

Draft of 16 December 2005

**Program Management Plan**  
for the  
**Water Management and Reallocation Studies**  
**Planning Center of Expertise**



Version 2.0  
16 December 2005

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## INTRODUCTION

### 1.1 Purpose

This Program Management Plan (PgMP) is an implementation tool to establish the National Planning Center of Expertise for Water Management and Reallocation Studies (referred to below as the PCX). This PgMP will outline the goals and objectives for integrating the PCX into the Project Management Business Process and business plan for all Districts, Divisions, and Laboratories in the Corps of Engineers. It will serve as a roadmap for the continued development of the Center as a critical tool in the Corps of Engineers arsenal of capabilities in serving the Nation and the Army.

### 1.2 References

The following are the applicable regulations and guidance that created and guided the formation of the national centers of expertise.

*USACE 2012 Final Report: Aligning the U.S. Army Corps of Engineers for Success in the 21st Century*, 6 October 2003.

USACE 2012 Web site at <http://www.hq.usace.army.mil/stakeholders/>.

Director of Civil Works Letter designating centers, 25 August 2003. (Appendix A)

### 1.3 Background

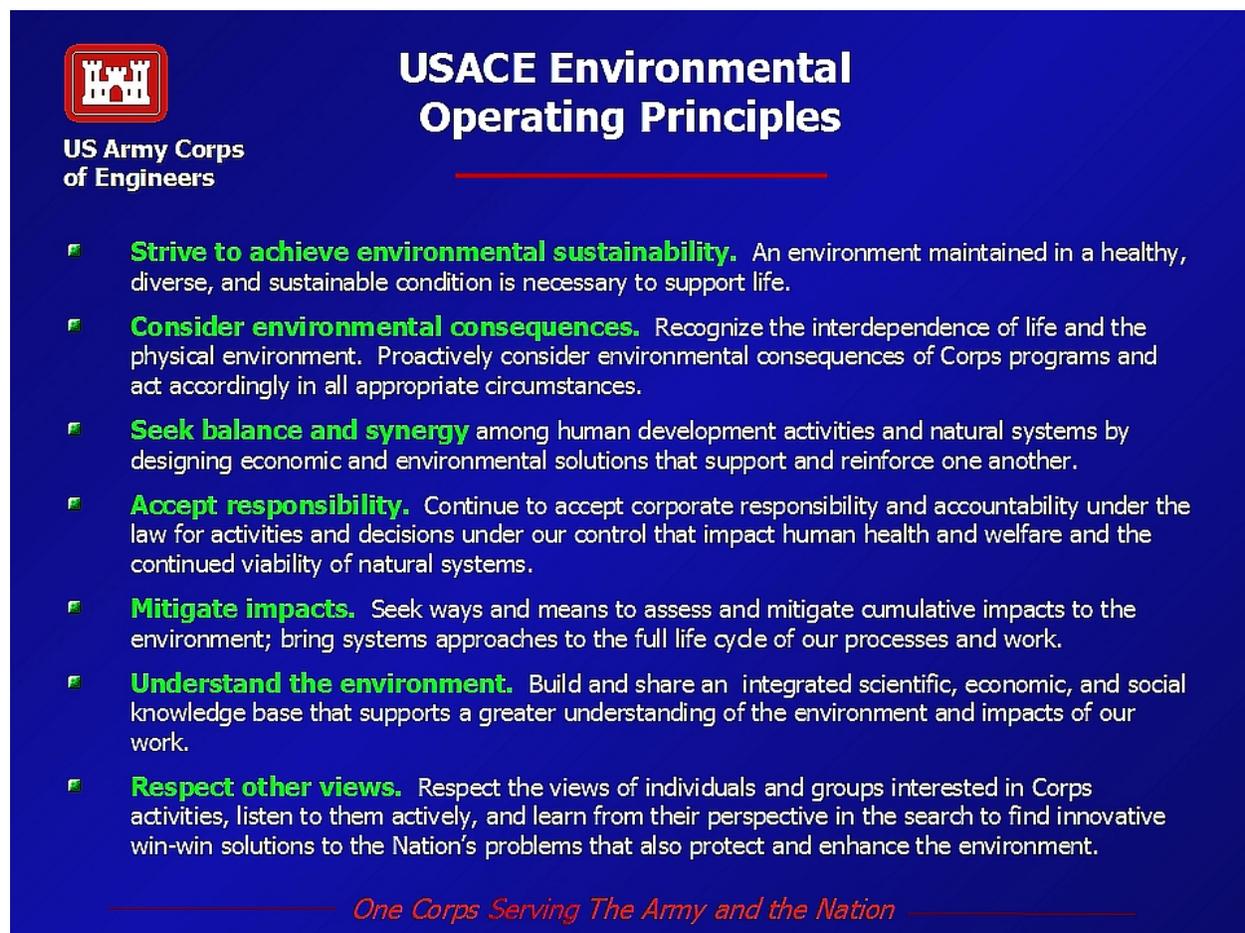
On 25 August 2003, the Corps' Director of Civil Works directed the establishment of national centers of expertise to support the accomplishment of planning studies for inland navigation, deep draft navigation, water supply, and flood damage reduction. The national centers are part of a national initiative to improve the quality and effectiveness of the planning process for water resources projects called the Planning Excellence Program (PEP). The PEP includes training and work force capability improvement, enhanced quality assurance and control efforts, process improvement, and regional and national planning centers. The DCW memorandum is displayed in Appendix A.

Southwestern Division was assigned the Water Supply and Reallocation Planning Center of Expertise, now designated the Water Management and Reallocation Studies Planning Center of Expertise. This will be consistent with other national centers, and therefore will be adjusted based on experience and further direction. The center's structure and functions will evolve over time as experience is gained and the organization matures.

While not specifically detailed in the business functions listed above, a specialized and emerging area of importance in USACE activities involves development and

implementation of a holistic approach to watershed management planning. In diverging from the traditional “piecemeal” methodology, this approach serves to integrate business functions described above by employing appropriate basin-specific predictive tools in an overall watershed-based approach to planning and project operations. This is a particularly valuable approach for integrating the ecosystem restoration mission in sound planning and incorporates values described in the Corps’ Environmental Operating Principles (EOPs). As it represents an emerging technology and promises to be of critical importance in future USACE activities, a center of expertise is justified for holistic watershed planning. Because of the interrelatedness of water supply and water quality-lacustrine ecosystem restoration, the Southwestern Division Office has also included watershed management as a part of the expertise offered when conducting water supply and reallocation studies.

