Appendix G.

STATEMENT OF H. DALE HALL

ASSISTANT REGIONAL DIRECTOR
U.S. FISH AND WILDLIFE SERVICE

Portland, Oregon
10 March 1993

Statement of H. Dale Hall
Assistant Regional Director for Ecological Services

U.S. Fish and Wildlife Service

Portland, Oregon
March 10, 1993

The new Chief of Engineers has expressed a desire to look more holistically at the Corps' role in the conservation of endangered and other dwindling wildlife species. This is commendable and represents a positive step toward meeting the Corps' affirmative conservation responsibilities under section 7(a)(1) of the Endangered Species Act (ESA), which encourages Federal agencies to carry out programs for the conservation of endangered and threatened species. The development of partnerships is a logical and fiscally prudent means of fulfilling the proactive conservation of these imperiled resources.

Other Federal agencies have determined that there are positive benefits to assisting in the national goal of improving our environment, including, in this case, the maintenance and recovery of endangered species. One of the leaders in these efforts is the Forest Service, which is now implementing major management programs for red-cockaded woodpeckers in the Southeast; cooperating in multi-agency, State and Federal planning and management efforts for grizzly bears in the Rockies; and revising their timber management programs in the Sierras to maintain the California spotted owl so that it will not become endangered. Recognition of this commitment is reflected in their $40 million appropriation for endangered and rare species.

The Water Resources Development Act of 1986 (and successor Acts in 1988, 1990, and 1992) has broadened the Corps' mandates and authorities to include environmentally-focused (i.e., ecosystem) protection and enhancement at prior existing and new water development projects. WRDA offers several authorities for the Corps to become more proactive in endangered species protection and management.

Sections 906(b) and 906(e) of WRDA authorize the Corps to mitigate damages to fish and wildlife resources at water resource projects whether "completed, under construction, or to be constructed." There are numerous completed Corps projects where a proactive endangered species program could be implemented. Section 1135 authorized "environmental engineering" at existing Corps projects to improve the quality of the environment and also offers great potential to enhance endangered species through a cost sharing program with

non-Federal sponsors. The Service recommends that the Corps take immediate steps to implement program for sections 906(b) and 1135 with respect to nationally significant fish and wildlife resources, especially endangered species. In fact, I would like to see the Chief of Engineers have every District Engineer submit at least one project under section 1135 authority in the next year.

Among the good things the Corps is doing, is the restoration of the Kissimee River, Florida, which was channelized for flood control in the 1970's. The plan, approved by the Board of Engineers for Rivers and Harbors in 1992, will restore virtually the entire 100-mile-long Kissimee floodplain ecosystem. Three endangered species will benefit as a result:

- bald eagle habitat will increase by 60 percent, doubling the number of nests;

- wood stork habitat will increase fivefold; and

- snail kite feeding habitat will increase by 29,000 acres.

Additionally, wetlands, waterfowl and wading birds will benefit and recreational fishing will increase.

As with the Forest Service's role in maintaining viable forest ecosystems, the Corps can be a major positive coordinating force in conserving aquatic ecosystems that have suffered from past management practices. These opportunities fall into four major categories of potential endangered species partnerships: (1) the use of section 7 of the ESA as a tool to enhance the survival and recovery of listed species, (2) management of the Corps' land base, (3) management of Corps controlled water resources, and (4) construction activities.

Section 7 Consultation

While the Corps and the Service have had considerable experience working with the section 7 consultation process, it still appears that some view the process as a hinderance to be avoided when possible. Consultation is, in fact, a conflict avoidance tool that seeks not to stop projects, but rather to seek environmentally sound solutions for resolving endangered species conflicts. The Service is committed to assisting the Corps in meeting its obligations under section 7. Informal consultation is the normal way agencies ensure there are no endangered species' conflicts. Even formal consultation is a fairly efficient process, completed in up to 135 days if the Service is provided all the information necessary to complete its opinion.

Effective use of this tool requires Corps cooperation in looking at the full array of effects resulting from their activities. With over 270 listed species in the Southeast, adverse impacts are likely to arise.

* Construction of the Tennessee-Tombigbee Waterway converted a stream ecosystem to a lake ecosystem resulting in the listing of five species of freshwater mussels. Increased siltation of bottom habitats and the absence of flows has smothered benthic invertebrates and eliminated mussel food sources.

* Similarly, Corps permits to enable construction of chipping mills in Alabama and other States would facilitate increased timber harvesting, thereby having indirect effects on 20+ listed species at each site, including some aquatics. The Corps has refused to enter into section 7 consultation with the Service on these indirect effects, even when the applicant has agreed to develop a cooperative agreement with the Service to avoid jeopardy.

  Large numbers of endangered freshwater mussels and other aquatic life in the Cumberland, Tennessee, Tombigbee and other southern river systems are in great need of a sponsor who will help coordinate the maintenance and recovery of their highly threatened ecosystems; an obvious Corps lead.

* The complex coordination required to conserve the Florida manatee could be greatly enhanced by the Corps stepping forward in a more active consultation and management role.

Confusion about section 7 also has been encountered with the Corps Galveston District and in several California Districts on the scope of analysis and Federal control and responsibility in construction of gas pipelines. In these cases, the Districts have limited their analysis to the impacts of section 404 permits for individual and discrete water crossings, while refusing to consider the impacts of such linear projects on listed species and habitats <u>between</u> the sites of permitted work.

In keeping with the increased emphasis on biological conservation at the ecosystem level, the scope of the Corps' analysis in such cases should be as broad as is statutorily possible, and a more proactive approach taken to avoid or minimize ecosystem impacts. The conservation of listed species and species having the potential to become listed as threatened or endangered should become a routine part of Corps planning and permitting. Conserving candidate species is likely to prevent or forestall more restrictive and costly measures that would be borne by the permit applicant, the Corps, or other government regulatory, construction, or land management agencies when a species is listed.

Land Management

Within just the South Atlantic Division, the Corps has fee title to approximately 1.27 million acres associated with project units. This land base presents the Corps with both management challenges and unique opportunities to form partnerships to enhance endangered species protection. The key to realizing this potential is to have a thorough inventory of both current endangered species locations and potential, but presently unoccupied, habitat.

In areas where listed and candidate species are identified, the challenge is identifying and implementing an appropriate site management strategy for species and their supporting ecosystems. There are several examples of partnerships developed to protect rare species on Corps lands in the Southeast.

* Lake Seminole straddles the border of Alabama, Florida and Georgia, and contains some of the finest hardwood slope forests in the area, with perhaps the best population of the endangered Florida yew (Torreye taxifolia) in the world. The Corps has worked with the Service cooperatively to manage this very important population of a critically endangered plant.

* In Kentucky, the Corps is working with the State, through the Kentucky State Nature Preserves Commission, to protect a small parcel of land in the Lake Cumberland project that harbors the State's only population of grass-of-parnassus (Parnassus erandifolia). This plant, while not federally listed, is rare in Kentucky.

* Corps' partnership is exemplified also in the development of the Big South Fork National River Recreation Area in Kentucky and Tennessee, where the Corps is reaching out to both Federal and State agencies in protection of this beautiful and biologically rich area.

I believe the Corps has just scratched the surface in building partnerships to protect endangered and rare species on Corps owned or managed lands.

Water Management

Another suite of opportunities for developing conservation partnerships is found in the Corps' management of water discharges. Many listed and candidate species are aquatic, or rely on aquatic resources for all or a portion of their life cycle. Throughout the country, biologically rich fish and invertebrate faunas have evolved that have been dramatically affected by water development and flood control projects. Some of these effects can be ameliorated by the management of project discharges.

* Real potential exists in ensuring the viability, or perhaps restoring, populations of endangered fishes and mussels by altering the timing, temperature, and/or duration of releases. In some situations, the Corps may be able to mix release water through multi-layer discharge to more closely approximate ambient temperature, enhancing the invasion of unimpounded stream segments by native endangered fauna. In other cases, release of cold water to enhance trout fisheries should be reconsidered if these releases would impact endangered native species.

* There are recurring problems with Corps' issuance of Nationwide 26 general permits for fill in vernal pools and other seasonal wetlands in California. Wetlands of this type in the Cotati (Santa Rosa) and Sacramento Valleys support numerous candidate plant and animal species, yet the Corps repeatedly authorizes fill leading to a direct and measurable reduction of these species' populations, thereby ensuring their addition to the Federal lists. Cumulative impacts to wetlands are given little consideration, and cumulative declines in species' populations are simply ignored until the species are proposed for listing. These very fragile and rapidly diminishing vernal pool and other wetland ecosystems in California require support and coordination of their needs, which the Corps could provide.

Construction Projects

Corps-sponsored construction projects offer other opportunities for developing partnerships. Habitat enhancement measures can be incorporated into project designs to benefit endangered species and their ecosystems.

* The Upper St John's Project in Florida provides an example where the Corps was able to manage water levels to enhance the habitat of a snail that is the primary food supply for the endangered Everglade snail kite. This effort was not accomplished at the expense of other objectives, but in conjunction with total project goals.

* The Pick-Sloan Missouri River Basin Program (Corps of Engineers / Bureau of Reclamation) resulted in construction of six dams on the main stem altering fish and wildlife habitats on two-thirds of the entire Missouri, River. Three species have been listed (piping plover (T), interior least tern (E), and pallid sturgeon (E)) as a result of habitat alterations resulting from changing flowing riverine environments into placid lake ecosystems. Today, water flows and spoil islands are providing nesting habitat for the piping plover and least tern.

* The control of water delivery throughout the Great Plains is key to maintaining the communities of life that inhabit the river systems and wetlands in this area. An example of how the Corps can facilitate ecosystem planning is the new feasibility study for navigation expansion on the Upper Mississippi River (UMR). The North Central Division of the Corps seeks a system authorization for navigation improvements over the next 50 years (possibly 6 replacement locks and dams totalling over $3 billion).

  The Corps has proposed environmental studies to address the incremental effects of traffic increases that are predicted with larger locks and dams. The Service (Region 3), the five UMR States (Illinois, Iowa, Minnesota, Wisconsin, Missouri) and EPA (Regions 5 and 7) seek development of a 50-year ecosystem management plan by the Corps, concurrent with development of a 50-year navigation plan. Since Congress declared the UMR a "nationally significant transportation system and a nationally significant ecosystem" in the WRDA, and since the Corps has a large Federal presence on the UMR, it would seem logical for the Corps to do this plan. At the same time, 11 federally listed species and some 90 State listed species occur in the UMR corridor. It would seem prudent for the Corps, with the States and the Service as partners, to use an ecosystem planning approach for the UMR, possibly precluding the need for further listings.

* Another proactive approach is exemplified by the St. Louis District's Integrated River Management Program, which seeks to integrate the District's various functions to manage the Upper Mississippi River for navigation and the river's fish and wildlife resources. The District is developing a partnership with the Service and the States of Illinois and Missouri. The St. Louis District seeks to enhance fish and wildlife and endangered species such as the interior least tern, and should be applauded for its efforts.

In conclusion, I believe there are a wealth of opportunities for Federal and State partnerships that could benefit imperiled wildlife and their supporting ecosystem. As a representative of the Service, I can say that we have both the expertise and the desire to forge effective partnerships with the Corps in an effort to protect those fragile resources.

Appendix H.

POTENTIAL FOR PARTNERSHIPS WHEN DEALING WITH THE ENDANGERED SPECIES ACT

Work Group Summary
Mr. Jim Boone, Jacksonville District

Portland, Oregon
11 March 1993

POTENTIAL FOR PARTNERSHIPS WHEN DEALING WITH THE ENDANGERED SPECIES ACT

Work Group Summary
Mr. Jim Boone, Jacksonville District

PARTNERING IS A TEAM BUILDING PROCESS THAT CREATES MUTUAL TRUST, RESPECT, AND WIN-WIN ATTITUDES AMONG ALL TEAM PLAYERS. PARTNERING IS NOT A NEW CONCEPT TO THE CORPS. IT IS THE WAY WE USED TO DO BUSINESS WHEN OUR WORD WAS OUR BOND, WHEN BUSINESS WAS CONCLUDED BY A HANDSHAKE AND BEFORE WE COULD AFFORD LARGE LEGAL STAFFS OF TODAY. THE KEY ELEMENTS INCLUDE:

* Top management commitment to partnering.

