Malcolm Wiener Center for Social Policy

Building Connections: A Strategy to Integrate Resource Management

by

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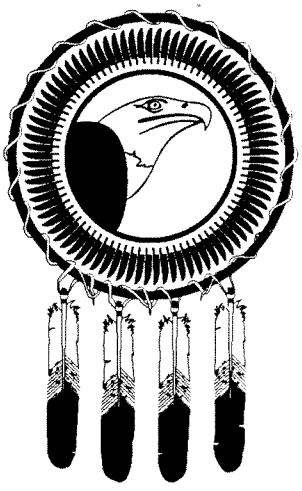

Harvard Project on
American Indian Economic Development

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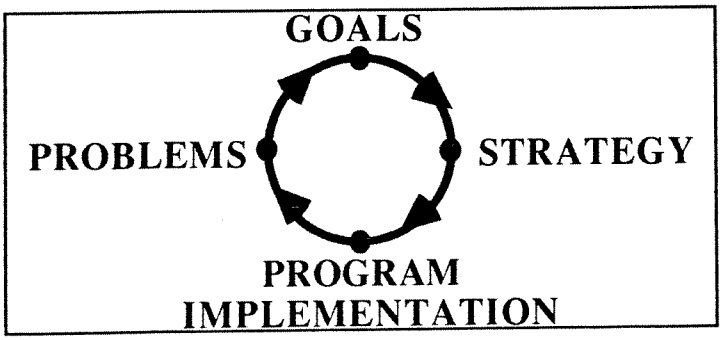
EXECUTIVE SUMMARY

The 1.6 million acres of forests, streams, mountains and range on the Fort Apache Indian Reservation are the lifeblood of the White Mountain Apache Tribe. Ensuring sustainable productivity of these resources demands that the Tribe establish comprehensive management over its lands. To achieve this goal, the Tribe must develop programs that address the weaknesses of the existing system. This framework proposes to strengthen the system by increasing coordination among resource managers.

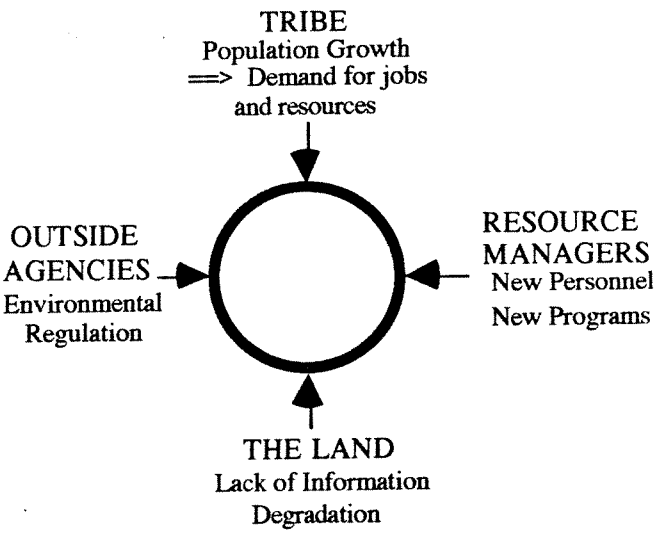


Steps to Strengthen Resource Management

PROBLEMS

The system for managing natural resources must remain stable in the face of increasing pressures from inside and outside the Reservation. Pressures such as the imposition of federal regulations may force the Council into a defensive position while resource managers rush to defuse the situation. As a result, outside agencies may view the Tribe as disorganized or unaware. While not a crisis, these negative impressions threaten the freedom of the Tribe to govern its resources.

PRESSURES ON THE SYSTEM



Intervention by Federal agencies triggers these events, but the confusion that results is a symptom of weaknesses in the Tribe's system of resource management.

WEAKNESSES OF THE CURRENT SYSTEM:

Fails to look ahead: Rather than becoming defensive, the Tribe should prepare for surprises and seize opportunities to expand its management.

Lacks coordination: The system needs additional mechanisms to coordinate the large number of activities affecting the land.

Lacks information: The system lacks the information needed to fully evaluate the potential impacts of activities.

INSUFFICIENCY OF EXISTING INSTITUTIONS:

Natural Resources Committee lacks the time and technical capacity to do analysis.

Tribal Council cannot assess the full impacts of all projects.

Endangered Species Task Force has too narrow a scope.

BIA Timber Sale Scoping Sessions are not under tribal control.

Game and Fish Department cannot coordinate all resource actors.

RISKS OF THE STATUS QUO:

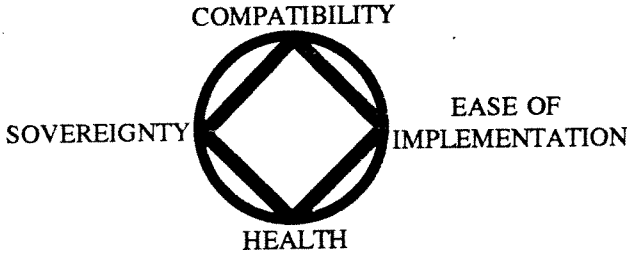
Threats to tribal sovereignty due to unanticipated interventions

Wasted resources due to a lack of coordinated planning and crisis management

Failure to take advantage of opportunities to expand management capacity

GOALS

Policies to strengthen the Tribe's system of resource management must meet four broad goals:



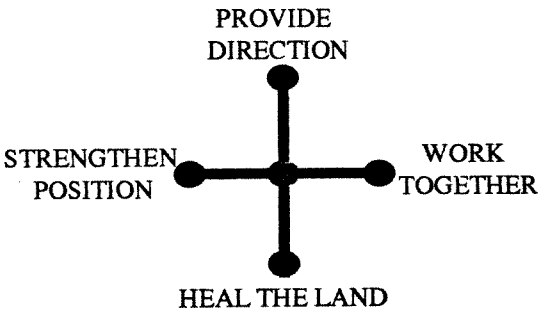
1) **Promotes sovereignty:** Does the policy assure tribal control over resources?

2) **Promotes health:** Does the policy promote the health of the land while meeting the economic needs of the Tribe?

3) **Easy to implement:** Does the policy cost the Tribe little in terms of money and energy?

4) **Compatible with culture:** Is the policy consistent with the social, organizational, and political culture of the Tribe?

STRATEGY



The Tribe should take steps toward an integrated planning process. It should not embark on the creation of a comprehensive plan, as other Tribes have done, because that would drain resources during a time of expansion and fail to address the deeper problems. Instead, the integration process should build up from the lower levels of management.

WORK TOGETHER

Working Groups bring resource professionals from the Tribe and the Bureau together to discuss projects that impact multiple resources. Sharing information and developing alternatives before decisions are made reduce the likelihood of surprises.

HEAL THE LAND

Planning projects assess the health of the land, suggest protection measures, and identify areas for restoration. Programs for **habitat assessment** and **stream restoration** benefit both the land and the tribal members recruited for this work.

PROVIDE DIRECTION

Managers need to engage the Council and the public to discuss management alternatives. **Local advisory groups, public meetings,** and **personal interviews** are options for identifying concerns. **Visual presentations** help members to evaluate alternatives.

STRENGTHEN POSITION WITH OUTSIDE AGENCIES

The Tribe should not wait for Federal agencies to understand the meaning of sovereignty; it should build institutions now to ensure comprehensive management over its resources. An integrated system would **demonstrate the Tribe's capacity** to protect its resources and **position** the Tribe to take advantage of opportunities to expand its management.

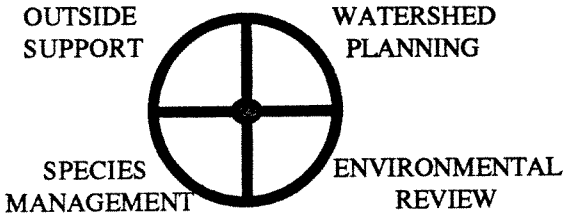
RISKS OF THE STRATEGY

Setbacks: Early failures may derail the process. Success depends on commitment from resource managers and the Council.

Costs: Programs require time, money, and probably assistance from outside agencies.

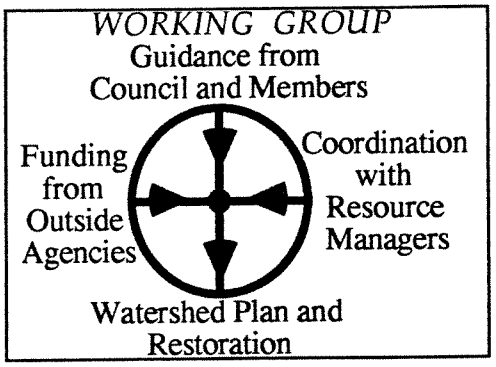
PROGRAM IMPLEMENTATION

The recommended programs integrate planning by looking at the land holistically.



WATERSHED PLANNING

Working groups of ground-level resource professionals analyze the conditions of resources and the impacts on them within a watershed.



Focus on water, an essential input to all natural resources on the Reservation

Develop management plans to guide economic development and restoration work

Compile a database of resource conditions and impacts to guide planning decisions

Seek guidance and support from Council members and local residents

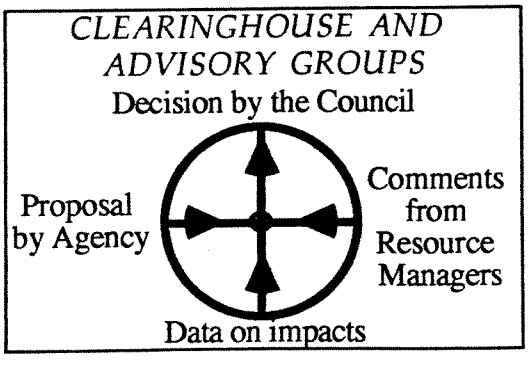
Build over time:

1) Conduct pilot project for the North Fork of the White River watershed
2) Develop plans for the West End and the East Fork of the White River
3) Integrate with development of the Forest Management Plan 2000-2010
4) Extend across the Reservation, integrating range management plans, development projects, and species conservation plans

ENVIRONMENTAL REVIEW

A **Clearinghouse** receives notification of projects, collects comments from resource managers, and forwards recommendations to the Council. The Environmental Planner fills this role initially.

Advisory Groups suggest alternatives and mitigation for projects judged to have significant impacts.



This system is preferable to the alternatives of a review board or regulatory office because it provides the needed coordination and technical expertise without encroaching on existing institutions.

NATURAL RESOURCES PLANNING OFFICE

This office **links watershed planning and environmental review** by providing staff and resources to perform analyses. It coordinates Tribal Departments, Tribal Enterprises, and the Fort Apache Agency.

ENDANGERED SPECIES MANAGEMENT

The Tribe should integrate endangered species management programs by shifting to a **habitat approach** for resource management:

Target multiple species when doing inventories

Incorporate species conservation plans into watershed planning

Train personnel to assess habitats and identify rare species

The Tribe should improve relations with outside agencies by designating the Endangered Species Coordinator as the **contact point** for processing requests.

SUPPORT FROM OUTSIDE AGENCIES

The Tribe should seize opportunities to build its management capacity and provide training for tribal members by bringing in outside funding and technical assistance.

SUMMARY

These programs would promote the Tribe's position as the paramount sovereign over its lands and protect the natural wealth of the Reservation.

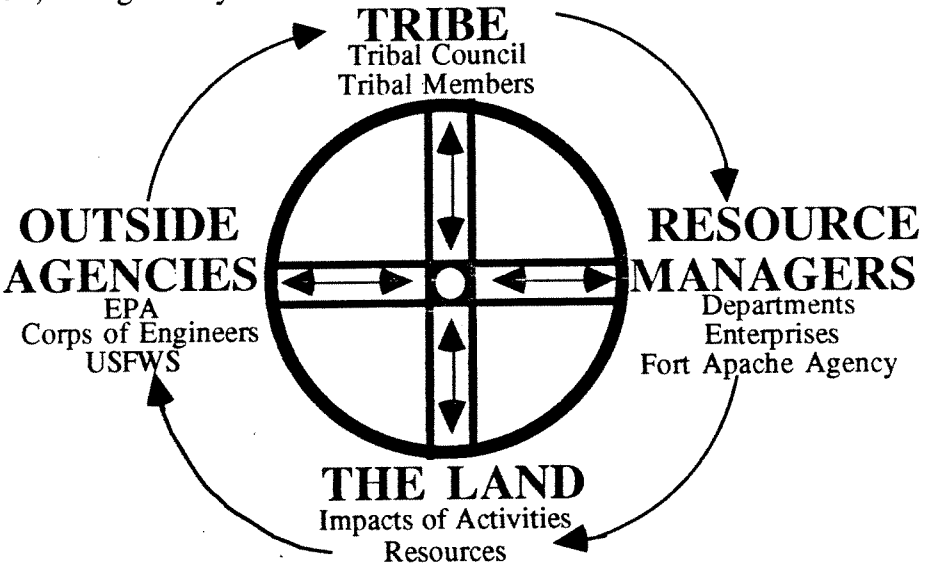
I. INTRODUCTION

The Fort Apache Indian Reservation is the ancestral home of the White Mountain Apache Tribe. Its streams nurture rich forests and rangeland as they drain south from the Mogollon Rim and west from the White Mountains. Because the land is a primary input to virtually all tribal economic activities and has immeasurable spiritual value, ensuring the health of these resources is a paramount concern.

