

The Effect of the “No Surprises” Policy on Habitat Conservation Planning and the Endangered Species Act

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Abstract

Beginning in the 1960's, the United States experienced heavy growth, development, and suburbanization. As a result, the United States incurred a loss of species habitat and biodiversity. This conflict between development and species biodiversity instigated increased concern of environmental issues in the United States. The heightened concern over environmental issues in the early 1970's resulted in the passage of a series of acts designed to protect the environment and the biodiversity in the U.S. Among these acts was the Endangered Species Act of 1973 (ESA). While other acts of the 1970's had little impact on species, the ESA has been an integral part of species and habitat protection.

The purpose of this paper is to provide an overview of the ESA and the impact of the "No Surprises" policy on habitat conservation planning. Habitat conservation planning was initiated in 1982 in response to drawbacks of the ESA. The "No Surprises" policy was introduced in 1994 to mend shortcomings of the habitat conservation planning process. The paper presents three descriptive chapters on the ESA, habitat conservation plans (HCPs), and the "No Surprises" policy, then investigates the HCP process in two case studies.

Table of Contents

List of Tables & Figures	v
Chapter 1: Introduction	1
Chapter 2: History of the Endangered Species Act	3
Background.....	3
ESA Framework.....	3
How does the ESA Protect Species?.....	3
Determining which Species need Protection	4
Critical Habitat Protection	6
Recovery Plans.....	6
Prohibited Actions against a Listed Species	7
Exemptions from the ESA	7
Punishment for those who Harm Listed Species	7
Conclusions.....	8
Chapter 3: Habitat Conservation Plans	9
Why HCPs?.....	9
HCP Basics	10
HCP Development Process.....	10
Pre-application Process.....	12
Determine the Applicant.....	12
Determine Steering Committee.....	12
Consult the FWS	14
Plan Development Process.....	15
Define Land Area.....	15
Gather Biological Data	15
Identify Activities	15
Determine Anticipated Take Levels	16
Develop Mitigation Measures.....	17
Develop Monitoring Measures	18
Unforeseen Circumstances.....	18
Funding Scheme.....	20
Alternatives Description	20
Proposed New Guidelines.....	21
HCP Strengths.....	23
Enhanced Species Protection	23
HCP’s Potential.....	23
Scientific Base	23
Habitat Protection	23

HCP Weaknesses	24
Legal Tool for Destruction.....	24
Scientific Doubts.....	24
Species Endangerment has no Bearing on HCP Initiation.....	24
HCPs Rely on Forecasting	25
HCP Process consumes too many Resources	25
Uncertainty.....	25
Conclusion	26
Chapter 4: The “No Surprises” Policy	27
What is it?	27
Strengths of the “No Surprises” Policy.....	31
Increased Certainty for Landowners.....	31
Implementing Agreement	32
Weaknesses of the “No Surprises” Policy	33
Nature is Full of Surprises	33
Legislative Uncertainty	33
Conclusion	33
Chapter 5: Case Studies	35
The Balcones Canyonlands Conservation Plan	35
Background.....	35
HCP Process.....	36
Conclusion	40
The Plum Creek Conservation Plan.....	41
Background.....	41
HCP Process.....	42
Conclusion	49
Chapter 6: Conclusion.....	52
Literature Cited	55

List of Tables & Figures

Table 1: Characteristics Encouraged for Future HCP Efforts	11
Table 2: The HCP Process as Outlined by the FWS.....	13
Table 3: Logical Elements to Consider when Developing a Monitoring Program....	19
Table 4: Typical Elements of an Implementing Agreement	32
Table 5: Protected Habitat in BCCP	39
Figure 1: Biological Data Collection Process.....	16
Figure 2: Recommended Preserve Units of the BCCP	38
Figure 3: Habitat Conservation Area of the PCCP	43

Chapter 1



Introduction

Beginning in the 1960's, the United States experienced heavy growth, development, and suburbanization. As a result, the United States incurred a loss of species habitat and biodiversity. This conflict between development and species biodiversity instigated increased concern of environmental issues in the United States. The heightened concern over environmental issues in the early 1970's resulted in the passage of a series of acts designed to protect the environment and the biodiversity in the U.S. Among these acts was the Endangered Species Act of 1973 (ESA). While other acts of the 1970's had little impact on species, the ESA has been an integral part of species and habitat protection.

The purpose of this paper is to provide an overview of the ESA and the impact of the "No Surprises" policy on habitat conservation planning. Habitat conservation planning was initiated in 1982 in response to drawbacks of the ESA. The "No Surprises" policy was introduced in 1994 to mend shortcomings of the habitat conservation planning process. The paper presents three descriptive chapters on the ESA, habitat conservation plans (HCPs), and the "No Surprises" policy, then investigates the HCP process in two case studies.

Chapter two gives an overview of the language of the ESA and how it works. It also gives shortcomings of the ESA's original language and establishes the need for

HCPs. Chapter three gives an overview of the HCP development process, and how HCPs provide protection to species. The chapter provides strengths and weaknesses of HCPs, and introduces how the “No Surprises” policy may have a positive effect on the HCP process. Chapter four explains the “No Surprises” policy and what it does.

Case studies are presented in the fifth chapter to demonstrate the effect of the “No Surprises” policy on HCPs. The Balcones Canyonlands Conservation Plan represents the HCP process before the “No Surprises” policy, and the Plum Creek Conservation Plan represents the process after the “No Surprises” policy was introduced in 1994.

Finally, chapter six compares the two cases and clarifies the differences between the two. The comparison serves as a basis for discussing the potential effect of the “No Surprises” policy on habitat conservation planning.

Chapter 2



History of the Endangered Species Act

What is the ESA?

In 1973, the United States Congress enacted the Endangered Species Act of 1973 (ESA). Considered by many as the “pit bull of federal environmental statutes,” (Thorton, 1991) the ESA seeks to prevent species extinction and to protect threatened and endangered species in the United States. “The ESA attempts to accomplish an extremely complicated physical task: the preservation of the nation’s biological diversity in the midst of unrelenting development and economic growth” (Vaughan, 1994).

What do “Threatened and Endangered Species” mean?

The ESA defines threatened species as “any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range” (16 U.S.C. 1532(20)). Endangered species “means any species which is in danger of extinction throughout all or a significant portion of its range...” (16 U.S.C. 1532(6)). A species can receive no protection under the ESA unless it is listed as threatened or endangered.

How does the ESA Protect Species?

Placed next to other legislation, the ESA appears relatively laconic and is quite comprehensible. The Secretary of the Interior implements the majority of the provisions of the ESA in conjunction with the United States Fish and Wildlife Service. The

language of the ESA provides (1) a method to determine which species need protection; (2) a method to protect critical habitat; (3) a method for species recovery; (4) a fundamental description of prohibited actions against a listed species; (5) exemptions from the ESA; and (6) punishment for those who harm listed species.

(1) Determining which Species need Protection

Section 4 outlines the process for the listing of threatened or endangered species. This section directs the Secretary of the Interior (Secretary) to formulate regulations to determine whether any species is endangered or threatened. However, first a listing action must be initiated.

The FWS may initiate a listing action if it has the proper scientific data that warrants a species being listed. However, groups outside the FWS initiate most listing action by way of a petition. The initiating group gathers scientific evidence and presents the petition to the Secretary. The Secretary then has 90 days to determine if the petition presents evidence that warrants species protection under the ESA (16 U.S.C. § 1533(b)(3)(A)). When determining the status of the species in the action, the Secretary must consider the following factors:

- the present or threatened destruction, modification, or curtailment of species habitat or range;
- overutilization of the species' habitat for commercial, sporting, scientific, or educational purposes;
- disease or predation;
- the inadequacy of existing regulatory mechanisms to protect the species; or
- other natural or manmade factors affecting the species' continued existence (16 U.S.C. § 1533(a)(1)).

If the Secretary feels the evidence in the petition is insufficient, the petition will be rejected and the listing process ends. However, if the Secretary feels that the petition does present substantial evidence, he then has 12 months to complete a species study and

make a finding (16 U.S.C. § 1533(b)(3)(B)). In the next step of the listing process, the Secretary must publish a general notice of the proposed regulation listing the species in the *Federal Register* and give notice to the state wildlife agencies and county governments where the species is believed to exist. The ESA also requires the Secretary to publish a notice in local newspapers and contact the appropriate scientific communities (16 U.S.C. §§ 1533(b)(5)(A)-(D)). Within 12 months of the publications, the Secretary determines if the species should be listed as endangered or threatened by considering the five factors listed in § 4 of the ESA. If the Secretary determines that the species is in danger of extinction throughout all or a significant portion of its range, it will be listed as endangered (16 U.S.C. § 1532(6)). If the species is likely to be in danger of extinction throughout a significant portion of its range in the foreseeable future, the species will be listed as threatened (16 U.S.C. § 1532(20)).

Section 4 of the ESA also provides for emergency listings for species under extreme threat of extinction (16 U.S.C. § 1533(b)(7)). The emergency listing takes effect immediately. However, the listing expires in 240 days. During these 240 days, the Secretary must go through the regular listing process to provide permanent protection (Vaughan, 1994).

Once a species is listed, section 4 states that the species must be recovered to a point where ESA protection is no longer necessary. Major tools for recovery used by the Department of the Interior is identifying and protecting “critical habitats” and developing recovery plans for listed species.

(2) Critical Habitat Protection

Section 3 of the ESA defines “critical habitat” as areas within the species’ occupied range “on which are found physical or biological features (a) essential to the conservation of the species, and (b) which may require special management considerations or protection (16 U.S.C. § 1532(5)(A)(i))” and areas outside of the species’ currently occupied range that are “essential for the conservation of the species” (16 U.S.C. § 1532(5)(A)(ii)).

The Secretary must designate critical habitat, when known, at the time of the species’ listing ((16 U.S.C. § 1533(a)(3)(A)). If the critical habitat is not known, the ESA grants the Secretary a one-year extension to designate a critical habitat based upon the best data available and to the maximum extent prudent (Vaughan, 1994). The designation indicates the presence of endangered species in a particular area and the special significance of that area to the conservation of the species. Despite the requirements and the importance of protecting critical habitat, the Secretary has listed critical habitat for only about 20 percent of the listed species in the United States (Vaughan, 1997).

(3) Recovery Plans

Section 4(f)(1) of the ESA requires the Secretaries of Interior and Commerce to develop and implement recovery plans for endangered and threatened species. “The Secretary of the Interior has some limited discretion under § 4(f)(1)(A) when setting priorities as to determining which species are most likely to benefit from a recovery plan, and he can thus allocate limited resources first to those species most in need or those most likely to benefit from recovery efforts (Vaughan, 1994, p. 38).”