* Equity of all stakeholders' interests.

* Development of relationships based or trust.

* Development of mutual goals and objectives.

* Development of implementation strategies.

* Continuous process evaluation.

* Timely communication and decision-making.

BENEFITS OF PARTNERING

* Cost (resource) effective.
* Lowers administration costs.
* Reduces conflict (saves time and $).
* Can circumvent political and judicial decision-making.
* Reduces exposure to litigation.
* Creates synergy for creative problem-solving.
* Improves quality of products and services.
* Strength of consensus facilitates project/idea implementation.
* Increases probability of success.
* Builds understanding.
* Partners have broad authorities.

PROBLEMS WITH PARTNERING

* Personalities and egos.
* "Feels" uncomfortable/unnatural to our culture.
* Historical animosities are hard to deal with.
* Obtaining and maintaining organizational commitment.
* Perceived conflict of interests with project purpose.
* Limited authorities (perceived problem).
* Funding limitations.

FORMAL PROCESS OF PARTNERING

* Educate the organization.
* Commitment from top management.
* Publicize partnering intentions.
* Formal Partnering workshops should:
* Be facilitated by professionals.
* Create the partnering charter.
* Develop issue resolution process.
* Develop joint evaluation process.
* Discuss individual roles.
* Provide signing of charter.
* Provide periodic evaluation.
* Allow routine escalation of pertinent issues.
* Final evaluation and celebration of successes.

STAKEHOLDERS

INTERNAL

Corps civilian hierarchy. (Resident, Area, District, Division, OCE)

Military chain of command (DE, DIV ENGR, COE).

Public Affairs Office.

Other functional offices (fight for $).

Other Corps offices (District, Divisions, Labs).

EXTERNAL

Federal agencies.

State agencies.

Local agencies.

Tribes.

Environmental organizations and other NGOs.

Academia.

"John Q. Public" (landowners, taxpayers).

Future generations.

Lawyers.

ISSUES

1. SPECIES

* Need agreement on species status before we can partner effectively.

* Stakeholders must agree on species list(s) if they are to support collaborative efforts.

* Need ranking of species for protection.

2. ECOSYSTEM/HOLISTIC

* Need more holistic approach to regional, watershed, and ecosystem/landbased planning.

* Holistic Ecosystem evaluation require collaborative input of all stakeholders.

* Holistic approach requires partnering (may go beyond Corps authorities, in some cases, however, other partners may have requisite authorities).

* Recognize holistic approach has ecological and institutional components that need to be addressed.

3. INSTITUTIONAL ISSUES

* Parochial views still dominate, including (in some cases) lack of organizational commitment to partnering.

* Disjointed regional guidance.

* Project vd. program partnering perceptions. (predisposed to projects...)

* Agency mission perception results in organizational limitations.

* Focus of society is shifting in favor of endangered species.

* Need to proactively address land-use/population controls.

* Cumbersome compliance process for individual actions vd. region-wide.

* Inconsistencies exist within resource agencies (listing office vd. field office).

4. POLICY

* Agency mission perception of organizational limitations often overly restricts entry into partnering opportunities.

* ESA reauthorization provides unique opportunity for partnering endangered species policy-making.

* Stakeholders need to define goal of endangered species partnerships (legal compliance vd. habitat) (pristine habitat vd. survival of a species).

* Corps needs to be more proactive in addressing needs of species and habitat prior to process.

* Clarify our endangered species mission. Define endangered species responsibilities of Corps vd. those of our project/O&M sponsor.

* Need to streamline reporting process.

* Focus on our project lands (may need endangered species policy over that of consumptive use such as hunting, fishing, and timber harvesting.

* Need clarification on using our expertise in other areas outside the Corps.

* Need to address perceived ESA conflict with that of authorized project purpose(s).

* There is a strong perception that endangered species protection is an economic disadvantage.

* There is a perception that the ESA is used to unreasonably control developmental actions.

5. RESOURCES/FUNDING

* Need to secure increased funding/resource base for endangered species program.

* Non-Federal stakeholders often have limited resources/funding ability.

6. EDUCATION/TRAINING

* Need to promote public education to facilitate public participation and to control unwanted emotionalism. Need public education as to species' needs and the purposes of species.

* Need collaborative R*D to efficiently prepare Federal scientific community for increasing demands of endangered species community management.

* Need inter-disciplinary training to improve knowledge base and effectiveness of current workforce in administering endangered species programs. (IPAs and Developmental Assignments)

* Partnering requires non-traditional skills for our organization. (Trained facilitators)

* Educate resource agencies (and other stakeholders) on services each can provide.

7. OTHER/TACTICAL LEVEL

* Need formal MOAs with stakeholders.

* Need high level champions.

* Need forum for information exchange technology transfer among stakeholders. Sharing of status surveys, inventories, databases will increase efficiency of Federal operations.

* Integrate resources to maximize effectiveness.

* Try limited action to insure success (prototype, experiment, pilot, etc. vd. complete river system project). Baby steps into success.

* Mutually develop technological processes and resolve impasses (Example: Regulations concerning SCUBA diving (for mussels) or beachplowing requirements on beach-nourishment projects.

* Endangered species recommendations included in reports or recovery, compliance and other plans are often not based on scientific fact.

* Need administrative appeal mechanism to prevent regional polarization of endangered species issues.

PARTNERING FINDINGS/CONCLUSION

1. CORPS MUST BE PROACTIVE IN WORKING WITH OTHERS IN DEFINING ENDANGERED SPECIES ROLES/RESPONSIBILITIES AND INITIATING ACTIVITIES TO ADDRESS THE NEEDS OF THE SPECIES AND HABITATS (ESPECIALLY ON CORPS PROJECT LANDS).

2. SUCCESSFUL PARTNERING REQUIRES

   * Establishing mutually defined goals.

   * Overcoming parochial views.

   * Finding higher level champions.

   * Developing regional/national consistency of guidance.

   * Organizational commitment to make process work.

   * Developing compliance process.

   * Streamlining reporting process.

   * Timely action.

3. SECURING AND POOLING OF FEDERAL AND NON-FEDERAL RESOURCES WILL LEAD TO MORE EFFECTIVE EXECUTION OF ENDANGERED SPECIES PROGRAMS.

4. NEED ACCEPTANCE BY ALL PARTNERS ON SPECIES STATUS, RANKING, AND LISTING FOR MOST EFFECTIVE IMPLEMENTATION OF ESA.

5. PARTNERING OF ENDANGERED SPECIES EDUCATION OPPORTUNITIES CAN BE A VEHICLE FOR TECHNOLOGY DEVELOPMENT AND TRANSFER AND A FORUM FOR PUBLIC EDUCATION.

6. PARTNERING PROVIDES A VEHICLE FOR SHARING DATABASES, TECHNICAL INFORMATION, ETC. AMONG ALL INTERESTED STAKEHOLDERS AND A FRAMEWORK FOR CREATIVE PROBLEM SOLVING OF ENDANGERED SPECIES ISSUES.

7. PARTNERING IS ESSENTIAL FOR EFFECTIVE HOLISTIC ENDANGERED SPECIES PLANNING. THIS IS THE OVERARCHING CONCLUSION OF THIS WORKGROUP.

PARTNERING RECOMMENDATIONS

1. RECOMMEND HQUSACE DIRECT (AND FUND) FIELD ELEMENTS TO PARTNER THE DEVELOPMENT AND IMPLEMENTATION OF AN ENDANGERED SPECIES MANAGEMENT PLAN FOR ALL PROJECT LANDS.

2. RECOMMEND HQUSACE DEVELOP AN ENDANGERED SPECIES PARTNERING ACTION PLAN USING REPRESENTATIVES OF THE CORPS FIELD ELEMENTS AND RESOURCE AGENCIES. THIS COULD BE DONE AS PART OF A BROADER ENDANGERED SPECIES PARTNERING MOA TO BE DEVELOPED WITHIN THE NEXT 6 MONTHS. PARTNER A VISION WITH FWS/NMFS AND OTHER AGENCIES.

3. RECOMMEND HQUSACE IDENTIFY OPPORTUNITIES AND LAUNCH INITIATIVES TO SECURE AND POOL FEDERAL AND NON-FEDERAL RESOURCES FOR MORE EFFECTIVE ENDANGERED SPECIES PROGRAM IMPLEMENTATION.

4. RECOMMEND CORPS BE PROACTIVE WITH LISTING AGENCY(S) EARLY IN THE PROCESS TO SECURE PARTNER ACCEPTANCE AS TO SPECIES STATUS, LISTING, AND RANKING.

5. RECOMMEND HQUSACE DIRECT FIELD ELEMENTS TO ENTER PARTNERING ARRANGEMENTS WITH FEDERAL, STATE, AND LOCAL AGENCIES TO DEVELOP AND SHARE DATA ON LISTED SPECIES, AS WELL AS SPECIES IDENTIFIED AS RARE AND UNIQUE LOCALLY. CORPS SHOULD PLACE A PRIORITY ON FUNDING OF MUTUALLY ACCEPTABLE DATA BASES (INCLUDING GIS) WHICH WILL ASSIST IN SPECIES, HABITAT, AND BIODIVERSITY MANAGEMENT.

6. RECOMMEND HQUSACE PARTNER AN ENDANGERED SPECIES EDUCATION OUT REACH PROGRAM TO PROMOTE TECHNOLOGY DEVELOPMENT, TECHNOLOGY TRANSFER, AND PUBLIC ENDANGERED SPECIES EDUCATION.

MODERATOR'S COMMENTS
JIM BOONE

Now I would like to mention a few points beyond those developed in our workgroup:

* COMMON/RECURRENT THEMES THROUGHOUT ALL WORKGROUPS:

    * Need fully integrated approach within the Corps to improve species analysis (RP, CO, PD).

    * Need to embrace proactive environmental ethic that goes beyond compliance (preemptive and outreaching).

    * Conduct holistic habitat/entire ecosystem evaluations.

* OPPORTUNITIES

    * Unprecedented challenges to environmental mission (massive struggle for resources - Jack Donaldson).

    * WRDA provides historic authorities and opportunities.

    * Clinton administration is proposing new environmental initiatives.

    * Developmental pressures (600k-CA, 350k-FL).

    * Threatened and Endangered Species lists are at record highs and rising.

    * Consultation workload is at all time high. Last year Jacksonville District conducted 44-0 endangered species consultations with US FWS.

    * Federal deficit concerns mean continued declining Federal resources.

* CONCLUSIONS

    * We must peruse new opportunities to work smarter with potential partners.

* CONCLUSIONS (continued)

* We can no longer embrace adversarial litigious mentalities that waste scarce resources - which we only recently have adopted (since WWII).

* We must return to our old ways of doing business through partnering.

* We must align our efforts with stakeholder in logical ways that more effectively accomplish our mission and those of our partners.

* The Corps must assume its proper leadership role in orchestrating environmental partnerships in all mission areas!

PARTNERING WORKSHOP PARTICIPANTS

Jim Boone . . . . . Jacksonville District

Geoff Dorsey . . . . . Portland District

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Appendix I.

STATEMENT OF JOHN R. DONALDSON, Ph.D

EXECUTIVE DIRECTOR
COLUMBIA BASIN FISH & WILDLIFE AUTHORITY

Portland, Oregon
11 March 1993

Statement of John R. Donaldson
Executive Director

Columbia Basin Fish and Wildlife Authority

Portland, Oregon
March 11, 1993

Forty-four years ago I began my work on the Columbia River as a young fisheries biologist. I had the great fortune to study the salmon passage through the ancient Native American dip-net fisheries at Celilo Falls before it was flooded by the Dalles Dam. There has been much change. More dams and fewer fish.

Natural and human resources are now involved in a massive struggle. Only the fate of the salmon is in question. The competing sides are drawn up as if in a winner take all contest. Data are being used as weapons. Experts (consultants) are being paid to generate new and imaginative ways to present the same numbers to favor their clients rigid positions. Mechanistic models are being applied to single solution problem solving. Most of the money and time is being spent on technology - developing more and better tools through science. Each new tool supports a clatter of adversarial consultants. And on goes the circus.