The system for managing these resources aims toward "ultimately establishing comprehensive management of and full responsibility for our lands" (Chairman Lupe). To achieve this goal, the Tribe needs to continue building its management capacity.

THE WHEEL

This analysis presents a strategy for integrating resource management. This framework has been integrated itself, through the symbol of the wheel.[1]



The wheel consists of two elements: the circle and the spokes. The circle represents natural resource management on the Fort Apache Indian Reservation. The tribal public and its representatives on the Council provide direction

1 I have adopted these symbols from Marilyn Endfield, a fellow student and White Mountain Apache. She had applied the traditional medicine wheel to communication problems. For her, the resulting symbol synthesized a traditional Apache view with Kennedy School methods. I have modified and extended her symbol in this analysis, I hope without destroying its essential value.

from the top of the circle. The impact of management decisions generally runs clockwise. The Council directs the resource managers who act on the land. These actions may trigger responses from outside agencies who in turn may make requests to the Council.[2]

The spokes represent the connections between the different participants in resource management. Each spoke acts a bridge in the system. Information flows in both directions on each spoke. The axis of the spokes is the meeting point of the different elements of resource management.

STRUCTURE OF THE ANALYSIS

The structure of this policy analysis lays out the steps the Tribe should take to build its natural resources management system. The Tribe must target the weaknesses of the existing system (Part II) while meeting broader goals for resource development (Part III). Together these point to a strategy for building management (Part IV). Finally, to implement the necessary changes the Tribe must select specific institutions and policies that embody the strategy (Part V).

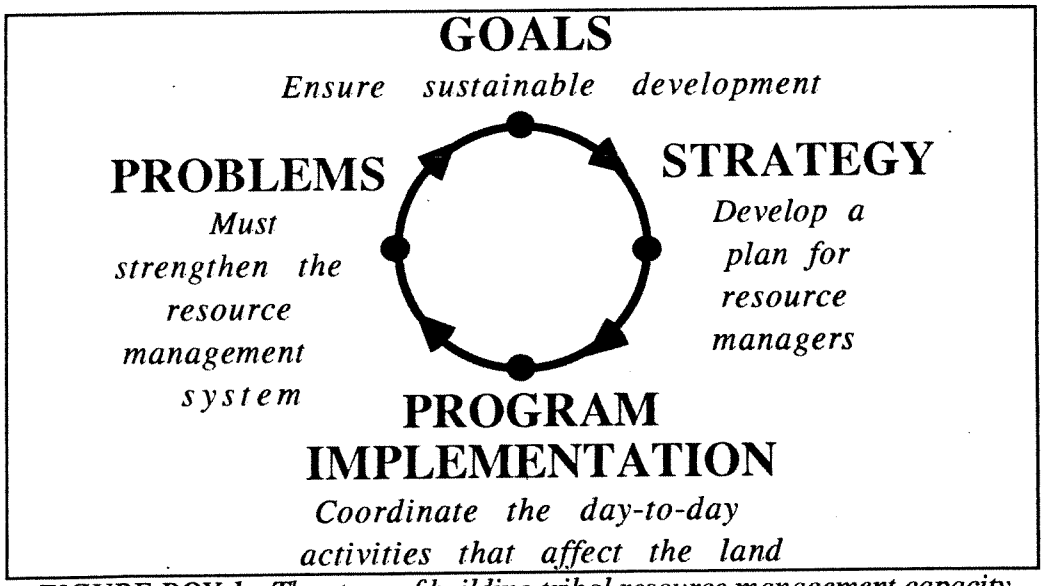
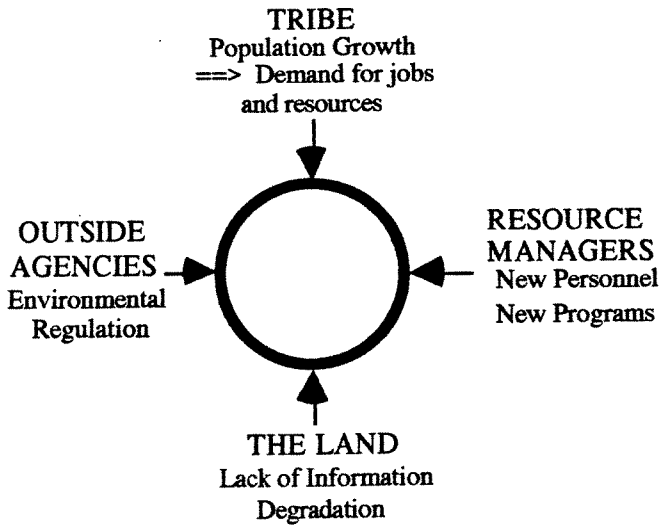


FIGURE BOX 1: The steps of building tribal resource management capacity

2 Some may question whether outside agencies should be included in the circle. The circle does not depict a chain of authority; it represents how the repercussions of management decisions typically flow through the system.

II. PROBLEMS

Pressures on the Tribe's resource management system come from four directions:



The Tribe: population growth of over 3% a year increases demands for jobs, revenues, and development of water supplies. This growth challenges managers to maintain the most desirable mix of resource uses.

Outside agencies: The Tribe's basic needs meet with increasing resistance from outside entities. Since the Reservation provides a haven for Arizona's dwindling populations of native fishes, plants and animals, the Tribe faces pressure to cease economic development. As nearly forty species of Federal concern may live on the Reservation, endangered species issues will continue to be a source of disruption.

Resource Management: Continued growth in tribal management needs to be coordinated, and the decision-making processes need to welcome new expertise.

The Land: A legacy of environmental degradation continues to cause problems today (such as the flooding of 1993, which was exacerbated by past land uses). Present activities may jeopardize future productivity.

These pressures can throw the management system out of balance. In the last two years, concerns over endangered species have disrupted projects on the Reservation and forced managers to devote great amounts of time to these issues. A recent example is the controversy over a flood control project (see box next page). When outside agencies become involved in activities on the Reservation, moments of confusion often follow.

CASE STUDY FOR PROBLEM IDENTIFICATION:

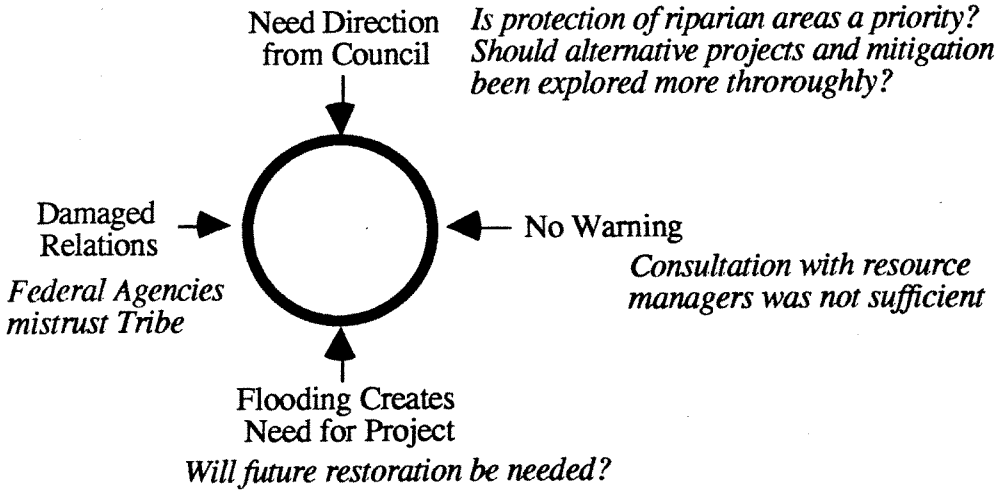
Cedar Creek Flood Control

A recent flood control project at the community of Cedar Creek dramatically illustrates the types of problems facing the resource management system. The Bureau began operations to protect areas which had been damaged in the floods of 1993. The Council had approved the project because it would benefit a community living in the flood plain of the intermittent creek.

Any project where "a CAT [bulldozer] is in the stream," is likely to attract attention (Meyer). In this case, the US Fish and Wildlife Service (FWS) urged the Army Corps of Engineers to investigate the project. FWS personnel had visited the site apparently without permission from the Tribe. These agencies charged that the Bureau's actions went beyond the authority of its permit, and the Corps stated that the project would need to meet additional mitigation requirements to continue.

The issue for this analysis is not whether the Bureau's permit was valid, nor whether the Federal government should have had authority to stop the project; the key issue was that this moment of confusion made the Tribe look bad, strained communications with Federal representatives, and threatened an important source of funds.

PROBLEMS AT THE CEDAR CREEK PROJECT



This case demonstrates that the Tribe has an opportunity to prevent future moments of confusion by instituting a proactive management system under tribal control.

MOMENTS OF CONFUSION ARE COSTLY

The internal confusion that results from federal incursions is a symptom of weaknesses in the system. Rather than becoming defensive, the Tribe's system should prepare for these surprises. The current situation is not a crisis, but even moments of confusion are costly. They disrupt projects, waste managers' time, and prevent decisions from being made in a calm, orderly manner. When the Tribe is placed on the defensive, it loses credibility with outside agencies. These events are not only inefficient, but also restrict the Tribe's freedom to manage its resources.

THE BATTLE FOR TRIBAL SOVEREIGNTY

In the past, the Tribe has fought for sovereignty over its lands. This struggle continues as the Federal Government seeks to regulate tribal development of natural resources: "the essence of these battles will be over the Indians' right to do what they have done since the Bering Strait froze over: to manage their land; to conserve and exploit their resources; to govern their people and those who come to visit or to do business" (Laurence 50). Many have argued that the main problem facing the Tribe is the Federal government's failure to respect its sovereignty. However, tribes have won sovereignty not by waiting for the federal government to change its policies, but by taking control of their own lands.

OPTION ONE: Resistance

The Tribe could remain insular except for those times when the Federal Government treads upon its sovereignty. This option rejects the notion of establishing cooperative relationships with outside agencies.

STRENGTH: This strategy is conservative and uncomplicated. It requires no investment in new programs and no ties to outside agencies.

WEAKNESSES: This strategy leaves the outcomes of interventions largely in the hands of Federal agencies. It fails to seize opportunities to expand management capacity.

OPTION TWO: Taking Control

The challenge for tribes today is to assert comprehensive management of their lands through modern institutions:

> *The tribes . . . face numerous obstacles as they attempt to design* **modern tribal government institutions** *and implement the tribes' inherent sovereign powers. Critical during this era is the exercise of sovereign powers so as to* **preclude the intrusion of unwanted state and other government jurisdiction in tribal reservation matters and to regain the role of tribes as the paramount sovereign on the reservations** [emphasis added] (Williams, S. 9).

Modern institutions for comprehensive resource management must have the capacity to fully evaluate the impacts of development projects. Having processes in place to fully inform decisions would demonstrate to outsiders that the Tribe has complete control over its lands.

STRENGTH: This approach would help the Tribe to head off possible conflicts. It would also serve to defend the Tribe in case an issue ever goes to court.

WEAKNESS: Demonstrated capacity **does not guarantee** that the Federal Government will not intervene.

RECOMMENDATION: The Tribe should aggressively pursue Option II to strengthen its position as the paramount sovereign on the Reservation.

INTERNAL PRESSURES

While the threat of federal intervention is an impetus for strengthening the system, the need to build management capacity comes from within the Tribe as well. Internal pressures can create problems, such as when a development project impacts a fishery, cultural site, or the

aesthetic value of a location. These instances may not receive the same attention as conflicts with outsiders, but they nonetheless jeopardize valuable resources.

WITHSTAND PRESSURES THROUGH COMMUNICATION

Managers should not try not to eliminate the pressures but to strengthen the management system to accommodate them. Each part of the system has particular vulnerabilities, but **the common weakness is the need for better coordination and communication.** Good communication with tribal members helps resource managers to carry out activities that reflect the vision of the Tribe. Developing a resource management system whose parts act in concert is an important step towards guaranteeing the health of the land for future generations. Promoting communication among the resource managers ensures that each knows what the others are doing. This awareness leads to more orderly management, by raising concerns before decisions are made. Communication fosters discussion of mitigation and alternative methods, which results in more informed decisions. The center of this coordination must be set within the Tribal Government, so the Tribe has direct oversight of all activities that affect the land.