(4) Prohibited Actions Against a Listed Species

Section 9 describes the prohibited actions against a listed species. The ESA labels all listed prohibited actions as “takings. ”Take” means to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or to collect, or to attempt to engage in any such conduct” (16 U.S.C. § 1532(13)).

(5) Exemptions from the ESA

Section 10 of the ESA contains the exemptions from the Act. The original language of §10 (a) states, “The Secretary may permit, under such terms and conditions as he may prescribe, any act otherwise prohibited by section 9 of this Act for scientific purposes or to enhance the propagation or survival of the affected species.” The 1982 amendments of the ESA introduced the “incidental take” permit to § 10. The amendment gave authority to the FWS to grant the permits when the applicant met the following statutory requirements:

1. the impact of the taking must be minimized and mitigated to the maximum extent practicable;
2. the effect of the taking must not be to reduce appreciably the prospects for survival and recovery of the affected species in the wild; and
3. the authorized taking must be in accordance with a conservation plan for which adequate funding is assured (Bean, Fitzgerald, and O’Connell, 1991).

(6) Punishment for those who harm listed species

Section 11 of the ESA outlines the consequences for those who choose to knowingly participate in any activity that results in a “taking” of a listed species. There are specific penalties for different violations of the ESA. The penalties are the discretion of the Secretary and have an upper limit of \$50,000 and one year imprisonment.

Conclusions

The major substantive sections of the act, along with the other sections, provide the means for the FWS and the Secretary of the Interior to take major steps to protect the rare and threatened species in the U.S. The ESA represents the foundation of federal legislation to protect species, critical habitat, and biodiversity. However, due to the restrictive nature of the ESA, many landowners were stripped of development options. The “taking” of species seemed to be the top priority of the Secretary and the FWS and therefore, many development activities were instantly halted by the mere presence of an endangered or listed species – no questions asked. Developers and private landowners felt that the ESA placed an unfair burden upon them and felt that changes were necessary to increase the fairness of the ESA. This change came in 1982 when amendments to the ESA included “incidental take permits” and habitat conservation plans.

Chapter 3



Habitat Conservation Plans

Why HCPs

In 1982, Congress introduced the “incidental take” permit and the habitat conservation plan (HCP) in an apparent attempt to balance species protection and private property rights. The 1982 amendments were introduced to ease the restrictive burdens that the ESA placed on landowners, and to increase participation in the ESA (Govindan, 1998). Before HCPs were introduced, there was little chance for a landowner to engage in an activity on his land if there was a listed species present. The introduction of HCPs allowed a landowner to engage in that activity if he prepared an HCP and the FWS determined the taking of the species was incidental. “[The HCP] process ensures that the effects of the authorized incidental take will be adequately minimized and mitigated to the maximum extent practicable” (U.S. Fish and Wildlife Service and National Marine Fisheries Service (FWS and NMF), 1996). The following sections describe HCPs and the HCP process prior to the inception of the “No Surprises” policy in 1994.

HCP Basics

Before the HCP process begins, a federal agency or a landowner must go through the incidental take permit process. If the FWS determines that the project has the potential to take a listed species, they will recommend that an incidental take permit be

obtained. Once the decision to obtain an incidental permit is made, the HCP development process begins.

In order for the Secretary to issue the incidental take permit, the developed HCP must indicate:

1. The impact which will likely result from the taking;
2. What steps the applicant will take to minimize and mitigate such impacts, and the funding that will be available to implement such steps;
3. What alternative actions to such taking the applicant considered and the reasons why such alternatives are not being utilized; and
4. Such other measures that the Secretary may require as being necessary or appropriate for the purposes of the plan (16 U.S.C. §1539 (a)(2)(B)).

Within the HCP, the secretary must also find that:

1. The taking will be incidental;
2. The applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking;
3. The applicant will ensure that adequate funding for the plan will be provided;
4. The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and
5. The measures, if any, required [by the Secretary]...will be met (Thorton, 1991).

Because of the importance of these requirements, each aspect must be explained to the applicant by the Secretary or the FWS, and understood by the applicant at the outset of the HCP venture (FWS and NMF, 1996).

HCP Development Process

The development of an HCP involves no concrete formula because each HCP involves vastly different species, habitats, and circumstances. Generally though, the HCP process is usually divided into three main phases: pre-planning, plan development, and monitoring and management. The first HCP granted was The San Bruno Mountain HCP in San Mateo County, California in 1983. The San Bruno Mountain HCP aimed to protect two species of butterflies and served as the model HCP for more than a decade

(Molini, 1996). However, many government agencies felt that the San Bruno HCP was an insufficient model and therefore developed a list of preferred HCP characteristics.

Table 1 represents desired characteristics of future HCP efforts as identified outlined by the FWS and other agencies.

Table 1. Characteristics Encouraged for Future HCP Efforts

- The HCP effort should involve all stakeholders (or representatives of all stakeholder groups) throughout the HCP process.
- HCPs should be based on biological information that is as complete as possible and should include rangewide natural resource inventories and plan appropriately.
- The HCP area should be regional, using the habitat range of the species as the delineating factor with a regional body to administer implementation and incorporate the HCP efforts within community goals and long-range planning efforts of local and regional governments.
- The HCP should include protection for multiple species present in the area focusing on preserving ecosystems that support all the species of an area.
- The funding of the HCP should be equitable and provide incentives for development interests in the area to encourage their participation in the process.
- Specific criteria should be developed for measuring the success of the HCP and each of the mitigation measures implemented.

source: Smith, 1995

The changes desired and the inadequacy of a concrete model served as a call for action. The FWS responded by releasing the Preliminary Draft Handbook for Habitat Conservation Planning and Incidental Take Permit Processing in 1994 and finalizing it in 1996 with the Endangered Species Habitat Conservation Planning Handbook (handbook). The handbook states three goals. These goals are: (1) to ensure the goals and intent of the HCP process are recognized; (2) to establish clear standards that ensure consistency in

the HCP process; and (3) to ensure that the FWS and the National Marine Fisheries Service (NMFS) retain the flexibility to handle different circumstances appropriately (FWS and NMF, 1996). With the handbook, instead of trying to apply an old HCP to fit a specific situation, landowners and agencies can apply the HCP guidelines in the handbook to their unique set of circumstances. The guidelines are summarized in Table 2 and explained in the following sections.

I. Pre-application Process

A. Determine the Applicant

The first step in the HCP process is the pre-application process. In this stage it is important to determine who actually should apply for the permit. Usually, the applicant is the private landowner who proposes the activity at hand. However, for activities that will have an effect on many landowners and activities, the applicant is usually a city or a county, depending on the size of the activity. The identity of the applicant is important for a number of reasons. First, the permittee will usually determine the scale of the HCP and the amount of land included. For example, a single landowner's effort would most likely encompass a relatively small amount of land. On the other hand, a county-wide HCP would usually cover a large amount of land. Secondly, the applicant type is an indicator of the species that will be included in the HCP effort. A single property owner will usually concentrate on a single species, while a large HCP effort likely concerns many species.

B. Determine the Steering Committee Members

The second major step of the pre-application process is gathering a steering committee. "A steering committee is a group of persons who represent affected interests

Table 2. The HCP Process as Outlined by the FWS

- I. Pre-application Process**
 - A. Determine the applicant
 - B. Determine the steering committee members
 - C. Consult the FWS

- II. Plan Development**
 - A. Define land area to be included in HCP
 - B. Gather biological data
 - 1. Determine species to be included
 - 2. Gather and review existing data
 - 3. Develop new data as needed
 - C. Identify activities to be included in the HCP land area
 - D. Determine the anticipated take levels
 - E. Develop mitigation measures
 - F. Develop monitoring measures
 - G. Plan for unforeseen circumstances and plan amendments
 - H. Develop funding scheme to pay for HCP and mitigation measures
 - I. Describe alternatives considered and reasons why not chosen

- III. Submit Plan for Permitting to FWS**

- IV. Implementation (if permit is granted)**
 - A. Implement mitigation measures
 - B. Monitor
 - C. Amend as needed

Source: Smith, 1995

in a broad-scale HCP planning area and generally oversee HCP progress and development” (FWS and NMF, 1996, pg 3-3). The committee’s chief purpose is to advise the applicant in the development of a successful HCP. The committee can also help determine the scope of the HCP, help develop a mitigation program, help determine the anticipated take levels, and even help meet public discourse requirements.

Even though the purpose of the steering committee is to aid the process, the presence of one is not always beneficial. In regional HCPs a steering committee provides essential guidance because of the large-scale nature of the project and the different interests that will be represented. However, in small-scale or local HCP efforts a steering committee most often leads to unnecessary conflict (FWS and NMF, 1996).

The FWS puts forth some suggestions in the handbook for steering committees.

The suggestions are summarized as follows:

- Steering committee meetings should be open to the public to get them involved and feel like they are part of the process;
- Participants on a steering committee need to be sensitive and open-minded to avoid conflict and the impression of bad faith;
- Appointing inexperienced technical staff to large-scale regional HCP efforts should be avoided;
- The composition of a steering committee should vary with the type of HCP effort; and
- A skilled facilitator/moderator on a steering committee will significantly help in moving the HCP process along smoothly (FWS and NMF, 1996).

C. Consult the FWS

Consultation with the FWS eases the transition from the steering committee phase of the pre-application process to the development phase. A FWS consult is not required, but it is strongly advised. The handbook lists the following items that the FWS should be prepared to advise the applicant on:

- Preparing the species list and identifying project scope and impacts;
- Biological data needed and the appropriate studies to use;
- Applicable modifications that would minimize take and reduce impacts;
- Mitigation design;
- Project monitoring methods; and
- Criteria to track and determine the success of the HCP (FWS and NMF, 1996, pg. 3-7).

When the consultation period draws to an end, the applicant possesses the information and the tools to move into the HCP development phase.