The number, $50 million in lost hydropower revenues due to salmon protection in the Columbia River appears in briefing material for this meeting. Although it doesn't say, I assume it is an annual figure. Bringing economics into the conflict opens up a huge swamp for expert wallowing. Foregone and future opportunities for the salmon resources can generate larger lost revenue figures than $50,000. On top of all these loss numbers are the cultural losses to the Native Americans. These inhuman losses inflicted by one race on another cannot be measured, but they are very real.

The problem for the fish in the Columbia River for some time has been a lack of management leadership. Trust and acceptance among the disparate entities is practically non existent. Without trust there is no communication through which values can be shared and goals established. Only with a common set of goals can the necessary controls be applied using the best tools (science) available. This is how the holistic model works. How do we get there? Can we? Albert Einstein said "You can not solve a problem with the same consciousness that created it." Change will be necessary.

Humans have not always behaved in a mechanistically and hierarchal way. In the evolution of humans there were millenniums of equality, sharing, and

partnering. From the late Paleolithic (10,000 BCE) through the Neolithic (8,500 to 5,500 BCE) and up through the great Minoan culture on Crete (1400 BCE) there were over 8,000 years of true partnership throughout the area we now call Europe and Asia Minor. There were no weapons or fortifications, thus no armies or wars. During this time agriculture, city planning, architecture, language, writing, trade, the wheel, pottery, weaving, art and religion all took root. It must have been a pleasant time and place to live.

In the fourth millennium BCE, warriors out of the east on horse-back began the first of several waves of conquest. It took over 3,000 years to thoroughly establish, through force, the hierarchy of male dominance. This model remains in place today. The blade replaced the chalice.

The knowledge that many ancient communities of humans began in a partnership that provided us with the positive framework for our culture should give us hope. There have also been periods when the partnership way ascended for short periods as in 12th century (CE) France and later in Elizabethan England. Each were put down with a return to the dominator model. Western civilization continued in earnest with ever improved tools to explore the earth and "conquer" nature. We are a dominator culture.

* Cooperation is based on fear and aggression instead of trust and reciprocity.

* Leaders give orders to subordinates or followers instead of inspiring to work for community agreed-on goals.

* Conquest and exploitative orientation instead of achievement orientation.

* Only selected parts of the socio-ecological system are focused on instead of holistic thinking.

* The Earth is viewed as an object to control and exploit instead of a living organism of which we are but a part.

* The assumption is that humans are separate from nature instead of working within the web of life.

These are but a few of the conditions that separate domination from partnering.

We can make a change. Not through broad and sweeping edicts from government but through steady incremental actions by citizens. Facilitators

need to be trained and made sensitive to the partnership-way. Differences of gender, race, age, beliefs, behavior, economic status, etc. must be recognized and included. Common values must be reached in the resolution of each and every problem area, i.e. value centered vision statements. Trust and acceptance are basic in this process. This all takes time and patience to accomplish but it is the only way to satisfactory resolution. The question is whether the salmon can survive long enough for humans to agree to take the necessary actions.

However, we must now begin to earnestly select critical portions of the Columbia River fish/hydro problem and apply holistic models using the partnership process. Such issues as fish passage survival and juvenile fish transportation are two good starters. The initial value to be established is whether or not society wants salmon to survive and prosper in the river. It has been said that "the northwest is where the salmon go." We had better get on with a change in how we do things or this soon will no longer be true.

Failing to reach agreed to values through partnering will leave us with only the courts, where there is seldom mutual satisfaction. These is no partnering in the courts - it is adversarial. Many a young attorney will be able to make a life work on the salmon issues.

Appendix J.

THE POTENTIAL FOR PARTNERSHIPS WHEN DEALING WITH ENDANGERED SPECIES: WHAT WORKS AND WHAT DOESN'T

J. Michael McCloskey
Chairman
Sierra Club and the Natural Resources Council of America

Portland, Oregon
11 March 1993

THE POTENTIAL FOR PARTNERSHIPS WHEN DEALING WITH ENDANGERED SPECIES: WHAT WORKS AND WHAT DOESN'T

Presentation by Michael McCloskey
Chairman
Sierra Club and the Natural Resources Council of America

Portland, Oregon
March 11, 1993

We have been asked to address the topic of "What is the potential for partnerships between the Corps of Engineers and the public, particularly on contentious issues such as endangered species?" "What works and doesn't work?"

What is the situation now as we examine this question? The Corps of Engineers has been attempting to reach a rapproachment with the environmental movement for some time now. This effort has been going for nearly two decades, and more progress is still needed. In this context, there is some good news: the Corps is still trying to re-make itself; the Chiefs are asking good questions; and the Corps is making progress on some of its environmentally missions, such as wetlands protection, and remediation (to some extent). On the other hand, it was not very successful in finding a role in wastewater disposal through land treatment in the early 1970's.

We do see remaining problems:

--we perceive some backsliding in commitment to open, participatory planning, following experimentation in the early 1970's;

--the Corps is still involved in some less than admirable old projects in places;

--we see some foot-dragging in getting into environmental restoration projects, as on the Kissimee River in Florida;

--a double standard seems to exist: the Corps acts helpless in getting authority for new environmental missions, but is active in lobbying for traditional missions; and

--there is still a problem of trust; not all see the Corps as disinterested and enlightened experts.

Now let me expand a bit on the attitudes that environmentalists have toward endangered species. Let me begin by addressing some of the physical factors. We believe that habitat is the paramount consideration--keep it healthy. We are dealing with irreversibility in the case of extinction. We are also dealing with laws of limits in biology; e.g., salmon smelts can withstand a downstream passage of no more than 15 days; compromises involving longer periods won't work.

These considerations shape our approach:

--Knowledge must be one of the underpinnings of planning; we must equip ourselves with adequate biological knowledge for this purpose.

--We must take a holistic approach: everything must be looked at together by multi-disciplinary teams; we must optimize the chances for maximizing overall biological diversity.

--We can't take chances with extinction or endangerment.

--And we must err on the side of naturalness.

And let me articulate some of the beliefs that stand behind this approach. Preserving endangered species is an ethical matter, not unlike religion. Humans have already claimed too much from nature, leaving too little natural and de-stabilizing natural systems.

We are troubled by what we see happening to freshwater aquatic systems:

--freshwater aquatic habitats are in biological trouble, largely because of dams, diversions, channelization and polluted runoff;

--they are declining faster than terrestrial systems;

--10 freshwater species went extinct in the period 1978-1988;

--in North America, 28% of amphibian species and subspecies are imperiled, and the same is true for 34% of the fish, 65% of the crayfish, and 73% of the mussels.

Few of the conflicts over endangered species pose severe economic tradeoffs. The plight of the west coast salmon and the spotted owl are conspicuous exceptions. Our programs today emphasize:

--maintaining biological diversity as an aim;

--planning on an eco-system basis;

--maintaining sufficient instream flows;

--protecting riparian zones;

--minimizing engineering interventions;

--and restoring damaged habitats (e.g., the Kissimee River).

Now I want to examine what has not worked with respect to public participation. Clearly these things do not work:

(l) Ignoring public opinion, especially environmental opinion. The Corps used to take input only from its traditional clientele--this was the pattern prior to the 1960's.

(2) Going through the motions in some sort of formalistic consultation isn't very satisfactory either. Doing this in the style of the 1960's is still too prevalent; it involves sterile hearings, notice and comment procedures and putting out press releases.

(3) "Gaming the process" also is not acceptable. This involves rigging the process to tilt the outcome: e.g.,

--picking hearing sites to favor one side, usually rural audiences;

--scheduling hearings at inconvenient times to keep turn out low;

--prolonging the process until the agency gets enough support to justify its preferred alternative; and

--making minimal changes, notwithstanding substantial opposition.

(4) An open, interactive participatory process (a "fish-bowl" process) is a much better alternative. It involves outreach to divergent interests, ongoing publicity (e.g., newsletters, expanding records of input, etc.), setting forth a wide range of alternatives that are sponsored by citizen groups, and putting

forth untraditional alternatives. This approach was tried in the early 1970's, but the Corps then backed away from it. Admittedly it is time intensive, and it does not always produce much consensus. However, it is much better in terms of building public confidence in the process and bringing in more stakeholders. However, it is not enough--more is needed.

Is partnership then the answer? The program for this meeting suggests that it is. What then might it consist of? There are a number of possibilities:

--it might consist of public participation, mainly advice;

--it might involve citizen empowerment (i.e., some greater role for the public);

--it might involve building some sort of supportive relationship--developing a new constituency perhaps?

--it might involve collaboration: involvement of the public in some sort of ongoing process, with a clearly defined role for the public to play; or

--it might involve a kind of power sharing--a delegation of governmental roles (e.g., as environmentalists play in litigation under the private attorney general concept).

Some perspective on these issues can be gained by looking at the historical record of what partnership has meant in natural resource politics over the last forty years. In the 1950's, partnership meant putting private interests in charge of public resources; e.g., turning power sites over to private utilities, as during the Eisenhower administration. In the 1970's, partnership may have implied a public participation process. By the 1980's, it meant asking non-federal entities to take over roles that the Federal government no longer was able to fund or perform; e.g., the "Volunteers in the Parks" program is an example.

That leads us to the question of what partnership might mean now. In the 1990's, partnership might be taken to imply power sharing. For example, it might mean letting members of the public participate as members of a planning team. Grants might be made to retain consultants who would represent various public interests in playing that role (an example could be found in the Coal Policy Project of a few years ago). Or grants might be given to public interest groups to prepare white papers, as Ontario Hydro has done in Canada. Various segments of the public might be asked to nominate alternatives that

would be studied in detail. Public interest groups might also be asked to organize panels of witnesses at hearings who would represent a substantial point of view. Mitigation funds might also be placed in the custody of public interest groups, to be held in trust, to finance mitigation work over the course of time.

Partnership now might also involve a kind of pro-active outreach:

--ferreting out stakeholders and engaging them in one on one dialogues (where appropriate);

--ongoing small group dialogues at all planning stages;

--negotiating with key stakeholders--both those most affected and those who most will shape the subsequent political process.

An open, interactive planning process, using the best of the techniques explored in the 1970's, should also be employed again on a widespread basis.

Finally relationships with the environmental community will certainly be improved if the Corps continues to develop its environmental mission in the fields of ecosystem restoration. Moreover, the Corps should experiment with undertaking projects in watershed planning aimed at protecting biodiversity as a coordinate goal.

Let me issue a final word of caution. It is hard to find"win/win" solutions and consensus on issues affecting endangered species, especially where economic conflicts exist. This is so because the issues involve conflicts over moral values--saving species on one hand (taking a stream of life away) versus entitlements to a way of life on the other (taking jobs and a way of life).

I would suggest that you avoid sending symbolic messages which challenge the moral legitimacy of either side. And I would suggest that half-way palliatives usually will not work(e.g., saving half of an endangered population--this is like Solomon cutting the baby in half).

What we need to do is to avoid getting into positions where 99% of the population of a species has been wiped out, or the job base depends on taking the remaining one percent. Good planning will keep you out of such situations. When you are in such situations, it is the job of elected political representatives to handle such political hot potatoes. One would hope that if you have used the best approaches in planning, you would not have to hand on many such hot potatoes of this type.

Appendix K.

ENVIRONMENTAL ADVISORY BOARD REPORT TO THE CHIEF OF ENGINEERS

Portland, Oregon
12 March 1993

REPORT TO THE CHIEF OF ENGINEERS
51ST MEETING, ENVIRONMENTAL ADVISORY BOARD

PORTLAND, OREGON
10-12 MARCH 1993

TO THE CHIEF OF ENGINEERS:

The Environmental Advisory Board conducted its 51st Meeting on 9-12 March 1993 in Portland, Oregon. The charge was to address issues related to Endangered Species and Partnering.

During the course of the meeting and in our discussions we identified several issues as being central to the theme. They are addressed herein and recommendations are made regarding possible courses of action that could be taken by the Corps.