THE CURRENT SYSTEM

The need for communication does not imply that agencies are running amuck on the Reservation. On the contrary, most people agree that the management system is operating more smoothly than ever. Relations between the Tribe and the Bureau have improved over the past several years (Williams, M.). The Tribe and the Bureau have hired personnel to fill gaps in management. Individuals deserve much of the credit for improvements by insisting on better communication.

EXISTING INSTITUTIONS have structured efforts to improve communication, but each has drawbacks:

Natural Resources Committee

STRENGTH: Members include resource professionals, tribal members, and Council members.

WEAKNESSES: Members have many responsibilities that prevent them from meeting frequently enough to review all activities on the Reservation. It does not have technical expertise and resources to perform intensive analysis and planning (such as developing management plans for all Category One endangered species, a task which it has been assigned by the Council).

Tribal Council

STRENGTH: Members represent the public.

WEAKNESSES: Members have great demands on their time and lack the technical expertise needed to assess all the impacts of a project.

Endangered Species Task Force

STRENGTH: Meetings serve as a useful forum for staff from the Bureau, Indian Health Services and the Tribe staff to air concerns and develop solutions.

WEAKNESSES: The body is not recognized as a center for decision-making, and its scope is too narrow to address larger resource questions.

BIA Timber Sale Scoping Sessions

STRENGTH: Open process invites input from resource managers and other concerned parties.

WEAKNESSES: The process is not under tribal control, which restricts access to data and may reduce the legitimacy of decisions (Lacapa). The scope is restricted to scheduled timber harvests.

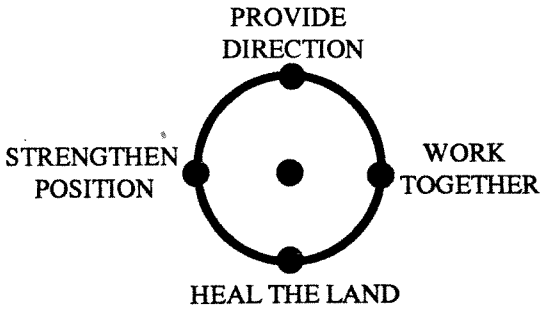
Game and Fish Department

STRENGTH: In the Tribal Code, the Board of Directors of the Recreation Enterprise (who act through this Department) have broad authority for environmental protection.

WEAKNESS: The mission of promoting wildlife prevents the Department from serving as an unbiased coordinator.

CONCLUSION: Existing institutions serve their purposes but do not go far enough to address the coordination problem. **Comprehensive coordination under Tribal control requires new institutional mechanisms.**

NEEDS FOR STRENGTHENING MANAGEMENT



WORK TOGETHER

Resource managers need to let each other know what activities they are planning. Although consultation does take place, it generally occurs through individual initiative rather than as an institutionalized requirement (Walker). A formal coordination system would create standard procedures to ensure sufficient consultation.

The resource planning process should adapt to the Tribe's growing responsibilities in the area of environmental protection by welcoming the expertise of new personnel. At the same time, integration should recognize the value of established mechanisms. The appearance of targeting particular agencies as problems would destroy cooperation and would miss the objective of promoting compatibility among resource uses. All agencies must view coordination as a shared responsibility.

HEAL THE LAND

Most observers agree that the Reservation is in excellent condition overall. However, human activities, often conducted by outside agencies, have degraded some areas. Past overharvest of timber, overgrazing, and vegetation eradication have exacerbated erosion that plagues some streams and contributes to the formation of arroyos (Elliot). The process of "healing the land" (Henry) will be slow but should be pursued adamantly.

To protect the land, resource managers must not only integrate their actions, but their views of the landscape as well. When managers carry out projects without considering the larger context of their actions, they risk creating problems elsewhere in the system. Improving coordination among managers can point out these dangers, but only when managers have an idea of what the effects of a project might be. Currently, the Tribe lacks the data and the expertise to fully assess environmental conditions. The Bureau has added a hydrologist to its

staff, filling a critical need for expertise. However, lack of data remains extensive, creating several problems:

(1) Project impacts, especially cumulative effects, are difficult to assess.

(2) Without information on the causes of degradation, attempts to restore the land are likely to fail.

(3) The Tribe may be vulnerable on endangered species issues because it cannot demonstrate the health of populations on the Reservation (Jojola).

The Tribe may also be disadvantaged because it lacks data on the mere presence of species in project areas. The Fish and Wildlife Service will generally assume the presence of endangered species unless they have substantial evidence to the contrary (for example, Razorback Suckers in the Salt River, Loach Minnows in the North Fork of the White River, and Southwestern Willow Flycatchers at Cedar Creek). Although these assumptions do not carry legal weight, the FWS has used them as justifications to intervene in activities on the Reservation. With its own data about endangered species, the Tribe could credibly deny such assumptions and perhaps avoid conflicts.

STRENGTHEN POSITION WITH OUTSIDE AGENCIES

An important component of sovereignty is the strength to work with outside agencies without sacrificing tribal interests. By remaining insular, the Tribe is sacrificing opportunities to develop the capacity to fully manage its lands.

> *In developing government institutions, however, tribes are being careful to* **design institutions** *that fit the tribal societies' cultures and limitations, and* **which have the ability of interacting productively with surrounding governments.** [emphasis added] (Williams, S. 9).

The Tribe may discourage interventions by improving relations with outside agencies. Establishing a better rapport would diminish the likelihood of misunderstandings, which can

cause costly delays. The chief danger is not openness, but confusion, which damages the Tribe's credibility.[3]

PROVIDE DIRECTION

Many resource managers have stated a wish for more direction from the Council and the public. Desires are sometimes unclear, as managers may assume that policies are in effect without clear directives from the Council. Unless managers know what the Tribe wants from the land, they cannot plan their activities to achieve the desired ends. The Bureau in particular needs direction as it seeks ways to assist while the Tribe asserts its own management. Establishing a forum where managers could identify key resource issues as a group would help the Council provide direction.

THE RISKS OF THE STATUS QUO

Although resource managers are already implementing new ideas, they will not achieve the level of integration that tribal management needs. Failure to implement a strategy for integration will result in:

more surprises that restrict Tribal activities and therefore tribal sovereignty,

environmental degradation due to poorly coordinated activities,

wasted resources due to a lack of planning and crisis management, and

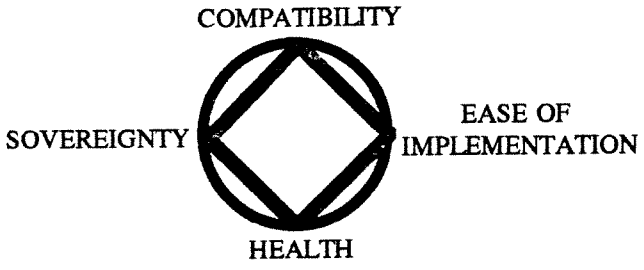
failure to take advantage of opportunities to expand tribal management.

[3]Several FWS personnel noted their frustration when relations with the Tribe seemed to worsen. Although some individuals from this agency may indeed be environmental extremists, others simply would like to see projects go through a process that gives consideration to environmental costs (Leon). These individuals understand tribal sovereignty and are potential allies who should not be dismissed.

III. GOALS

To improve the system of resource management, the Tribe must select policies that meet its needs. Managers have offered many helpful ideas, and the Tribe can also draw on the experiences of tribes that have already experimented with integrated planning. Case studies from the Navajo, Flathead, and Warm Springs Reservations provide useful models. Four broad goals for resource management help to identify which ideas would work well for the Tribe.

CRITERIA FOR EVALUATING POLICIES



(1) **SOVEREIGNTY**: Does the policy assure tribal control over resources? This goal includes building the Tribe's management capacity, reducing intervention by outside agencies, and developing the skills of tribal members.

(2) **HEALTH**: Does the policy promote the long-run health of the land while meeting the economic needs of the public?

(3) **EASE OF IMPLEMENTATION**: Is the policy relatively low-cost and straightforward? Can it be put in place without hiring new staff or diverting other resources?

(4) **COMPATIBILITY**: Is the policy compatible with the Tribe's social, organizational, and political culture? Or does it threaten existing institutions and jobs? Would tribal members be inclined to participate in the process?

FORMAT: Each policy raises five questions:

How does the policy fit in the larger picture of resource management?

What models and alternatives are there?

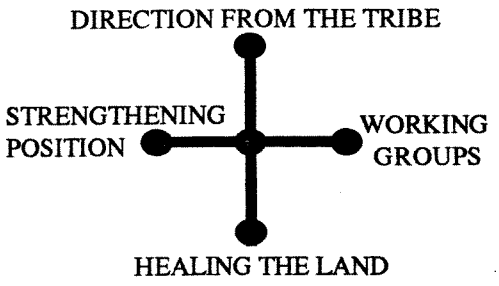
What are their strength and weaknesses?

Which policy best satisfies the above criteria?

How should the recommended policy be implemented?

IV. STRATEGY

Building Connections



The key to meeting the needs identified in the previous section is to build more connections between and within the different areas of resource management. Strengthening communication channels helps ensure that decisions are made through an orderly process, with all parties having an opportunity to provide input. The overall goal of this strategy is to strengthen the Tribe's management to withstand pressures.

THE THEORY BEHIND CONNECTIONS

Networks for transmitting information and encouraging interactions increase the quality of decisions because they:

- Speed transmission of information
- Raise awareness, which helps to help avoid surprises
- Allow groups to respond quickly to new problems or opportunities
- Encourage input from parties who might otherwise be excluded
- Promote accountability by forcing people to defend their actions to others and make commitments
- Ensure that managers have shared expectations about their mission
- Strengthen the reputation of the group to outsiders, by revealing that actions will not be taken without due process

GOALS OF AN INTEGRATED PROCESS

This strategy develops a **process** that integrates resource management. As such, it has no goals for particular resources, nor places one resource above any other. Instead, the goals of the strategy are to:

anticipate and respond quickly to surprises,

coordinate resource management activities,

arm the Tribe with data to guide and support decisions,

evolve with expanding responsibilities,

seize opportunities to expand tribal control over resource management, and

establish methods for getting input from resource managers, the Council, and the public.

The center of the communication network should be within the Tribal Government. Managers who are directly and solely responsible to the Tribe must oversee who is doing what on tribal lands. Achievement of these goals would put the Tribe in a strong position to defend its activities and obtain funds to further develop its management.

ALTERNATIVE: Integrated Resource Management Plan

Another strategy for integrated planning is to develop a comprehensive plan that identifies the goals of the Tribe for resource management and develops guidelines to achieve those goals. The process is executed by interdisciplinary teams who develop alternatives from which the Tribe can choose. Public participation is a major component of this process.

Salish and Kootenai

This "long and painful" process yielded a collection of guidelines for resource managers (Swaney). It identified tribal concerns and documented the history of Tribal management. The Tribe employed an outside consultant to guide the process.

STRENGTHS:

Helped to address the complex jurisdictional issues on the patchwork Reservation.

Provided uniform direction for the various management entities to follow.

WEAKNESSES:

Was time-consuming and expensive.

Was encumbered by legal concerns because it sought to document the history of resource management (Dupuis).

LESSONS: (Dupuis)

Get commitments early from key players.

Once initiated, stick to the process to avoid getting derailed.

Explain that it is not a regulatory document.

Warm Springs

These managers seem to have been successful, since they are now scheduling seminars on their process. These results were not achieved without a cost, however, as the process struggled to get started and lasted several years. They replaced two facilitators and went to team-building retreats before their interdisciplinary team was able to make progress (Inman). Their final results were four alternatives: one negotiated compromise and three straw men.

LESSONS:

Get all parties to commit to the mission before commencing.

Establish working groups from the beginning.

Yakima

The Tribe has developed a "beautiful, but cumbersome" document. Critics of the Plan charge that it is essentially a forest plan, and that it does not fit the needs of individual workers: although it "theoretically looks real good," it has proved "difficult to implement. . . at the grassroots level" (Unidentified BIA employee).

LESSON: **Include people who work at the ground level.**

WEAKNESSES OF IRMP: The IRMP approaches (see boxes above) offer many benefits, but they are not advisable for the Tribe for several reasons:

(1) IRMPs are time-consuming and expensive.

(2) Tribal management is expanding too fast for the single-minded focus that an IRMP would demand. A formal, long-run planning process would drain managerial resources from ongoing activities, such as the development of the Forestry Department, environmental programs, and endangered species management.