II. Plan Development Process

A. Define Land Area

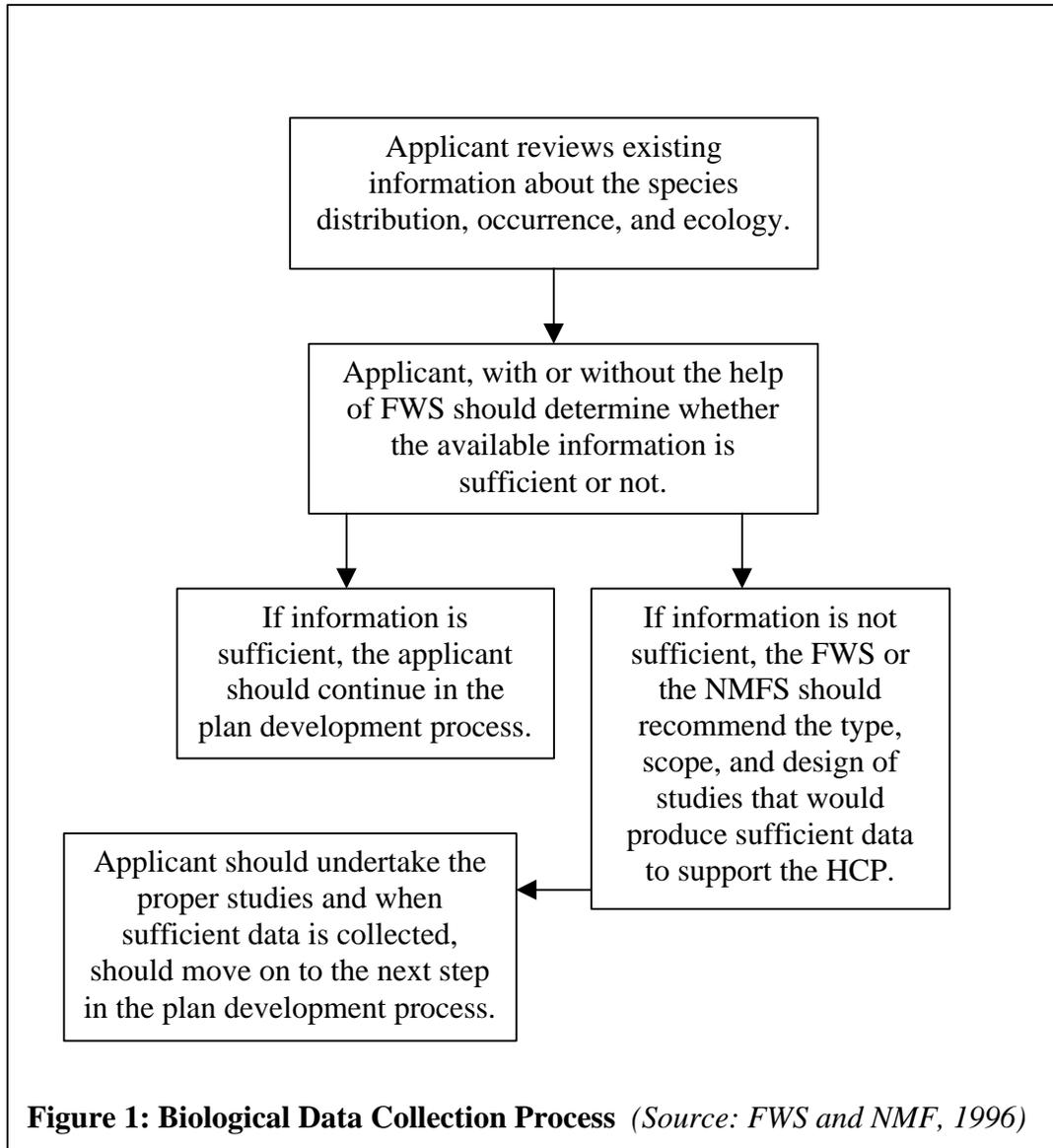
A successful plan development phase all begins with the applicant accurately delineating the boundaries of the HCP. The HCP applies only within its boundaries so it is important to precisely determine the boundaries to avoid issues later in the process.

B. Gather Biological Data

Once the boundaries are delineated, the applicant collects proper biological data. For an HCP to be considered acceptable, up-to-date information on all species in the study area must be made available. The data collection is straight forward, but important. First the applicant determines which species will be included in the HCP. If the applicant is lucky, there will be sufficient existing data regarding the species and they can move to the next step of the plan development phase. If the data is not sufficient, the applicant must conduct research to produce sufficient data. When sufficient data has been collected, the applicant then moves to the next step in the process. Please see Figure 1 for a simple framework of the data gathering process.

C. Identify Activities

After sufficient data has been collected, the applicant determines the activities that will be included in the HCP area. The applicant includes a description of all activities that have the potential to result in a take. Applicants are encouraged to include the description of any activity that may occur over the life of the HCP. “This will maximize the permittee’s long-term planning assurances, broaden legal coverage, and minimize the possibility that some future activity will not be covered by an issued permit” (FWS and NMF, 1996).



D. Determine Anticipated Take Levels

Next, the applicant determines anticipated incidental take levels by analyzing expected activities and actual allowable take levels. An applicant may express the incidental take levels in two ways. The first method is an estimate of the actual number of the species that will be taken. If this method is too complex, the applicant may express the take level by estimating the acres of habitat that the proposed activities will have an

effect on. After the take levels have been estimated, the FWS or the NMFS determines exactly what levels of take can be authorized under section 10 of the ESA. If the estimated take level exceeds that of the permitted level in the ESA, the applicant must reformulate the plan to reduce the amount of takings the activities will result in. An applicant most simply accomplishes a reduction in the amount of takings by setting aside more land area for protection. If the take level can be authorized under section 10, the applicant will start to develop a mitigation program.

E. Develop Mitigation Measures

The development of the mitigation program is an integral constituent of the HCP. The handbook suggests that all mitigation measures be practicable and rationally based on science. A variety of situations require mitigation. Applicants have devised many different successful mitigation measures. Therefore, no standard procedure exists to develop mitigation measures. However the FWS does provide the following mitigation hierarchy:

- Avoid the impact (to the extent practicable);
- Minimize the impact;
- Rectify the impact;
- Reduce or eliminate the impact over time; or
- Compensate for the impact (FWS and NMF, 1996, pg. 3-19)

HCP mitigation efforts may include one measure or a combination of many different measures. The possibilities are endless and innovative mitigation programs are encouraged. For example, a small company proposes an activity that has the possibility of taking bog turtles. The company may avoid the impact on the bog turtle by relocating some or all of the activity to a different location within the land area. It may minimize the impact by creating turtle buffer zones. The company could rectify any impacts by

restoring any turtle habitat destroyed. Yet another mitigation effort includes planning and managing the area properly to reduce the impact the company has on the turtle over time. Finally, the company could purchase and protect existing habitat or create additional habitat at another location. These options may be utilized individually or in combination, illustrating how a group of mitigation methods can create a successful mitigation program.

F. Develop Monitoring Measures

The next major step in the plan development process is developing monitoring measures. Section 10 of the ESA requires an HCP to include the measures the applicant will take to monitor the impacts of the takings that result from the proposed activities. The more specific the monitoring measures are described in the HCP, the more acceptable they will be. The applicant should develop a monitoring plan that will assess take levels, determine species status, and give progress reports on (the success or failure) of mitigation measures (FWS and NMF, 1996). The handbook lists elements to consider when developing a monitoring plan. The handbook also suggests elements such as developing objectives for the monitoring plan, and describing how data will be analyzed and who will analyze it. See Table 3 for the complete list of elements to consider when developing a monitoring plan. All of these elements are not necessary for all monitoring plans. However, most successful plans include many of these important aspects.

G. Unforeseen Circumstances

Following the development of a successful monitoring plan, the applicant should discuss how to address circumstances and information that may change over time.

Table 3. Logical Elements to Consider when Developing a Monitoring Program.

- Develop objectives for the monitoring program. Any monitoring program associated with HCPs should answer specific questions or lead to specific conclusions. If the objectives are well developed, they will help shape a complete monitoring program.
- Describe the subject of the monitoring program.
- Describe the variables to be measured and how the data will be collected. Make sure these are consistent with the objectives set forth earlier.
- Detail the frequency, timing and duration of sampling for the variables. Determining how frequently and how long to collect data is important to the success or failure of the monitoring program. If the interval between samples is too long or too short, the monitoring program may not detect an important effect.
- Describe how the data are to be analyzed and who will conduct the analyses. A monitoring program is more effective when analytical methods are integrated into the design.
- Monitoring must be sufficient to detect trends in species populations in the plan area but should be as economical as possible. Avoid costly monitoring schemes that divert funds away from other important HCP programs, such as mitigation.
- Monitoring programs can be carried out by a mutually identified party other than the permittee, so long as this is specified in the HCP, funding is provided, and the party is qualified.

Source: FWS and NMF, 1996, pg. 3-26,27

Because the future is unpredictable, many situations that were not accounted for could arise. “To address this situation...any plan approved for a long-term permit will contain a procedure by which the parties will deal with unforeseen circumstances” (FWS and NMF, 1996, pg. 3-27). The applicant and the FWS should develop measures to meet such changes over time. Many times adaptive management measures are discussed to cover unforeseen circumstances.

H. Funding Scheme

To ensure that there will be sufficient funds to carry out the HCP, the FWS requires a mandatory funding scheme. On-site, off-site, and future funding should be included. In the bog turtle example, the construction costs would be considered on-site costs, while the cost to restore or create additional habitat would be considered off-site costs. Future costs include all the costs related to the monitoring program.

The size of the HCP affects the funding a great deal. Small-scale HCPs are not very complex and are usually funded solely by the applicant. On the other hand, large-scale HCPs involve complex funding issues. Whenever appropriate, FWS and NMFS personnel should assist the applicant(s) in finding funding assistance. However, "whatever the proposed funding mechanism is, failure to demonstrate the requisite level of funding prior to permit approval or to meet funding obligations after the permit is issued are grounds for denying a permit application or suspending an existing permit, respectively" (FWS and NMF, 1996, pg. 3-35).

I. Alternative Description

The last major step in the plan-development process is the alternative analysis. This analysis sets forth the specifics of each of the alternatives considered, and why the rejected alternatives were not chosen. The alternatives analysis gives rise to many questions. For example with a very large-scale project that considered hundreds of alternatives, should the applicant discuss all the alternatives, or just some? How in depth do the descriptions have to be? The handbook answers these types of questions. The most common inclusions in the alternatives section are any alternative that would reduce takings below anticipated levels for the project proposal and a "no action" alternative. The no action alternative outlines consequences to the species and the habitat if the

situation remains status quo. If the alternatives are too numerous to be described, the primary alternatives should be listed (FWS and NMF, 1996). When all the steps are completed, the applicant submits the plan to the FWS for review.