National objectives mandate that Corps of Engineers planning studies evaluate water resource problems and opportunities in accordance with the Chief’s Environmental Operating Principles. Those Principles are presented in the graphic provided below:



The graphic is a blue rectangular box with a white border. In the top left corner is the US Army Corps of Engineers logo, which is a red square containing a white silhouette of a fort. To the right of the logo, the text "US Army Corps of Engineers" is written in white. In the top right corner, the title "USACE Environmental Operating Principles" is written in large, bold, white letters. Below the title is a horizontal red line. The main body of the graphic contains a list of seven principles, each preceded by a small white square icon. The principles are: 1. Strive to achieve environmental sustainability. 2. Consider environmental consequences. 3. Seek balance and synergy. 4. Accept responsibility. 5. Mitigate impacts. 6. Understand the environment. 7. Respect other views. At the bottom of the graphic, the slogan "One Corps Serving The Army and the Nation" is written in a red, italicized font, flanked by two horizontal red lines.

 **US Army Corps of Engineers**

## USACE Environmental Operating Principles

- **Strive to achieve environmental sustainability.** An environment maintained in a healthy, diverse, and sustainable condition is necessary to support life.
- **Consider environmental consequences.** Recognize the interdependence of life and the physical environment. Proactively consider environmental consequences of Corps programs and act accordingly in all appropriate circumstances.
- **Seek balance and synergy** among human development activities and natural systems by designing economic and environmental solutions that support and reinforce one another.
- **Accept responsibility.** Continue to accept corporate responsibility and accountability under the law for activities and decisions under our control that impact human health and welfare and the continued viability of natural systems.
- **Mitigate impacts.** Seek ways and means to assess and mitigate cumulative impacts to the environment; bring systems approaches to the full life cycle of our processes and work.
- **Understand the environment.** Build and share an integrated scientific, economic, and social knowledge base that supports a greater understanding of the environment and impacts of our work.
- **Respect other views.** Respect the views of individuals and groups interested in Corps activities, listen to them actively, and learn from their perspective in the search to find innovative win-win solutions to the Nation’s problems that also protect and enhance the environment.

*One Corps Serving The Army and the Nation*

The Environmental Operating Principles are most effectively implemented through the concept of holistic watershed management planning. Watershed management planning

takes into account the environmental quality, economic development, and social well-being of those within a watershed. It is an integrated approach to the development of water resource solutions and incorporates ecosystem restoration into all water resource development opportunities. Watershed management includes aspects of floodplain management, reallocation, water quality and aquatic ecosystem improvement, water supply issues, and other water resource management considerations. It requires the ability to work with diverse stakeholders to develop innovative, synergistic, and environmentally sustainable solutions against the backdrop of sound scientific principles and engineering practice. A holistic approach to water resource development must include basin-wide management and restoration, including management and restoration of lakes and reservoirs and the affected waters within a watershed and management and restoration of floodplains. This approach to planning is critical in achieving the goals expressed in the fifth (5<sup>th</sup>) EOP: "Seek ways and means to assess and mitigate cumulative impacts to the environment; bring systems approaches to the full life cycle of our processes and work". The plan supports the Chief's vision for the Corps: **"One agile team, capable of operating virtually as a learning organization."**

## **1.4 General Planning Center of Expertise Roles**

A USACE planning center of expertise will primarily focus on plan formulation and the complex technical evaluation associated with the plan formulation. The center will provide support in the following areas:

- The center will provide consulting services and at the direction of HQUSACE the center would accomplish very costly, highly complex and controversial studies or key analytical components of very costly, highly complex and controversial studies.
- The center would provide accomplishment of key analytical components of studies as directed by the Planning Chiefs Advisory Board for multi-region/national efforts.
- The center would provide independent review support, to supplement the capabilities of the MSC regional planning expertise centers. This would be especially important in those cases where an MSC can not satisfy the inter-district review requirement when the expertise within the MSC is limited to a single physical location.
- The center would provide advice to HQUSACE, the laboratories and other stakeholders on significant regional and nation-wide planning issues.
- The center would assist in establishing research and development priorities in the mission area, coordinating the recommendations of the Planning Chiefs Advisory Board and with the established MSC lead that coordinates the review of research and development initiatives for the mission area.
- The center would be a proponent for training opportunities related to the assigned mission area.

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- The center would manage a program of sharing lessons through coordination with the MSC regional planning expertise centers, sponsoring workshops and technology transfer.
- The center would supplement the HQUSACE staff in policy compliance review on projects where the center has had no prior participation, on an as requested reimbursable basis at times of very high workload such as before a potential WRDA.
- The center would enhance basic planning expertise throughout the Corps by providing shadowing opportunities of individuals with specialized planning expertise.

## 1.5 Goals

In developing a USACE planning center of expertise for Water Management and Reallocation Studies, Southwestern Division will serve as the lead division with virtual support provided by support divisions and other supplemental virtual team members. To establish this center, resources have been pooled to provide a significantly higher level of specialized planning capability than could otherwise be obtained. The USACE planning center of expertise will provide regional, national, and worldwide expertise in water supply and reallocation studies while adhering to a watershed approach in order to provide leadership for diminishing water resource to meet future needs.

The primary goals of the Planning Center of Expertise are:

- Further enhance the basic planning capability in each MSC that develops water supply and reallocation plans and studies.
- Provide a defined structure for satisfying inter-district requirements for water supply and reallocation watershed plans that may cross District and Division boundaries.
- Facilitate studies that utilize innovative approaches to analyze water supply needs and impacts of requirements on the entire watershed. Seek to balance all requirements in an environmentally sustainable manner.
- Broaden the understanding of tools, techniques, and concerns among the interdisciplinary requirements for effective watershed approach to water supply and reallocation.
- Strengthen incorporation of the Chief's Environmental Operating Principles in the planning process.
- Facilitate a national focus on issues of concern in areas of water management.
- Partner with the R&D community to advance state-of-the-art water management and watershed modeling. Perform a major role in diffusing this technology throughout the Corps planning community.
- Provide efficient and effective management of independent technical review and external peer review as requested or required.

## 1.6 Objectives

The objectives of this PgMP are to identify and plan tasks required to establish and maintain the SWD Planning Center of Expertise in Water Management and Reallocation Studies for the US Army Corps of Engineers. Metrics will be used to measure progress and to oversee establishment of the processes required to run the center. This PgMP displays our action plans for achieving these objectives. Accomplishing our objectives will result in accomplishing our goals.

- Create a service center procedural and business process to facilitate requests for resources and assistance.
- Develop and use a web-based service to integrate and facilitate discussion, technology flow, resource provider information, and capabilities on water supply, reallocation, and watershed approach for management.
- Develop a communications plan to facilitate outreach and education to the entire USACE about the Center's capabilities and resources.
- Encourage use of a watershed approach in planning all projects.
- Review all current District Studies to identify lessons learned and provide a feedback mechanism through web page or other broad based media.
- Identify a Division water supply management case study to be initiated under the guidance and direction of the Center of Expertise to model our capabilities using the watershed approach.
- Develop and continue to use scientific analytical and decision models that emphasize economic and environmental sustainability for our diminishing water resources.
- Seek more opportunities to partner with other Regional, State, and Federal organizations with similar goals.
- Continue to educate about conservation of water resources.
- Develop a five-year plan to enhance and expand regional capability and cutting-edge expertise in the tools integral to the Centers capability (including but not limited to GIS applications, water management software, water supply and drought contingency planning and integrated watershed modeling.)