(3) New personnel would not have sufficient familiarity with the Reservation to fully participate.

(4) The Tribe is not sharply divided on resource issues. IRMPs may be most useful for reservations inhabited by multiple tribes (Warm Springs Reservation is home to three major groups) or where jurisdictional authority is fragmented (as on Flathead). In contrast, the members of the White Mountain Apache Tribe descend from closely related bands and all lands are held in trust.

(5) IRMPs may reflect the biases of their origin in the BIA. They tend to emphasize forestry (Swaney) and search for clear guidelines that enable Bureau personnel to carry out their duties. This type of product might not go much beyond the existing Forest Management Plan, nor would it necessarily promote the Tribe's goal of assuming full control over its resources.

Strategic Planning on Navajo Nation

This process focused on the commercial timber resource of the Reservation through two approaches: a computer model (TEAMS) to predict the effects of different timber harvest plans, and a "visioning" segment called **Adaptive Environmental Assessment.**

The computer model was criticized for not being able to adequately measure goals for wildlife and other non-timber values (Trosper 34). This shortcoming contributed to observers' skepticism of its value for holistic planning (Tremble).

The Adaptive Environmental Assessment is a technique that tries to get Resource Managers to develop models as a team. The key benefit of this technique is encouraging cooperation by drawing managers together for several days (National Research Council 346).

The process revealed the difficulty in working between scales (Trosper 34). Translation of members' visions into operational plans is fundamentally a question of values because it involves tradeoffs. These planning methods require intensive translation before they can be extended to Council members and other tribal members.

LESSON: This process can promote cooperation among resource managers, but it is unlikely to yield specific guidelines for everyday activities. It would serve as **one alternative to starting the long process of improving coordination:** "The AEA workshop was instrumental in causing participants to think about goals and in motivating them to attend the second workshop" (Trosper 33).

RECOMMENDATION: Small Steps. . .

The Tribal Government should develop a comprehensive plan for the land, but through an incremental process. The lack of coordination and information that exists today would frustrate managers trying to develop and implement an IRMP. Instead, the Tribe should concentrate on remedying those weaknesses.

. . . From The Bottom Up:

The strategy builds toward the goal of integrated management:

Resource planning begins with a pilot project for one area of the Reservation.

Coordination brings together workers at the ground level.

The Council delegates authority for decisions that are not questions of policy.

Young tribal members receive training and opportunities to work for the Tribe.

The process experiments with methods for involving local tribal members.

STRENGTHS

Fits Pace of Change: The strategy leads the development of tribal management but does not exceed the customarily slow pace of change.

Provides Flexibility: The strategy adapts to changing players and demands on resources. It emphasizes learning through pilot and demonstration projects.

Builds for the Future: The approach begins by bringing together people on the ground level. These individuals are likely to be removed from politics and concerned with improving the lands that they see every day. Most of the tribal members working in resource management will be in these positions. As the process evolves, these individuals will rise to higher management positions, bringing with them their experiences in integrated management.

WEAKNESSES

Risk of Sharing Information: Integrated planning requires that the Tribe work with Bureau employees and possibly outside funding agencies. This interaction raises confidentiality issues that must be addressed from the beginning.

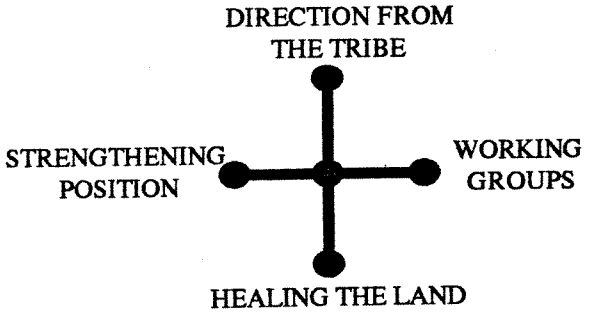
Risk of Setbacks: Because any integrated planning demands commitment from all actors in resource management, it is vulnerable to early setbacks. If the process were to fall behind schedule or be rejected by the Council, then managers could become demoralized. To avoid setbacks, the process must involve Council members early on and set generous timetables.

Risk of Delegating Authority: Resource managers may make mistakes. This risk highlights the need for Council and public input throughout the planning process.

Cost: Integrated planning places additional burdens on resource managers. Programs rely on outside funding which could prove unreliable.

Components of the Strategy:

WORKING GROUPS



The concept of working groups is central to integrated planning, described by one veteran of an IRMP process as, "where the guts of things got accomplished" (Inman). The idea is to broaden thinking by bringing together participants with different skills and perspectives. Other names for the concept include Interdisciplinary (ID) Teams, Core Groups, and Task Forces.

Working groups assemble for specific projects, with representatives invited from resource users which have significant interests in the particular assignment. As integration builds momentum for larger tasks (such as the Forest Management Plan), higher level working groups can form. Integration starting from the bottom should remedy the most severe problem, lack of communication, while preparing the system for broader changes.

WEAKNESSES of Working Groups

Require time and energy from resource managers who already have heavy workloads.

Need support from the Tribal Council to become a planning body and not just a forum for airing grievances.

Working Groups on Navajo

The watershed planning process is operated through workings groups that draw together experts from various disciplines and resources (see Appendix A) and include staff from the Soil Conservation Service (Seronde).

STRENGTHS of Working Groups

Are flexible, because participants are selected on an ad hoc basis.

Build on existing models, such as the BIA scoping sessions and Endangered Species Task Force.

Share knowledge of the activities taking place on the Reservation, conditions of resources, and new ideas for management.

Promote coordination with the Bureau.

Provide a voice for resource managers. The Council may give more weight to the recommendations of a working group than to individual managers or Bureau-run groups. Working groups can raise issues that require direction from the Council.

Interdisciplinary Teams at Warm Springs

An IRMP Team prepared the IRMP and the Environmental Assessment for the Plan. It included scientists and planners from many disciplines, and an outside consultant who served as facilitator.

Two types of interdisciplinary teams now have responsibility for implementing the IRMP:

Resource Management Team: a standing committee composed of chairs and managers of various departments and committees, which ensures that the planning process is integrated.

Project Interdisciplinary Team: an ad hoc group including technical experts from various fields, which develops integrated plans for particular projects.

Prepare tribal members for leadership positions within tribal management.

May fit with Apache culture. While the Apache language does not include word for long-term planning, it has a word meaning "to confer" (Basso).

BUILDING THE TEAM: The strategy gets people involved from the start, so they will have a stake in the outcome.

Size: The group should be large enough to represent the important interests, but must be small enough to operate efficiently. A core group of five to eight members is ideal.

Membership:

Experts with training in science and resource management

Workers on the ground, chosen from the lower ranks of agencies (including technicians) who have more time and openness to working with people from other agencies (Burnette)

Tribal Members, who have personal investments in the land, familiarity with the history of land-use, and a better sense of what other members would like to see. Participation of members, especially those who speak Apache, increases the legitimacy of the process and facilitates interactions with the tribal public (Declay, Lacapa)

Decision-making: Members, including Bureau personnel, should have equal voice in deliberations. Advocates for particular resources should not dominate the group.

Support: A **Council Resolution** provides authority and policy direction. The resolution should instruct Department and Enterprise Managers to comply with the process and allocate time for representatives to participate. A **Memorandum of Understanding** with the Bureau could secure its support and outline expectations for the process.

Authority: The working group should be expected to make decisions, except when cross-jurisdictional concerns, large amounts of resources, or significant policy questions are at stake. In those cases, the working group should make recommendations to the Council or the Natural Resources Committee.

STRUCTURE OF WORKING GROUPS

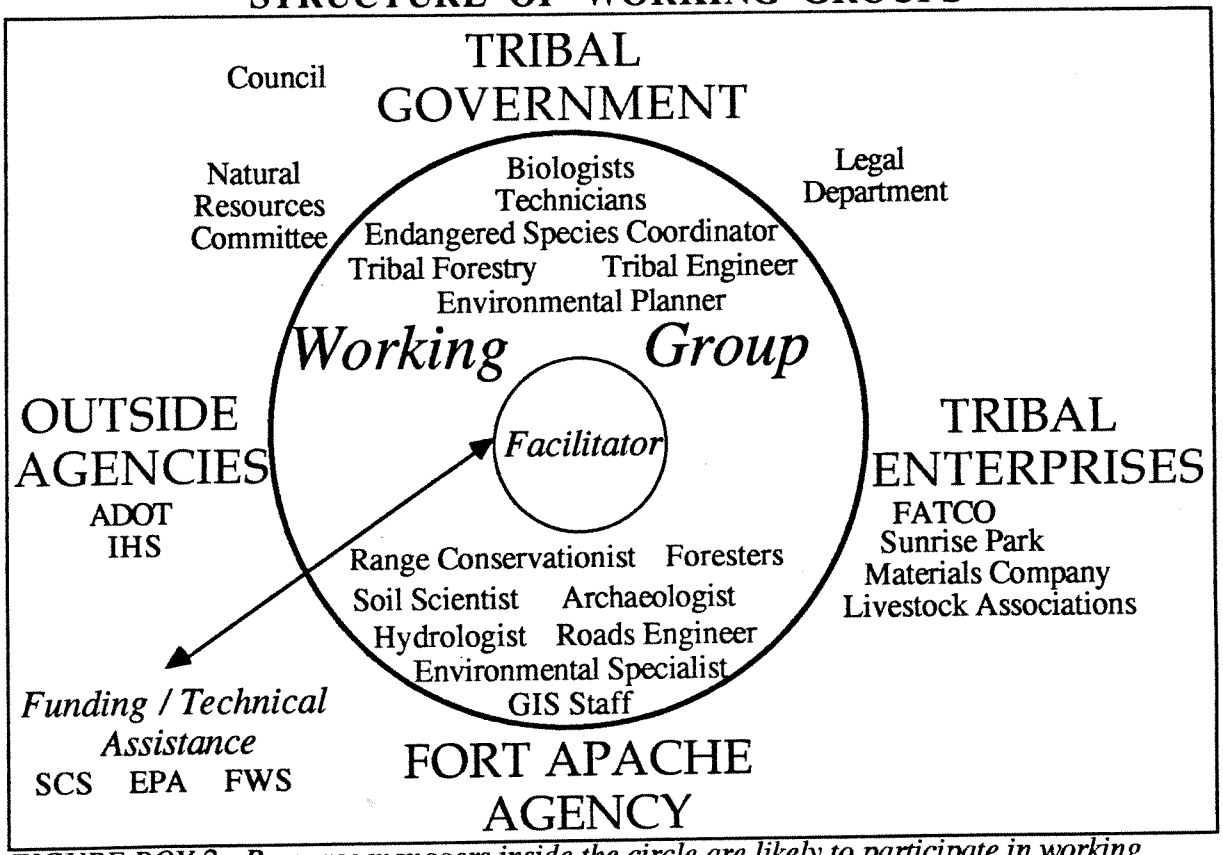


FIGURE BOX 2: Resource managers inside the circle are likely to participate in working groups. Working groups consult with or receive information from entities outside the circle.

Working Groups on Flathead

On this Reservation, working groups have been assembled to carry out environmental review based on the NEPA (National Environmental Policy Act) process. Although this method is based on a Federal law, the Tribe is committed to the process because they consider it to be a good planning tool. The working group helps to bring people together from the different governments that have management responsibilities, and it "encourages each discipline to take ownership of the resource" (Spry).

THE FACILITATOR, or team leader, ensures that the group makes progress. The facilitator should be viewed as nonpartisan, whose mission is to help the group reach consensus by ensuring that the process runs smoothly. In the case of Warm Springs, parties were so divided that they had to bring in a facilitator from outside (Inman). However, on Flathead, the facilitator merely had previous training (from Shipley Associates) and experience with the NEPA process (see box above). Although being an employee and member of the Tribe is ideal, the most important requirement is acceptance by all parties.

A Common Frame of Reference allows participants to develop a shared understanding of environmental impacts. Geographic Information Systems (GIS) technology helps planners to interpret data and formulate alternatives.

HEALING THE LAND

Integrated resource management can help the land to recover from past injuries and avoid new ones. Managers agree that the land has been damaged in places; but they also agree that there is not enough data to determine how serious the damage is. This area of connections-building starts by obtaining data on the health of the land. With this information, managers can determine what sort of mitigation is desirable for a given project and to identify goals for restoration.

COMPONENTS

Data Collection : Incorporate more information on ecosystem health and impacts into the GIS database.

Priority-setting: Choose areas for study and assessment based on public concerns, wildlife, degree of degradation, and economic value.