Proposed New Guidelines

On March 9, 1999 the FWS and the NMFS proposed guidelines to clarify some aspects of the HCP process. These guidelines aim to elucidate and strengthen the HCP process in five areas: establishment of measurable biological goals and objectives, use of adaptive management, monitoring, public participation, and determination of the duration of the incidental take permit.

The guidelines propose that all HCPs clearly state biological goals and objectives. “These goals and objectives will provide clear guidance for both the applicant and the agencies regarding the purpose and direction of the HCP’s operating conservation program” (Vickery, 1999).

The guidelines also suggest that all HCP efforts should include an adaptive management strategy. Although helpful in all cases, an adaptive management strategy would be most advantageous if significant biological data gaps exist for covered species at the time the HCP is approved (Vickery, 1999).

In addition, the proposed guidelines build “on current guidance for establishing monitoring programs to ensure proper compliance with an HCP, to determine whether biological goals and objectives are being met, and to guide an adaptive management strategy...” (Vickery, 1999).

The guidelines also call for increased public participation within the HCP process. The proposal requires a minimum 60-day public comment period for most HCPs and a

minimum 90-day period for large-scale HCPs. HCPs that have a minor effect on listed species or their habitats would have a 30-day comment period (Vickery, 1999).

Finally, the proposed guidelines would provide guidance on factors to consider when determining the duration of incidental take permits. This guidance would result in more accurate incidental take permit time periods. For example, a 30-year incidental take permit would not be granted in an area that undergoes vast changes every 15 years.

Director of the U.S. Fish and Wildlife Service, Jaime Rappaport Clark says, “These guidelines incorporate what we’ve learned into the...handbook so the HCP process can even better conserve wildlife while ensuring certainty for landowners and other applicants” (Vickery, 1999).

The HCP process involves a complex set of interdependent issues. Each issue and section of the HCP should be treated with equal importance. The FWS will reject the plan if any of the sections of the plan are inadequate. The HCP planning process has evolved since the ESA introduced the concept in 1982. For many years the FWS and applicants referred to the San Bruno model to complete HCPs. However, the unique situations inherent in each HCP prompted the FWS to prepare a HCP handbook that provides guidelines to landowners. These guidelines were then applied to each set of unique situations with greater success. The general guidelines allow creativity throughout the entire process. Applicants and developers are free to develop their own mitigation, monitoring, and funding schemes to best fit their own needs. However, the pre-“No Surprises” HCPs had weaknesses as well as strengths.

HCP Strengths

Enhanced Species Protection

The protection species received under Habitat Conservation Planning and the ESA, no matter how great or small, was better than the lack of protection prior to 1973.

The ESA and HCPs forced landowners to recognize the importance of species.

HCP's Potential

HCPs possess great potential to protect species. Congress used strong phrases such as “protection to the maximum extent prudent,” and, “the Secretary may revoke the permit” with regard to HCPs. If protection was strictly enforced pursuant to the language in the ESA, HCPs have the potential to provide the utmost levels of protection to listed species.

Scientific Base

The scientific nature of Habitat Conservation Planning strengthens the effectiveness. The initial step of species protection, the listing decisions, are based purely on scientific information on the species and the habitat. The listing process considers no economic, social, or political factors. This makes the ESA and HCPs two of the few efforts that aim to protect species solely for the sake of the species.

Habitat Protection

The inclusion of habitat as well as species protection enhances the effectiveness of HCPs. Despite extreme measures to protect a species, the species will cease to exist if its habitat is destroyed. The provisions of the ESA and HCPs recognize this fact and place heavy importance on habitat as well as species protection. Section 7(a)(2) of the ESA states “...the Secretary [should] insure that any action authorized, funded, or carried out is not likely to...result in the destruction or adverse modification of habitat.”

HCP Weaknesses

Legal Tool for Destruction

Many environmentalists, scientists, and conservationists argue that HCPs allow legal habitat and species destruction. The FWS handbook provides guidelines to improve the HCP process. However, sections of the handbook point out that the “HCPs need not be consistent with species recovery or even benefit the species” (Kostyack, 1997, pg. 6). Statements such as these suggest that, contrary to the strong language of the ESA that places high importance on the species, HCPs allow a balance of species and property rights protection.

Scientific Doubts

Proponents of the HCP process consider its scientific nature a strength. However, a team of biological experts, funded by the National Science Foundation and the American Institute of Biological Sciences, concluded that some data used in HCPs and the methods of mitigation are questionable. The team found shortcomings in biological data on life spans, rates of population change, and provisions for monitoring (Yoon, 1997).

Species Endangerment has no Bearing on HCP Initiation

The level of jeopardy a species or habitat is in has no influence in the development of an HCP. “For example, a recent study of the geographic distribution of threatened and endangered species in the United States shows that there [are] a relatively small handful of ‘hot spots’ where imperiled species are concentrated” (Kostyack, 1997). The study also indicated that very few HCPs or any other conservation efforts existed in these areas. The specific reason for this is unknown. However, this demonstrates that the

Federal government lacks the means of generating HCPs where they are most needed (Kostyack, 1997).

HCPs Rely on Forecasting

HCP applicants must look into the future and guess how the situation will be in 15 or 20 years. The applicant bases sections of the HCP on this prediction. No one can accurately predict the future. In the long run, this inaccuracy could lead to the permanent demise of a species.

HCP Process Consumes too Many Resources

Many believe the HCP process is too long and expensive. HCPs may take years to complete and process and involve large monetary investments. In small projects, the applicant usually bears the monetary expense. Larger projects may require hundreds of thousands of dollars to obtain sufficient data.

Uncertainty

HCPs involve inherent uncertainty within their lifetime. Pre-”No Surprises”, the applicant’s responsibility did not cease with the approval of an HCP. For example, a landowner applies for an incidental take permit for a species of butterfly. The FWS approves the HCP. The applicant continues the activity for years without any adverse effect on the species. Suddenly, an additional species in the HCP region becomes listed. The listing obligates the applicant to provide the necessary means of protection, at whatever costs, for that newly listed species. This uncertainty within the HCP process discouraged many potential participants from undertaking the HCP process.

Conclusion

The HCP process sought to protect listed species and their habitats, while allowing some leniency to landowners. This balance held great potential for success. However, in the first decade of HCPs the weakness of the process outweighed the effectiveness. The constraints on landowners were too great. As a result, in the first decade of HCPs, only 14 plans were approved (Derry, 1988).

Chapter 4



The “No Surprises” Policy

What is it?

The Department of the Interior Secretary, Bruce Babbitt realized that the uncertainty inherent in the HCP process and other shortcomings were leading to very low HCP participation levels. Therefore, on August 11, 1994 Bruce Babbitt announced the “No Surprises” policy. “The policy promises that if, in the course of development or land use, a landowner invests money and land into saving endangered, threatened, or unlisted species covered in an HCP, the government will not later require that the landowner pay more or provide additional land even if the needs of species change over time” (Fisher, 1996). This was Babbitt’s answer to address the problem of maintaining regulatory assurances and reducing landowner’s sense of uncertainty. This new policy established a “clear commitment by the FWS and the NMFS that, to the extent consistent with the requirements of the ESA...the government will honor its agreements under a negotiated and approved HCP for which the permittee is in good faith implementing the HCP’s terms and conditions” (Proposed rule, 1997).

Before discussing the actual policy, it is important to be aware of the policy’s four fundamental principles. The principles are as follows (Baur and Donovan, 1997):

1. Long-term, multi-species, large-scale HCPs that include provisions to protect unlisted species must be considered worthwhile. If these plans are considered desirable, a “No Surprises” policy is essential. Without this policy, these plans would not be developed.

2. The fact that “No Surprises” assurances are contract terms must be recognized. The precise content of the assurances for a specific HCP will be determined by negotiating positions of the applicant and the agencies, and through public participation.
3. Even though nature is full of surprises, HCPs can be developed with assurances to a landowner in a manner that benefits species and provides the means to respond to the changes of nature without imposing unfair burdens on the permit holder. Most applicants are willing to agree at the outset to adjustments in their plans to meet new problems that develop. What applicants will not accept is subsequent unilateral decision making by the federal government which imposes new conditions.
4. The “No Surprises” policy itself must be understood. Rather than giving away the store on species conservation, the policy simply promises that the government will abide by the terms of the negotiated deal.

The “No Surprises” policy is able to provide certainty with regard to HCPs by the following list of assurances. First, in negotiating “unforeseen circumstances” provisions for HCPs, the FWS and NMFS shall not require the commitment of additional land or financial compensation beyond the level of mitigation which was otherwise adequately provided for a species under the terms of a properly functioning HCP. Moreover, FWS and NMFS shall not seek any form of additional mitigation from an HCP permittee except under extraordinary circumstances (FWS and NMF, 1996).

This provision provides perhaps the most significant assurance of the policy. The FWS will require nothing more of an applicant who acts in good faith and is adequately implementing or has implemented an HCP.

Second, if additional mitigation measures are subsequently deemed necessary to provide for the conservation of a species that was otherwise adequately covered under the terms of a properly functioning HCP, the obligation for such measures shall not rest with the HCP permittee (FWS and NMF, 1996).

This section covers the case in which the situation of a species covered in the HCP worsens. It assures that the primary obligation for additional conservation measures falls on entities other than the landowner. The species must be adequately covered under the HCP for the landowner to avoid responsibility. "Adequately covered" means that the HCP must include all sufficient data. If the FWS later determines that the data were insufficient, then the species is not adequately covered and the landowner may be responsible for additional conservation measures.

Third, if extraordinary circumstances warrant the requirement of additional mitigation from an HCP permittee who is in compliance with the HCP's obligations, such mitigation shall maintain the original terms of the HCP to the maximum extent possible. Further, any such changes shall be limited to modifications within conserved habitat areas or to the HCP's operating conservation program for the affected species. Additional mitigation requirements shall not involve the payment of additional compensation or apply to parcels of land available for development or land management under the original terms of the HCP without the consent of the HCP permittee (FWS and NMF, 1996).

Therefore, if extraordinary circumstances do arise, any mitigation measures considered will not deviate significantly from the original terms of the original HCP. The FWS can not require any additional land or payment from the permittee, unless it is previously agreed upon in the HCP agreement. If the permittee agrees to dedicate more land or money in the case of extraordinary circumstances, the permittee will be held to their word.