Background

Our society is increasingly concerned about protecting, enhancing, and/or restoring natural systems and the creatures that inhabit them. But the scientific and social knowledge needed to understand the impact of these systems on the well-being of society and to provide the basis for reordering our thinking and making tradeoffs is quite limited. One issue of concern is that of allocating resources to the protection and/or enhancement of natural systems. Dealing broadly with this issue requires special policies, assembling extensive scientific and social data bases, and coordinating the actions and programs of a variety of agencies and organizations. The nations of the world must make major decisions regarding natural systems and the economic and social effects of these can be far-reaching. Accordingly, there is an urgency associated with obtaining a better understanding of ecological systems and of developing strategies for dealing with them. Furthermore, there is a human dimension to the endangered species issue. There are those who would argue that humans are one of the endangered cohorts. Thus, it is important to understand the circumstances of the human condition in light of the Endangered Species Act (ESA) as well. The overall goal is, of course, to maintain the health of ecosystems.

The merits of partnering to address environmental issues such as those associated with endangered species is considerable. By organizing to permit the major stakeholders to participate freely and openly in planning and policy processes, the likelihood of arriving at implementable options will be enhanced and the true dimensions of the topics being considered will more likely be identified and incorporated into the strategies proposed.

Education and communication are keys to building effective partnerships, and getting partnerships to work will require providing the right forums. In general, two types of these are needed: those related to resolving or avoiding conflicts (consent building), and those related to solving problems that transcend normal political and/or agency boundaries (system-encompassing).

The water-related environment is an aggregate of surrounding objects, conditions, and influences, and these features embody an array of institutional, temporal, and spatial dimensions. The associated issues are laced with political, geographic, economic, technological, and social attributes, and these must be considered jointly. Accordingly, the argument for a holistic approach in dealing with issues of an environmental nature appears irrefutable. But the fact is, governments, planning and management agencies, and even academic institutions, are structured as though their prescribed missions were independent. There is a need to address environmental problems in the totality of their context, not within the confines of artificially imposed boundaries which may subvert clear and objective analyses.

Regional, international, and global institutions that can objectively address the true spatial, temporal, physical, social, political, and economic dimensions of water management problems are needed. Cities, counties, states, and even nations, are often too limited in jurisdiction to deal effectively with the water-related issues that extend beyond their boundaries. It is impossible to manage a system effectively if only part of it can be controlled. A broad understanding of the functioning of entire ecosystems must become the basis for unified action. Appropriate forums to facilitate this must be devised.

I. Endangered Species: Their Linkage to Holistic Ecosystem Planning and Management

The Chief charged the Board with considering whether the Corps should continue to pursue single species management under the ESA or shift to a holistic ecosystems approach. The corollary issue of how the Corps would incorporate the concept of ecosystems analysis into its programs was also addressed.

From the beginnings of ecology as a scientific discipline, ecologists have recognized, identified, and defined the biosphere as an interacting complex of units that contain distinctive aggregations of plants and animals. Terms such as bio-geography, biome, biotype, biocenosis, community, ecosystem, and habitat have been and are applied to these genetically evolved and environmentally mediated units. The science of ecology focuses on the study of these units and their contained organisms. Many systems contain a diverse variety of species reflecting a complex gene pool.

Shifting to an ecosystems approach to endangered species management would place the Corps on a scientific basis. It would offer the opportunity to analyze all interacting factors that play a role in maintaining threatened habitats. Hence it would offer a wide choice of possible approaches or mechanisms for reducing threats to the survival of all species which are vulnerable to the impacts of continuing or proposed projects.

To move in this direction, the Board makes the following recommendations:

Recommendation 1.

The Corps should adopt a holistic approach to endangered species management.

Existing management practices are reactive, dealing with crisis management issues on a species-by-species basis. This approach is expensive, inefficient, and often results in too- little, too-late to save the species of interest. The recommended approach involves proactive management of habitats that contain vulnerable species, rather than the constituent species themselves. Declines in species populations are only symptoms of habitat degradation. The causes of the declines are what should be addressed.

For each species on the endangered list, other species may be similarly endangered, yet their status may be unrecognized because of small size, cryptic nature, or they may be undiscovered and not described. This state of imperfect knowledge will always exist. By shifting emphasis from individual species protection to overall habitat preservation and/or enhancement, entire support systems will be aided and a broader basis for species protection will be the result.

Recommendation 2.

The Corps should develop new analytical techniques and improve existing methods for identifying and preserving habitats containing vulnerable species.

The Corps should identify the potential for endangered species conflicts early in its planning processes. Habitats that contain vulnerable species share common ecological attributes that make them recognizable as potential "hot spots". These common features lend themselves to quantification and analysis in a geographical information system (GIS) format. For example, many endangered species are associated with old and temporally stable habitats, high-diversity systems, or patchy and discontinuous distributions. Quantitative techniques that are adaptable to a wide range of environments, and that can support a GIS output are needed.

For species known to be endangered, rating systems exist for evaluating the degree of vulnerability. For example, the ERGO system based on the Natural Heritage Data Base has been used to rank the vulnerability of species to extinction in New England salt marshes. Such tools should be more widely used. They can be of considerable value in identifying, and thus avoiding, conflicts with ESA.

Habitat preservation approaches must take a landscape perspective, i.e., they must consider the issue in the context of the actual land area involved. Project impacts on biodiversity may extend well beyond project boundaries, and the cumulative impacts section of an Environmental Impact Statement (EIS) should include the identification of these regional affects. Analytical tools such as those referred to above could assist in such analyses. Master plans for civil works projects should be adjusted to incorporate this type of ecosystem and habitat management.

Recommendation 3.

The Corps should establish an ecological risk assessment capability as part of its environmental program agenda.

Ecological risk analysis and assessment is an idea whose time has come. The purpose of such assessments is to evaluate the potential ecological damages that may be caused by human activities such as draining wetlands or releasing chemicals.

Ecological risk assessments can aid in identifying environmental problems, establishing priorities, and providing a basis for regulatory actions. The process can identify existing risks or forecast the risks of stressors not yet present in the environment. However, while ecological risk assessments can play an important role in identifying and resolving environmental problems, risk assessments do not provide a total solution to all environmental problems, nor are they always a prerequisite for environmental management. Many environmental matters, such as the protection of habitats and endangered

species, are compelling enough that there may not be enough time or data to do a risk assessment. In such cases professional judgment and the mandates of a particular statute will be the driving forces in making decisions.

Recommendation 4.

The Corps should identify and catalog examples of habitat-based approaches to endangered species management. Such case studies, incorporating both positive and negative aspects of the actions taken, can serve as useful guides for planning new projects and for avoiding approaches that do not work well.

Examples of holistic habitat preservation approaches exist, and they can serve as models for others to follow. The habitat preservation approaches taken by the California Resources Agency are one example. Another illustration is the Oregon Ecosystem Initiative (Willamette Basin). The identification and cataloging of other models embracing a wide range of habitat types would be a worthy exercise.

Recommendation 5.

The Corps should aggressively move to establish the concept of sustainable development as the operative doctrine for all new or ongoing projects.

Regarding ecological resources, the term "sustainable" means the ability to maintain diverse, self-reproducing biological communities that are capable of meeting the current needs of humans, without compromising the ability of future generations to meet needs for natural resources such as food, fiber, lumber, fish and game. In addition, it is the intent of sustained development to provide environmental services such as flood mitigation, water storage, and the regulation of the chemistry of the atmosphere, oceans, and inland waters, as well as to maintain the beauty and diversity of nature.

The sustainable development approach requires that all components of an organization interact to ensure that a proposed project minimizes environmental damage over the lifetime of the project while at the same time maintaining or even enhancing those aspects or attributes of the project that support the continued existence of the ecosystem in which the project is located.

Another advantage of a sustainable development approach is that it requires the understanding, acceptance and involvement of all of an organization's responsible parties. To be effective in taking such an approach, the Corps will have to pay more attention to fostering improved channels of communication and a higher level of cooperation among its operative components.

Recommendation 6.

The Corps should encourage its governmental partners to enter into a cooperative arrangement to catalog terms associated with environmental management activities and to develop a consistent set of definitions for them. For example, the terms "holistic approach" and "ecosystems approach" have different meanings to different people, and if they are to be used to describe management policies, their meaning should be clear and consistent throughout the Federal government.

Recommendation 7.

Master plans for civil works projects already in place and for those planned for the future should be funded and updated to incorporate sustainable development concepts.

Recommendation 8.

The Corps should take a proactive, pro-environmental stance in dealing with other natural resource agencies and should strive to identify itself as a key participant in the Army's environmental strategy for the 21st Century.

Recommendation 9.

The Corps' environmental branches should work aggressively with other Federal and state agencies toward the establishment of an integrated Federal and state ecosystem management policy.

Recommendation 10.

A review should be made of the Corps' education and training agenda to determine whether or not it should be revised and/or supplemented to: facilitate understanding of the Corps' role in environmental management, better acquaint staff with approaches to partnering and cooperative inter-agency problem solving, and to plant the seeds for more holistic approaches to environmental planning and management designs. All Corps personnel should receive the same level of education and training as that planned for Army personnel in its 21st Century environmental strategy.

II. Socio-Economic and Cultural Implications of Endangered Species: How to Value These Resources Within Water Resources Development

The use of new and innovative analytical techniques for the valuation of endangered species is striking evidence of the growing maturity and self-awareness within the Corps of the need to minimize adverse environmental impacts on critical habitats and endangered species.

The economic and cultural benefits attributable to actions under the Endangered Species Act are classified as passive-use values. In most instances involving endangered species, the existence and option components of passive-use values are difficult to precisely quantify. This reflects gaps and uncertainty in terms of the biological responses of endangered species to specific mitigation and enhancement treatments as well as to the lack of information on how society values various species and critical habitats. In addition, because the public lacks knowledge and familiarity with many endangered species, it is difficult to elicit willingness-to-pay measures using contingent valuation or related measures.

It is evident that without consensus on how data are gathered, modeled, and interpreted, meaningful recovery actions cannot be taken. On this subject, the Board makes the following recommendations:

Recommendation 11.

The Corps should move aggressively to address inadequacies in scientific data files which are applicable to environmental decision making.

Each district office should develop a GIS data base on the ecosystems within its jurisdiction and should identify the actual (as opposed to predicted) impacts that have been imposed on these systems from earlier Corps and/or other public and private projects. These affects can then be systematically considered when new projects are being proposed. The development of a broader data base, incorporating standardized protocols for collecting biological-response and cultural-attribute data, will enable analyses of proposed projects to proceed at a more efficient pace and will support better prediction of the cumulative impacts of multiple projects. Focusing coordination at the district level will also create an institutional memory that will facilitate shared learning from successful planning processes.

Recommendation 12.

The Corps should develop standardized protocols for calculating costs associated with its endangered species and critical habitat recovery and preservation activities. Attention should be paid to the costs related to the various sectors of society affected and to the region in which they are incurred.

Recommendation 13.

The Corps should initiate research to develop analytical methods for the valuation of endangered species, including techniques for incorporating passive-use and cultural values in ESA decision making processes. The Chief of Engineers should appoint a panel of outside experts to review and make recommendations on this issue.

Recommendation 14.

The traditional procedures for economic analyses should be reviewed and updated to accommodate better and more credible assessments of environmental trade-off options. In particular, topics such as environmental valuation techniques efficacy and utility, opportunity cost assessment practices, and cost effectiveness analyses need attention. If economic valuing systems are to be more widely accepted as decision making adjuncts, their credibility will have to be substantially improved.

The Corps should recognize that the valuation of endangered species and many other environmental resources cannot be forced into a traditional cost-benefit analysis with a "go/no go" solution. The Corps should institute training in alternative dispute resolution (ADR) techniques, interest-based negotiations, and other techniques of conflict resolution as decision making approaches to environmental and endangered species management.

Recommendation 15.

The Corps should improve its internal mechanisms for sharing information across organizational boundaries regarding successful environmental management approaches, useful research findings, and applicable analytical techniques.

Recommendation 16.

The Corps should ensure, through regional planning efforts, that endangered species recovery programs do not adversely affect other resources or ignore other legal mandates, such as the American Indian Religious Freedom Act and the National Historic Preservation Act.