Assessment: Monitor areas of concern over long period to get a complete picture of the extent and nature of impacts. Conduct **inventories** of endangered species and vegetation. Study water quality and erosion.

Demonstration Projects: Determine the potential of mitigation techniques.

Restoration: Employ revegetation, in-stream improvements, closing or re-routing of roads, and exclosures.

RISK OF DATA COLLECTION

Collecting data on water flows and endangered species raises serious legal concerns. To ensure the confidentiality of sensitive information:

1) Explain the Tribe's policies regarding information release to potential funding agencies before agreements are made.

2) Draft Memoranda of Understanding (MOUs) to outline responsibilities.

3) Have the Legal Department establish a process for classifying sensitive information.

4) Keep sensitive information out of final documents.

INTEGRATED AQUATIC ECOSYSTEM RESTORATION

> *The integrated approach to aquatic restoration tries to consider major ecological interactions in a watershed and seeks to nurture the watershed's restoration to a functioning system, rather than to manage for a single species or for a resource commodity such as game fish* (National Research Council 341).

This method brings together disciplines such as hydrology, geomorphology, and systems analysis to try to restore ecosystems to past conditions. Although roads, water developments and overgrazing have dramatically altered many water courses from their pre-disturbance condition; road closures, grazing controls and other mitigation will improve the health of areas.

LESSONS FROM INTEGRATED ECOSYSTEM RESTORATION

Restoration should **begin at the headwaters** and follow the watercourses down.

Restoration should **target the cause** of the problem, not the symptoms.

Managers should have a good idea of **conditions prior to disturbance** before attempting to restore areas.

Long-term monitoring is essential to evaluating restoration work.

WEAKNESSES of Restoration

Unfeasibility: For many riparian areas, full restoration is infeasible because the water regimes have been altered by soil changes and water developments.

Risk of Failure: Floods may undo restoration work. Many problems will exceed the capacity of short-term solutions.

Cost: Integrated restoration requires a long-term investment of resources. The benefits of restoration are difficult to predict and monetize.

STRENGTHS of Restoration

Ecosystem Health: This process looks at all the impacts on an ecosystem. Management which aims at specific targets, such as water quality or single species, will not assure healthy ecosystems.

Avoided Costs: Reducing impacts today can prevent future problems such as erosion, loss of wildlife, and deterioration of water quality.

Long-term Benefits: Successful restoration will allow future generations to see the land as their grandparents knew it.

DIRECTION FROM THE TRIBE

Integrated planning requires a vision for the future from the owners of the land. To encourage acceptance, the process should conform to Apache norms regarding leadership. As the White Mountain Apaches have relied on centralized authority for decision-making (Cornell 31), the Tribal Council should maintain responsibility for making resource policy decisions. However, Apache culture also has a tradition of consultation with local members (Endfield). Under the building connections strategy, resource managers assume this duty by soliciting input from members with ties to particular planning areas. This process will gradually develop a vision for the land that the Council members can translate into policy and resource managers can translate into actions on the ground.

Getting input from the public is one of the most difficult challenges of integrated planning. Other tribes have tried many approaches, often with disappointing results (Inman, Seronde). Members are unlikely to voice concerns except for those issues which directly affect their lives, such as firewood gathering (Burnette). Because of this reluctance, managers will have to try a variety of methods.

OPTIONS FOR PUBLIC INPUT:

Public Meetings

STRENGTHS: Meetings present an opportunity for members to voice their concerns. Federally funded programs typically require public meetings. Consequently, getting members familiar with the process may be desirable in the long-run as the Tribal Government assumes new responsibilities through federal funding (Markillie).

WEAKNESSES: They are likely to be poorly attended, even with extensive advertising. At Warm Springs, planners aired proposals on the radio and placed updates in the newspaper, but even then few members attended (Inman). Meetings do not draw a representative sample from the population, but rather attract members with special interests (Seronde).

Citizen Advisory Groups

STRUCTURE: Respected citizens from local communities advise project working groups. Managers who are tribal members recommend individuals to serve in this capacity, favoring those who know the land and traditions and do not have obvious biases towards particular resources.[4]

STRENGTHS: Groups provide an opportunity for in-depth discussion of alternatives with tribal members whose lives may be impacted by projects. This approach may fit better with traditional means of soliciting opinion than public hearings (Taylor 30). Small focus groups were helpful in getting input for the development of the Tribal Forestry program (Lacapa).

WEAKNESSES: Individuals may be reluctant to discuss their ideas in groups, particularly with non-Apaches or with educated persons (Declay, Lacapa). Ensuring a balance of views is difficult. The groups may be regarded as a threat to the Council.

Individual Outreach

STRENGTHS: Individual contact is necessary when trying to reach older members or where people are dispersed. It has worked well on the Navajo Nation, where herders are spread far apart (Seronde). Interviews with members may provide information about past conditions of the land, which is valuable for planning restoration activities.

WEAKNESSES: Members may be reluctant to talk, particularly with non-Apaches (Declay). Therefore, having tribal members lead interviews is essential.

[4]The standard for participation might be similar to the ethics board on the Rosebud Reservation, to which members are selected "on the basis of their 'wisdom, integrity and knowledge of Lakota culture'" (Cornell 30). However, this standard might exclude young people, whose participation is desirable.

Input from Members who are Managers

STRENGTHS: Members have a personal stake in the land as well as an understanding of resource management issues. Members within the Bureau's Forestry Department have begun to gather to discuss ways of improving management.

WEAKNESSES: Members working for the Tribe are not representative of the general public because they have received college educations and are typically from a narrow age group. The Council may have less regard for the opinions of members working for the Bureau (Lacapa).

CONCLUSION: The process should experiment with different methods to determine which are most useful. Learning how to best obtain public input will be a long-term process.

RELATIONS WITH THE COUNCIL

Tribal planners must explain to the Council that working groups do not make policy, but suggest improvements. Resource managers should invite representatives to participate in planning projects that affect their districts. The Natural Resources Committee should review the recommendations of working groups before they go to the Council.

A **policy directive** from the Council, perhaps as the preamble to a resolution, should authorize and outline goals for the integrated planning process. The development of a vision will remain an interactive process involving the Council, resource managers, and the public.

Vision Statement

Many people have suggested that the Council members, with or without assistance from the resource managers, develop a vision of what they want the land to look like. A concise summary of goals for the land would provide broad guidance for managers. However, it should not be viewed as the last word in direction from the Tribe, but merely as one step in a long process.

VISUAL PRESENTATIONS have great potential for communicating alternatives to members, because they can overcome language barriers (see box below). Tribal members may be uncomfortable with written English,

Overcoming Language Barriers on the Flathead Reservation

Language proved to be a barrier to developing the IRMP, so the Tribe employed a professional editor and devoted much effort to harmonizing writing styles. Managers also spent lots of time developing visual displays to explain the IRMP to the public (Swaney).

especially scientific jargon. **Photographs, maps, and computer-generated images** can be processed more easily. Impacts on the environment can be understood better when they are made visual. Already several resource managers have plans to use photography more in their activities (Meyer, Burnette, Jones). **Demonstration projects** help to demonstrate the effects of resource uses and mitigation.

STRENGTHENING POSITION

Managers should promote the Tribe's sovereignty by strengthening its position with outside agencies. The programs in this analysis would place the Tribe ahead of trends in national policy, resulting in opportunities to expand management and decrease the likelihood of intervention.

COOPERATIVE PROGRAMS WITH OUTSIDE AGENCIES

The Tribe would benefit from having access to multiple sources of funding and technical expertise while developing an integrated planning system. However, any agreements must protect the Tribe's security by setting forth the limits on sharing information.

CONTACT POINTS

The Council should designate individuals to manage relations with particular outside agencies. Formal relations speed the exchange of information and reduce the likelihood of misunderstandings. All parties should feel secure that they know whom to contact when a problem arises. The Legal Department and the Council should draw up guidelines for handling requests from outside agencies.

FUTURE OPPORTUNITIES FROM FEDERAL LEGISLATION

Indian Fish and Wildlife Resources Management Act: This bill may pass this summer, providing funds for tribal integrated resource management and educational support for tribal members (see Appendix B). The current draft also provides a mechanism for tribes to assume administration of Interior Department programs.

Clean Water Act: Upcoming reauthorization is likely to emphasize land-use planning to reduce nonpoint source pollution.

Endangered Species Act: Modifications will emphasize habitat- and ecosystem-oriented programs rather than single-species efforts.

TREATMENT AS A STATE PROGRAM DELEGATION

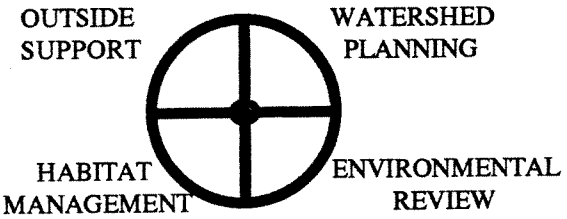
The Tribe took a major step towards developing its management capacity by applying for Treatment As a State (TAS) under the Clean Water Act last fall. The Tribe will likely win approval for broad TAS authority, however, to assume control over specific programs, the Tribe will have to make additional showings of regulatory power. The Confederated Salish and Kootenai Tribes have applied for everything that the Federal Government has allowed to be delegated, **in the interest of self-determination** (Haire). This attitude is an admirable goal, however the Tribe does not yet have the luxury of being able to assume authority for programs without regard to the costs.

REGULATION:

An important issue raised by the subject of TAS is how the Tribe should develop its regulatory authority. To administer certain programs in the future, including the National Pollutant Discharge Elimination Systems (NPDES, section 402 of the Clean Water Act) and Dredge and Fill Permitting (section 404), the Tribe will have to demonstrate "adequate regulatory power to administer the specific program" (Federal Register, Vol. 58, No. 244, 67968). Other tribal managers believe that tribes will have to demonstrate authority similar to the EPA's (Merz, Haire). This model, geared towards permitting private companies, is not necessarily appropriate for regulation on the Reservation, because most actions are carried out by tribal or Federal entities. An internal consultation process with Council support should be sufficient to ensure compliance. Monitoring the results of mitigation will likely prove to be a more important concern. Therefore, the Tribe should not institute a formal regulatory process at this time, although that option should remain open.

V. PROGRAMS FOR IMPLEMENTATION

WATERSHED PLANNING



Planning by watersheds provides an integrated, ecosystem-oriented approach to managing natural resources. The goal is to pursue compatibility of resource uses through study and cooperation, not regulation. Projects identify possible conflicts in resource management, prioritize those conflicts, and try to resolve them through the application of ecosystem-based methods. Structuring the planning process around ecological units focuses attention on environmental impacts, which helps to ensure that development is sustainable. However, watershed planning is *not equivalent to watershed management*. That type of program, as implemented by the Forest Service, focuses on restoring watershed health through the *reduction* of land-disturbing activities (Maxwell 7). Watershed planning provides a framework for analyzing impacts, but does not have the implicit goal of curtailing development.

STRENGTHS of Watershed Planning

"Blue gold": water is an exceedingly valuable resource for tribes in the Southwest.

Ecosystem Management: The watershed is a convenient and scientifically sound choice of scale for managing ecosystems. One cannot assess the health of a watershed without examining all the impacts that occur within it.

Integrated Planning: While multi-resource planning partitions lands into areas of "dominant use," the watershed approach integrates by promoting compatibility of multiple uses.

Manageability: Watersheds provide logical boundaries for planning, especially since the Reservation contains most of the headwaters of its watersheds. Subwatershed projects can be built up to create full watershed plans. Furthermore, watershed planning cuts across existing resource plans (forest and range) without superseding them.

Endangered Species: The vast majority of species of concern on the Reservation are found in riparian or riverine habitats.

Future of Management Concerns: Future tribal programs (such as Treatment As a State) will focus on water issues. Developing management plans for watersheds demonstrates the Tribe's capacity and commitment to manage these resources.

Compatibility: A geographical approach may make more sense to members than dividing the Reservation along topical lines (e.g. timber and range).

WEAKNESSES of Watershed Planning

Lack of Data: Long-term information about resource conditions is especially rare.

Cost: Good watershed planning is not cheap.

Reliance on Federal Grants: The Environmental Protection Agency or Soil Conservation Service may provide support for these activities, which raises concerns about confidentiality and sovereignty.

COMPONENTS

Working groups conduct the watershed planning program. They assess the present conditions of a watershed and develop guidelines for future development and restoration activities. The plans address timber harvests, recreation expansion, flood control projects, livestock grazing, road construction, access to borrow pits, and all other activities that have significant impacts. The groups consult with teams proposing large projects in a particular watershed. The process relies heavily on the **Geographical Information Systems** technology. Restoration activities follow an **Integrated Aquatic Ecosystem** approach. Each watershed project goes through four stages (see Figure box below).