Much of the “No Surprises” policy hinges on “extraordinary circumstances.” To avoid uncertainty and legal disputes, the “No Surprises” policy contains criteria for what may be considered extraordinary and what may not be considered extraordinary. The criteria are as follows:

- The FWS bears the burden of demonstrating that such extraordinary circumstances exist, using the best scientific and commercial data available. Their findings must be clearly documented and based upon reliable technical information regarding the status and habitat requirements of the affected species.
- In deciding whether any extraordinary circumstances exist which might warrant requiring additional mitigation from an HCP permittee, FWS and NMFS shall consider, but not be limited to the following factors:
 - a) Size of the current range of affected species;
 - b) Percentage of range adversely affected by the HCP;
 - c) Percentage of range conserved by the HCP;
 - d) Ecological significance of that portion of the range affected by the HCP;
 - e) Level of knowledge about the affected species and the degree of specificity of the species’ conservation program under the HCP;
 - f) Whether the HCP was originally designed to provide an overall net benefit to the affected species and contained measurable criteria for assessing the biological success of the HCP; and
 - g) Whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild (Proposed rule, 1997).

After considering these factors, the FWS decides on whether the circumstances surrounding a species warrant the protection of the third assurance.

Finally, the FWS and NMFS shall not seek additional mitigation for a species from an HCP permittee where the terms of a properly functioning HCP agreement were designed to provide an overall net benefit for that species and contained measurable criteria for the biological success of the HCP which have been or are being met (FWS and NMF, 1996).

This assurance is designed as an incentive to applicants by promising that the FWS will not impose any additional mitigation measures where an HCP was designed to

have an overall positive net benefit to the species covered in the HCP. This provides strong encouragement for applicants to gather sufficient biological data so they can effectively plan for a positive impact on a species instead of just planning for the situation to not get substantially worse.

These four assurances, “unforeseen” circumstances, additional mitigation measures, “extraordinary” circumstances, and net benefit, form the solution to the biggest problem in the HCP process: uncertainty for landowners. Many of the assurances overlap to provide an umbrella of protection to the applicants. Moreover, an implementing agreement was introduced with the “No Surprises” policy. This was a legal contract that identifies the responsibilities of all parties and legally binds the parties to them.

Although some exceptions exist, the “No Surprises” policy seeks to increase levels of HCP participation by assuring landowners that they need not worry about dedicating more land or money due to unexpected events. This policy does not guarantee that once a HCP is approved no changes will ever be made. The Department of the “Interior (DOI) can require modifications to the HCP. However, the federal government must pay for these changes or additions to HCPs that are absolutely necessary for the survival of the species” (Bauer, 1998).

Strengths of the “No Surprises” Policy

Less Uncertainty for Landowners and Increased Participation Rates

Secretary Babbitt intended to increase levels of participation by increasing certainty for landowners with the “No Surprises” policy. The umbrella the policy provided protected landowners from additional investments. As a result, the policy immediately affected HCP participation. In the first two years of the “No Surprises”

policy, the “DOI... issued 170 incidental take permits to private landowners and was in the process of developing approximately 200 more” (Derry, 1998). These numbers provide a stark contrast to the 14 HCPs approved in the first decade of incidental take permits and HCPs.

Implementing Agreement

The “No Surprises” policy promises that no additional measures will be required of the permittee, beyond those mentioned in an agreement. Secretary Babbitt’s commitment to this assurance was so great that he included an implementing agreement section into the updated Habitat Conservation Planning Handbook. The implementing agreement defines obligations, assigns responsibilities, and provides means of enforcement of the agreement. See Table 4 for a complete list of elements included in an implementing agreement. The handbook itself refers to the implementing agreement as “perhaps the most significant additional measure required by the FWS in the HCP process.” The agreement is a “legal contract that:

- (1) identifies the responsibilities of all participants to the HCP program, including appropriate government agencies; [and]
- (2) legally binds all parties to their obligations” (Fisher, 1996).

The “No Surprises” policy has led to increased certainty through several assurances and agreements. It has also led to a large increase in the number of HCPs approved, along with an increase in the amount of private lands managed under HCP agreements. However, “No Surprises” also has certain pitfalls.

Table 4. Typical Elements of an Implementing Agreement

1. Define the obligations, benefits, rights, authorities, liabilities, and privileges of all signatories and other parties to the HCP;
2. Assign responsibility for planning, approving, and implementing specific HCP measures;
3. Specify the responsibilities of the FWS, NMFS, or other state and Federal agencies in implementing or monitoring the HCP’s conservation program;
4. Provide for specific measures when habitat acquisition, transfer, or other protections are part of the HCP’s mitigation program;
5. Establish a process for amendment of the HCP, where necessary; and
6. Provide enforcement of HCP measures and for remedies should any party fail to perform on its obligations under the HCP.

Source: FWS and NMF, 1996, pg. 3-37

Weaknesses of the “No Surprises” Policy

Nature is full of Surprises

As soon as the new policy was announced, many people reacted with slogans like “nature is full of surprises” and “species need certainty too” (Baur and Donovan, 1997).

Indeed, the “No Surprises” policy seems to contradict the original purpose of HCPs.

However, in nature, change is the only constant. How can a policy aim to make a concrete policy regarding a consistently changing system?

Legislative Uncertainty

The certainty provided by the “No Surprises” policy relies on the present form of the ESA. The policy fails to address future legislative change. What would happen to all of the existing HCPs, monitoring measures, and implementation agreements if a future

administration breaks present HCP agreements by demanding stricter concessions for all endangered species (Derry, 1998)? Where would the protection and certainty be then?

Conclusion

Secretary Babbitt introduced the “No Surprises” policy to combat the weakness that surfaced in HCPs in their first decade, as well as increase the involvement level. The HCP process with the policy still contains some weaknesses. However, “...by the end of August 1996, only two years after the DOI released [the “No Surprises”] policy, the DOI had issued 170 incidental take permits to private landowners and was in the process of developing approximately 200 more” (Derry, 1998). Updated figures affirm that there are more than 240 HCPs now in effect and more than 200 under development (Vickery, 1999). This increase may have resulted from the certainty provided by the new policy in regard to HCPs and was a sensational increase from the 14 HCPs approved in the first decade before the “No Surprises” policy.

The following chapter demonstrates the differences between two HCPs, one completed before and one after the “No Surprises” policy. The Balcones Canyonlands Conservation Plan was initiated in 1988, well before the “No Surprises” policy. The Plum Creek Conservation Plan was initiated one year after the “No Surprises” policy was added in 1994.

Chapter 5



Case Studies

The Balcones Canyonlands Conservation Plan (BCCP): Austin, Texas

Background

The Balcones Canyonlands lie in and around the city of Austin, Texas. Some sections of the Canyonlands contain steep, hilly terrain while other sections fall on the Edwards Plateau. These two different types of terrain clash to form a unique ecosystem that houses two species of endangered birds. The limestone geology also adds to the uniqueness of the area. Water running over and through the area erodes the limestone resulting in underground caverns, sinkholes, and fissures. This is also known as karst terrain. The caves and caverns are home to six listed cave-adapted invertebrates and two listed species of plants. The area also includes several species of rare salamander species. In total, the plan covers 10 federally listed species and several rare species. The listed species are the:

- ❖ Birds
 - Black-capped Vireo (*Vireo antricapillus*)
 - Golden-cheeked Warbler (*Dendroica chrysoparia*)
- ❖ Invertebrates
 - Tooth Cave pseudoscorpion (*Microcreagis texana*)
 - Tooth Cave spider (*Neoleptoneta myopica*)
 - Tooth Cave ground beetle (*Rhadine persephone*)
 - Kretschmarr Cave mold beetle (*Texamaurops reddelli*)
 - Bee Cave harvestman (*Texella reddelli*)
 - Bone Cave harvestman (*Texella* n. sp.)
- ❖ Plants
 - Canyon mock-orange (*Philadelphus ernestii*)

➤ Bracted twistflower (*streptanthus bracteatus*)

The main threat to the birds was the loss of habitat due to increased development. The main threats to the cave-adapted invertebrates were the paving over of cave openings and the generation of non-point runoff, both caused mainly by increased development.

The HCP process started in 1987 with the listing of the Vireo and continued into 1988 when a number of public and private projects were terminated because they posed a threat to the Vireo. These terminations posed problems to many groups, mainly developers and landowners. This is the point when the decision was made by two Texas agencies that it would be in the best interest of everyone to develop an HCP for the purpose of obtaining an incidental take permit.

HCP Process

The Texas Nature Conservancy (TNC) and Austin's Department of Environmental Protection initiated the formal development of the HCP in 1988 (Beatley, 1994). These two agencies immediately assembled two groups to assist in the HCP process. The first group was the executive committee. This committee oversaw the HCP preparation process and ensured the process was proceeding appropriately. The committee was chaired by the director of the TNC and included representatives from the development community, the environmental community, local governments, and relevant state agencies. The second group assigned to the HCP process was the Biological Advisory Team (BAT). Dozens of leading scientists and biologists from the area comprised the BAT. The BAT's purpose was the collection and analysis of all biological data regarding each species represented in the HCP.

The BAT began the process by reviewing general species information to determine what species should be included in the HCP. Species were chosen based on the amount of the population in the area, the extent of the threat to the species, and the extent of effectiveness the HCP could have on the species. A comprehensive biological analysis was also performed for the entire area. The BAT combined the assessments to recommend which species to protect and the necessary size and characteristics of the habitat preserve areas. The BAT recommended two separate preserves for the Warbler, a large contiguous preserve for the Vireo, and protection of all known caves. As a whole, the preserve system was complicated and difficult to visualize. The BAT utilized geographic information systems (GIS) in developing the HCP. The preserve needs for each species and the preserve area available were each digitally entered into their own overlay. This procedure simplified the overlay of a few or all of the maps to get a clearer picture of the preserve system.