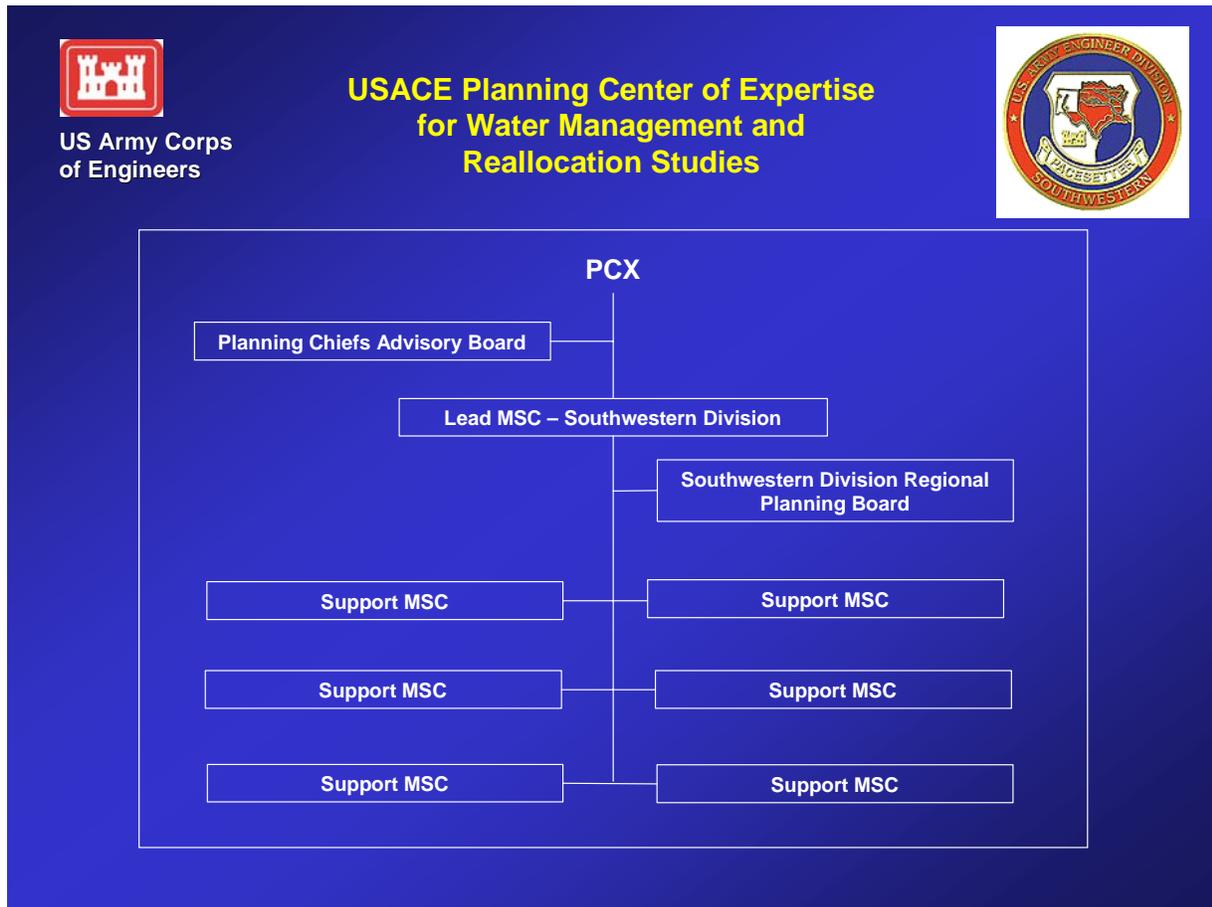
Through the accomplishment of these objectives, the District will develop synergy between increasing requirements for the nation's water resources and economic and environmental sustainability.

## 2 PLANNING CENTER OF EXPERTISE TEAM

### 2.1 Management Structure

The structure for the planning expertise center includes the Southwestern Division (SWD) as the lead MSC and possibly other Divisions as support MSCs as shown on Figure 1. As USACE Planning Expertise Center assets, identified technical specialists from across the Corps will provide the specialized capability to support the center's activities. These specialists include GS-14, GS-13, and senior GS-12 planning technical expert positions with nationally recognized expertise from multiple Divisions and districts. They will work collaboratively as the source of specialized planning expertise related to water supply and reallocation studies and management. The resources of the center will not replace the basic planning capability that must reside in each district. Many GS-12 planners are not a source of specialized expertise but are normally considered key to maintaining basic planning capability in each district. Specific individuals supporting the center are identified in the attachments for the lead MSC, support MSCs, and supplementary virtual team.

Figure 1  
Center Structure



## 2.2 Roles and Responsibilities

**Planning Chiefs Advisory Board:** As a resource to support the MSC planning expertise centers across the Corps, the USACE planning expertise center for water management and reallocation planning, must be responsive to nation-wide needs. To identify and prioritize these needs, an advisory board composed of the Headquarters and MSC planning chiefs will establish center priorities. The Planning Advisory Board will provide broad oversight and direction to the center to ensure consistency in functions, responsibilities, and application of polices and regulations. The Board will establish a strategy for utilization of the centers to provide a sustainable basis for developing and maintaining highly skilled and capable technical staff. The Chief, Planning and Policy Community of Practice (CoP) from Southwestern Division, the lead MSC, will champion the USACE planning expertise center for water management and reallocation planning at advisory board meetings.

**Lead MSC Role:** SWD will manage the center, following the recommendations of the Planning Chiefs Advisory Board and with the aid of the SWD Regional Planning Board and the MSCs listed as support members of the center. SWD will provide a single point of contact (POC) to process requests for assistance and information. The center will be a virtual resource of the Southwestern Division Chief, Planning and Policy CoP, and oversight will be provided through GS-14 technical specialists in the Planning and Policy CoP. As there will not be additional funding except for reimbursable work from districts and potentially some limited funding associated with specific R&D activities, management of the center must be assumed within the MSC quality assurance function. While the assignment recognizes that supplementary expertise is to be provided at other MSC locations, Southwestern Division will have specified responsibilities for the development and maintenance of specialized expertise in water management and reallocation planning. These responsibilities include:

- Serve as the champion of the planning expertise center for water management and reallocation studies at meetings of the Planning Chiefs Advisory Board.
- Hosting at least one workshop/coordination meeting a year.
- Lead in the development of training for water supply and reallocation planning that integrates watershed management planning to support basic planning capability.
- Linking the national community of specialized planning expertise, including participation from the labs, Headquarters, and other Divisions.
- Leading in the identification of research and development priorities for water supply and reallocation studies and water management planning.