III. Institutional Problems With the Endangered Species Act: Difficulties of Compliance and Implementation

Implementation of the Endangered Species Act provides opportunities for reducing institutional barriers to cooperation that have long existed within the

Corps in its external relationships with other governmental agencies and non-governmental organizations. By focusing on the holistic goal of the Endangered Species Act, to protect ecosystems rather than to preserve individual species, the Corps will have to better coordinate its own actions between functional offices and between district offices and headquarters. Effective implementation of the ESA will also require greater cooperation with such government agencies as the Fish and Wildlife Service, the National Marine Fisheries Service, and ultimately with stakeholders in the ecosystem such as irrigation farmers, commercial fishermen, and environmental groups.

In light of the opportunities presented by the Endangered Species Act, the Board makes the following recommendations:

Recommendation 17.

The Corps should establish a focal point at district and headquarters levels for addressing all ESA and other environmental concerns. This would enhance cooperation among the engineering, regulatory, operations and maintenance, and planning functions of the Corps.

Each district office contains multiple units that can contribute significantly to the goals of the ESA. The Planning Branch should take the lead in coordinating actions under the ESA. The primary missions of both the engineering and operations and maintenance branches can adversely affect threatened ecosystems. The planning branch (or the environmental unit within it) should take the lead in assessing the impact that routine operations have on threatened ecosystems, and should meet regularly with members of other units in the district to minimize impacts.

Because of the national and international implications of the ESA, headquarters should create a comprehensive policy for implementing the Act across all programs and activities. An interdisciplinary task force of both field and headquarters personnel should be assembled to create mechanisms to pro-actively address ESA requirements. Ways of earmarking funds for environmental mitigation and other projects should also be identified.

Recommendation 18.

The Corps should pro-actively involve other governmental agencies in its project planning and management activities. It should encourage pro-active consultations with sister agencies, thereby facilitating preventive rather than reactive approaches to environmental problem-solving.

A viable natural resource management partnership requires vision and leadership, an understanding of long- and short-term objectives, energy and commitment, credibility and trust. The Corps has the experience with environmental protection and restoration activities to lead in partnering activities and the Corps should expand its partnering efforts.

The Corps should select the level (district, division, or Headquarters) at which it is to be operational as a partner based on the geographical and political scale of the issue being addressed.

Recommendation 19.

The Corps should expand and enhance its personnel exchanges with other Federal, state, and local government agencies.

This will educate Corps personnel about the goals and operations of sister agencies and inform those agencies about Corps objectives and methods. An additional benefit will be the establishment of close working relationships among individuals who will continue to interact when they return to their respective agencies. Sufficient legislative authority already exists through the Intergovernmental Personnel Act to provide for temporary reassignment of individuals.

Recommendation 20.

The Corps should establish a communications process that better informs potential stakeholders when new projects are in the planning stage. This will facilitate the negotiation of compromises and minimize the likelihood of adversarial situations arising.

The Corps should better inform the public about what it does, and communications must be two-way. That not only helps the public understand the Corps's mission, challenges, and opportunities in light of the ESA, but also provides the Corps with information about public preferences and values concerning environmental issues such as those associated with endangered species. By regularly involving the public in its planning processes, the Corps will be able to develop the trust needed to facilitate its missions.

IV. Potential for Partnerships When Dealing With Endangered Species: What Works and What Doesn't

There is a need to move away from the single-mission orientation of individual Federal agencies and to move towards promoting more collaborative

relationships for problem solving. The Chief emphasized this need and noted the importance of fostering collective problem-solving attitudes within governmental and private communities.

It was recommended by the EAB at its 50th meeting in St. Louis, Missouri, that endangered species responsibilities be considered in a systems context and that appropriate partnering arrangements be sought to facilitate this holistic approach. Relevant Federal laws note that "project-by-project" efforts are extremely costly, and, to a large degree, ineffective and short-lived. The legislative history accompanying the Endangered Species Act (ESA) notes that they "do not view individual species in isolation, but rather as part of a system." The ESA repeatedly refers to "ecosystems" rather than to species in a singular form.

It is recognized by the EAB that the Corps has taken information, education, and outreach steps to make its partners and the interested public aware of its programs. This is especially evident in the Sponsor's Partnership Kit and the Corp's one-on-one information-exchange programs with several other Federal and state agencies. But the Board is unaware of any formalized partnership programs intended to promote technology development, technology transfer, and/or public-awareness and education programs specifically aimed at endangered species and the Corps responsibility in this area of concern. The Corps must emphasize the value of engaging in such endeavors to facilitate effective partnerships, enhance understanding and appreciation of Corps programs in these areas, and to promote a willingness by potential partners to support the Corps in fulfilling its obligations. Such a program should be developed by the Corps at all levels. With limited resources, the Corps will be the beneficiary of more wisely invested resources and cooperation, versus confrontation with those with whom they interact.

Recommendation 21.

The Corps should become a leader in forming partnerships to address common environmental issues.

A clearly identified focal point should be established in each Corps office (district, division, and headquarters) to coordinate endangered species and environmental activities, to facilitate the building of partnerships and to provide clearinghouse functions.

Recommendation 22.

The Corps, incorporating all levels and disciplines of the organization, should develop generic guidelines for establishing partnerships on endangered species management issues and concerns. These guidelines should be distributed to all division and district offices for implementation. Partnerships, established as a result of these guidelines, should be supported and funded by the Corps at all appropriate levels of management, with consideration given equal to that provided for traditional programs.

Recommendation 23.

The Corps should implement formalized partnership programs to promote technology development, technology transfer, and/or public-awareness and education programs specifically aimed at endangered species issues.

Partners, or potential partners, have different roles, responsibilities, capabilities, and authorities for addressing endangered species and environmental issues. All partners must fully recognize, understand, and appreciate this. Early discussions on these differences is essential to successful partnering activities. Recognition of these differences enables the partners to identify strengths, and the ability of each partner to complement and supplement the efforts of others may result in a more effective and expeditious way of doing business; this will result in a net saving in human and financial resources to all partners.

Recommendation 24.

The Corps should aggressively seek to ensure that any threatened or endangered species status, ranking, or listing activity will be the result of a collaborative effort, rather than a confrontational action.

V. Policies and Practices

Several issues surfaced during the course of the meeting that transcend the boundaries of the topics assigned to the four panels. These subjects have broad policy/practice implications and are relevant to the full environmental agenda of the Corps. Consistent with their importance, the Board makes the following recommendations:

Recommendation 25.

A policy should be established to empower appropriate elements of the Corps to aggressively pursue partnership opportunities and to apply the best and most

innovative principles and practices to environmental management and protection activities. This would facilitate the application of non-traditional measures to planning and management processes and would encourage the exploration of cooperative ventures. The policy should be of a guiding, facilitating nature. It should be designed to provide maximum flexibility in choice of options and should avoid the specification of uniform prescriptions for action.

Recommendation 26.

The land holdings of the Corps should be periodically surveyed to identify opportunities for environmental quality enhancement and/or for implementing programs designed to address environmental quality deficiencies. This would present an excellent opportunity for demonstrating an up-front effort to conserve fish and wildlife resources and to take other environmental protection measures. It would serve to improve the agency's image as an environmentally aware organization as well.

Recommendation 27.

The Corps should take the initiative in assembling an inter-agency team to evaluate the adequacies and capabilities of existing environmental data systems and to consider the formats for new and/ or revised systems to address noted deficiencies.

Recommendation 28.

The Corps should reaffirm, at the highest level, its commitment to the fulfillment of the environmental mission it was assigned in the Water Resources Act of 1990. Planning and operations level personnel cannot be expected to undertake non-traditional initiatives in environmental management without such a mandate.

Recommendation 29.

The Corps should accelerate its efforts to review existing projects for the purpose of identifying and implementing reformulation options embracing environmental values.

Recommendation 30.

The Corps should adopt a policy of annually informing the members of the Environmental Advisory Board of the actions it has taken, or is planning to

take, regarding the recommendations made by the Board at its previous meeting(s).

Warren Viessman, Jr.
Chairman
Chief of Engineers Environmental Advisory Board

Appendix L.

CHIEF OF ENGINEERS RESPONSE
TO THE
REPORT ON THE 51ST MEETING

ENVIRONMENTAL ADVISORY BOARD

"Partnering and Endangered Species Management"

Portland, Oregon
10-12 March 1993

CHIEF OF ENGINEERS RESPONSE
TO THE REPORT ON THE
51ST MEETING OF THE ENVIRONMENTAL ADVISORY BOARD

"Partnering and Endangered Species Management"

Portland, Oregon
10-12 March 1993

EAB RECOMMENDATION 1: The Corps should adopt a holistic approach to endangered species management.

Existing management practices are reactive, dealing with crisis management issues on a species-by-species basis. This approach is expensive, inefficient, and often results in too-little, too-late to save the species of interest. The recommended approach involves proactive management of habitats that contain vulnerable species, rather than the constituent species themselves. Declines in species populations are only symptoms of habitat degradation. The causes of the declines are what should be addressed.

For each species on the endangered list, other species may be similarly **endangered, yet their status may be unrecognized because of small size, cryptic nature, or they may be undiscovered and not described. This state of imperfect knowledge will always exist. By shifting emphasis from individual species protection to overall habitat preservation and/or enhancement, entire support systems will be aided and a broader basis for species protection will be the result.**

CORPS RESPONSE : The U.S. Army Environmental Strategy into the 21st Century defines the Army's commitment to meet present and future environmental challenges and provides a framework to ensure that environmental consideration are integral to the Army's National Defense and Civil Works missions.

CORPS ACTION: The Civil Works Environmental Action Plan (CWEAP) is being prepared to implement the Army Strategy in the Civil Works Program. The CWEAP is designed to be a tool to focus and direct future Civil Works environmental activities. The plan includes on-going, continuing, and new Action Items.

An important section of the CWEAP contains two categories of Action Items which are directly related to the EAB Recommendation number 1. The categories are:

4. Conservation and Stewardship of natural and cultural resources.

4.1 Develop and implement a Corps natural resources management mission statement which specifies multiple-use management and contains a clear definition of Corps stewardship responsibilities.

5. Conservation to restore fish and wildlife habitat.

5.1 Continue to seek new opportunities to modify existing Corps water resources projects to restore fish and wildlife habitat.

5.4 Project development to contribute to the goals of interagency cooperative environmental programs conditions.

RATIONALE FOR PROPOSED ACTION: The Office of Environmental Policy (CECW-PO) and the CWEAP Steering Committee are nearing completion of an Interim Final Draft of the Action Plan. Additional work is needed on priorities and funding.

The draft CWEAP will be submitted to the Environmental Advisory Board for review prior to submission to the Office of the Assistant Secretary of the Army (Civil Works) for final approval and authorization to implement the plan.

The extent and thrust of this EAB recommendation is embodied within the two categories from the CWEAP. One of the major products is to manage the ecosystems and maintain biodiversity.

EAB RECOMMENDATION 2: The Corps should develop new analytical techniques and improve existing methods for identifying and preserving habitats containing vulnerable species. The Corps should identify the potential for endangered species conflicts early in its planning processes. Habitats that contain vulnerable species share common ecological attributes that make them recognizable as potential "hot spots." These common features lend themselves to quantification and analysis in a geographical information system (GIS) format. For example, many endangered species are associated with old and temporally stable habitats, high-diversity systems, or patchy and

discontinuous distributions. Quantitative techniques that are adaptable to a wide range of environments and that can support a GIS output are needed. For species known to be endangered, rating systems exist for evaluating the degree of vulnerability. For example, the ERGO system based on the Natural Heritage Data Base has been used to rank the vulnerability of species to extinction in New England marshes. Such tools should be more widely used. They can be of considerable value in identifying, and thus avoiding, conflicts with ESA. Habitat preservation approaches must take a landscape perspective, i.e.,they must consider the issue in the context of the actual land area involved. Project impacts on biodiversity may extend well beyond project boundaries, and the cumulative impacts section of an Environmental Impact Statement (EIS) should include the identification of these regional affects (sic). Analytical tools such as those referred to above could assist in such analyses. Master plans for civil works projects should be adjusted to incorporate this type of ecosystem and habitat management.