In the early stages of the HCP process, the entire area was divided into a series of individual sites. In each site an analysis was conducted to determine the abundance and quality of species habitat located in each. An overlay was created for each of these sites. Because land ownership and high costs placed certain limits on preservation, cost of land and land ownership was also entered into an overlay. Using the recommendations of the BAT and the GIS overlays, the consultants identified primary protection areas. The HCP proposed the establishment of a preserve system containing a minimum of 29,160 acres out of a possible 35,338 acres identified as suitable for acquisition (Beatley, 1994). The proposed preserve system included six primary preserve units, ranging in size from 400 acres to more than 9,000 acres (see Figure 2) (Beatley, 1994). The HCP left much of the

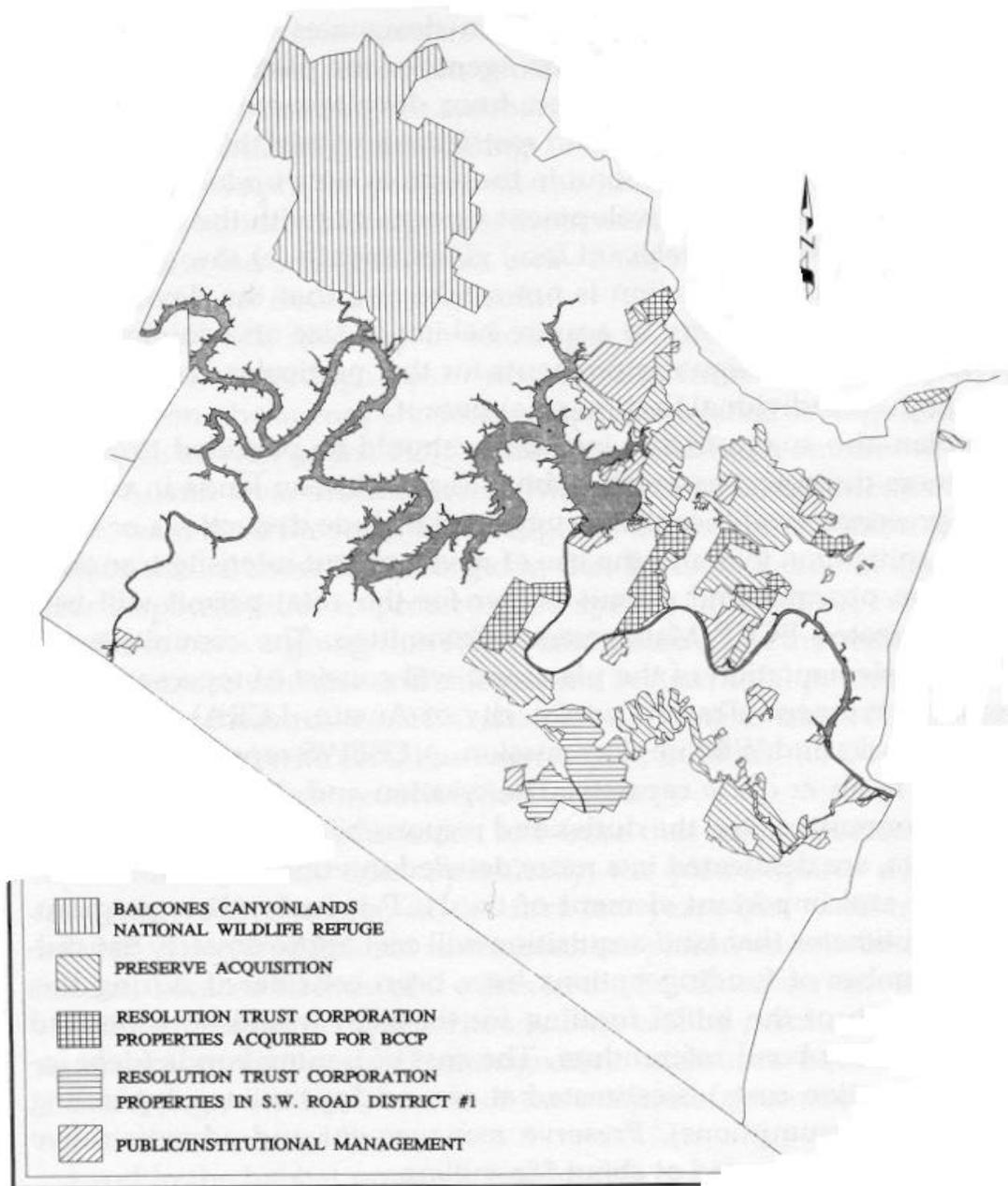


Figure 2. *Recommended Preserve Units of the BCCP. (Source: Beatley, 1994)*

species' habitat unprotected as shown in Table 5.

Type of Habitat	Total Protected (acres)	% Protected
Potential Karst Invertebrate	9,298	20.5
Occupied Black-capped Vireo	1,164	56.3
Potential Black-capped Vireo	10,503	38.9
Golden-cheeked Warbler	13,969	36.9

Source: Smith, 1995

Figure 2 shows large gaps between preserve areas. These gaps are due to inability to acquire private lands and existing development centers. The figure also shows the Balcones Canyonlands National Wildlife Refuge, a separate effort that was catalyzed by the BCCP. The refuge contains approximately 41,000 acres with large amounts of warbler habitat (Beatley, 1994).

The BCCP anticipates that much of the preserve lands will be acquired through voluntary sale. The BCCP also relies on conservation easements as well as other less-than-fee simple mechanisms. Land donations and voluntary preservation through incentives are also anticipated by the BCCP.

The BCCP area will be owned and managed by several different entities. The authority would consist of the USFWS, US Army Corps of Engineers, Texas Parks and Wildlife Department, Lower Colorado River Authority, The University of Texas, city and county governments, and several non-profit organizations (Smith, 1995). This authority

would be in charge of implementing the plan, managing the preserve area, and coordinating the future management of the BCCP preserve areas.

The BCCP itself provides for a long-term management plan, a habitat restoration plan, and a monitoring plan. The BCCP utilizes the extensive research to identify several short and long term research needs to successfully manage and monitor the progress of the BCCP.

Substantial cost was incurred in preparing the plan and the biological background work. Much of this funding came in the form of donations. Monies came from large donations by TNC and developers, and grants from local agencies and the University of Texas (Smith, 1995). Land acquisition is a much different story. The cost of land acquisition and management costs could reach hundreds of millions of dollars. There are many funding options available to finance the BCCP. Much of the initial revenue came from a public bond referendum. The plan envisioned the remainder of the funding coming from impact fees, building fee surcharges, local property taxes, fees applied to capital improvement plans in the area, a utility surcharge, user charges for activities such as hunting and fishing, and grants and donations. The ideal situation would be that the cost of the BCCP would fall equally on all the parties who would be involved in the area.

Conclusion

In its time period, the BCCP's goals were quite comprehensive. In the early years of Habitat Conservation Planning, the BCCP attempted a regional multi-species approach. The methodology utilized in the formulation of the HCP was also ahead of the time. The use of GIS technology was remarkable and quite effective. The achievements within the BCCP process are notable. Funding was successfully generated for the

comprehensive collection and analysis of biological data. The BCCP also included a positive net impact system, and it catalyzed the formation of the Balcones Canyonlands National Wildlife Refuge.

However, the comprehensive nature of the BCCP has led to some limitations. More than a decade after the initiation of the BCCP, it still has not been fully implemented. Because the BCCP encompasses such a large land area, it includes many political regions and many landowners. The consequent political obstacles result in conflicts that delay implementation. Because the BCCP encompasses a large amount of land, the uncertainty is great. Any number of species could be listed in the future causing additional measures of protection. The applicants have already dedicated a great deal of money to acquire the large amount of land, and to gather scientific data. The chance that they may have to dedicate more money or land in the future has proven to be the biggest hurdle in the BCCP's full implementation.

The next case study demonstrates a similar set of underlying circumstances. However, the Plum Creek Timber Company developed its HCP in 1995, after the "No Surprises" policy was in place.

The Plum Creek Conservation Plan (PCCP): Washington

Background

The Plum Creek Timber Company (Plum Creek) is the second largest private timberland owner in the Pacific Northwest (Plum Creek Timber Company, L.P. (Plum Creek, 1995). The timberland in question is located in the central Cascades Mountain Range in Washington. The timberlands are comprised of Douglas-fir, western hemlock,

noble fir, Pacific silver fir, western redcedar, Sitka spruce, red alder, western larch, lodgepole pine, mountain hemlock, western white pine, grand fir, alpine fir, Englemann spruce, and mixed-conifer and ponderosa pine forests (Plum Creek, 1995). This combination of many different types of trees forms habitat for numerous species. The presence of listed species on Plum Creek's timberland halted the harvesting of timber. Therefore, Plum Creek sought a 50-year permit for the incidental take of four listed species. The listed species are as follows:

- ❖ Northern Spotted Owl
- ❖ Marbled Murrelet
- ❖ Grizzly Bear
- ❖ Gray Wolf

Due to the number of listed species and the substantial number of species that may be listed on and adjacent to Plum Creek's land, the Company opted for a multi-species, ecosystem-based HCP (Plum Creek, 1995).

HCP Process

The HCP process was initiated in April of 1994 (Mike Collins, personal communication, April 19, 1999). The funding for the PCCP development was provided entirely by Plum Creek. The HCP process began with the determination of the planning area. This was a difficult task due to the "checkerboard" pattern of ownership by Plum Creek. Most of the outside borders of the planning area abut Federal land administered by the US Forest Service. Due to the checkerboard pattern of ownership, the outer boundary of the planning area encompasses 418,690 acres, 249,513 acres of which are owned by an entity other than the Plum Creek (Plum Creek, 1995). See Figure 3 for a map of the habitat conservation area.