**SWD Regional Planning Board (RPB):** The board meets quarterly and establishes regional business requirements. The SWD RPB will provide oversight to the virtual team and resources comprising the Center of Expertise. The RPB will provide guidance on

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direction of the Center's development and priorities for goals and objectives during implementation and management of the Center of Expertise.

**District Resources:** Each District's support will be managed through the Planning Branch Chief, to:

- Provide expertise in the interdisciplinary areas of water supply and reallocation planning studies.
- Make the capabilities available for regional projects.
- Participate as team members on water supply and reallocation studies; mentor, coach, direct, support, and delegate tasks to team members as appropriate; perform independent technical review as a supplement to other MSC regional planning centers, encourage team relationship and process; and keep the team focused on the goal.
- Assist in management of the technology transfer through an Internet based media.
- Promote the tools and principles developed by and promulgated through the Center or Expertise.
- Accomplish very costly, highly complex and controversial studies or key analytical components of very costly, highly complex studies under the direction of HQUSACE.
- Encourage and develop tools and techniques for watershed approach in determining water needs and impacts.

**Other MSCs and Districts:** Contribute one or more inter-disciplinary skills to regional teams on water supply and reallocation studies. Share ideas and innovative technologies through the Center of Expertise to the rest of the Corps of Engineers and the nation. Provide list of capabilities in water supply and reallocation with the Center's shared database as an available asset to regional teams and technology transfer.

## 3 BUSINESS PROCESS

### 3.1 PCX Missions

Developing on the general roles that Planning Centers of Expertise are given (see section 1.4 above), particular missions of the Water Management and Reallocation Studies PCX are:

- **Support and promote Corps of Engineers planning technical excellence**, by providing advisory and coordination/management services as requested by field offices or required by policy, including:
  - Technical water supply and other water management analyses (H&H, economic, financial, environmental)
  - Report preparation
  - Consultation and advice (technical and policy)
  - Independent technical review (ITR) and external peer review (EPR)
  - Water storage agreement preparation and review
  - Training
    - Short courses
    - Planning Associates (PA) course on water supply analysis and agreements
    - Developing water management studies course for PA program
- **Build strategic relationships with stakeholders in water management planning at every level**, to promote collaboration on holistic solutions to water resources needs, including:
  - Headquarters: RITs, Planning CoP, business line managers RBCs and Districts
  - Other PCXs (e.g., Flood Damage Reduction, Environmental, Hydropower)
  - Other interested Federal agencies (e.g., USGS, FWS)
  - State and river basin water management agencies
  - Other critical stakeholders (e.g., power marketing agencies)
- **Identify, monitor, and maintain water management expertise** on policy, agreements, and technical analysis, by maintaining a Corps-wide knowledge base of policy, guidance, relevant Corps projects, and planning lessons learned
- **Assist Headquarters in water management related policy studies and development of guidance**
- **Assess research and development needs** for future skills and technology
- **Support the Headquarters water supply business line manager:**
  - Participate in budget development/defense/execution process
  - Participate in development of budget program metrics

Interim specific tasks associated with these missions are outlined in Appendix D.

## 3.2 Work Flow

The POC for the Center of Expertise and PgMP will personally maintain the general Work Breakdown Structure (WBS), which is illustrated below.

- SWD Water Supply and Reallocation Center of Expertise
  - Planning Chiefs Advisory Board
  - Regional Planning Board
    - SWD POC
      - Regional PDT
        - PMP
        - Studies
        - Agreements/Operating Plans
      - SWD District Resources
        - Design Action Plan
        - Implement Plan
        - Quarterly RPB meetings
        - Measure Performance
        - Adjust Action Plan

The Planning Center of Expertise for Water Management and Reallocation Studies will be composed of virtual team members located throughout SWD and the US Army Corps of Engineers. The Center will provide services for fee to assist with developing all or any portion of scopes of work and estimates related to water management studies, interdisciplinary regional water supply and reallocation studies using a watershed approach, water reallocation agreements, water storage contracting and support; provide a technical representative on an existing project delivery team; facilitate discussion with stakeholders and regional water districts; or coordinate and manage independent technical review of any documents relating to water management studies. The Center will facilitate the interchange of ideas and technologies on water management to include: watershed approach studies, water supply reports, water reallocation studies and agreements, water storage contracts, public relations, modeling, and GIS. Working with the labs, Institute for Water Resources, Academia, other Divisions, and Districts, the Center of Expertise will facilitate access to the numerous resources available to assist with planning and executing water management.

The SWD Center of Expertise POC will receive all requests for assistance. The work will be presented to the District Planning Branch Chiefs for discussion on available resources and capabilities. All attempts will be made to achieve a regional integration of resources when possible. Consideration of the needs of the sponsor, District, or customer requesting assistance will be given top priority over the requirements to service the request regionally. Work will be distributed down throughout the identified expertise until all available resources are exhausted. Contracting options will be then be pursued if required capabilities are not found within, or are typically accomplished through

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contracting means. Once project delivery teams are established the project management plan will be approved by the Regional Planning Board.

Since little in the way of direct funding is provided to the Planning Centers of Expertise, the cost of general administrative and coordination activities will generally be drawn from the salaries of the SWD members of the PCX staff. Specific PCX services provided for Corps field offices will be reimbursed by the benefiting organization, which is expected to budget for adequate funds for technical assistance, coordination of independent technical review, etc. For this and other reasons, the PDT should coordinate with the PCX from the outset of the planning study.

Central to accomplishing a successful water supply or reallocation study is the understanding of the integration of disciplines and resources needed to look at water resource problems and opportunities on a watershed basis. It is therefore imperative that, when responding to assistance requests, we promote and encourage an interdisciplinary approach to problem solving. The engineering, economic, and environmental issues and concerns must be given equal weight in determining the sustainable solutions to ever increasing water resource needs. The Water Management and Reallocation Studies Center of Expertise will be draw upon individuals in all disciplines necessary to successful accomplish the multi-disciplinary philosophy of the watershed approach. Therefore, the Center of Expertise will be integrated into all USACE Communities of Practices and all functional levels.

The training and communication component of the Center of Expertise will require input from all the Districts. A team will be established with members of all the Districts to develop of a framework of the web-based information exchange. The data, such as links to relevant sites, contract information, lessons learned, case studies, and on-going studies, will need to be updated regularly. The information center will reflect the central communication theme established and house the same information provided in brochures, lectures, and other media.