CORPS RESPONSE : Concur.

CORPS ACTION: Guidance to field offices will be prepared to assure that the recommendations of the EAB are considered in the planning process.

RATIONALE FOR PROPOSED ACTION: Better, and earlier, awareness of environmental problems, such as endangered species issues, will result in more cost-effective solutions to these problems related to Corps projects.

EAB RECOMMENDATION 3: The Corps should establish an ecological risk assessment capability as part of its environmental program agenda.

CORPS RESPONSE: Concur.

CORPS ACTION: The Risk Analysis for Water Resources Investments Research Program (RAWRIRP) is currently examining the development of procedures and analytical tools to support the expanded use of risk-based methods in water resources projects. The RAWRIRP addresses the risks associated not only with structural failures but with the uncertainties associated with varying degrees of investments.

The Corps is also attempting to better quantify the various types of environmental outputs associated with our projects. Methods are being developed and tested in the Evaluation of Environmental Investments Research Program (EEIRP). Once these outputs are clearly defined and quantified, it is expected that methods to better assess the likelihood of their actual success or failure can be developed, through the establishment of a suitable work unit in either the RAWRIRP or EEIRP, and thus the element of risk associated with producing these environmental outputs better determined.

RATIONALE FOR PROPOSED ACTION: Although the Board recommended ecological risk, it is believed, given the breath of the Corps responsibilities in the area of the environment, that examination of risk be applied for all clearly defined environmental outputs in the research programs described briefly above. In this manner the Corps can be in a position to better select those projects that have the best likelihood of achieving their stated environmental objectives.

EAB RECOMMENDATION 4: The Corps should identify and catalog examples of habitat-based approaches to endangered species management. Such case studies, incorporating both positive and negative aspects of the actions taken, can serve as useful guides for planning new projects and for avoiding approaches that do not work well.

Examples of holistic habitat preservation approaches exist and they can serve as models for others to follow. The habitat preservation approaches taken by the California Resources Agency are one example. Another illustration is the Oregon Ecosystem Initiative (Willamette Basin). The identification and cataloging of other models embracing a wide range of habitat types would be a worthy exercise.

CORPS RESPONSE : Concur.

CORPS ACTION : Some preliminary work in this area is now being accomplished within our Research and Development (R&D) programs. We hope to significantly broaden this type of research under two proposed new R&D programs. These programs include an Evaluation of Environmental Investments R&D Program scheduled to begin in FY 94, and a new Wetlands Characterization, Restoration and Management R&D Program proposed for initial funding in FY 95.

RATIONALE FOR PROPOSED ACTION: We believe that, through the conduct of these R&D programs and the subsequent transfer of information to operational elements, the Corps can meaningfully move in the direction that the Board has suggested.

EAB RECOMMENDATION 5: The Corps should aggressively move to establish the concept of sustainable development as the operative doctrine for all new or ongoing projects. Regarding ecological resources, the term "sustainable" means the ability to maintain diverse, self-reproducing biological communities that are capable of meeting the current needs of humans, without

compromising the ability of future generations to meet needs for natural resources such as food, fiber, lumber, fish and game. In addition, it is the intent of sustainable development to provide environmental services such as flood mitigation, water storage, and the regulation of the chemistry of the atmosphere, oceans, and inland waters, as well as to maintain the beauty and diversity of nature. The sustainable development approach requires that all components of an organization interact to ensure that a proposed project minimizes environmental damage over the lifetime of the project while at the same time maintaining or even enhancing those aspects or attributes of the project that support the continued existence of the ecosystem in which the project is located. Another advantage of a sustainable development approach is that it requires the understanding, acceptance and involvement of all of an organization's responsible parties. To be effective in taking such an approach, the Corps will have to pay more attention to fostering improved channels of communication and a higher level of cooperation among its operative components.

CORPS RESPONSE: In his 14 February 1990 memorandum to all Corps offices, former Chief of Engineers LTG Henry Hatch stated that the Corps commitment must be to environmentally sustainable development. The Corps is still committed to sustainable development. We recognize, however, that to translate the term "sustainable development" into operational language is a much more difficult problem. There is no consensus among the resource agencies as to what would be the goals for, or levels of, sustainability for the Nation's plant and animal communities. There are few national goals for levels of sustainability for any of our resources. For example, the Corps has a goal of "no net loss of wetlands" (Section 307, Water Resources Development Act of 1990), yet there is still no Administration policy as to what that means. Until the Nation's Federal and State resource agencies, in consultation with the environmental community, can agree as to what constitutes levels of sustainability for our resources, the Corps is handicapped in carrying out its commitment to sustainability and planning and operating our water projects accordingly.

CORPS ACTION: The Corps will pursue its planning and operations activities with the goal of minimizing environmental damage over the lifetime of the project, while pursuing to the extent possible the tenets of sustainable development.

RATIONALE FOR PROPOSED ACTION: Water resources development carried out in a manner that sustains the Nation's environmental resources is a stated goal of the Corps.

EAB RECOMMENDATION 6: The Corps should encourage its governmental partners to enter into a cooperative arrangement to catalog terms associated with environmental management activities and to develop a consistent set of definitions for them.

CORPS RESPONSE: Concur.

CORPS ACTION: There are a number of potential actions the Corps could initiate with its governmental partners to develop a set of consistent terms associated with environmental management activities; however, it must also be kept in mind the varying missions of the different Federal agencies and how those missions have contributed to the Board's observation that various terms, such as ecosystem approach, have different meanings to different people. The Corps sits on a number of committees with representatives of other agencies and it is suggested that we use these committees as vehicles we pursue the development of a common set of definitions for various terms associated with environmental management.

RATIONALE FOR PROPOSED ACTION: The development of a common environmental management lexicon will greatly improve the expectations of individuals involved in the development and implementation of these projects, from field personnel to decision maker and the general public. However, as mentioned above, it is also imperative that as the agencies responsible for the development and implementation of environmental projects work collaboratively to develop environmental management objectives for these projects, a unified set of definitions will begin to emerge.

EAB RECOMMENDATION 7: Master plans for civil works projects already in place and for those planned for the future should be funded and updated to incorporate sustainable development concepts.

CORPS RESPONSE: Concur.

CORPS ACTION: HQUSACE (CECW-ON) will issue a policy letter stressing the importance on incorporating the idea of environmentally sustainable development concepts as old master plans are updated and new ones are written.

CORPS RATIONALE: This is a perfect match with the U.S. Army Environmental Strategy into the 21st Century.

EAB RECOMMENDATION 8: The Corps should take a proactive, pro-environmental stance in dealing with other natural resource agencies and should strive to identify itself as a key participant in the Army's Environmental Strategy for the 21st Century.

CORPS RESPONSE: Concur. The Corps is a proactive partner in the Coastal America program. The Corps is also a proactive partner in an Interagency Working Group, consisting of the Corps, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the U.S. Environmental Protection Agency. These are just a few examples of the ongoing, cooperative activities that the Corps has been engaged in for a number of years with the other Federal resource agencies. The Corps is also putting together its civil works action plan for its participation in the Army Environmental Strategy for the 21st Century.

CORPS ACTION: The Corps will continue to be a proactive partner with the other Federal resource agencies and is finalizing its Civil Works Environmental Action Plan, in which the Corps Civil Works Program is identified as a key participant in the Army Environmental Strategy.

RATIONALE FOR PROPOSED ACTION: The Corps is committed to working as a partner with the other resource agencies as a matter of "good business practice." The Corps is committed to the Coastal America model of interagency partnership because it is simply a smart and cost-effective way of doing business.

EAB RECOMMENDATION 9: The Corps' environmental branches should work aggressively with other Federal and state agencies toward the establishment of an integrated Federal and State ecosystem management policy.

CORPS RESPONSE: Non-concur as written.

CORPS ACTION: Not only Corps environmental offices, but planning divisions and operations divisions should be seeking opportunities in which to cooperate with one another regarding the implementation of an integrated Federal and State ecosystem management policy. However, such a policy currently does not exist

RATIONALE FOR PROPOSED ACTION: Presently the White House Office of Environmental Policy has established a Task Force on Watershed and Ecosystem Management. The task force is a multi-agency effort involving

the key natural resource agencies and developmental agencies, including the Corps. The purpose of this task force is to develop a set of principles whereby the Federal agencies, in cooperation with state and local governments, can implement watershed and ecosystem management, through their respective programs in a collaborative fashion. However, until the principles of watershed and ecosystem management are developed and adopted by the current Administration it is premature to pursue this concept too vigorously.

EAB RECOMMENDATION 10: A review should be made of the Corps' education and training agenda to determine whether or not it should be revised and/or supplemented to: facilitate understanding of the Corps' role in environmental management, better acquaint staff with approaches to partnering and cooperative inter-agency problem solving, and to plant the seed for more holistic approaches to environmental planning and management designs. All Corps personnel should receive the same level of education and training as that planned for Army personnel in its 21st Century environmental strategy.

CORPS RESPONSE: The U. S. Army Environmental Strategy into the 21st Century defines the Army's commitment to meet present and future environmental challenges and provides a framework to ensure that environmental considerations are integral to the Army mission. The Strategy envisions that environmental stewardship will be built into the total performance of the Army's national defense and civil works missions.

CORPS ACTION: The Civil Works Environmental Action Plan (CWEAP) is being prepared to implement the Army Strategy in the Civil Works Program. The CWEAP is designed to be a tool to focus and direct future Civil Works environmental business.

Development of the CWEAP has involved Corps district, divisions and labs. The plan includes continuing, on-going as well as new Action Items.

An important section of the CWEAP contains two categories of Action Items which are directly related to the EAB Recommendation Number 10. The categories are:

11 - Improve Environmental Education
12 - Improve Communications and Develop Partnerships

Action Items - Number 11:

11.1 Develop an environmental program to use in training Corps employees in coordination with professional organizations, colleges and universities.

11.2 Require environmental training based on specific job responsibilities.

11.3 Update and improve the environmental training courses in the PROSPECT Program.

Action Items - Number 12:

12.1 Facilitate the exchange of environmental and engineering technologies (e. g. disseminate information about lessons learned, success stories, model projects and applications of innovative technology).

12.2 Promote collaborative efforts with other Government agencies to improve management of environmental programs which require interagency actions (e.g. Coastal America).

12.3 Develop better dialogue with environmental and conservation organizations.

RATIONALE FOR PROPOSED ACTION: The Office of Environmental Policy (CECW-PO) and the CWEAP Steering Committee are nearing completion of an Interim Final Draft of the Action Plan. Additional work is needed on funding requirements and priorities.

The draft CWEAP will be submitted to the Environmental Coordinating Committee and the Environmental Advisory Board for review prior to submitting it to the Office of the Assistant Secretary of the Army (Civil Works) for final approval and authorization to begin implementing the plan . Implementation of Action Items in Categories 11 could require a lengthy process, which could be delayed by manpower and funding resource constraints. Activities directed at improving communications and developing partnerships with others (Category 12) could be promptly initiated.

Concurrently, with the development of the CWEAP several environmental training courses are being developed. Both courses will be included in the Huntsville Training Division CONTRAST Program. A course on the Environmental Review Guide for Operations (ERGO) is being developed. A new course, Technical Application of Environmental Regulations, has been prepared. In addition, the Career Development Committee in the Natural Resources Branch is conducting a study to determine the best way to add the environmental message to all existing environmental and natural resource training.

The objectives of the CWEAP Action Items that address training and communications seems to parallel the recommendation of the EAB.

EAB RECOMMENDATION 11: The Corps should move aggressively to address inadequacies in scientific data files which are applicable to environmental decision making.

CORPS RESPONSE: Concur.

CORPS ACTION: The Corps should revisit the recommendations of the Ad Hoc Committee on Geographic Information Systems (GIS) and institutionalize them within the agency with an emphasis upon the management aspects of adopting the technology, i.e., provision of funds for training and equipment adoption and procurement.

RATIONALE FOR PROPOSED ACTION: Presently, some District offices have adopted GIS technology for varying uses including, cultural resource management, natural resource inventories, project planning, characterization of contaminated sediments, land use management, emergency operations, etc. However, this adaptation has been the result of the unique experience of some specialists and enlightened managers in these districts and is driven by the immediate needs of the District. It generally does not involve the exclusive gathering of environmental data for management and/or planning purposes as recommended by the EAB.