PROJECT OUTLINE:

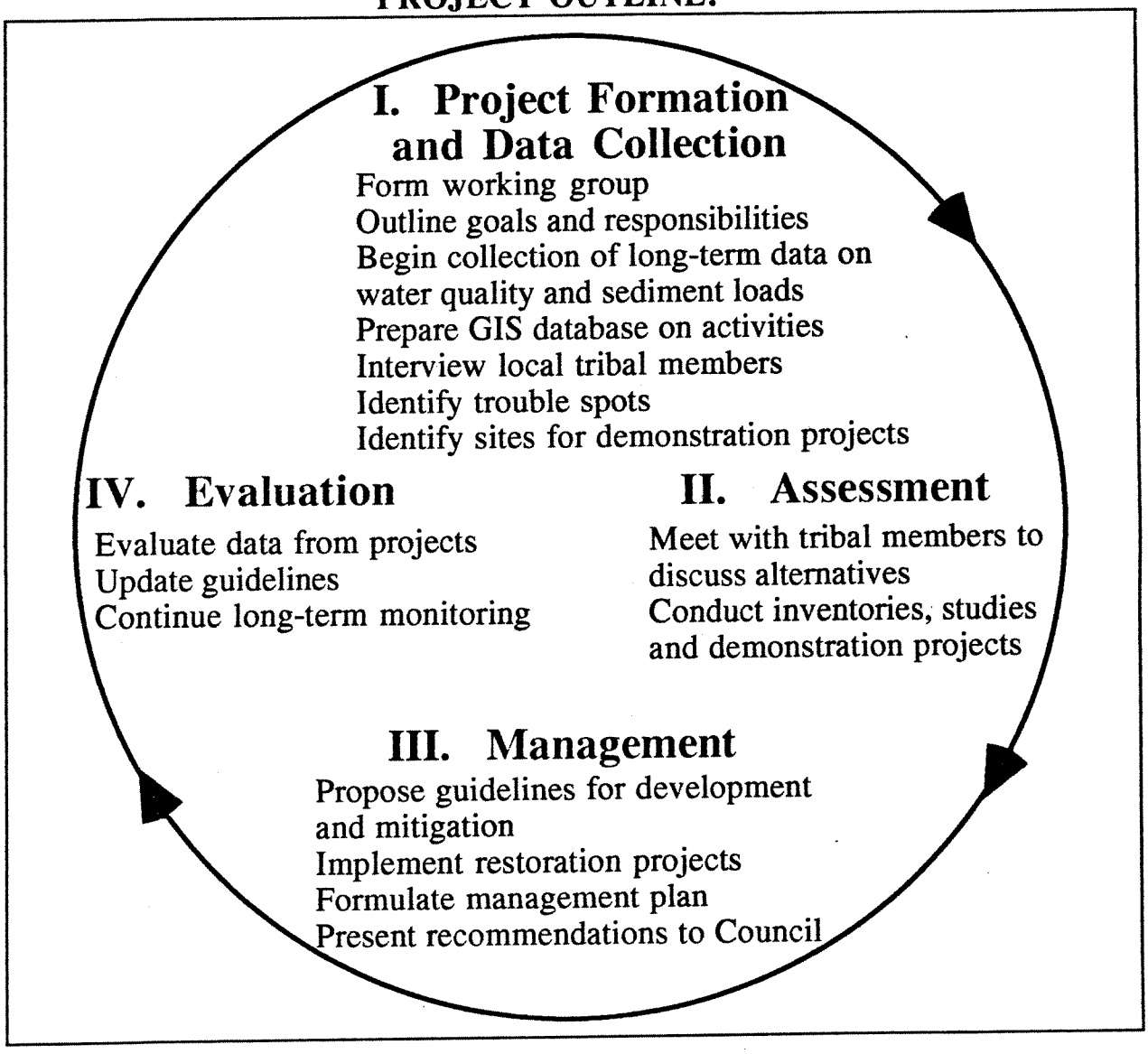


FIGURE BOX 3: Watershed projects proceed through four stages. Working groups reflect the structure outlined in Figure box 2, page 19.

FUNDING: The Tribe should apply for funding from Administration for Native Americans, the EPA Clean Water Act and Wetlands programs, and the Soil Conservation Service. If Congress passes and appropriates moneys for the Indian Fish and Wildlife Resources Management Act, the Tribe will enjoy access to a continuous source of operational funds (see Appendix B).

Watershed Planning at Navajo Nation

This program grafts ecosystem management concepts onto a system developed by the Soil Conservation Service. The system should eventually produce one to two watershed plans per year (Seronde) (see Appendix A).

These experiments focus on improving grazing practices to reduce erosion, so their results might be valuable for projects on the West End of the Reservation.

The Tribe also is developing a program for managing wetlands, with hopes for eventually assuming authority over the Army Corps of Engineers' Dredge and Fill Program (Merz).

INCLUDING OUTSIDE AGENCIES: The project coordinator needs to maintain regular contact with funding agencies through progress updates. The Legal Department should advise the working group which information ought not be shared.

IMPLEMENTATION

(1) Institute a pilot project for the upper North Fork of the White River subwatershed to open up the lines of communication and develop the process for assessing watersheds (see Appendix C for map of project area). The project requires a coordinator and a technician, at least one of whom should be an Apache-speaking member.

STRENGTHS of starting on the North Fork subwatershed

- Focuses on activities in the headwaters which potentially impact the entire drainage.
- Addresses multiple resource uses, including expanding recreation facilities.
- Targets one of the most degraded streams on the Reservation (Leon).
- Centers on endangered species concerns.

WEAKNESS

- Comes too late to develop in conjunction with the major timber sales in the area.

(2) Extend the North Fork project downstream to include the communities of Hondah and McNary.

(3) Establish a **Stream Restoration Program** to employ young tribal members, possibly with funding with the Fish and Wildlife Service (see Appendix D for proposed format). Such a program serves many useful purposes:

Provide training and summer employment to young people

Encourage tribal members to find positions in the Tribe's resource management

Foster a cooperative relationship with the Fish and Wildlife Service

Help to restore the land

(4) **Draft ordinances** that uphold the guidelines developed for specific watershed plans.

(5) Integrate watershed planning with the **Forest Management Plan 2000-2010.** The process for eliciting public participation should draw on the experiences of the pilot watershed project.

(6) Extend the watershed planning process to other areas of the Reservation (see Appendix E for a complete watershed map). A number of locations are worth consideration:

Cibecue and Carrizo Watersheds: extensive degradation due to flooding, erosion, and overgrazing.

Salt River: high recreational use from white water rafting; unique ecosystem on the Reservation; designated critical habitat for the Razorback Sucker.

East Fork of White River: endangered species; stream degradation.

ENVIRONMENTAL REVIEW

A system of environmental review improves planning of resource activities. Proponents of projects that may significantly effect the environment announce their plans to a coordinator within the Tribal Government. Initially, the process serves to share information and suggest alternatives. If a project requires an Environmental Assessment (EA) or Environmental Impact Statement (EIS) (because federal funds are involved), then the concerns of reviewers should be incorporated into such a document. As the Review process evolves, however, it may become the center for formulating such reports (as on Flathead, see box page 19). The process addresses cultural concerns through the direct participation of the archaeologist and eventually a cultural resources planning office.

STRENGTHS of Environmental Review

Formal Process with Technical Expertise: Resource managers ensure that project proponents and Council members understand the full impacts of a project and possible alternatives.

Not Regulation: Review aims to improve proposals rather than shut them down. The process helps to produce consistent guidelines for development.

Early Warning: Review alerts the Tribe to potential problems.

Credibility: Environmental review strengthens the Tribe's position with outsiders.

WEAKNESSES of Environmental Review

Slowing the process: Project approval may be delayed; however, it may also facilitate approval by the Council.

Non-cooperation: Managers may fail to accept the recommendations of reviewers, and the system depends on Council resolutions to demand compliance.

OPTIONS for Environmental Review:

Clearinghouse and Advisory Groups

STRUCTURE: The Environmental Planner serves as the clearinghouse for information on projects and management plans. Concerned parties comment on the project and request that a **working group** be created if impacts are substantial or highly uncertain. **Recommendations** are forwarded to the Natural Resources Committee or Tribal Council.
MODELS: The NEPA planning process, as on the Flathead Reservation.
WEAKNESSES: The process is relatively weak and does not appear independent.
STRENGTH: Flexible format ensures that only people with an interest in a project need participate

Environmental Protection Board

STRUCTURE: Directors of resource management activities serve on a standing committee to review projects.
MODELS: Warm Springs IRMP Committee, Flathead Shoreline Protection Board
WEAKNESSES: The board becomes a new power center, creating debate over who should have that authority. It overlaps the role of Natural Resources Committee and still requires technical expertise.
STRENGTHS: The standing committee provides continuity and clear authority.

Independent Agency

STRUCTURE: An environmental protection office conducts environmental reviews. The head of the office permits projects that satisfy criteria laid out in tribal protection ordinances.
MODELS: Navajo EPA and Natural Heritage Program, Flathead Shoreline Protection Office
WEAKNESS: Conflictual permitting process is inappropriate for internal projects.
STRENGTHS: Independence may increase willingness to challenge bad projects (Tremble). The format is compatible with Federal standards for delegating program authority.

No change

STRUCTURE: Consultation is limited to timber sale scoping sessions, meetings of the Natural Resources Committee, and individual initiative. Some projects may go directly to Tribal Council before resource managers have the opportunity to comment.
WEAKNESSES: Tribe lacks full information about project impacts and appears reactive to outsiders.
STRENGTHS: Maintaining the existing system does not place additional duties on resource managers and does not challenge existing institutions.

RECOMMENDATION

A Clearinghouse coupled with advisory groups (Option 1) satisfies the need for environmental review without challenging the existing decision-making institutions. Resource managers can provide technical expertise without generating debates about who should have authority to approve projects.

IMPLEMENTATION of Environmental Review

A Council Resolution authorizes the Tribal Environmental Planner to serve as a clearinghouse for all projects that may have a significant impact on the environment.

Subjects of Environmental Review (not inclusive)	
Timber Sales	Expansion of Sunrise Park
Range Management Plans	Recreation Plans
Roads	Flood Control Projects
Housing Developments	Water Developments

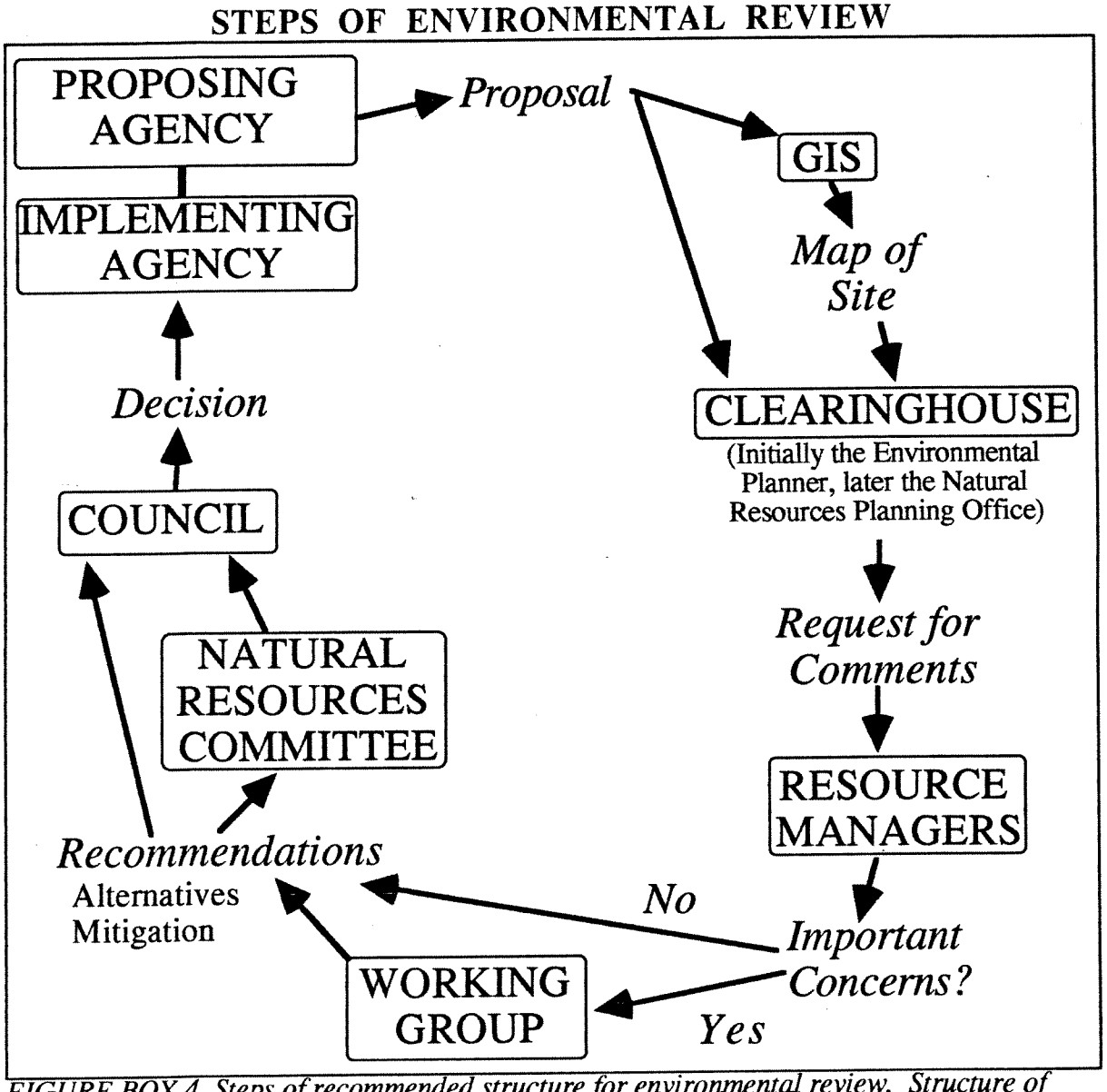


FIGURE BOX 4 Steps of recommended structure for environmental review. Structure of working groups is displayed in Figure box 2, page 19.