## 4 IMPLEMENTATION

### 4.1 Initial Actions

A first draft of the PgMP for the Planning Center of Expertise was developed in April 2004. However, there was little further activity for another year, owing to unavoidable delays in staffing, and the press of other high-priority work. These impediments were overcome in June 2005. The PCX has since participated in national-level coordination meetings of the planning centers of expertise; it has revised the PgMP, and established an initial PCX web site (at <http://www.swd.usace.army.mil/WMRSCX.htm>, linked from the Planner's Resource Web page at <http://www.iwr.usace.army.mil/plannersweb>).

### 4.2 Ongoing Activities

An outline of ongoing activities and tasks of the PCX is presented in Appendix D. Two key near-term items are:

- Development of technical review guides and other guidance materials, by work order with Tulsa District, is expected to be complete in March 2006.
- A survey, by e-mail or web portal, to query all Corps civil Division and District offices with respect to identifying several things:
  - Water supply studies within their AOR, ongoing and anticipated.
  - Reservoir reallocation studies within their AOR, ongoing and anticipated.
  - Water storage contracts at their lakes, existing and anticipated.
  - Issues of interest and concern to them about each of the above.
  - Stakeholders the PCX should be aware of within their AOR -- other Federal and non-Federal agencies, interest groups, sponsors, etc.
  - Members of their technical staff they regard as highly knowledgeable about each of the above, to assure completeness and accuracy of the PCX roster of technicians and potential technical reviewers.

This would build on and continue work already done by IWR, and dovetail with efforts by the national Planning, Economics, and other CoPs to develop rosters of subject matter experts. The survey is also expected to be accomplished within the second quarter of FY 2006.

## 5 Quality Management

The PCX will work with MSCs, HQUSACE, and our partners in the development and evaluation of performance metrics. Quality improvements will increase the effectiveness and efficiency of the tasks and elements developed for the national center implementation and center organization transition. Some of the principles of quality management are:

- Management drives quality
- Focus on internal and external partners and stakeholders
- Focus on people, process, learning, and communication
- Ensure that the intent and goals of the national center are clear, and are embraced by everyone on the PCX
- Engage and communicate at all levels
- Incorporate the national center into our everyday business practices and processes
- Utilize existing forums and decision-making instruments that people are familiar with, including:
  - Project Management Business Process
  - Use of corporate AIS (e.g., P2)
  - District and Division Program Review Boards (PRBs)
  - Command Staff Inspections
- District input
- Creation of surveys
- Peer review
- Partner feedback
- Customer feedback
- Administration feedback
- Direct communication with District DPMs, DSTs, and RIT Team Leaders

### 5.1 Performance Measurement

Measuring our performance helps us to succeed in fulfilling the Center of Expertise purpose. By establishing metrics we have a method for gauging our success in achieving our goals. Using established reporting mechanisms, such as Regional Planning Boards, Command Management Reviews, etc., information relevant to these metrics will be collected, analyzed, and reported. The team and decision makers, at all levels, will be responsible for examining the effectiveness of the metrics, providing feedback, and finding ways to improve our performance.

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Objectives	Metric
Identify all studies with a water supply component	# of Studies Identified
Identify all technology available for regional teams	# of Resources Identified
Identify all multi-disciplinary resources available to team	Variety of Expertise
and develop links to all available resources	Ability to cover all concerns
Develop Communication Plan to explain in-house capabilities, regional resource links, and provides means of access to the Center of Expertise (Internet Based Media)	Usage of resource (hits)
Planning Ahead Article explaining PgMP and progress	1 per year

## 5.2 Measurement of Program Success

The successful indoctrination and implementation of the Center of Expertise will be measured against a set of metrics developed for the individual objectives and the following general categories:

- The Center of Expertise is used as a recognized resource for integrated regional water supply and reallocation studies, particularly those using a watershed approach.
- The Corps' culture increasingly reflects the understanding of the interrelationship of water resource demands on the natural environment.
- The Corps is increasingly recognized by clients, sponsors and other stakeholders for its excellence in holistic water management.
- The Center of Expertise continues to develop test innovative technologies for modeling, assessing, and evaluating water resource needs and impacts from usage.

## **6 STRATEGIC COMMUNICATIONS PLAN**

### **6.1 Goal**

The overall strategic communications goal is to ensure that all Corps employees, our partners, and stakeholders become informed about the Center of Expertise, its capabilities, its functions, and its resources. Further, all Project Delivery Teams should be actively engaged in listening and debating ways in which the watershed approach can influence their day-to-day activities of planning, design, construction and operation of Corps projects, striving to more effectively integrate economic and environmentally sustainable objectives into these activities dealing with water supply and reallocation. The Center will be a champion of the watershed approach to problem solving. This may be difficult in light of some individual's increasing pressure to draw narrower and narrower boundaries around Corps projects.

One of the seven Environmental Operating Principles (EOP) is to "Respect the views of individuals and groups interested in Corps activities, listen to them actively, and learn from their perspective in the search to find innovative win-win solutions to the Nation's problems that also protect and enhance the environment." Consequently, a strategic goal of this Center and the watershed management study approach is to provide open dialogue with all concerned individuals and organizations to foster the EOP principle.

### **6.2 Strategy**

Strategic communications will be a critical component of developing and managing the Center of Expertise. The Center is working to localize and disseminate central Corps messages about the water management, innovative technology, and their purpose, to include information about special local circumstances and successes. The messages must remain consistent with Southwestern Division and USACE messages.

Communication is a two-way process. Therefore the Center of Expertise must listen to Corps members and critics and collect/communicate lessons learned regarding the application of the water supply and reallocation to Corps projects and activities.

The SWD Public Affairs Office and processes must be leveraged to inform employees, leaders and stakeholders on initiatives and actions associated with water management. The message should also reflect a growing body of scientific information about our relationship with and our responsibilities for the natural environment and the holistic understanding that all water resources are related.

The communication strategy for SWD Center is based on a two-phase approach. Phase One is designed to promote understanding and two-way communication and achieve buy-in, resulting in understanding of the resources available and a willingness to use

them. In Phase Two, this same approach will be geared toward the same ends among the clients we serve.

Our first priority focuses on promoting understanding within the Corps family as to what we are doing, why we are doing it and how the process will work. We want a two-way dialogue that focuses on how we can integrate the principles into our programs and projects early in the planning process, which will in turn result in the desired cultural, behavioral, and institutional change. This must include communicating the Center's resources and capabilities.