A serious impediment to the nationwide adoption of this technology is the fact that all new projects require a cost sharing partner who would have to agree to the use of this type of technology for not only project planning, but for subsequent operation and maintenance. Generally, the technology is perceived as being very expensive, although costs have continued to decline in this area; training of staff is considered a luxury; and managers generally fail to appreciate the benefits of the technology to future work and consequently are reluctant to make immediate investments in the technology, particularly given the fiscal climate for Federal project operation and maintenance where the Corps continues this responsibility. Nevertheless, the potential and actual ability of this technology should continue to be stressed within the agency as a means of addressing future environmental management and planning needs, particularly with the increased emphasis being placed upon watershed and ecosystem planning. Certainly the time is right!

EAB RECOMMENDATION 12: The Corps should develop standardized protocols for calculating costs associated with its endangered species and critical habitat recovery and preservation activities. Attention should be paid to the costs related to the various sectors of society affected and to the region in which they are incurred.

CORPS RESPONSE: The Corps agrees that standard protocols should be developed for calculating costs for implementing habitat recovery and restoration projects. However, these protocols should not be limited just to activities associated with endangered species, but should apply to all environmental restoration, protection and mitigation activities. Development of such protocols is included in research activities in the on-going Planning Methodologies Research Program and a proposed Evaluation of Environmental Investments Research Program (EEIRP).

Various sectors of society and regions can also incur opportunity costs (e.g., flood control or other National Economic Benefits (NED) foregone) and economic impacts from the implementation of habitat recovery and restoration projects. Again, these should be identified in the appropriate NED and Regional Development accounts for all such projects, not only those impacting on endangered species. These issues are also to be addressed in the new Environmental Planning Guidance presently being developed.

CORPS ACTION: Existing and proposed research activities and the on-going development of new Environmental Planning Guidance already address this recommendation. No further action is required at this time, other than to continue to seek funding for initiation of the EEIRP.

RATIONALE FOR PROPOSED ACTION: None Required.

EAB RECOMMENDATION 13: The Corps should initiate research to develop analytical methods for the valuation of endangered species, including techniques for incorporating passive-use and cultural values in ESA decision making processes. The Chief of Engineers should appoint a panel of outside experts to review and make recommendations on this issue.

CORPS RESPONSE: The Corps agrees that improved analytical methods are needed, but again they are needed for all environmental restoration, protection and mitigation projects, not just those impacting endangered species. The proposed Evaluation of Environmental Investments Research Program (EEIRP) includes research activities to address these issues. The EEIRP was included as a new start program in the Administration's proposed FY 93 budget, but do to budgetary constraints, was deleted by Congress. It is once

again being proposed as a new start for FY 94. If funded, the research will be closely coordinated with and reviewed by appropriate experts from other agencies and organizations and the academic community. Peer review will be an integral part of all research activities. Appointing a special panel of outside experts to review and make recommendations on this effort would not only be redundant, but subject to the constraints and formulation and approval processes of the Federal Advisory Committee Act of 1972 (PL92-463). The Corps, therefore, does not concur with this portion of the recommendation.

CORPS ACTION: Continue to seek support and funding for the initiation of the EEIRP.

RATIONALE FOR PROPOSED ACTION: Additional research on these issues is needed. At this time, incorporation of the views of outside experts can be more effectively accomplished through research coordination and peer review than the formulation of an expert panel under the purview of the Federal Advisory Committee Act.

EAB RECOMMENDATION 14: The traditional procedures for economic analyses should be reviewed and updated to accommodate better and more credible assessments of environmental trade-off options. In particular, topics such as environmental valuation techniques efficacy and utility, opportunity cost assessment practices, and cost effectiveness analyses need attention. If economic valuing systems are to be more widely accepted as decision making adjuncts, their credibility will have to be substantially improved.

CORPS RESPONSE: Concur. Existing Plan Formulation Research Program activities (e.g., development of cost effectiveness and incremental analysis procedures), the proposed EEIRP and the new Environmental Planning Guidance are all being developed, at least partially, to respond to these needs.

CORPS ACTION: Existing and proposed research activities and the on-going development of new Environmental Planning Guidance already address this recommendation. No further action is required at this time, other than to continue to seek funding for the EEIRP.

RATIONALE FOR PROPOSED ACTION: None Required.

EAB RECOMMENDATION 15: The Corps should improve its internal mechanisms for sharing information across organizational boundaries regarding successful environmental management approaches, useful research findings and applicable analytical techniques.

CORPS RESPONSE : Concur.

CORPS ACTION: The Corps will continue to endorse and further encourage the concept of "cross-stovepipe" communications as a means to improve the exchange of information regarding environmental management techniques. Further, greater emphasis will be placed upon multiple approaches to provide the findings of our R&D programs into the hands of our practitioners in the field.

RATIONALE FOR PROPOSED ACTION: There has been a continuing dialog regarding the efficiencies of having the different organizational elements, i.e., "stovepipes", of the Corps recognize the existence of one another, and, more importantly, work together for the benefit of the total organization. Too often, each stovepipe views its actions independently of one another, with little regard for the programs and activities of others. Clearly, this results in the appearance of a disjointed program and leads to petty jealousies and unproductive disputes among these elements; the reaction of the general public and other agencies notwithstanding.
Presently, there are several initiatives underway which should go a long way to improve the situation. For example, the Office of Environmental Policy and the Engineering Division are working together to develop a set of Environmental Engineering Workshops in which Corps professionals from both disciplines are involved in discussions on ways to improve communications; understand the concerns of each discipline regarding project outputs; and to utilize the talents and understanding of each discipline more efficiently in providing truly multi-discipline solutions to contemporary environmental water resource problems. Additionally, the Office of Environmental Policy is the chair of a multi-stovepipe steering committee that is investigating new environmental initiatives that will demonstrate how the Civil Works Water Resources Program contributes to the Army's Environmental Strategy into the 21st Century.

In the development of the Civil Works Environmental Action Plan emphasis has been placed upon cross-stovepipe communication regarding the success of the recommendations. Finally, in the R&D Program, each program has had created a field review group that is composed of field representatives of varying stovepipes in an effort to bring greater breath to the types of problems and solutions being examined.

This direct involvement has multiple advantages, i.e., it provides a forum for the field representatives to understand the concerns of other elements of the Corps; it allows them to see how the R&D program contributes to all aspects of the Corps activities, thus giving them a greater appreciation of the whole; and it generates a respect for other disciplines, and hopefully some insight as how those disciplines could be utilized to a greater degree in their Districts.

EAB RECOMMENDATION 16: The Corps should ensure, through regional planning efforts, that endangered species recovery programs do not adversely affect other resources or ignore other legal mandates, such as the American Indian Religious Freedom Act and the National Historic Preservation Act.

CORPS RESPONSE: Concur. The Corps has fully integrated legislated requirements for the cultural environment (including Native American sacred or religious sites) into its planning, operations, construction, and real estate regulations. Corps undertakings, whether local or regional in scope, are evaluated for their affects on significant cultural resources and Native American tribes and organizations are regularly consulted when it appears that an activity or action may interfere with the free exercise of religion. The Corps has also been recognized for its regional overview of the Southwestern United States and has already demonstrated leadership in the area of regional cultural resources protection.

CORPS ACTION: The Corps will continue to stress a balance in the protection of the natural and cultural environment. Planning and policy efforts will include a multi-disciplinary approach to ensure that all significant resources receive appropriate consideration and treatment.

RATIONALE FOR CORPS ACTION: The Corps recognizes the need to ensure that all significant resources receive appropriate consideration in planning and policy making.

EAB RECOMMENDATION 17: The Corps should establish a focal point at district and headquarters levels for addressing all ESA and other environmental concerns. This would enhance cooperation among the engineering, regulatory, operations and maintenance, and planning functions of the Corps.

Each district office contains multiple units that can contribute significantly to the goals of the ESA. The Planning Branch should take the lead in coordinating actions under the ESA. The primary missions of both the engineering and operations and maintenance branches can adversely affect threatened ecosystems. The planning branch (or the environmental unit within it) should take the lead in assessing the impact that routine operations have on threatened ecosystems, and should meet regularly with members of other units in the district to minimize impacts.

Because of the national and international implications of the ESA, headquarters should create a comprehensive policy for implementing the Act across all programs and activities. An interdisciplinary task force of both field and headquarters personnel should be assembled to create mechanisms to proactively address ESA requirements. Ways of earmarking funds for environmental mitigation and other projects should also be identified.

CORPS RESPONSE : A point of contact for endangered species actions has been identified in HQ and many of the division and district offices . Each division and district will identify a point of contact to insure that all functional areas are involved in the Corps responsibility to comply with the Endangered Species Act (ESA).

CORPS ACTIONS : All Corps Civil Works activities (planning, resources management, regulatory, dredging, real estate) routinely coordinate/consult with the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) when listed species are in the project area. When Corps biological opinions identify project impacts, the FWS/NMFS will provide specific management actions that we must implement. Corps regulations, developed for the implementation of the ESA, are provided for all Corps Commands and Field Operating Activities (FOA).

The identification of funds and the budget process are part of the annual funding process for each project. Civil Works provides an annual summary of funds expended for each species listed as endangered and/or threatened to the Director, U.S. Fish and Wildlife Service.

RATIONALE FOR PROPOSED ACTION : The identification of a point of contact in each division and district will form a network that will insure that the Corps is proactive in the protection and management of ecosystems (lands/water) that support listed species and other sensitive species.

EAB RECOMMENDATION 18: The Corps should pro-actively involve other governmental agencies in its project planning and management activities. It should encourage pro-active consultations with sister agencies, thereby facilitating preventive rather that reactive approaches to environmental problem solving. A viable natural resource management partnership requires vision and leadership, an understanding of long- and short-term objectives, energy and commitment, credibility and trust. The Corps has the experience with environmental protection and restoration activities to lead in partnering activities and the Corps should expand its partnering efforts. The Corps should select the level (district, division, of headquarters) at which it is to be operational as a partner based on the geographical and political scale of the issue being addressed.

CORPS RESPONSE : Concur.

CORPS ACTION: The Corps will encourage its field offices to be more proactive in consulting with the other resource agencies in project planning and management activities. The Corps is to be operational at all levels (district, division, headquarters) for cooperation and partnering activities with the other resource agencies.

RATIONALE FOR PROPOSED ACTION: Proactive cooperation and partnering with the other agencies will result in better projects and more cost-effective solutions to the Nation's environmental problems.

EAB RECOMMENDATION 19: The Corps should expand and enhance its personnel exchanges with other Federal, State, and local government agencies. This will educate Corps personnel about the goals and operations of sister agencies and inform those agencies about Corps objectives and methods. An additional benefit will be the establishment of close working relationships among individuals who will continue to interact when they return to their respective agencies. Sufficient legislative authority already exists through the Intergovernmental Personnel Act to provide for temporary reassignment of individuals.

CORPS RESPONSE : Concur.

CORPS ACTION: The Chief of Engineers should develop and forward a memorandum to his MSC commanders encouraging greater personnel exchanges with other agencies and indicate they will be held accountable for conducting these cross-agency exchanges. Further, the Coastal America Partnership should be used as a model of how collaborative approaches can be successfully achieved.

RATIONALE FOR PROPOSED ACTION: In these times of tight Federal budgets it is imperative to understand the types of programs other agencies have that could be brought to bear on contemporary water resource problems, including environmental. One way of accomplishing this is to "walk in the other guys shoes" and personnel exchanges with other agencies can go a long way to improve intra-agency understanding of programs and processes. The Coastal America Partnership is an example of how greater understanding of agency programs focused multiple agency attention on environmental problems in coastal regions of the country. Together, ten agencies of the Federal government in cooperation with numerous state and private organizations, have worked to collaboratively address the problems of habitat loss, non-point pollution and the management of contaminated sediments. This type of approach should be encouraged across the country as a way of improving the effectiveness of government programs.