Enforcement is a concern, although a Council Resolution may be sufficient to ensure compliance. Enforcement responsibility should be left with the Game and Fish Department for now, because it has legal authority and wardens to protect tribal lands.

NATURAL RESOURCES PLANNING OFFICE

Environmental review and watershed planning come together under this umbrella, which provides staff and resources to do project analysis. The head of the office assembles working groups and serves as a liaison with the Bureau and outside agencies (for a description of a model from the Salish and Kootenai, see Taylor 23). The office branches out of the Planning Department to become a free-standing agency whose resources are shared by the various resource departments.

ENDANGERED SPECIES MANAGEMENT

The Tribe should not develop its capacity to manage endangered species solely to ease the burden of federal regulation. Resource managers need to know about the health of these populations to ensure that they are not lost unknowingly. These species often indicate the health of ecosystems, and therefore provide warning when more tangible benefits, such as fisheries, are being sacrificed.

Habitat Management

Since species often overlap in habitats, assuming a habitat orientation is more efficient than addressing species as each becomes a major concern. The Tribe should broaden its management beyond the four priority species (Mexican Spotted Owl, Arizona Willow, Loach Minnow, and Razorback Sucker), because any one of nearly forty species may become an issue in the future. Arming itself with habitat data simplifies the process of assessing the location and health of these species.

IMPLEMENTATION of Habitat Management

Game and Fish Department **integrates Species Conservation Plans** with watershed planning.

Endangered Species Coordinator arranges a **seminar on endangered species** to educate tribal personnel about the rare plants and animals which may be found on the Reservation. This event builds tribal capacity to manage endangered species, demonstrates the Tribe's commitment, and engages outside agencies in a cooperative activity (see Appendix F for proposal).

Game and Fish Department collects **systematic habitat data** when doing species surveys and **records sightings of additional species of concern,** as has been done for the Goshawk.

Game and Fish Department **trains surveyors in habitat typing and species identification.** These skills provide information to head off future conflicts, as well as demonstrating the Tribe's capacity to manage this issue.

Endangered Species Coordinator **networks with other tribes and agencies** engaged in endangered species and habitat management (see Appendix G).

Consolidation of Responsibilities

The Endangered Species Coordinator should assume management of endangered species issues, including serving as the contact point with outside agencies. Consultation with the Tribal Council and Legal Department is still necessary, but decisions should pass through this channel.

WEAKNESS of Consolidation

Risk of Backlash if the Coordinator makes decisions that do not seem to resist federal intervention strongly enough.

STRENGTH

Improved relations with the Fish and Wildlife Service because there is a clear process for dealing with the Tribe. As a fellow scientist, the coordinator is better able to communicate with FWS personnel (Gatz).

IMPLEMENTATION to Consolidate Responsibility

Council and Legal Department develops **guidelines** for site visits by outside agencies and information release outside the Tribe.

Bureau requests to the FWS for information on endangered species **routinely pass through the Coordinator.**

The Tribe **retains the Endangered Species Task Force,** which provides a useful forum for exchanging information. The Coordinator is appointed Chair (or Co-Chair during a transition period).

GIS MAPPING

The tremendous potential of the Geographic Information System for resource management remains largely untapped. Most tools for integrated planning demand further use and development of the GIS database. Once the system is fully developed, resource planners will obtain information rapidly for particular locations (see Appendix H for information needs). The Planning Department has considered sharing the Bureau's system as well as acquiring its own system. A separate system would guarantee Tribal control and simplify funding issues, but planners should ensure full compatibility and transferability.

IMPLEMENTATION to Develop the GIS

Responsibilities for data collection are shared by the Environmental Planner, watershed project managers, Game and Fish Personnel, Bureau Hydrologist, and the Endangered Species Coordinator.

The Bureau GIS staff assemble the data.

Watershed planning staff are trained on the Bureau's system.

Gap Analysis: The endangered species coordinator and GIS staff jointly plan an analysis of important habitats on the Reservation for endangered species. Overlaying that map with information about resource uses and protected areas points out the "gaps" where species may be vulnerable.

SUPPORT FROM OUTSIDE AGENCIES

Although the Tribe and Bureau are developing their own expertise, outside assistance meets particular needs for integrated planning. For example, the Navajo Nation has developed an extensive relationship with the Soil Conservation Service (SCS) for watershed planning. Resources Planner Jacques Seronde feels that the SCS provides benefits with no real strings attached, since its programs are voluntary. All tribes in Arizona except the White Mountain Apache and the Hopi are currently included in conservation districts (Carmichael). The Tribe should reestablish relations with this agency by establishing the Reservation as a conservation district or requesting the SCS to staff a suboffice (Carmichael).

STRENGTHS of a Relationship with the Soil Conservation Service

Watershed planning process has access to funding and technical expertise.

Programs are voluntary. (For a list of programs available to tribes, see Appendix I)

WEAKNESSES

Allowing another Federal Agency onto the Reservation, particularly to address water-related issues, raises concerns over sovereignty and water rights.

To establish the Reservation as a conservation district, the Tribe has to provide funds for the office ($10,000-$30,000 a year). However, the Navajo Nation has successfully applied for a special appropriation from Congress to staff a full-time office (Seronde).

LONG-TERM VISION: A Division of Natural Resources?

Many managers within the Tribe feel that creating an umbrella organization is a logical long-term step.

WEAKNESSES

Creates a bureaucracy with concentrated power

May fail to coordinate activities at the ground level

STRENGTHS

Institutionalizes the mechanisms for coordination

Creates possible economies of scale and scope

RECOMMENDATION

Rather than trying to impose coordination through a structural change, the process should proceed with the less formal approach outlined in this analysis. As managers become used to coordinating their activities, the switch to a unified agency might become less of an issue. If integration does not arise through informal attempts, it will not succeed through formal imposition.

SUMMARY

These programs complement each other well, but the Tribe need not choose between all of them or none. The core strategy of building connections applies to variations of these proposals, and it is flexible enough to accommodate changing needs.

Implementation of these programs would protect the natural wealth of the Reservation, ensure sustainable economic development, and strengthen the Tribe's position as the paramount sovereign over its lands. They would not impose an undue financial burden on the Tribe but instead would increase efficiency over the long-run. Therefore, they meet three of the criteria used in this analysis. Whether they meet the fourth, compatibility with the culture, can be decided only by the White Mountain Apache Tribe.

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APPENDIX A

LIST OF PARTICIPANTS IN WATERSHED PLANNING AND ECOSYSTEM MANAGEMENT ON NAVAJO NATION

- Agriculture Department (range)
- Archaeology (on a project specific basis)
- Fish and Wildlife Department (for habitat management)
- Forestry
- Historic Preservation (cultural resources)
- Parks and Recreation
- Water Development (construction)
- Water Management (data collection)
  (one person from this agency also does public outreach)
- Navajo Environmental Protection Agency (nonpoint source pollution)
- Soil Conservation Service staff

GAPS: (noted by Seronde)

- Agronomist
- Geomorphologist
- Hydraulic Engineers

APPENDIX B

INDIAN FISH AND WILDLIFE RESOURCES MANAGEMENT ACT OF 1993
Draft Senate Bill 1526, March 18, 1994

Elements relevant for integrated planning:

"the United States has an obligation to provide assistance to Indian tribes to (A) achieve integrated resource management. . ." (section 101 (13)(A)).

An Indian Fish and Wildlife Resource Management Program will be administered within the Bureau, "in a manner that maximizes the transfer of financial resources to fish and wildlife management programs administered by tribes and tribal organizations" (section 201 (b)).

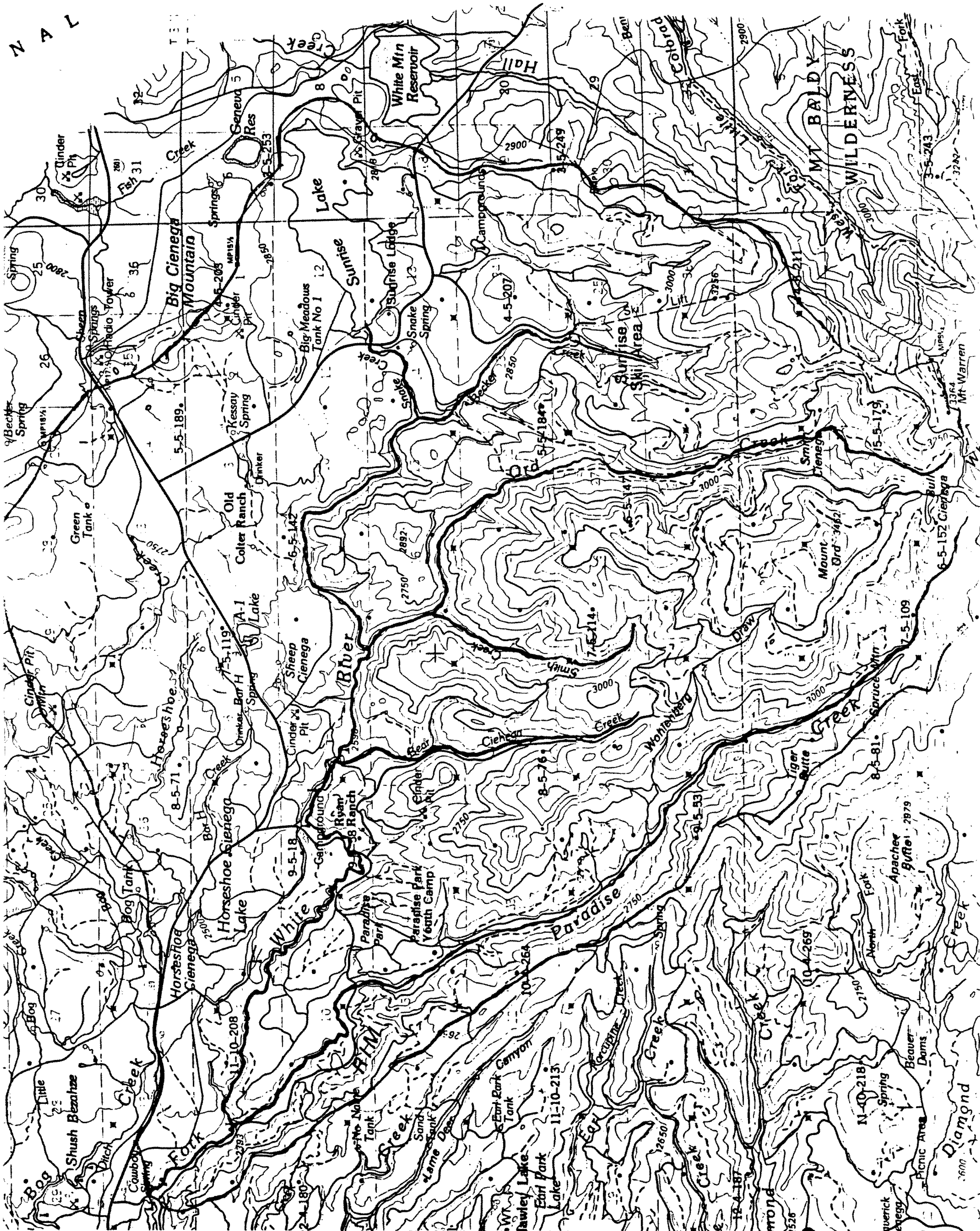
The Indian Fish and Wildlife Resource Management Education Assistance Program will "promote and develop full tribal technical capability and competence in managing fish and wildlife resource programs" (section 102 (6)). This program includes scholarships, a biologist intern program, and a cooperative education program.