## 6.3 Opportunities

- **Command Information** — Integrate messages into information routinely disseminated through multiple forums to internal audiences that will help foster learning by USACE members through dialogues about the Center of Expertise. This should include Conference, Planning Ahead Articles, Command Management Review, and other data calls.
- **Public Information and Community Relations** — Integrate messages into information routinely disseminated through multiple forums to external audiences to educate and inform the publics we serve, especially about successes, and to help build awareness of the Center of Expertise with District and Division partners and stakeholders.
- **Congressional Liaison** — Integrate messages into information routinely disseminated to Congressional delegations and other elected officials during formal and informal contacts to foster understanding and awareness.
- **Strategic Partnerships** — Identify strategic partners at all levels of the Corps, in other Federal agencies, state agencies, sponsors, and other stakeholders; develop and maintain a PCX mailing list for newsletters/bulletins; identify meetings and conferences to attend.
- **PCX Web Site** — Develop and maintain the PCX web site, which has been created at <http://www.swd.usace.army.mil/WMRSCX.htm>, as a versatile coordination and communications tool for visitors from inside and outside the Corps.

More detailed information may be found in Appendix D.

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Appendix A – DCW memorandum, 25 August 2003



DEPARTMENT OF THE ARMY  
U.S. Army Corps of Engineers  
WASHINGTON, D.C. 20314-1000

AUG 25 2003

REPLY TO  
ATTENTION OF:

CECW-P (1105-10b)

MEMORANDUM FOR COMMANDERS, MAJOR SUBORDINATE COMMANDS

SUBJECT: Planning Centers of Expertise

1. Reference memorandum dated 16 April 2003, subject: Planning Centers of Expertise.
2. The referenced memorandum stated our intent to name USACE Planning Centers of Expertise and requested information to make such a determination. Your response have been reviewed and the following designation has been decided for the five key business functions:

Inland Navigation - CELRD  
Deep Draft Navigation - CESAD  
Flood Damage Reduction - CESP  
Hurricane and Storm Damage Prevention - CENAD  
Ecosystem Restoration - CEMVD

3. I have also chosen CESWD to be the USACE Planning Center of Expertise for Water Supply and Reallocation and I am acknowledging CENWD as the National Hydropower Planning Center of Expertise.
4. In addition, the U.S. Army Corps of Engineers National Nonstructural /Flood Proofing Committee (NFPC) is an excellent support element for Nonstructural Flood Damage Reduction. The NFPC has the capability to provide assistance to truly innovative planning, including nonstructural flood damage reduction, flood plain management, ecosystem restoration, and combined NED/NER planning. The NFPC can provide support for at least three of the five key business functions: flood damage reduction, hurricane and storm damage prevention, and ecosystem restoration.
5. Enclosed for your information and use is a roles statement for USACE Planning Centers of Expertise.

FOR THE COMMANDER:

A handwritten signature in black ink, appearing to read "Robert H. Griffin".

Encl

ROBERT H. GRIFFIN  
Major General, USA  
Acting Director of Civil Works

DISTRIBUTIONS:  
(See Page 2)

## Appendix B – SWD Existing Areas of Expertise

**Watershed Studies** - The Southwestern Division has extensive experience in the development of reconnaissance and feasibility studies addressing issues from a watershed management perspective that integrate flood damage reduction, ecosystem restoration, and other water resource solutions. There are currently 19 active basin-wide feasibility studies within the Division. Of these, four are joint efforts between two Districts. Particularly noteworthy studies include:

- The **Lower Colorado River Basinwide Study** encompasses 36 of Texas' 254 counties (18,000 square miles.) This multipurpose partnership with the Lower Colorado River Authority has generated a GIS-based H&H model for the entire basin, identified 10 major flood damage centers, fostered a regional floodplain management coalition of some 15 county governments and 37 municipal governments, and launched three (to date) interim feasibility reports.
- The **Southwest Arkansas Study** area includes part of four counties in Southwest Arkansas in the Red River/Little River basins. The area contains four Corps lakes: DeQueen, Dierks, Gillham, and Millwood. The watershed study is evaluating flooding, irrigation, restoration of fish and wildlife habitat, water quality, recreation, and water releases for navigation.
- The **Oologah Lake Watershed Feasibility Study** is aimed at evaluating alternatives for ecosystem restoration and water quality improvement in a two-state, 4,339 square-mile agricultural watershed. The study employs linked watershed and reservoir models for evaluation of ecosystem restoration alternatives and impacts on receiving waters.

**State Water Planning** - The Texas Water Allocation Assessment (TWAA) supports the State of Texas in conjunction with passage of Texas Senate Bill 1 which established 16 regional water planning groups to identify future water demands, supplies, and strategies to meet projected water shortages. SWD is also assisting the State of Oklahoma in its water planning efforts. Through the TWAA and Oklahoma water planning efforts, SWD has greatly expanded its knowledge base and level of expertise in watershed issues and water management strategies. In addition to developing and refining technical capabilities, TWAA and efforts in Oklahoma have also allowed SWD to become more knowledgeable of the needs of smaller, rural communities in their very difficult task of understanding and meeting water needs in isolated areas. Additionally, SWD partners aggressively with the Federal Affairs Committee of the Texas Water Conservation Association (TWCA). The Federal Affairs Committee was established to understand and identify potential Federal participation in water resource issues and to ensure state support and coordination in pursuing this participation.

**Watershed Modeling / Limnology** - Southwestern Division has experience with integration of both watershed and reservoir modeling techniques for implementing a holistic planning approach to ecosystem restoration alternatives analyses. This approach provides a basin-specific, science-based "tool" for both plan formulation and impact assessment. The approach integrates tenants of the Environmental Operating Principles into ecosystem restoration planning, maximizes environmental outputs in aquatic systems, and provides for close coordination among all agencies with resource management responsibilities in a basin. Within SWD, extensive limnological expertise exists for problem identification and development of solutions for aquatic ecosystem restoration and other water quality issues.

**Reallocation Studies** - SWD is a Corps leader in water management initiatives. Within the past 5 years, SWD districts have completed 4 reallocation studies, with 11 underway and 2 additional scheduled. SWD has pioneered studies of reallocation for environmental enhancement. There are also three active systems analysis studies designed to evaluate the potential of increased yield from a basin by operation of reservoirs in a systems context. A recently completed study by SWD identified an additional 100,000 acre-feet of annual yield that could be obtained from the Sulphur Basin through systems operation of two reservoirs.

**Water Supply** - SWD manages 200 out of the 253 water supply contracts held Corps-wide. SWD water storage accounts for 20-35% of the municipal water supply for the States of Texas, Oklahoma, Arkansas, and Kansas. Each District has expertise in water supply planning with emphasis on water supply aspects of watershed management. SWD has a nationally recognized expert in water supply contracting and reallocation studies; her experience includes a detail to HQUSACE to assist in review of water supply contracts and reallocation studies. SWD likewise has extensive experience in dependability yield mitigation storage (DYMS) analysis and has been sought out for advice on DYMS by many other Districts.

**Technology Transfer** - SWD maintains an ongoing partnership with a regional university research consortium to pioneer integration of software for water planning/water management applications. Particularly noteworthy is the collaboration with the Center for Research in Water Resources (University of Texas) in the development and fielding of ArchHydro (ESRI product) and its integration with NEXRAD, Riverware, and HEC-HMS/HEC-RAS.

