by the Secretary of the Army, unless the Secretary grants an exception." This was consistent with Congress' direction to the Secretary of the Army that the revised Principles and Guidelines drive project planning from a watershed approach. The Service believes that the Watershed Rule for plan selection reinforced the Congressional intent. The Corps has reflected Congress' general watershed-based planning requirement in the principle on Watersheds (Principle 4), but the Service recommends that the Corps reinsert the Watershed Rule from the May 2008, draft into the current Plan Selection principle.