EAB RECOMMENDATION 20: **The Corps should establish a communications process that better informs potential stakeholders when new projects are in the planning stage. This will facilitate the negotiation of compromises and minimize the likelihood of adversarial situations arising. The Corps should better inform the public about what it does, and communications must be two-way. That not only helps the public understand the Corps mission, challenges, and opportunities in light of the ESA, but also provides the Corps with information about public preferences and values concerning environmental issues such as those associated with endangered species. By regularly involving the public in its planning processes, the Corps will be able to develop the trust needed to facilitate its missions.**

CORPS RESPONSE: Concur. While the NEPA "scoping" meetings and public involvement through Citizens Advisory Committees (for many of the Corps larger projects) has provided a useful communications process, it could be improved. The Interagency Working Group of headquarters staff from the Corps, Fish and Wildlife Service, National Marine Fisheries Service, and EPA is also working to better inform all the participants of new projects and other Corps activities as well as the other agencies' activities.

CORPS ACTION: The Corps will investigate ways to improve communications with all stakeholders, including the general public.

RATIONALE FOR PROPOSED ACTION: Better communications between the Corps and the stakeholders in water resources projects will benefit all concerned for the reasons stated in the EAB recommendation.

EAB RECOMMENDATION 21: **The Corps should become a leader in forming partnerships to address common environmental issues.**

A clearly identified focal point should be established in each Corps office (district, division, and headquarters) to coordinate endangered species and environmental activities, to facilitate the building of partnerships and to provide clearinghouse functions.

CORPS RESPONSE: Concur. See response to EAB RECOMMENDATION 1 regarding purpose, developments and status of the Civil Works Environmental Action Plan (CWEAP).

CORPS ACTIONS: A major element of the proposed CWEAP is Item Number 12. **Improve Communications and Develop Partnerships.** Two action items address this recommendation.

12.2 Promote collaborative efforts with other Government agencies to improve management of environmental programs which require interagency actions.

12.3 Develop and expand dialogue with environmental and conservation organizations.

RATIONALE FOR PROPOSED ACTION: The Corps has experienced success utilizing the concept of partnering in the planning, development and management of fish and wildlife resources on water resource projects. The partnering has resulted in support for both the planning and management of the project and has utilized their expertise throughout all phases of the project.

EAB RECOMMENDATION 22: The Corps, incorporating all levels and disciplines of the organization, should develop generic guidelines for establishing partnerships on endangered species management issues and concerns. These guidelines should be distributed to all division and district offices for implementation. Partnerships, established as a result of these guidelines, should be supported and funded by the Corps at all appropriate levels of management, with consideration given equal to that provided for traditional programs.

CORPS RESPONSE: The U.S. Army Environmental Strategy into the 21st Century defines the Army's commitment to meet present and future environmental challenges and provides a framework to ensure that environmental considerations are integral to the Army mission. The strategy envisions that environmental stewardship will be built into the total performance of the Army's national defense and civil works mission.

CORPS ACTION: The Civil Works Environmental Action Plan (CWEAP) is being prepared to implement the Army Strategy in the Civil Works Program. Development of the CWEAP has involved Corps division, districts and labs. The plan includes continuing, on-going, and new Action Items.

An important section of the CWEAP includes an Action Item which is directly related to the EAB RECOMMENDATION 22. The category is 4. **Conservation and Stewardship of Natural and Cultural Resources.**

4.1 Develop and implement a Corps natural resources management mission statement which specifies multiple-use management and continues a clear definition of Corps stewardship responsibilities.

4.2. Effectively develop and implement the ESA across all programs and activities Develop and implement management strategies to avoid the necessity of listing new species.

RATIONALE FOR PROPOSED ACTION: The Office of Environmental Policy (CECW-PO) and the CWEAP Steering Committee are nearing completion of a Final Draft of the Action Plan.

The draft CWEAP will be submitted to the Environmental Advisory Board for review prior to submitting it to the Office of the Assistant Secretary of the Army (Civil Works) for final approval and authorization to implement the plan.

EAB RECOMMENDATION 23 : The Corps should implement formalized partnership programs to promote technology development, technology transfer, and/or public-awareness and education programs specifically aimed at endangered species issues.

Partners or potential partners have different roles, responsibilities and authorities for addressing endangered species and environmental issues. All partners must fully recognize, understand and appreciate this. Early discussions on these differences is essential to effective partnering activities. Recognition of these differences enables the partners to identify strengths and the ability of each partner to complement and supplement the efforts of others may result in a more effective and expeditious way of doing business; this will result in a net savings in human and financial resources to all partners.

CORPS RESPONSE : Partially concur. We know from experience that this approach can work but only if all partners agree to participate fully and equally. Too often, however, we have found that the necessary partners are only capable or willing to participate to the extent of available Corps resources. This is basically unworkable when required authority to fund necessary scientific investigations lies with the potential partner.

CORPS ACTION: We have underway the probable prototype for such formalized partnership programs in a joint sea turtle/dredging impact R&D program with the National Marine Fisheries Service. If this program proves to be as effective as we anticipate it will be, it will serve as a very useful model for future partnership initiatives involving endangered species opportunities.

RATIONALE FOR PROPOSED ACTION: We view pilot programs of the type developed with the National Marine Fisheries Service as appropriate first steps to the development of more comprehensive and far-reaching partnership programs.

EAB RECOMMENDATION 24: The Corps should aggressively seek to ensure that any threatened or endangered species status, ranking, or listing activity will be the result of a collaborative effort, rather than a confrontational action.

CORPS RESPONSE: The ESA charges the Secretary's of the Interior and Commerce with the mandate to administer the provisions of the Act. This includes the prioritization of the species. In response to Interior/Commerce status reviews of specific species, the Corps provides available information regarding the distribution and life requirements of that species.

The FWS does not provide any other opportunity for Corps involvement in the listing process for species and critical habitat.

CORPS ACTIONS: The Corps provides to FWS any relevant information they have during the status review and the proposed rule making process.

RATIONALE FOR PROPOSED ACTION: The Corps has routinely responded to FWS/NMFS during the public comment period in the two processes mentioned above.

EAB RECOMMENDATION 25: A policy should be established to empower appropriate elements of the Corps to aggressively pursue partnership opportunities and to apply the best and most innovative principles and practices to environmental management and protection activities.

CORPS RESPONSE: Concur.

CORPS ACTION: The Corps will continue to pursue partnerships in response to the cost sharing principles outlined in the Water Resources Development Act of 1986 for environmental restoration projects, identified as a high priority budget item in the Corps budget guidance for the past several years.

RATIONALE FOR PROPOSED ACTION: The Corps continues to pursue partnerships in response to the cost sharing principles outlined in the Water Resources Development Act of 1986 for traditional project purposes of flood damage reduction and navigation. For several years now, environmental restoration has been identified as a high priority budget item. As the environmental features of traditional projects and newer environmental restoration projects come on line there will be an even greater need to develop the types of relationships within the environmental community as have developed with our more traditional flood control and navigation partners.

Along the lines of this EAB recommendation the Director of Civil Works has recently (28 September 1993) forwarded a memorandum to his commanders requesting that they aggressively pursue opportunities for environmental restoration in the area of the mid-West flooding using the authority of Section 1135, WRDA 1986.

EAB RECOMMENDATION 26: The land holdings of the Corps should be periodically surveyed to identify opportunities for environmental quality enhancement and/or for implementing programs designed to address environmental quality deficiencies.

CORPS RESPONSE : Concur

CORPS ACTION: The Corps will undertake periodic surveys of its land holdings to identify potential opportunities for environmental quality purposes, subject to budget constraints.

RATIONALE FOR PROPOSED ACTION: The Corps prides itself in responding to the demands of society and today the emphasis is clearly upon the environment and those activities that will restore those environmental resources that have been degraded. There are several initiatives that the Corps is presently engaged in that further supplements the proposed action.

First is the Memorandum of Understanding between the Corps and the Department of Interior regarding activities to be undertaken pursuant to the North American Waterfowl Management Plan. The Corps has completed a survey of its wetland resources and it has been determined that over 30% of the wetlands held in public trust are the responsibility of the Corps and thus the opportunities for joint venture activities with the Department of Interior are large. Second, Section 1135, WRDA 1986, authorizes a program for the Corps to examine the operations and/or structures of existing projects for the express purpose of recommending modifications for environmental quality. This program holds great promise for the Corps to respond to the contemporary environmental needs of society in that there are over 400 projects nationwide that could be examined under this authority. Both the Assistant Secretary of the Army for Civil Works and the Chief of Engineers have endorsed this program stating that it needs to be made more robust and responsive (see RATIONALE TO RECOMMENDATION 25 ABOVE).

Finally, the consideration of environmental concerns is being given greater emphasis in the Major Rehabilitation Program, again responding to the desires of society and in the re-examination of the operating plans for several reservoir

systems across the country, e.g., the Missouri River and the Columbia and Snake Rivers. In all these activities it is essential that current conditions be adequately described in order to recommend solutions that will be both environmentally responsible and address restoration opportunities and other necessary infrastructure needs in the regions their undertaken.

EAB RECOMMENDATION 27: The Corps should take the initiative in assembling an inter-agency team to evaluate the adequacies and capabilities of existing environmental data systems and to consider the formats for new and/or revised systems to address noted deficiencies.

CORPS RESPONSE: Concur.

CORPS ACTION: The Corps will investigate the environmental data systems it uses and initiate discussions with the other resource agencies on the adequacies and capabilities of all systems in use.

RATIONALE FOR PROPOSED ACTION: The Corps and other resource agencies should be using the most effective and current environmental data bases.

EAB RECOMMENDATION 28: The Corps should reaffirm, at the highest level, its commitment to the fulfillment of the environmental mission it was assigned in the Water Resources Act of 1990. Planning and operations level personnel cannot be expected to undertake non-traditional initiatives in environmental management without such a mandate.

CORPS RESPONSE: Concur.

CORPS ACTION: The Army Environmental Strategy Into the 21st Century and the Civil Works Environmental Action Plan reaffirm the Corps environmental missions at the highest levels.

RATIONALE FOR PROPOSED ACTION: The Army Environmental Stragegy and the Civil Works plan will have the strongest support from senior leaders within the Army and Corps ranks, including the Secretary of the Army, Assistant Secretary of the Army (Civil Works), the Chief of Engineers and the Director of Civil Works. We believe the active support of these documents by senior leaders will reach down to all levels in the Corps and result in the "grass roots" support of environmental missions necessary for the successful implementation of the Water Resources Development Act of 1990.

EAB RECOMMENDATION 29: The Corps should accelerate its efforts to review existing projects for the purpose of identifying and implementing reformulation options embracing environmental values.

CORPS RESPONSE: Under Section 1135 (Water Resources Development Act of 1986, as amended), the Corps regularly reviews the operations and structures of existing Corps projects with a view to modifying them for the purpose of improving the quality of the environment. Through July 1993 this has resulted in approval of 49 studies of potential project modifications. Because of the difficulty in finding cost-sharing partners it might be difficult to accelerate these efforts beyond current progress.

CORPS ACTION: The Corps will encourage its field offices to seek out cost-sharing partners to participate in additional project improvements.

RATIONALE FOR PROPOSED ACTION: Improvement of the environmental quality at existing Corps projects is one of the principal goals of the Corps stewardship mission. Any acceleration of this effort would benefit this mission.

EAB RECOMMENDATION 30: The Corps should adopt a policy of annually informing the members of the Environmental Advisory Board of the actions it has taken, or is planning to take, regarding the recommendations made by the Board at its previous meeting(s).

CORPS RESPONSE: Concur.

CORPS ACTION: The Corps will provide a summary of its responses to each recommendation made at the previous meeting and an indication of the status of each action for the Board's information.

RATIONALE FOR PROPOSED ACTION: Over the course of its existence the Board has made numerous recommendations regarding various environmental directions and policy changes they felt would be in the Corps best interest. Typically, the Corps has responded with a published report that detailed its proposed action(s) and the reason(s) for which it felt it should undertake the action. However, there has never been any follow-up back to the Board as to the disposition of each action. The current Chief of Engineers strongly believes the Corps should be accountable to the Board, thus his commitment to report on the status of all recommendations for which the Corps has agreed with a Board recommendation.

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