**Spatial Data Applications** – SWD districts have pioneering use of one-stop data collection techniques for large-scale structure files. These techniques place heavy reliance on integration of GIS/GPS technology with HEC products for H&H and economic analysis. In particular, SWF is uniquely organized to optimize spatial

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data integration and interface with planning applications. The District's CADD, GIS, and survey functions are fully integrated in one unit under Planning supervision. This spatial data unit maintains an aggressive program of innovative partnership with other planning support elements such as Real Estate and H&H. SWF also maintains organic programming capability and is nationally recognized for leadership in spatial data applications.

**Regional Planning Board** - The SWD Regional Planning Board, a board made up of the Division Planning Directorate and District Planning, Environmental, and Regulatory Division Chiefs, meets quarterly to evaluate planning issues and evaluate opportunities for virtual teaming and regional resource leveling.

- The Southwestern Division has aggressively implemented an interdisciplinary GS-13 technical specialist program that can provide support to watershed management planning. A charter member of the faculty for the Formulation Module of the Core Planning Curriculum resides in SWD.
- Incorporating resources from multiple MSCs would allow the center to build upon the specialized planning capability from throughout the Corps. Maintenance of technical specialists in the supporting Divisions and districts greatly enhances the ability to develop and maintain the basic planning capability that is required in these locations. Support Divisions will be identified that have significant specialized expertise in the mission area, an established technical specialist program, and sufficient workload to support this specialized expertise.

## Appendix C – PCX Specialized Expertise Resources

### SOUTHWESTERN DIVISION

**PCX Executive Director:** Jo Ann Duman, Chief, Planning and Policy CoP, SWD

**PCX Technical Director:** Peter Shaw, Senior Economist, SWD

**PCX Associate Director:** Kevin Craig, Senior Plan Formulation Technical Specialist, SWD

### FORT WORTH DISTRICT

**Name:** William Fickel, Jr.

**Grade and position title:** GS-0110-15, Chief, Planning, Environmental and Regulatory Division

**Organization:** CESWF-PER

**Name:** Mark Harberg

**Grade and position title:** GS-0401-14, Chief, Environmental Resources Branch

**Organization:** CESWF-PER-E

**Name:** Rebecca Griffith

**Grade and position title:** GS-0110-14, Chief, Planning Branch

**Organization:** CESWF-PER-P

**Name:** Eli Kangas

**Grade and Position Title:** GS-0110-13; Chief, Plan Formulation Section/Project Manager

**Organization:** CESWF-PER-PF

**Name:** Elston Eckhardt, P.E.

**Grade and position title:** GS-0010-13, Water Resources Plan Formulation Technical Specialist

**Organization:** CESWF-PER-PF

**SWF Spatial Data Cell** includes 10 CADD/GIS specialists and/or programmers.

### GALVESTON DISTRICT

**Name:** Rick Medina

**Grade and Position Title:** GS-14, Supervisory Physical Scientist

**Organization:** Ch, Planning and Environmental Branch

**Name:** Diana Jorgensen Laird

**Grade and Position Title:** GS-13 Supervisory Civil Engineer

**Organization:** Chief, Planning Section

**Name:** Carolyn Murphy

**Grade and Position Title:** GS-13, Supervisory Archeologist

**Organization:** Ch, Environmental Section

**Name:** Robert W. Heinly

**Grade and Position Title:** GS-13, Water Resources Plan Formulation Technical Specialist

**Organization:** Planning Section

**LITTLE ROCK DISTRICT**

**Name:** Tricia Anslow

**Grade and position title:** GS-0401-13, Chief, Environmental Section

**Organization:** CESWL-PR-P

**Expertise:** Preparing environmental impact statements for river and lake operating plans and shoreline management plans.

**Name:** Mike Biggs

**Grade and position title:** GS-0810-12, Hydraulic Engineer/Project Manager

**Organization:** CESWL-PR-P

**Expertise:** Yield studies and water supply storage reallocation studies with dependability yield mitigation storage (DYMS).

**Name:** Ron Carman

**Grade and position title:** GS-0810-13, Chief, Plan Formulation Section

**Organization:** CESWL-PR-P

**Expertise:** Directing studies of river and lake operating plans on major inland waterway systems.

**Name:** Ken Carter

**Grade and position title:** GS-0810-15, Chief, Planning, Environmental, & Regulatory

**Organization:** CESWL-PR

**Expertise:** Water supply storage reallocation studies with DYMS, and re-examination of river and lake operating plans.

**Name:** Tony Hill

**Grade and position title:** GS-0401-12, Biologist, GIS Coordinator

**Organization:** CESWL-PR-P

**Expertise:** Management of SWL Geographic Information System (GIS), water quality monitoring, and water resources.

**Name:** Jonathan Long

**Grade and position title:** GS-0810-11, Civil Engineer/Study Manager

**Organization:** CESWL-PR-P

**Expertise:** Water supply storage reallocation studies with dependability yield mitigation storage (DYMS). In addition, he serves as the SWL POC for water storage contracts.

**Name:** Julia Smethurst

**Grade and position title:** GS-0110-12, Economist, Project Manager

**Organization:** CESWL-PR-P

**Expertise:** Reservoir storage reallocation studies for water supply, recreation, and resource restoration.

**Name:** Renee Wright

**Grade and position title:** GS-0810-12, Study Manager/Project Manager

**Organization:** CESWL-PR-P

**Expertise:** Water supply storage reallocation studies and re-examination of river and lake operating plans on major inland waterway systems.

**Name:** Mike Black

**Grade and position title:** GS-810-12 Hydraulic Engineer

**Organization:** CESWL-OP-R

**Expertise:** Reservoir storage reallocation studies with dependability yield mitigation storage (DYMS).

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**Name:** George Losak  
**Grade and position title:** GS-810-12  
**Organization:** CESWL-EC-DC  
**Expertise:** Reservoir storage reallocation studies with dependability yield mitigation storage (DYMS).

**Name:** Steve Brewer  
**Grade and position title:** GS-810-12  
**Organization:** CESWL-OP-R  
**Expertise:** Yield analysis.

## TULSA DISTRICT

**Name:** Susan J. Haslett  
**Grade and Position Title:** GS-0810-14, Chief Planning Branch  
**Organization:** CESWT-PE-P

**Name:** Edwin J. Rossman  
**Grade and Position Title:** GS-0101-13, Chief Evaluation Section  
**Organization:** CESWT-PE-P  
**Expertise:** Water demand studies, social impacts analyses, technical lead on multiple planning studies.

**Name:** Marc L. Masnor  
**Grade and Position Title:** GS-0810-13, Water Resources Plan Formulation Technical Specialist  
**Organization:** CESWT-PE-P  
**Expertise:** Lead planner on recent watershed reconnaissance and ecosystem restoration feasibility studies.