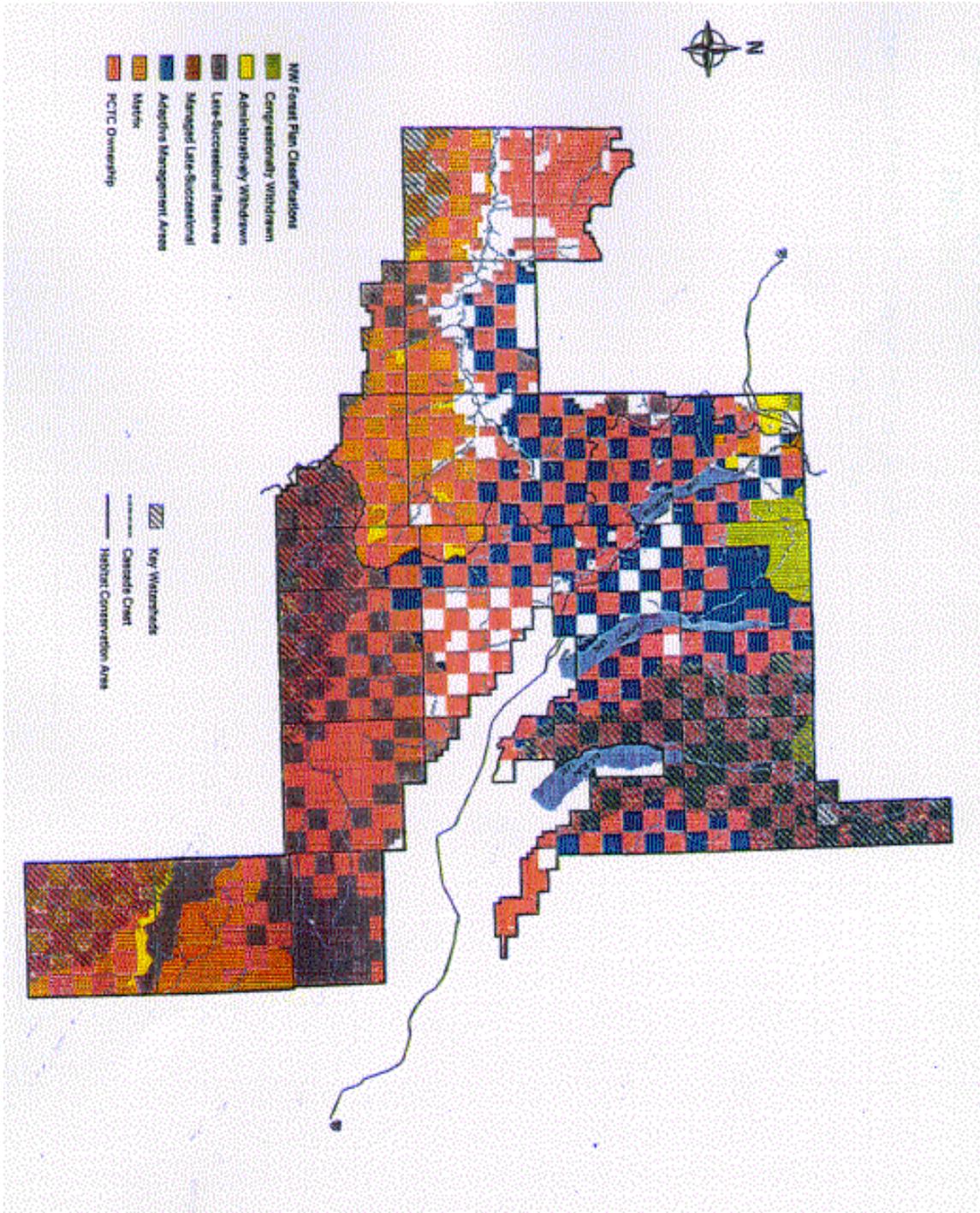


Figure 3. Habitat Conservation Area of the PCCP (source: Plum Creek)

The federal land within the planning area is subject to the guidelines established by the Northwest Forest Plan. Under this plan, federal lands within the range of the northern spotted owl are separated into different categories. Each category receives a different level and type of protection. The categories are shown in Figure 3 and are congressionally withdrawn areas; administratively withdrawn areas; late-successional reserves; managed late-successional areas, and; adaptive management areas. There is also a category with no designation referred to as matrix.

The next task of the HCP process was reviewing species information. Fortunately, the four listed species were well known and researched. The northern spotted owl has been listed since 1990 and is primarily threatened by habitat fragmentation due to insensitive timber harvesting practices. The main recommendation for the recovery of the owl is the establishment of Designated Conservation Areas on federal forestlands. Protection measures include Special Emphasis Areas on non-federal lands.

The marbled murrelet is a diving bird that feeds on fish and aquatic invertebrates. It has been listed since 1992 and is threatened by the destruction of late-successional forestland.

The grizzly bear has been listed since 1975. Habitat degradation, habitat destruction, and the direct killing of bears threaten the grizzly. Although there are no known grizzlies in the planning area, the recovery plan encompasses about 10,000 square miles and is capable of supporting between 200 and 400 grizzly bears (Plum Creek, 1995).

The gray wolf was listed as endangered in 1977 but is making a strong comeback. Historically, the wolf exhibits a high reproductive rate, flexible habitat requirements, and is less affected by human activities than the other species. For these reasons, the planning area currently includes no recovery areas for the gray wolves.

Due to the incentives provided by the “No Surprises” policy, Plum Creek did not stop at just the listed species. The original Plum Creek plan only included the northern spotted owl. According to the PCCP project manager, Mike Collins, the incentives provided by the "No Surprises" policy convinced Plum Creek to increase the number of species to 285 (personal conversation, April 19, 1999).

The collection and synthesis of data in the PCCP was quite comprehensive. Most of the efforts were focused on the northern spotted owl. For the spotted owl, much initial research was conducted on the owl’s habitat. The information regarding the owl itself was conducted by utilizing field surveys, research and colored leg bands. Additional studies include owl productivity, mortality rates, habitat selection and prey densities. All the information was entered into a huge database that provided the applicant with fantastic insight on how to manage the owls within the planning area.

Plum Creek also funded many other types of studies. They recognized the importance of the role that vegetation plays in habitat patterns. Therefore, a study was conducted on stand structural stages. Stand structural stages are the stages of succession that a forest goes through. The planning area was divided into eight structural stages ranging from the stand initiation stage, which is characterized by trees less than one inch in diameter, to the old growth stage. The stage study allowed Plum Creek to gain some insight on how the vegetation affected habitat patterns.

One of the most important studies conducted by Plum Creek was the comprehensive lifeform analysis. It was important to Plum Creek to include a wide variety of species and to incorporate the biological needs of these species in the development and implementation of the HCP. To do this, Plum Creek aggregated the breeding and feeding habitat preferences of all known vertebrate species in the planning area into 16 “lifeforms.” These “lifeforms” range from very specialized groups such as fish, to general habitat groups such as the gray wolf. For each “lifeform” Plum Creek studied where they generally reproduce, feed, and in which type of habitat they prefer to dwell. The applicant entered this data into a GIS and utilized this to get a spatial representation of their lifeform analysis. By performing this lifeform analysis and the other studies, Plum Creek compiled a state-of-the-art resource base in which to complete the HCP.

The actual PCCP contains three main objectives: (1) focus on ecosystems and habitats rather than species; (2) address impacts not only at the site scale, but also on an ecosystem scale; and (3) concentrate on potential long-term impacts rather than immediate impacts (Plum Creek, 1995). The PCCP utilizes many management strategies to successfully provide the proper protection for all the species included in the HCP.

Plum Creek utilizes the multi-species approach to anticipate future demands. Plum Creek gathered detailed information on 285 known species within the planning area. Specific biological requirements and management practices for the four listed species are listed in the PCCP. The PCCP outlines many actions for the management of the owl. These actions include deferring harvesting activities in owl nest locations,

providing habitat between conservation areas to reduce fragmentation, and conducting surveys to evaluate the effectiveness of the actions.

Because the potential for murrelet presence is low, the management actions are more succinct. The murrelet management actions include harvest deferrals, surveys, and nest site protection.

The grizzly bear management plan involves more complicated considerations. Because there are currently no known grizzlies in the area, the plan is broken into two phases. Phase one includes restricting public use, and prohibiting firearms. Phase two comes into effect if the FWS verifies the presence of grizzlies in the area. This phase includes road closures, providing cover for the bears, and better harvesting timing to render the least amount of disturbance to the bears.

The gray wolf can adapt to many different habitat conditions. For this reason the gray wolf management plan mandates few actions. For the management of the wolf the applicant will focus on protecting den sites, and maintaining habitat for the wolf's prey species.

In addition to the multi-species management approach, the PCCP uses a Riparian Management Strategy. This management strategy focuses on protecting fish habitat while maintaining a diverse habitat for all wildlife. This strategy employs varied approaches to different types of streams and watersheds. In specific, the strategy's objectives seek to (Plum Creek, 1995):

- Maintain the distribution, diversity, and complexity of the structural components of watersheds to ensure protection of the aquatic and riparian systems which support large numbers of wildlife species;
- Maintain the spatial and temporal connectivity within and between watersheds through lateral, longitudinal, and drainage network connections, and unobstructed routes and corridors to critical area for aquatic and riparian-dependent wildlife;

- Maintain the physical and biological integrity of the aquatic and riparian zone to ensure water quality necessary to support survival, growth, reproduction, and migration of individual species comprising aquatic and riparian-dependent communities;
- Manage road densities to minimize disturbance to wildlife species, and maintain an adequate sediment regime to protect the aquatic system;
- Maintain a mosaic of forest stand structures, including a large tree component in the forest stand structures to provide opportunities to maximize prey densities for forest carnivores such as spotted owls, grizzly bears, and gray wolves; and
- Maintain habitat to support well-distributed upland and riparian-dependent wildlife species, including forested and non-forested special habitats.

The PCCP also provides a management plan for special habitats. These are areas that provide a unique habitat to a wide range of species. The planning area includes a number of special habitats. Even though Plum Creek's harvesting activities would probably have no effect on these special habitats, the PCCP provides management plans for wetlands, talus slopes, and caves.

The next section of the PCCP explicates the impacts on species and habitats in the planning area. The PCCP explains which impacts will effect what species or habitat, what analysis techniques they used to come to those conclusions, and what management practices are planned. The plan does this for the northern spotted owl, the marbled murrelet, the grizzly bear, the gray wolf, other wildlife species, and forest health.

The PCCP considered and analyzed three other alternatives: a no action alternative, a riparian management alternative, and a dispersal habitat alternative. During the plan development process, Plum Creek weighed the advantages and disadvantages of each of these alternatives. The plan examined separate implementation of each individual alternative but rejected each as being either economically infeasible or non-beneficial for the species within the planning area. Plum Creek then analyzed sections of

each of the alternatives and concluded that the best way to meet its goals would be to use the best aspects of each of the alternatives.

The PCCP then explains the methods for monitoring and management of the plan. The Plum Creek plan includes habitat verification, spotted owl monitoring, marbled murrelet monitoring, grizzly bear monitoring, gray wolf monitoring, aquatic resources monitoring, and lifeform habitat monitoring. The PCCP recognizes the uncertainty that the future holds for the planning area. Therefore, the plan also includes adaptive management. “Adaptive management is a process that can improve management practices incrementally by implementing plans in ways that maximize opportunities to learn from experience. Adaptive management can provide a reliable means for assessing the HCP, producing better ecological knowledge, and developing appropriate modifications to improve forest management” (Plum Creek, 1995).

The provisions set forth in the Implementation Agreement will govern Plum Creek’s actions. The agreement legally binds Plum Creek to follow through on the management practices, the monitoring methods and the mitigation measures described in the HCP. Because Plum Creek was so comprehensive in the PCCP, the agreement also legally binds the Federal government for any surprises outside of the plan scope. The Implementation Agreement is perhaps one of the most important aspects of the PCCP. Without the agreement the plan and the Federal government has no teeth.