An Integrated Resource Management Plan is "a plan developed pursuant to the process used by tribal governments to assess available resources and to provide identified comprehensive management objectives that include quality of life, production goals, and landscape descriptions of all designated resources that may include, but are not limited to, water, fish, wildlife, forestry, agriculture, minerals, and recreation, as well as community and municipal resources, and may include any previously adopted tribal codes and plans related to such resources" (section 103 (13))

Indian Fish and Wildlife Resource Management Plans, "shall

- (i) determine the condition of fish and wildlife resources and habitat conditions;
- (ii) identify specific tribal fish and wildlife resource goals and objectives;
- (iii) establish management objectives for the resources;
- (iv) establish, where applicable, hatchery management objectives for the Indian Fish Hatchery Assistance Program established pursuant to section 203 of this Act;
- (v) define critical values of the Indian tribe and its members and provide identified comprehensive management objectives;
- (vi) use existing survey documents, reports, and other research from Federal agencies and tribal community colleges; and
- (vii) be completed not later than 3 years after the initiation of activity to establish the plan" (section 201 (e)(1)(C)).

APPENDIX C: *Upper North Fork of the White River subwatershed*



APPENDIX D

STREAM RESTORATION PROGRAM

The Tribe and the Fish and Wildlife Service have discussed the idea of a stream restoration program that would hire young tribal members. The program should extend to training for habitat identification and assessment. Year-round activities are necessary to conduct revegetation programs that may not succeed during the summer months. The FWS' Partners in Wildlife Program has partially funded this type of work on the Navajo Nation (Tremble).

SCOPE OF ACTIVITIES

Stream inventory and habitat assessment (including species identification and habitat typing).

In-stream structures (placing boulders and logs to create pools)

Revegetation

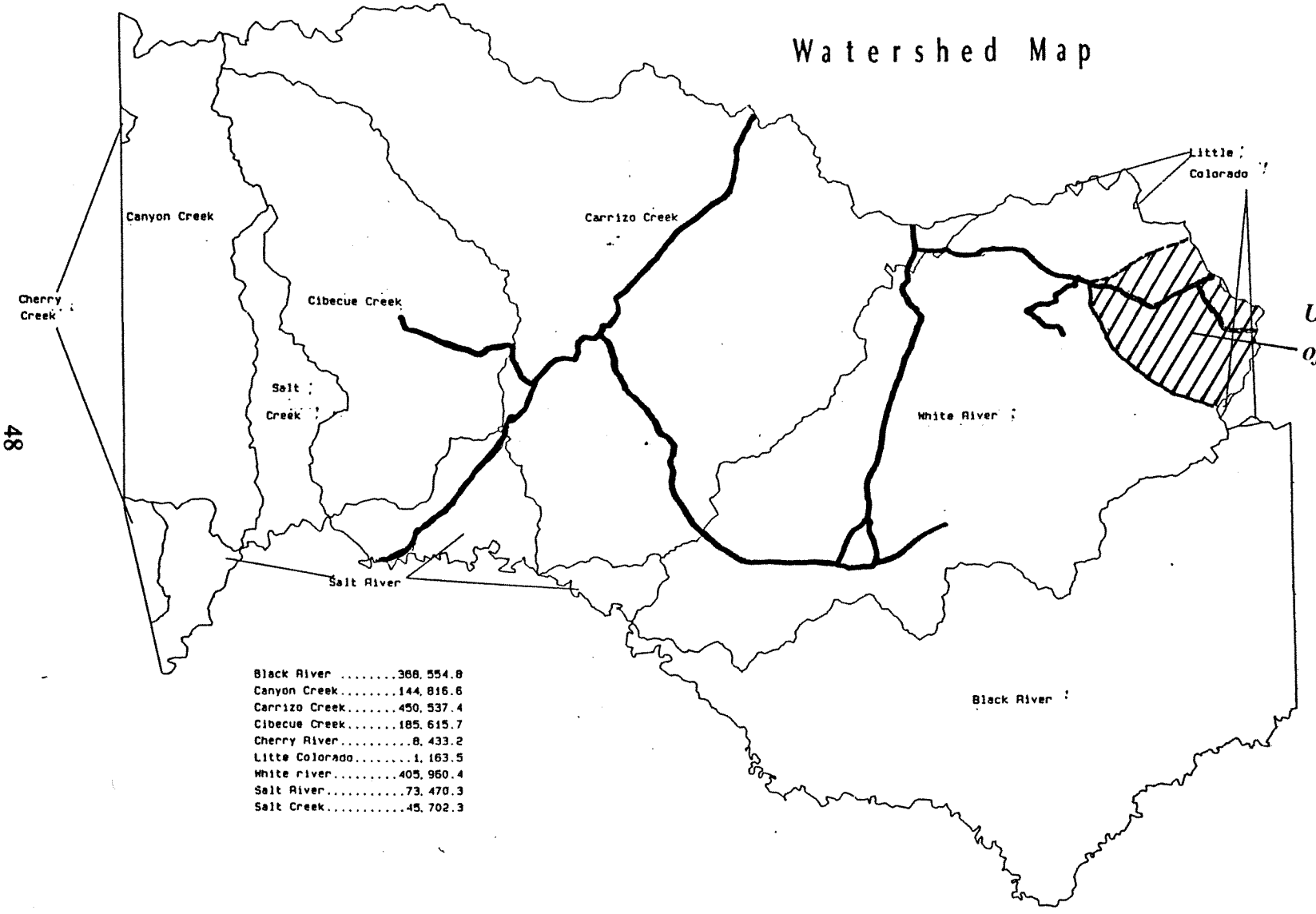
Fencing

Stream monitoring

APPENDIX E

Fort Apache Indian Reservation

Watershed Map



Upper North Fork of the White River subwatershed

APPENDIX F

ENDANGERED SPECIES SEMINAR

PURPOSE

To discuss techniques for identifying and managing endangered species (no formal discussion of policy whatsoever).

POSSIBLE PARTICIPANTS

WHITE MOUNTAIN APACHE TRIBE
- Endangered Species Coordinator
- Game and Fish biologists and technicians
- Environmental Planner and Environmental Technicians

FORT APACHE AGENCY
- Foresters
- Range Conservationist

US FISH AND WILDLIFE SERVICE
- Endangered Species Coordinator

ARIZONA GAME AND FISH DEPARTMENT

OTHER TRIBES (Navajo Natural Heritage Program)

THE NATURE CONSERVANCY
- Public Lands Planner / Plant Biologist
- Tribal Lands Program Coordinator

SCHEDULE

July or August of 1994 (when most rare wildflowers are in bloom)

1) Off-Reservation (Pinetop): Participants discuss methods and visit sites on the National Forests bordering the Reservation.

2) On-Reservation: Endangered Species Coordinator lead **tribal and Bureau personnel only** on visits to sites on the Reservation.

APPENDIX G

PROGRAMS OF INTEREST TO INTEGRATED PLANNING

Rincon and Sonoran Institutes

Biologist Mark Briggs is developing a guide to riparian evaluation and restoration. He is looking for organizations with whom to share this information and possibly participate in training programs on riparian area assessment.

US Fish and Wildlife Service, Arizona Fishery Resources Office

Stuart Leon is developing a guide to the fishes of the White Mountains. The Tribe would receive good publicity for its fisheries by working with him on this document.

Forest Service Watershed Management

The US Forest Service is incorporating watershed management within its overarching framework for ecosystem management. The Management by Watersheds Program seeks to maintain healthy watersheds and to restore ailing ones. Analysis, management and monitoring are the three main components. Land disturbing activities, such as timber harvests, may continue if the watershed is judged healthy (Maxwell 7).

US Forest Service, Southwestern Region

This agency is developing watershed management practices for Piñon-Juniper ecosystems (Southwestern Region / Rocky Mountain Station Ecosystem Management ID Team 2). Foresters on the Gila National Forest are engaging in habitat management experiments using prescribed burning (Stuever).

Navajo Nation Heritage Program

Partners in Wildlife cooperative agreement with the Fish and Wildlife Service is restoring a sand dune ecosystem.

Wetlands Program is developing criteria for identification and mitigation for wetlands. Products of this program are to be shared with other Tribes.

Little Colorado Ecosystem Inventory is an interdisciplinary program that is recording extensive data about this ecosystem in a GIS database. This information will inform the development of a management plan for the watershed. The Bureau of Reclamation is partially funding the program.

Reintroduction of Black-Footed Ferrets on Navajo

The Navajo Nation is working with several agencies, including the US Fish and Wildlife Service and Arizona Game and Fish Department, on plans to reintroduce the endangered black-footed ferret to Aubrey Valley in northern Arizona (Belitsky 9).

Natural Communities Conservation in Southern California

The goal of several multi-species planning efforts is to direct development away from sites of high value for biodiversity. By assuming a habitat-oriented approach, the agencies hope to resolve endangered species conflicts more efficiently than through a species-by-species approach. So far, the Fish and Wildlife Service has supported the approach, although they question whether the system of core areas connected by wildlife corridors would sufficiently protect the species. Acceptance by the FWS of this habitat approach might provide a useful precedent for tribes.

The Arboretum at Flagstaff

This botanical institution is doing conservation work with rare native plants, including the Goodding Onion, a Category 1 species found on the Reservation. (The Center for Plant Conservation 2).

APPENDIX H

GIS DATABASE NEEDS FOR INTEGRATED PLANNING

The database should ultimately incorporate all land uses and natural resources of the Reservation:

Wildlife and Habitat
Endangered species locations
Migration routes and other corridors
Habitat types
Wetlands

Environmental Conditions
Water quality data
Erosion data

Socio-economic Activities
Timber cutting
Prescribed burns
Grazing activity
Fencing
Roads
Housing developments
Sunrise Park
Water developments
Irrigation systems
Recreational uses
Cultural sites

Management Status
Closed areas
Reserved areas
Buffer areas

APPENDIX I

SOIL CONSERVATION SERVICE PROGRAMS AVAILABLE TO TRIBES

- Emergency Conservation Program
- Engineering and Design for Irrigation
- Plant Materials Program
- Resource Conservation and Development
- Resource Inventory
- River Basin Studies
- Soil Survey
- Water Quality Demonstration Projects
- Water Quality Hydrologic Unit Areas
- Watershed Protection and Flood Prevention (PL 566)

APPENDIX J IMPLEMENTATION MAP

STAGE	Watershed Planning	Environmental Review	Species Management	External Relations
I *First Steps* Summer 1994	Tribe initiates pilot project for North Fork of White River (Stage I) Set up monitoring points Perform site analysis Inteview local members Plan demonstration projects	Council authorizes Environmental Planner as Clearinghouse for environmental review	Council and Legal Department draft policy for processing requests from outside agencies ESC conducts seminar on endangered species	Planning Department establishes SCS suboffice
II *Development* 1995	North Fork Project enters Stage II Implement demonstration projects Hold public meetings	Tribe establishes Natural Resources Planning Office (NRPO) Council passes Environmental Protection Ordinance	G&F conducts multispecies inventories in project areas G&F and Foresters receive training in habitat typing	NRPO applies for funding under Indian Fish and Wildlife Resources Management Act ESC assumes control of USFWS programs
III *Integration* 1996	North Fork Project enters Stage III Make presentations Write Watershed Plan Conduct restoration projects NRPO and Forestry Dept cooperate on Forest Management Plan 2010	NRPO works with project teams on water developments, community planning projects	ESC performs Gap Analysis Tribe has information on all species of concern	Tribe seeks Treatment As a State authority for: Safe Drinking Water Act, Clean Air Act, Dredge and Fill Permitting
IV *Goal* 2005	Watershed Plans extend across Reservation Integrated ecosystem programs restore degraded areas	Internal coordinating office (NRPO) integrates resources management	Programs manage sensitive habitats	Tribe has control over all Federal programs Tribe has cooperative programs with outside agencies

KEY: ESC = Endangered Species Coordinator G&F = Game and Fish Department NRPO = Natural Resources Planning Office
FWS = US Fish & Wildlife Service SCS = USDA Soil Conservation Service