**Name:** James R. Sullivan  
**Grade and Position Title:** GS-0110-13, Economics Technical Specialist  
**Organization:** CESWT-PE-PE  
**Expertise:** Flood damage reduction, municipal and industrial water supply and demand, water conservation, hydropower and allied purposes, inland navigation transportation studies, recreation, and risk and uncertainty analyses.

**Name:** Janet L. Hotubbee  
**Grade and Position Title:** GS-0301-12, Water Supply Technician  
**Organization:** CESWT-PE-PE  
**Expertise:** Project manager and technical team leader of the largest water supply program within the Corps of Engineers. Designated as a national technical expert in water supply by HQUSACE.

**Name:** Gene Lilly  
**Grade and Position Title:** GS-0810-13, Team Leader, Formulation Section  
**Organization:** CESWT-PE-P  
**Expertise:** GI, PAS, and CAP studies encompassing all phases of watershed and flood control studies.

**Name:** David Gade  
**Grade and Position Title:** GS-0401-11, Limnologist  
**Organization:** CESWT-PE-E  
**Expertise:** Development of GIS data, watershed modeling identifying significant source areas of non-point source pollutants in PAS and GI watershed studies, and lake water quality work.

**Name:** Stephen L. Nolen  
**Grade and Position Title:** GS-0401-12, Biologist

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**Organization:** CESWT-PE-E

**Expertise:** Reservoir water quality, water quality modeling, environmental permitting, watershed ecosystem restoration planning, environmental contaminants and HTRW investigations, statistical analysis, NEPA compliance.

## Appendix D – Current and Ongoing PCX Tasks

### 1 Business Processes

- 1.1 Finalize and maintain PgMP
- 1.2 Specify missions, roles, responsibilities
- 1.3 Develop and maintain structure/org chart
- 1.4 Develop and maintain process flow diagram, written guidance
- 1.5 Develop and maintain review guides
  - 1.5.1 Water supply planning studies
  - 1.5.2 Reservoir reallocation studies
  - 1.5.3 Water storage agreements
- 1.6 Develop and maintain PCX annual report

### 2 Membership

- 2.1 Maintain PCX staff roster
- 2.2 Develop selection/certification criteria for practitioners and reviewers
- 2.3 Maintain roster of practitioners, by MSC/Dist/CoP
- 2.4 Maintain roster of reviewers, by MSC/Dist/CoP

### 3 Funding

- 3.1 Identify sources & amounts of funding
- 3.2 Prepare and execute annual operating budget

### 4 Technical Support

- 4.1 Provide consulting services for new/ongoing studies — “SWAT team”
- 4.2 Coordinate/manage performance of highly costly/complex/controversial studies
- 4.3 Coordinate/manage performance of multiregional/national studies
- 4.4 Participate in updating of guidance and manuals
- 4.5 Provide technical advice to Headquarters, labs, others on regional/national issues
- 4.6 Participate in ad hoc PDTs (e.g., PMIP)

### 5 Review Support

- 5.1 Participate in District PDT activities such as IRCs
- 5.2 Coordinate/manage ITR for all non-delegated studies, and delegated studies as needed
- 5.3 Coordinate/manage EPR as needed
- 5.4 Assist Headquarters staff in policy compliance review as needed

### 6 Guidance

- 6.1 Maintain library of pertinent Corps guidance

### 7 Staffing & Development

- 7.1 Identify critical needs for expertise
- 7.2 Coordinate/implement developmental measures (recruitment, training, mentoring, shadowing, developmental assignments)
- 7.3 Promote/recognize/reward successes

### 8 Training

- 8.1 Act as proponent for mission-related training
- 8.2 Maintain a catalog of mission-related training
- 8.3 Participate in all mission-related training

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- 8.4 Develop and present comprehensive training course, with manual
- 8.5 Present PA course

## 9 PMIP

- 9.1 Identify and certify planning models

## 10 R&D

- 10.1 Participate in establishing national R&D needs and priorities
- 10.2 Maintain inventory of related Corps research
- 10.3 Champion funding and execution of R&D to support mission
- 10.4 Participate as appropriate in mission-related R&D programs

## 11 Appropriations

- 11.1 Participate in budget development/defense/execution process
- 11.2 Participate in development of budget program metrics

## 12 Communications

- 12.1 Perform surveys of needed information
  - 12.1.1 Water supply studies, ongoing and anticipated
  - 12.1.2 Reservoir reallocation studies, ongoing and anticipated
  - 12.1.3 Water storage contracts, existing and anticipated
  - 12.1.4 Issues of interest and concern about each of the above
  - 12.1.5 Stakeholders — other Federal and non-Federal agencies, interest groups, sponsors, etc
  - 12.1.6 Technical staff regarded as highly knowledgeable about each of the above — "go to" people for potential technical reviewers
- 12.2 Host annual workshop/seminar
- 12.3 Organize session(s) for Planning CoP/E&E conference
- 12.4 Identify strategic partners, e.g.:

Corps				Other Fed.	State	Sponsors	Interest Groups
HQ	MSC	Dist	Labs, etc.				
Planning CoP	Planning CoP	Planning CoP	ERDC	EPA	Resource agencies	WS studies	Environmental
Ops CoP	Ops CoP	Ops CoP	HEC	DOI	Water Mgmt agencies	WS contracts	Recreation
PM	PM	PPMD	Hydro Design Ctr	FERC	River Basin authorities	Watershed mgmt studies	Water supply/conservation
WS BLM	WS BLM	WS BLM	PCXs	NRCS			
Econ CoP	Econ CoP	Econ CoP		FWS			
Engrg CoP	Engrg CoP	Engrg CoP					

- 12.5 Develop mailing list
- 12.6 Develop newsletter/bulletin
- 12.7 Identify meetings, conferences to attend

## 13 Web Site

- 13.1 Revise/update content
  - 13.1.1 Contact/process/business information

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- 13.1.2 Links to guidance, laws, regulations, policies
- 13.1.3 Links to project information
- 13.1.4 Link to newsletter/bulletin
- 13.1.5 Link to national PCX web site
- 13.1.6 Wiki
- 13.1.7 Roster of Corps and other experts
- 13.1.8 Example reports, project management plans (PMPs), recent review issues
- 13.1.9 Checklists (agreements and reports, for preparation and review)
- 13.1.10 Training materials
- 13.1.11 Knowledge base
- 13.2 Recode
- 13.3 Submit to IM for posting

## **14 Studies & Reports**

- 14.1 Maintain database of ongoing/prospective studies (water supply, water reallocation, watershed management)
- 14.2 Maintain library of Corps reports
- 14.3 Maintain database of Corps projects with water mgmt/reallocation elements
- 14.4 Maintain database of lessons learned