Conclusion

The PCCP is an exceptional example of an HCP that uses a multi-species/habitat based approach. The PCCP utilizes a plethora of innovative management strategies to provide protection to species and more importantly, the specie’s habitats within the

planning area. The forest management strategy minimizes impacts on species by managing their habitat. The riparian management strategy provides a resourceful means of protecting habitat areas for fish and other wildlife in the area. The plan also recognizes the important of unique habitat areas and sets forth special management strategies for wetlands, talus slopes, and caves. To ensure the effectiveness of the PCCP, Plum Creek adopted an adaptive management strategy. This strategy uses monitoring methods to consistently modify the management plans to provide the finest protection available for the species and the habitats within the planning area. According to the project manager for the PCCP, Mike Collins, the “No Surprises” policy played a significant role in the monitoring and management plans. He said that the monitoring and management plans were innovative and comprehensive because the “No Surprises” policy provided “very strong incentive to invest more [time and money] in the beginning to provide protection for us (Plum Creek) in the long run” (personal communication, April 19, 1999).

Generally, the stakeholders involved in the PCCP process felt satisfied with the outcome of their time and hard work. However, environmentalists expressed dissatisfaction with the fact that the PCCP would be approved for a 50-year time period, even with the adaptive management strategies. Despite this compliant by environmental groups, the PCCP was widely accepted as an HCP with potential to have a positive effect on the species and the habitats within the PCCP planning area.

The “No Surprises” changed the way Plum Creek approached the HCP process. The policy influenced everything in the PCCP, from the number of species to the management strategies. For example, the PCCP was initiated in April of 1994,

approximately four months before the “No Surprises” policy. It started as a single-species plan that concentrated solely on the northern spotted owl. Four months later, the “No Surprises” policy was introduced and the number of species included in the PCCP increased to four. The more and more Plum Creek realized how the policy decreased uncertainty, the more species were included in the plan. Mike Collins indicated that without the “No Surprises” policy, “Plum Creek would have only included the four listed species” (personal communication, April 19, 1999). However, the number of species went up to 21 within six months, then finally increased to 285 species 10 months after the PCCP was initiated (personal conversation, April 19, 1999). Mike Collins said that Plum Creek finally decided to include all species, known and unknown, because with the introduction of the “No Surprises” policy, the Federal government “could not come back and ask for more” (personal conversation, April 19, 1999).

By looking at the drastic increase in the number of species in the PCCP, the management and monitoring plans that far exceed the requirements of the ESA, and the comments by the PCCP project manager, it is clear that the “No Surprises” policy had a substantial effect on the approach to the PCCP and the PCCP itself.

Chapter 6



Conclusion

Habitat conservation planning has been evolving since the ESA introduced the HCP process in 1982. The case studies in the previous chapter demonstrate the difference in HCPs before and after the “No Surprises” policy. The two HCPs are briefly compared in the matrix on the following page. The PCCP provides a stark contrast to the BCCP. The decreased uncertainty that the “No Surprises” policy provides played a part in the approach to the HCP process.

In return for landowner certainty, the Secretary and the FWS promote a comprehensive approach to the HCP. The matrix shows that the PCCP has many aspects that are more comprehensive than the BCCP. The PCCP process was relatively smooth and was quickly approved by the FWS. Due to the lack of certainty, many aspects of the BCCP have not been completed by the applicants and therefore, the BCCP is still not fully implemented. The PCCP incorporated the species’ habitats as well as the species. The planning area in the PCCP is more than 14 times larger than the area in the BCCP. The PCCP addresses the needs of 270 more species. It uses more advanced studies and has much more innovative management and monitoring programs. Finally, the implementing agreement present in the PCCP clearly establishes the party’s responsibilities. The comprehensiveness of the PCCP and the certainty with regard to future events may be attributed to the “No Surprises” policy.

	BCCP	PCCP
Year initiated	1988	1995
Applicant	Texas Agencies	Plum Creek Timber Company
HCP approach	Multi-species	Multi-species ecosystem based
Terrain	Hill, plateau, karst mix	Forested land
# Species Included listed/unlisted/total	10/5/15	4/281/285
Planning Area (acres)	29,160	418,690
Methods to develop strategies	Species needs studies, GIS	Species needs studies, stand structural stage studies, lifeform analysis, riparian studies
Land acquisition	Voluntary sale, easements, donations*	Set aside by applicant
Funding	Donations, grants, public bonds, impact and usage fees, and property taxes*	Applicant funded
Management plan(s)	Incomplete*	Specific for listed species, special habitat plan, riparian plan, adaptive plan
Monitoring plan(s)	Incomplete*	Specific for listed species, aquatic resource monitoring, lifeform habitat monitoring
Implementing agreement	No	Yes
* Items are incomplete or uncertain due to the lack of agreement and implementation		

HCPs after the inception of the “No Surprises” policy have had only a few years to progress. Therefore, no one can say, with certainty, that the post-”No Surprises” HCPs are more effective than the pre-”No Surprises” HCPs. Moreover, no one can say that the sudden change in the number of accepted HCPs and the change in the HCP approach is a direct result of the “No Surprises” policy. However, the numbers of accepted HCP are hard to ignore. It also appears that the post-”No Surprises” HCPs contain more

comprehensive provisions to protect species and habitats. When directly questioned about the role of the “No Surprises” policy on the PCCP, Mike Collins said, “the policy had everything to do with [the innovative and comprehensive nature of the monitoring and management plans, and the vast number of species] in the PCCP” (personal conversation, April 19, 1999). Mr. Collins also said that “without the “No Surprises” policy, the PCCP would not have been as comprehensive because of the incredible uncertainty inherent in the HCP process pre-“No Surprises” and we (Plum Creek) would have stopped at the four listed species” (personal conversation, April 19, 1999). With all other elements remaining relatively constant, most would come to the conclusion that the “No Surprises” played a chief role in the change in HCPs. In a world where development rates constantly increase and species disappear daily, species protection and property rights will always be in conflict. HCPs play a large part in balancing this conflict. The more comprehensive an HCP is, the more protection it should provide for species and their habitats. However, unknown aspects of HCPs continue and time remains the only true determinant of the effectiveness of post-“No Surprises” HCPs. No one can say that the “No Surprises” policy has any effect on or will cause any change in the approach to all post-“No Surprises” HCPs. However, in the PCCP, it is clear that the “No Surprises” policy had “everything to do with it” (personal conversation, April 19, 1999).

Literature Cited

- Bauer, Michael. (1998). The Politics of Habitat Conservation Plans and “No Surprises” Involved in Resolving Incidental Takes Under the Endangered Species Act. Unpublished manuscript.
- Baur, Donald C., & Donovan, Karen L. (1997). Symposium on Habitat Conservation Plans: The “No Surprises” Policy: Contracts 101 Meets the Endangered Species Act. Environmental Law. 27 Env'tl. L. 767.
- Bean, Michael J., Fitzgerald, Sarah G., & O'Connell, Michael A. (1991). Reconciling Conflicts Under the Endangered Act: The Habitat Conservation Planning Experience. Washington, D.C.: World Wildlife Fund.
- Beatley, Timothy. (1994). Habitat Conservation Planning: Endangered Species and Urban Growth. Austin, TX: University of Texas Press.
- Derry, Amy. (1998). “No Surprises” after Windstar: Contractual Certainty and Habitat Conservation Planning under the Endangered Species Act. Virginia Environmental Law Journal. 17 Va. Env'tl. L.J. 357.
- Fisher, Eric. (1996). Habitat Conservation Planning under the Endangered Species Act: “No Surprises” & the Quest for Certainty. Colorado Law Review. 67 U. Colo. L. Rev. 371.
- Govindan, Srinath Jay. (1998). “Taking” Steps to Protect Private Property and Endangered Species: Constitutional Implications of Habitat Conservation Planning after Dolan v. Tigard. Emory Law Journal. 47 Emory L.J. 311.
- Kostyack, John. (1997). Symposium on Habitat Conservation Plans: Reshaping Habitat Conservation Plans for Species Recovery: An Introduction to a Series of Articles on Habitat Conservation Plans. Environmental Law. 27 Env'tl. L. 755.
- Molini, Fernando. (1996). The Emerging of Habitat Conservation Planning and Its Impact on Wildlife Conservation. Revista Juridica Universidad de Puerto Rico. 65 Rev. Jur. U.P.R. 151.
- Plum Creek Timber Company, L.P. (1995). Executive Summary for Multi-Species Habitat Conservation Plan on Forestlands Owned by Plum Creek Timber Company, L.P. in the I-90 Corridor of the Central Cascades Mountain Range, Washington.
- Proposed Rule: “No Surprises” Policy. (1997). *Federal Register (volume 62, number 103)*. Retrieved February 8, 1999 from the World Wide Web: <http://www.nwf.org/endangered/hcp/nosurarc.html>.

- Smith, Tracy L. (1995). Habitat Conservation Planning under the Endangered Species Act: Is It Ecosystem Management? Unpublished masters thesis, Virginia Polytechnic Institute, Blacksburg, VA.
- Thorton, Robert D. (1991). The Endangered Species Act: Searching for Consensus and Predictability: Habitat Conservation Planning under the Endangered Species Act of 1973. Environmental Law. 21 Envtl. L. 605.
- U.S. Fish and Wildlife Service & National Marine Fisheries Service. (1996). Endangered Species Habitat Conservation Planning Handbook. Washington, D.C.: Department of the Interior.
- Vaughan, Ray. (1994). Endangered Species Act Handbook. Rockville, MD: Government Institutes.
- Vickery, Hugh. (1999). Guidelines for Habitat Conservation Plans Proposed. *U.S. Fish and Wildlife Service News Release*. Retrieved April 8, 1999 from the World Wide Web: <http://www.fws.gov/r9extaff/pr9911.html>.
- Yoon, C. K. (1997, December 23). Many Habitat Conservation Plans Found to Lack Key Data. New York Times.
- 16 U.S.C. §§ 1531-1539. The Endangered Species Act of 1973.

Vita

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My name is George Ryan Slingerland. I was born and raised in Schenectady, NY. On May 23, 1999, I will turn 24. I am currently a second year Masters student in the Urban and Regional Planning program.

I have a Bachelors degree in Environmental Science from Binghamton University in New York. My concentration within Environmental Science was law and policy. I graduated from Binghamton in 1997. I continued directly to Virginia Polytechnic University, where I will receive my Masters degree in May.

Next year I plan to attend Brooklyn Law School in Brooklyn, NY. I am uncertain what type of law I will pursue. However, I do have an interest in environmental law and intellectual property law.